PROJECT NAME	**Planning Application 1 at Lincolnshire Lakes (North), Scunthorpe, North Lincolnshire**		
DOCUMENT NUMBER	LLP1-BWB-GEN-XX-RP-TR-0006_TAA	**BWB REF**	221638.00
AUTHORS	R. Wickenden/Jack Lindsay	**STATUS**	S2
CHECKED	J. Lindsay	**REVISION**	P02
APPROVED	P. Wilson	**DATE**	03/07/2025

1. INTRODUCTION

Background

1.1 BWB Consulting Limited (BWB) has been appointed by Hargreaves Land Limited ('the Client') to provide highways and transport advice and prepare this Transport Assessment Addendum (TAA) to support a hybrid planning application for a proposed residential-led mixed use development ('the Proposed Development') located on land to the east of the M181/A1077(M) in Scunthorpe, North Lincolnshire, known as 'Lincolnshire Lakes – Planning Application 1' ('the Site').

Purpose of TAA

1.2 A Transport Assessment (TA) (report reference: LLP1-BWB-GEN-XX-RP-TR-0004-S2-P4) and Travel Plan (TP) (report reference: LLP1-BWB-GEN-XX-RP-TR-0005-S2-P4) dated January 2025 accompanied the hybrid planning application (ref: PA/2025/254) submitted to North Lincolnshire Council (NLC), the local planning and highway authority, in February 2025.

1.3 NLC Highways, National Highways (NH) and Active Travel England (ATE) have all commented on the TA and TP that accompanied the planning submission. This TAA provides BWB's response to the statutory highway related comments raised. NLC Highways, NH and ATE comments are all provided within **Appendix 1**, **Appendix 2**, and **Appendix 3** respectively.

1.4 Additionally, the TA presented a highway assessment that reviewed the impact of the Proposed Development on the local highway network in its current form. The assessment did not however consider the following:

- Burringham Road Roundabout Impact:
    - A new roundabout has recently been constructed to the south of the Site on the M181 (forming a 4-armed roundabout with Burringham Road), referenced hereafter as the 'Burringham Road Roundabout'. Whilst the roundabout circulatory and amendments to the M181 arms have been constructed, the roundabouts connections onto Burringham Road are not yet complete. One completed the ability for vehicles to travel between the M181 and Burringham Road will result in rerouting of vehicle traffic. The impact of the rerouting on the junctions assessed in the TA (of which the study area was agreed with the LHA) has been presented in this TA.

- Vision and Validate Assessment:
    - An assessment that focuses on setting a long-term goal (vision) and then designing transport systems to achieve that vision, rather than simply reacting to projected traffic demand. Whilst the TA set out Vision and Validate assessment flows (in this instance a 20% reduction in development vehicle traffic), the impact of this was not assessed.
- Maltgrade Sensitivity Test:
    - Although the scheme is no longer a committed development as the permission has since lapsed, the LHA has requested that the 2,500 dwellings associated with the Maltgrade development scheme (of which was originally approved in 2015 (ref: PA/2015/0396) should be considered as a sensitivity test given that the Maltgrade scheme is currently being subjected to application PA/2023/1124.

1.5 This TAA therefore presents the impact of the above three elements.

Report Structure

1.6 The TAA is structured as follows:

- **Section 2: Proposed Infrastructure Amendments** – Description of the amendments to the internal highway layout and the Scotter Road crossing facility.
- **Section 3: Sustainable Access Review Updates** – Presents additional information that supports the sustainable access review, including a review of the Cycle Level of Service (CLoS) assessments and the active travel routes to Oasis Academy and Westcliffe Primary Schools.
- **Section 4: Single Point of Access Review** – Presents the justification for why a single point of vehicular access is deemed appropriate.
- **Section 5: Trip Distribution** – Confirms the vehicle trip distribution used, including a tweak based on the feedback presented by NH.
- **Section 6: Lincolnshire Lakes Area Action Plan (AAP) Trip Envelope Review** – Analyses the impact of the predicted trip generation against what was set out as part of the wider AAP trip envelope in 2013.
- **Section 7: Burringham Road Roundabout Impact** – Quantifies the traffic impact of the Burringham Road roundabout on the impact of the operation of the highway network, both with and without the Proposed Development.
- **Section 8: Vision and Validate** – Quantifies the traffic impact of the Vision and Validate assessment and the proposed development on the operation of the local highway network with the Burringham Road roundabout operational. This includes a review of the National Travel Survey multi-modal trip generation.
- **Section 9: Maltgrade Sensitivity Testing** – Presents the highway impacts in the Maltgrade sensitivity test scenario.

- **Section 10: Highway Safety Review Update** – Presents an update to the highway safety review assessment that includes an additional 2 years to take into account the limitations of data recorded during Covid (2020 & 2021).
- **Section 11:** Summarises the amendments made to the **Travel Plan.**
- **Section 12**: Presents the **summary and conclusions** of the TAA findings.

2. PROPOSED INFRASTRUCTURE AMENDMENTS

Internal Highway Layout

Carriageway Width

2.1 NLC Highways stated in their comments that "*The width of the spine road is shown as 7.5m wide, which seems excessive and 6.75m would be more appropriate. The design and environment of the spine road will need to support a 30mph limit. Failure to do this at this stage is likely to result in issues relating to excessive vehicle speeds and would require NLC to retrofit traffic calming at our own cost.*"

2.2 In response, the proposal includes a 7.3m wide carriageway (not 7.5m). The spine road would be a secondary distributor route providing direct access to the development and a through route from M181 to Scotter Road in the future, in which case a 7.3m wide carriageway is considered the most appropriate width based on a review of NLC's Residential and Industrial Roads Design Guides.

2.3 It should be noted that verge has been allocated either side of the 7.3m wide carriageway to facilitate the development of ghost island right turn lanes at the priority junction should they be needed as part of future Lincolnshire Lakes development phases (most notably when the Scotter Road vehicular connects comes forward).

Active Travel Priority

2.4 NLC Highways stated in their comments that "*Where the proposed active travel route crosses junctions on the link road, priority needs to be given to pedestrians and cyclists in accordance with LTN 1/20 and Active Travel England guidance.*"

2.5 As a result, priority for active travel will be provided on the internal minor arm bellmouths, as illustrated on drawing **LIN-BWB-HWY-XX-DR-C-0110_S8_P06** and **LIN-BWB-HWY-XX-DR-C-0112_S8_P06** included at the rear of this report. A set back of 6m has been provided to allow for a vehicle to wait off the main carriageway.

2.6 ATE stated in their comments that "*Paragraph 4.13 of the TA confirms a high-quality active travel network with segregated pedestrian and cycle links along the main spine road and local centre routes. This is welcome, but ATE requests explicit confirmation that the infrastructure will remain segregated and not become shared use*".

2.7 In response, whilst the proposals have been based on guidance set out within LTN 1/20, the proposals are considered appropriate for the scale of development proposed, and it is for ATE to consider the application in front of them at this stage. Any amendments to the pedestrians and cycle routes from what is set out within this application will be

subject to a future planning approval process and the merits of which will be addressed at this stage.

Internal Site Crossing Facility

2.8 NLC Highways stated in their comments that "*The provision of a controlled crossing on the link road within the site is required, to link the northern residential development to the proposed active travel route along Brumby Common Lane. A parallel crossing would be acceptable initially, although this would need upgrading to a signalised crossing once the link road connects through to Scotter Road*."

2.9 As a result, a refuge island crossing facility is to be provided between the two bus stops towards the western end of the phase of development (as illustrated on drawing **LIN-BWB-HWY-XX-DR-C-0110_S8_P06**). Also, a tiger crossing facility is proposed further east, where segregated pedestrian and cycle crossing facilities are to be provided. The arrangement is presented on drawing **LIN-BWB-HWY-XX-DR-C-0112_S8_P06.** The tiger crossing could be signalised (if required) once the vehicular link to the east comes forward.

2.10 NLC Highways stated in their comments that "*It is noted that the proposals include the provision of a dedicated active travel route connecting the site to Scotter Road. Clarity over the phasing of the full delivery of this link in relation to the housing is required. Given the unknown timescales for the de-trunking and declassification of the A1077 (M), there is a risk that access to the site could be severely restricted for all modes other than private vehicles. Confirmation is also required as to whether this will be offered up to the Council for adoption.*"

2.11 BWB's response is that the active travel connection between the site and Scotter Road will be open for use prior to the occupation of the first dwelling on site.

Proposed Bus Stop Locations

2.12 NLC Highways stated in their comments that "*The location of the bus stops on the link road are extremely close to the roundabout and should be moved further eastwards if possible. No bus stops are shown for Phase 2, NLC would recommend that some are provided. Whilst we understand why laybys have been provided, these are traditionally unpopular with bus operators in North Lincolnshire. We would recommend a discussion with NLC's Public Transport Team about the preferred style.* "

2.13 As a result, a meeting was held between BWB and NLC's public transport team on the 14th May 2025 to discuss the public transport infrastructure proposals. Correspondence exchanged after the meeting is included in **Appendix 4.**

2.14 NLC and BWB agreed to relocate the proposed eastbound bus stop east (further away from the M181 roundabout), and position a refuge island crossing facility in-between the two bus stops. The arrangement is illustrated on drawing **LIN-BWB-HWY-XX-DR-TR-100_S8_P06.**

Scotter Road Crossing Facility

2.15 NLC Highways stated in their comments "*What, if any measures are proposed to prevent pedestrians cutting across the cycle route between Scotter Road and Bristol Road. Pedestrians should have priority over cyclists on the verge between Scotter Road and Bristol Road.*"

2.16 As a result, clear active travel markings and changes in surface colour will be provided to delineate which sections are for walkers/wheelers and cyclists. The design has been amended to include priority for pedestrians over cyclists on the section of verge between Scotter Road and Bristol Road.

2.17 NLC Highways stated in their comments "*The provision of a controlled crossing on Scotter Road to link the sites active travel corridor with further NMU facilities along Scotter Road and West Common Lane is welcomed. However, it is not clear why a controlled crossing has been proposed on Bristol Road with nothing other than a widened central refuge proposed on West Common Lane. West Common Lane sees significantly higher traffic demand than Bristol Road and the Council would want to see a controlled crossing provided on West Common Lane.*"

2.18 As a result, the infrastructure proposal now includes a signalised Toucan crossing facility on the West Common Lane arm of the 4-armed junction.

2.19 Drawing **LIN-BWB-HWY-XX-DR-TR-100_S8-P06** included at the rear of this report includes the above amendments.

Brumby Common Lane Status

2.20 ATE stated in their comments that "*A 5m-wide travel corridor along Brumby Common Lane, providing a route to Scotter Road and extending into Scunthorpe. Given that this road is currently subject to the national speed limit, ATE requests confirmation on whether vehicular access will remain or whether it will be restricted to active modes only. Additionally, clarity is needed on whether this corridor will serve future development phases west of the M181.*

2.21 BWB can confirm that the status of Brumby Common Lane will not change as part of this planning application. Vehicles will continue to be able to route along Brumby Common Lane, however it will not provide vehicular access to the proposed development, aside for construction vehicles. This will be clearly set out and managed as part of the Construction Environmental Management Plan.

M181 Bridge (North)

2.22 ATE stated in their response that "*It is unclear how the northern bridge (Existing M181 Bridge (North)) connection will be incorporated into the development. Given its designation as a route within the AAP, clarification is required*".

2.23 BWB can confirm that this planning application does not consider any works to the bridge and therefore this is not to be considered as part of this application.

3. SUSTAINABLE ACCESS REVIEW UPDATE

Cycle Level of Service Update

3.1 ATE stated in their comment that "*Appendix 5: Cycle Level of Service (CLoS) Assessments is a welcome addition for understanding key routes. However, the assessment would be more robust if maps identifying routes and photographs highlighting deficiencies were provided*."

3.2 In response, the findings of the CLoS assessments presented in the TA are considered appropriate. Notwithstanding the above, an illustration of the routes considered, and areas of note are described / presented on **Figure 1** and **Figure 2** for the Scunthorpe Town Centre and ASDA routes respectively. The routes are considered appropriate, with the key constraint (crossing Scotter Road to head east towards Scunthorpe, and then Brumby Common Lane to access the route to ASDA) addressed by the proposed implementation of signalised segregated crossing facilities.

Figure 1: CLoS Assessment Route – Scunthorpe Town Centre

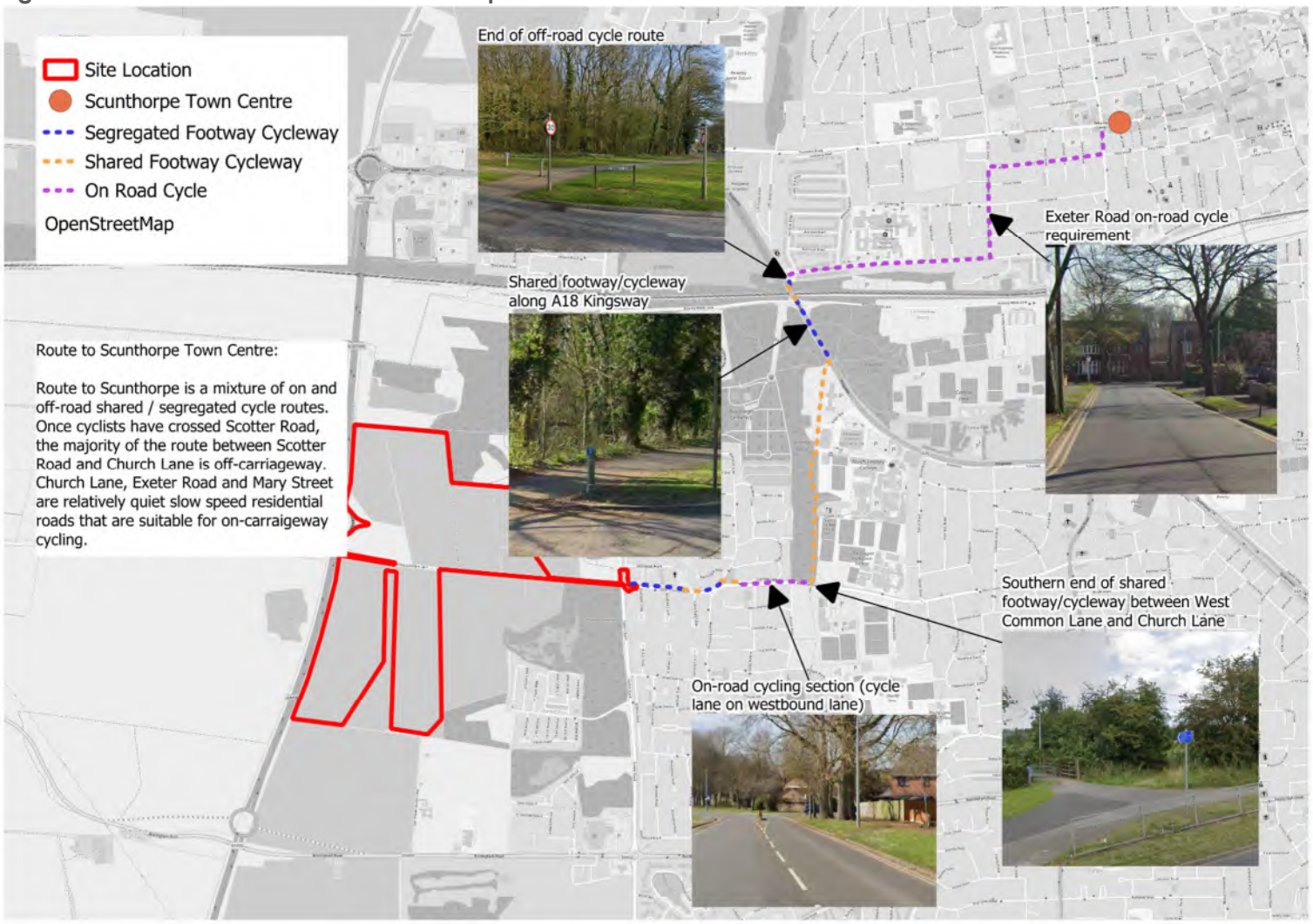


Figure 2: CLoS Assessment - ASDA

Active Travel Audit to Primary Schools

3.3 ATE stated in their comments that "*ATE notes concerns regarding the location of the nearest primary school, which exceeds the 2km acceptable walking distance. While the exceedance is marginal, a comprehensive active travel route audit should assess the quality of existing routes and determine necessary offsite improvements*."

3.4 As a result, routes to two primary schools have been considered in detail in **Figure 3** (informed by a site visit on 2nd May 2025). Ultimately, once the Scotter Road, Bristol Road, and West Common Lane crossing improvements are implemented, appropriate walking and wheeling access opportunities are available for parents and children to take a short walk to the two local schools reviewed.

Figure 3: Walking Route to Primary School Review

Offsite Highway Connections / Contributions

3.5 ATE stated in their comments that "*limited details are provided on how the site will connect to future development phases beyond the redline boundary. Further information is required to assess walking and cycling permeability across the AAP area*".

3.6 The proposal has been developed with the consideration of how the development connects with existing developments, those in the public domain and future developments as part of the wider Lincolnshire Lakes development.

3.7 NLC Highways stated in their comments that "*The timescales for de-trunking of the M181/A1077 (M) are currently unknown, although anticipated to be around 18 months. The A1077 (M) will also need to be de-classified to remove the motorway status as it will otherwise restrict who can access the development. The de-classification process will need to be supported by physical changes to the A1077 (M) between the northern roundabout and Frodingham Grange Roundabout, to allow for the safe movement of pedestrians and cyclists and reinforce the speed limits. This doesn't appear to be considered in the application. Further work is required to identify the necessary improvements. The developer would be expected to be contributing towards these, if not wholly funding them. This is particularly crucial if the full length of the east - west link road is not provided.*"

3.8 Given that the high-quality active travel scheme that will connect the site with active travel infrastructure to the east will be accessible before the occupation of the 1st dwelling, active travel accessibility is considered appropriate to serve the development, especially when considering the vast majority of key amenities (Scunthorpe Town Centre, schools, hospital etc) are located to the east.

4. SINGLE POINT OF ACCESS REVIEW

4.1 NLC Highways set out in their comments that "*Given the size of the development, it is strongly recommended that the applicant has discussions with emergency services regarding whether a singular vehicular access to the site is suitable. The Council would not support an emergency vehicular access onto Brumby Common Lane due to width and condition of the road*".

4.2 BWB approached the NHS and local fire service for their comment on the principle of a single point of access, the responses of which are included in **Appendix 5**. The fire service did not raise any concerns; however the NHS did flag the following:

"Our biggest concern is that if there is only a single road into the estate what happens if that road is closed. This would affect all road users though and not just us / other emergency services"

4.3 A single point of vehicular access is considered appropriate given the scale and nature of the roundabout access arrangement. The capacity assessment findings presented in the TA demonstrate that the site access has ample spare capacity, and the wide corridor at the access allows for a vehicle to pass stationary vehicles / any maintenance roadworks required.

4.4 Given the above, the likelihood that the main vehicular access will ever need to be fully closed, or blocked by a broken down vehicle will be very low.

4.5 A single point of access also encourages active travel access, more direct into Scunthorpe Town Centre via the proposed active travel facilities to the east.

4.6 It should also be noted that the proposed development link road will not prejudice the ability for a vehicle through route (through to Scotter Road) to come forward as part of a future development phase.

5. TRIP GENERATION & DISTRIBUTION

Trip Generation

5.1 NLC Highways stated in their comments that "*It is noted that throughout the TA the maximum level of food retail is stated as 500m². however, Table 27 states up 1,000m² of food retail is included in the trip generation. This needs to be confirmed.*"

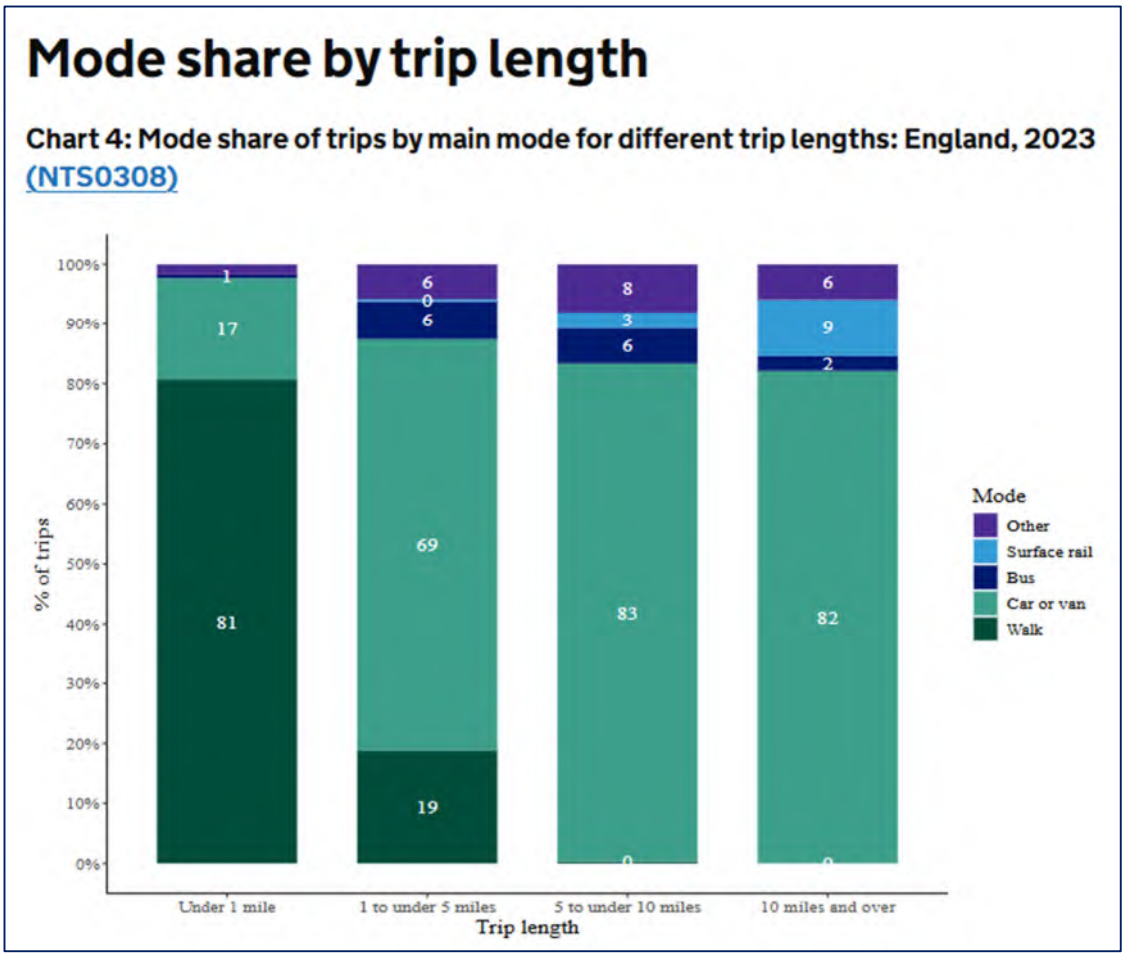
5.2 BWB confirm that the limit is up to 500m² of food retail. The trip generation aligns with the 500m² assumption, error in table heading.

5.3 ATE set out in their comments that "*While the overall approach is considered robust, reliance on 2011 Census 'Method of Travel to Work' data to establish a baseline model split may under-represent active travel. Given the limitations of the 2021 Census, a vision-led baseline incorporating alternative data sources, such as the National Travel Survey, benchmarking planning applications, and scheme interventions, would better align with updated NPPF targets. ATE encourages the applicant to adopt a more ambitious baseline and work towards further improvements over the monitoring period*."

5.4 In response, the 20% reduction in vehicular trips based on the 2011 Census 'method of travel to work' data is considered appropriate given the limitations of the 2021 Census. However, the National Travel Survey has been reviewed to further consider the appropriateness of the above assumption (and associated vision and validate modal split for vehicles).

5.5 Considering the 'mode share by trip length' information from the 2023 National Travel Survey (presented in **Figure 4**), whilst a large proportion of trips over five miles are made by the car (83%), this drops to 69% between 1 and 5 miles, and down to 17% for trips below 1 mile.

Figure 4: National Travel Survey Output



5.6 It's important to note that in 2023, 25% of trips were under 1 mile, and 71% were under 5 miles (equating to 46% between 1 and 5 miles).

5.7 Given the above, the modal split of 71.7% from the 2011 Census is considered appropriate and representative given the 69% identified for the trips between 1 and 5 miles in the 2023 National Travel Survey. A vision and validate scenario that builds on the above and presents a car driver mode share appropriately less than 69% is considered appropriate.

5.8 NLC Highways set out in their comments that "*Para 5.57 states that the development will target of 20% reduction in car driver trips. However, the TA further states a 14.3% reduction in car driver trips has been redistributed across other modes. Where is the additional 5.7% reduction coming from?*

It is noted that the figures presented in Table 33 for car driver reflects a reduction of 20% and not the 14.3% stated in para 5.57. The AM, PM and Daily figures states in Table 33 do not reflect the level of change stated in Table 32.

It is noted that these figures will be used to inform assessments in a TA Addendum but further details / information as to how they have been calculated will be required at that stage.

Similar clarity is required for the figures stated in para 5.61 and Tables 34 and 35. For instance the change in car driver figures from Table 31 to Table 35 reflect a decrease of 20%, as stated in para 5.61. However, the change in car passengers in the AM peak from 26 (Table 31) to 46 (Table 35) is a far greater than the +6% stated in Table 34."

5.9 In response, the 20% reduction is a 20% reduction of the car driver trip percentage, i.e. 20% of 71.7% equals 14.3%. For example, in the AM peak, 375 car driver trips are predicted using the trip rates, reducing this by 20% (14.3% of all trips) reduces vehicle trips by 75, down to 300. The 75 trips have then been reallocated to other modes. The total number of trips in the AM peak remains at 523.

5.10 Likewise, for the non-residential elements, a 20% reduction equals 15.8% (20% of 79.2%). 286 non-residential vehicle trips in the AM peak has been reduced to 229 vehicle trips, a reduction of 57 vehicle trips (20% reduction in vehicle trips, equating to a 15.8% reduction on the vehicle mode share). The total number of trips remain at 361.

Trip Distribution

5.11 NH set out in their response that "*BWB notes that "NLC and NH have agreed that the distribution suitably represents the impact of the 550 dwellings". The JSJV would note that although National Highways has previously agreed to the trip distribution for the proposed development, the vehicle trip distribution presented in the TA and Figure 11 is not the distribution that was agreed*."

5.12 BWB notes that the NH response presents the slight differences in the distribution agreed, and the distribution used by BWB in the TA. The only change required increases the distribution on the M180 (E) by 9% and reduces the distribution on the A1077 (N) and Doncaster Road (E) by 4.5% respectively.

5.13 The change in distribution reduces the number of vehicle trips that route to / from the north, and therefore reduces the number of vehicle trips through Junctions 3, 4, 5, 6 and 7 assessed in the TA. The number of trips through Junction 2 (M180 Junction 3) will have increased slightly; therefore, a review of this impact is presented below in the merge / diverge assessment. Although there will be a slight amendment to arm distribution percentages through the site access roundabout, ultimately the number of trips through the site access junction will remain the same, and given the site access roundabout has been demonstrated to have ample spare capacity in the TA, no further assessment of the site access roundabout is deemed required.

5.14 Notwithstanding the above, the updated highway assessments presented in this TA addendum incorporate the above distribution tweaks.

M180 Junction 3 Amended Trips Review

5.15 The 9% increase in development trips through M180 J3 has been calculated, and **Figure 5** and **Figure 6** present the development flow AM and PM peak PCUs through the M180J3 before and after the distribution has been amended respectively.

Figure 5: M180 J3 Development Flows - TA Flow Outputs

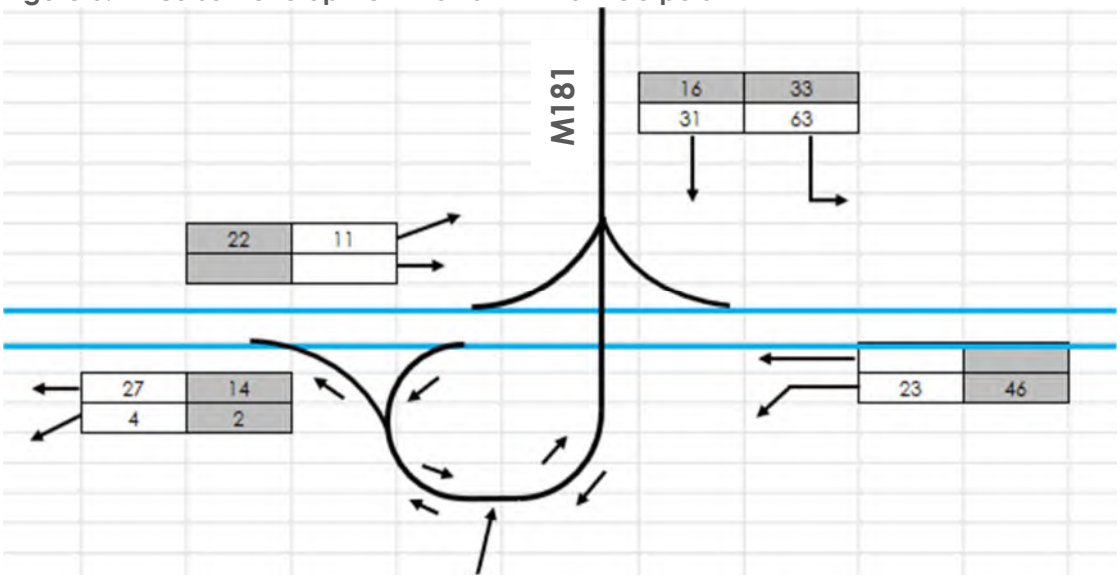
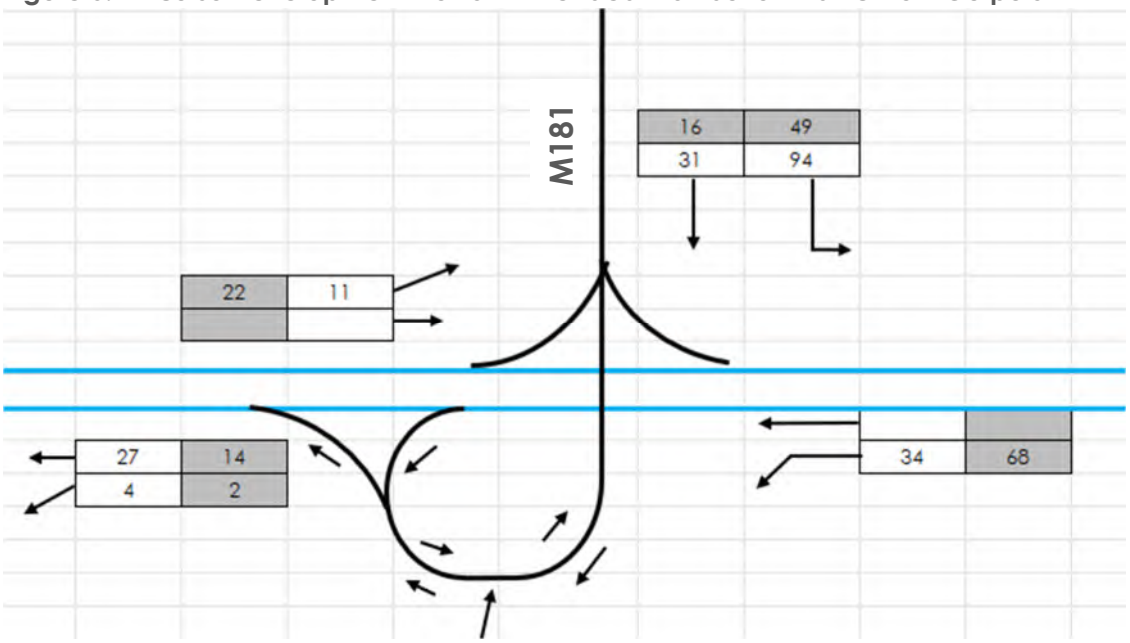


Figure 6: M180 J3 Development Flows - Amended Distribution Traffic Flow Outputs



5.16 Using the values presented above, the biggest change is the increase in development trips heading from the M181 to the M180 east; an increase of 31 (from 63 to 94).

5.17 The above amendments are relatively minor; however, the merge / diverge assessments have been updated to reflect the amended distribution, and presented in **Table 1** (2036 with Maltgrade sensitivity development flows included to provide a robust assessment – more details on the Maltgrade sensitivity test scenario presented in Section 9).

Table 1: 2036 Base + Com Scenario

ARM	TIME PERIOD	MERGE / DIVERGE FLOWS				MAINLINE FLOW UPSTREAM / DOWNSTREAM				CLASSIFICATION REQUIRED (MAINLINE AND UPSTREAM / DOWNSTREAM LANES)
		SURVEY	2027 BASE + COM	DEV	TOTAL MERGE / DIVERGE	SURVEY	2027 BASE + COM	DEV	TOTAL MAINLINE FLOW	
SCENARIO 2 - NO DEVELOPMENT										
M180 WB Onslip	08:00 – 09:00	578	669	0	669	1347	1556	0	1556	A – Taper Merge
	17:00 – 18:00	771	892	0	892	1143	1320	0	1320	D - Lane Gain (1 & 2)
M180 WB Offslip	08:00 – 09:00	155	179	0	179	1347	1556	0	1556	A - Taper Diverge (1 & 1)
	17:00 – 18:00	119	138	0	138	1143	1320	0	1320	D - Lane Drop (1 & 2)
M180 EB Onslip	08:00 – 09:00	143	165	0	165	1341	1549	0	1549	A – Taper Merge
	17:00 – 18:00	171	198	0	198	1266	1462	0	1462	A – Taper Merge
M180 EB Offslip	08:00 – 09:00	908	1051	0	1051	1341	1549	0	1549	A - Taper Diverge (1 & 1)
	17:00 – 18:00	576	666	0	666	1266	1462	0	1462	A - Taper Diverge (1 & 1)
Scenario 3 - With Development										
M180 WB Onslip	08:00 – 09:00	578	669	31	700	1347	1556	0	1556	A – Taper Merge
	17:00 – 18:00	771	892	16	908	1143	1320	0	1320	D - Lane Gain (1 & 2)
M180 WB Offslip	08:00 – 09:00	155	179	23	202	1347	1556	0	1556	A - Taper Diverge (1 & 1)
	17:00 – 18:00	119	138	46	184	1143	1320	0	1320	D - Lane Drop (1 & 2)
M180 EB Onslip	08:00 – 09:00	143	165	63	229	1341	1549	0	1549	A – Taper Merge
	17:00 – 18:00	171	198	33	231	1266	1462	0	1462	A – Taper Merge
M180 EB Offslip	08:00 – 09:00	908	1051	11	1062	1341	1549	0	1549	A - Taper Diverge (1 & 1)
	17:00 – 18:00	576	666	22	689	1266	1462	0	1462	A - Taper Diverge (1 & 1)

5.18 The merge / diverge assessment demonstrates that the eastbound on and off-slips require standard taper merge and diverges (as per the existing arrangement), albeit for 2 lanes both up and downstream. Given standard taper merge and diverges are provided, and three lanes are provided on the M180, the eastbound and off-slips are appropriate.

5.19 For the westbound on and off-slips, in the AM peak standard merge and diverge arrangements are required (as per the existing arrangement). In the PM peak, the assessment recommends a lane gain and lane drop are provided for the merge and diverge arrangements respectively. It should however be noted that the lane gain and lane drop are for a scenario where the 2 lanes drop to 1 lane after the diverge (lane drop), and back up to two lanes after the merge (lane gain). Given three lanes are provided on the M180 through the junction, there is ample space for vehicles continuing the M180 mainline to merge across the middle and outside lanes to allow for the vehicles to merge and diverge.

5.20 Given the above, no amendments are required to the M180 Junction 3 merge and diverge arrangements.

6. LINCOLNSHIRE LAKES AREA ACTION PLAN TRIP ENVELOPE REVIEW

6.1 NH set out in their response that "*The Application should provide a review of the total vehicle trip generation that was considered within the original AAP for the Lincolnshire Lakes Site and what percentage of this has been taken by other planning applications as well as the proposed development in question.*"

6.2 The vehicle trip generation associated with the original AAP allocation (6,304 dwellings and associated non-residential uses and employment) was set out in URS's Highway Assessment report dated April 2013 (document reference: 46378011).

6.3 The above report considered the impact / highway requirements for the below two scenarios presented in **Figure 7** (Table 2 in the URS report):

Figure 7: Original AAP Development Quantum Options

Table 2: Land-Use Scenarios

Land Use	Per	Option A	Option C
Residential	Dwelling	6,000	6,000
B1	sqm	21,000	25,500
B2	sqm	17,625	-
Supermarket	sqm	3,450	-
Hotel &Public House	Rooms	60	60
Gym	sqm	1,300	1,300

6.4 The vehicle trips associated with Option A and Option C were presented in Table 9 of the URS report. The AM and PM inbound and outbound trips are presented in **Table 2**. **Table 2** also includes the committed development traffic flows associated with the 2,500-dwelling committed Maltgrade scheme (planning permission PA/2015/0396).

Table 2: AAP Trip Generation Envelope Review

	AM PEAK				PM PEAK			
	ARR	DEP	2-WAY	%	ARR	DEP	2-WAY	%
Option A Review								
AAP Trip Envelope	1411	3528	4939	100%	2579	2024	4603	100%
Maltgrade Phase 1 (700 Dwellings)	102	390	492	10%	306	225	531	12%
Maltgrade Phase 2 (1,800 Dwellings)	363	1391	1754	36%	1058	705	1763	38%
Proposed Development (550 dwellings + 4,000sqm non-resi uses)	236	431	667	14%	372	316	688	15%
Total (3,100 dwellings + non-resi uses)	701	2212	2913	59%	1736	1246	2982	65%
AAP Envelope Trips Remaining	710	1316	2026	41%	843	778	1621	33%
	AM PEAK				PM PEAK			
	ARR	DEP	ARR	DEP	ARR	DEP	ARR	DEP
Option C Review								
AAP Trip Envelope	1204	3362	4566	100%	2239	1653	3892	100%
Maltgrade Phase 1 (700 Dwellings)	102	390	492	11%	306	225	531	14%
Maltgrade Phase 2 (1,800 Dwellings)	363	1391	1754	38%	1058	705	1763	45%
Proposed Development (550 dwellings + 4,000sqm non-resi uses)	236	431	667	15%	372	316	688	18%
Total (3,100 dwellings + non-resi uses)	701	2212	2913	64%	1736	1246	2982	77%
AAP Envelope Trips Remaining	503	1150	1653	36%	503	407	910	23%

6.5 **Table 2** shows that after subtracting the proposed development and committed Maltgrade development flows, approximately 41% and 33% of the original AAP trip envelope traffic flows remain in the AM and PM peaks respectively for Option A, where the proposed development forms approximately 14% and 15% of the total AAP vehicle trip envelope flows in both the AM and PM peak hours respectively.

6.6 For Option C, approximately 36% and 23% of the original AAP trip envelope traffic flows remain in the AM and PM peaks respectively, of which development flows take up 15% and 18% of the Option C traffic envelope in the AM and PM peak hours respectively.

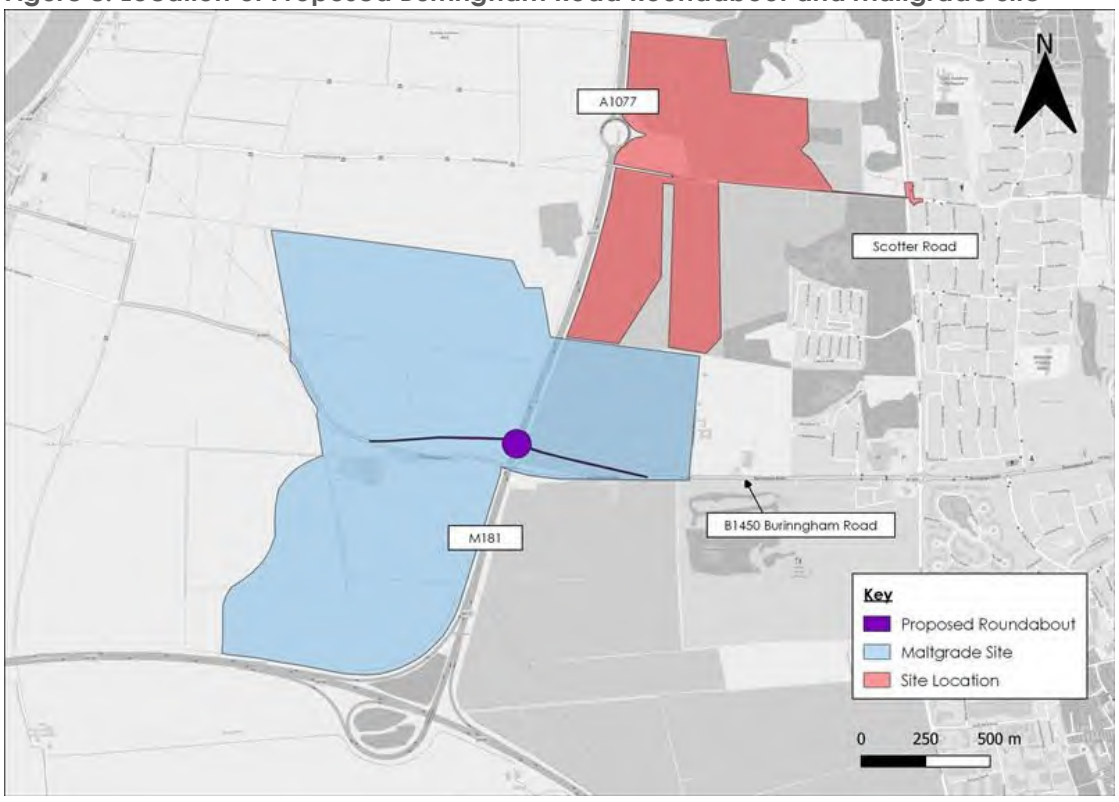
7. BURRINGHAM ROAD ROUNDABOUT IMPACT

Introduction

7.1 The following three sections provide the highway assessments that consider the impact of the new M181 / Burringham Road roundabout, the Vision & Validate scenario, and the impact of the 2,500 dwelling Maltgrade committed scheme.

7.2 **Figure 8** shows the location of the Burringham Road roundabout and the Maltgrade development site.

Figure 8: Location of Proposed Burringham Road Roundabout and Maltgrade Site



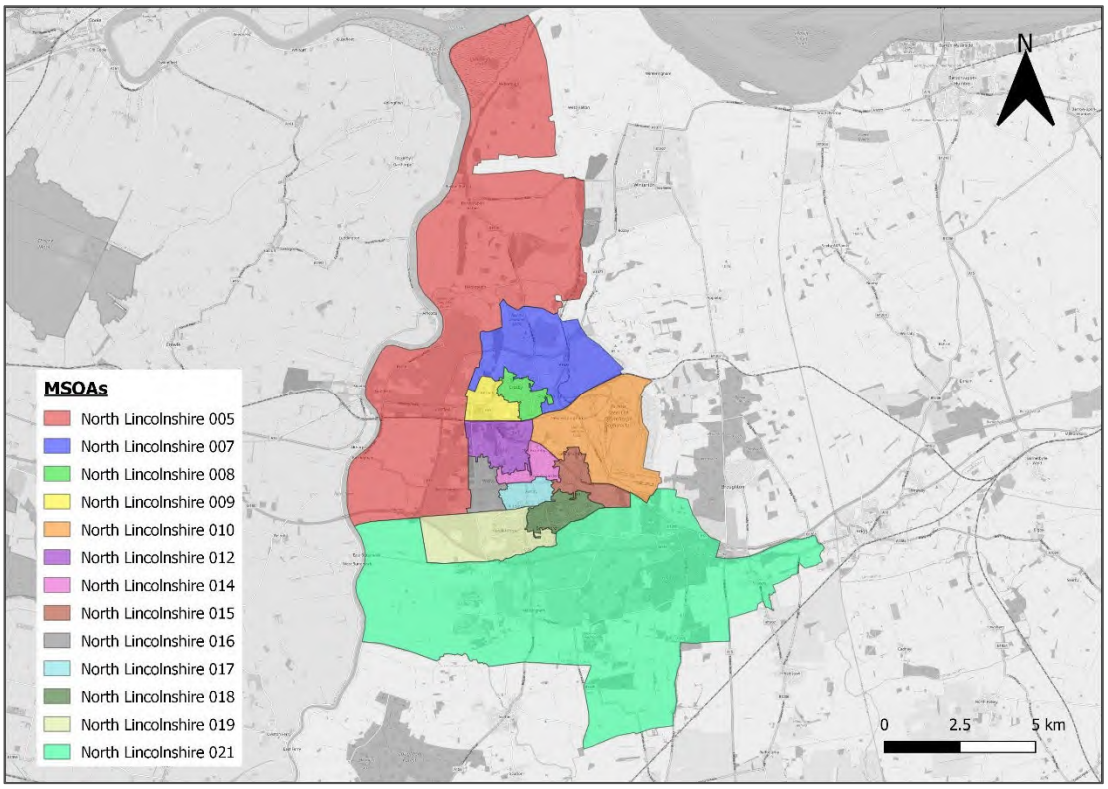
7.3 As mentioned previously, the implementation of the Burringham Road Roundabout to the south of the Site (that has recently been constructed, but doesn't provide connectivity between the M181 and Burringham Road at the point of writing this report) will impact on the routing choices for both base and Proposed Development traffic.

Therefore, the impact of the Proposed Development in a highway scenario where the Burringham Road Roundabout is operational has been generated.

Methodology

7.4 To quantify anticipated rerouting of base traffic, vehicle trips routing between the M181 and areas within Scunthorpe have been reviewed. Initially, 2011 Census '*KS101UK - Usual resident population*' populations from selected MSOA areas within the vicinity of the Site have been selected, with these areas shown below in **Figure 9**.

Figure 9: Selected MSOA Areas for Rerouting



7.5 To create distribution percentages associated with each selected MSOA area, the selected MSOA usual resident totals were divided by the overall total residents of the selected MSOA areas. These percentages are shown below in **Table 3**.

Table 3: MSOA Population Totals and Percentages

MSOA Area	All usual residents	% of Total Residents over all MSOA areas
North Lincolnshire 005	8,691	9.58%
North Lincolnshire 007	7,038	7.76%
North Lincolnshire 008	8,522	9.39%
North Lincolnshire 009	6,188	6.82%
North Lincolnshire 010	6,349	7.00%
North Lincolnshire 012	5,876	6.48%
North Lincolnshire 014	6,707	7.39%
North Lincolnshire 015	7,379	8.13%
North Lincolnshire 016	5,820	6.41%
North Lincolnshire 017	6,373	7.02%
North Lincolnshire 018	9,160	10.10%
North Lincolnshire 019	6,788	7.48%
North Lincolnshire 021	5,841	6.44%

7.6 The percentages provided in **Table 3** have been used to derive an existing distribution pattern without the Burringham Road Roundabout and a proposed distribution pattern with the Burringham Road Roundabout in place.

Distribution Assumptions

7.7 It has been assumed that the Burringham Road roundabout will ultimately make it more attractive for certain MSOAs to route along Burringham Road to get to and from the M181 (and the M180), as opposed to currently routing via the Berkeley and Frodingham Grange roundabouts. Depending on the location of the MSOA, vehicles travelling between the M181 (south of the Burringham Road roundabout) and the MSOA will either continue along the M181 north (via the Berkeley and Frodingham Grange Roundabouts) or via the new M181 / Burringham Road connection.

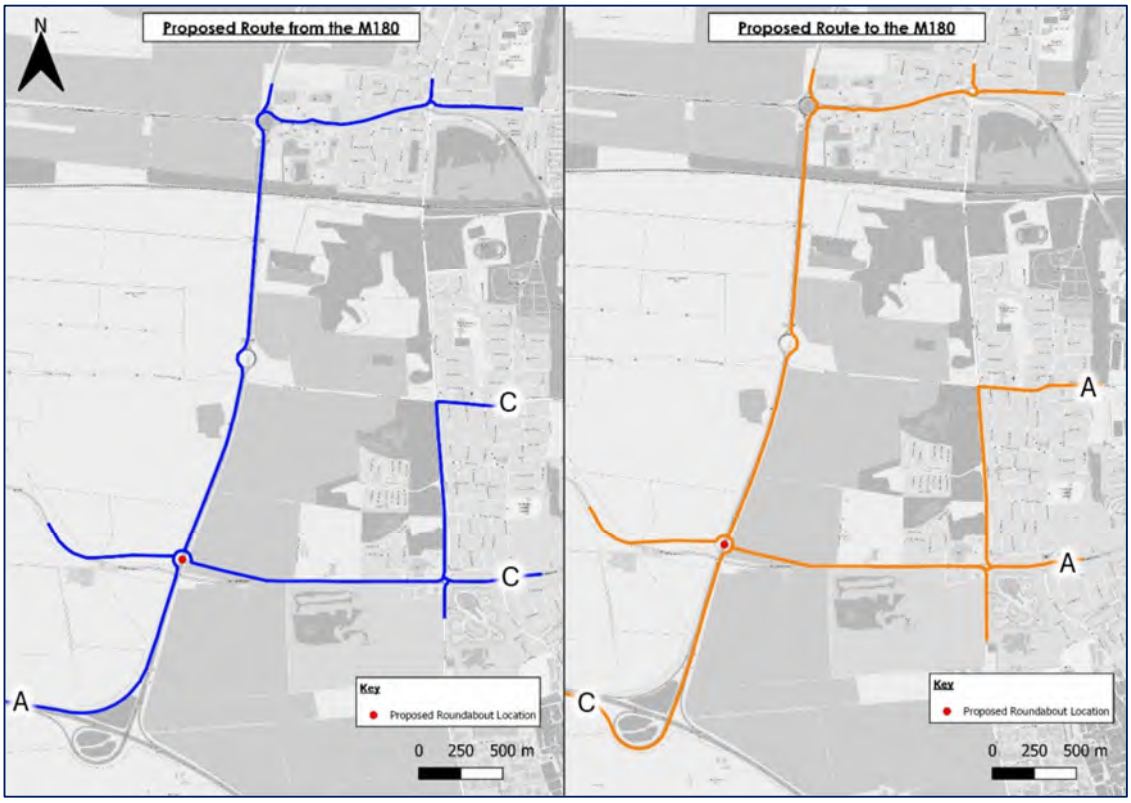
7.8 **Figure 10** and **Figure 11** illustrate routes vehicles will take to the MSOAs considered above before and after the roundabout has been constructed respectively.

7.9 For example, vehicles who currently route from M180 west to MSOAs in the centre of Scunthorpe (i.e. MSOA North Lincolnshire 010) will likely route from A to B in **Figure 10**, but it is anticipated that the vehicles will route from A to C in **Figure 11** once the roundabout is constructed.

7.10 The roundabout will increase vehicle flow on Burringham Road (both west and east of the M181), Scotter Road (up to Brumby Common Lane) and Burringham Road (east of Scotter Road), whilst decreasing the flow on the M181 (and A1077) north of Burringham Road, the A18 (west and east of Frodingham Grange roundabout, and Scotter Road and the A18 (south and southeast of Berkeley roundabout respectively).

Figure 10: Existing Route Choices to and from M180 West of M181

Figure 11: New Route Choices to and from M180 West of M181



7.11 It is acknowledged that not all vehicles travelling along the M181 (through the Burringham Road Roundabout location) will be travelling to and from the MSOAs considered. Therefore the amended distribution has been applied to the proportion of base traffic that is turning right and left at the Frodingham Grange Roundabout (as opposed to straight on – where it is assumed the route choice of vehicles travelling straight on between the A1077 north of the Frodingham Grange roundabout and the M181 would not be influenced by the installation of the new Burringham Road Roundabout).

7.12 The impact of the Burringham Road roundabout is presented in the diagrams included in **Appendix 6.**

Burringham Road Roundabout Impact

7.13 This section examines the potential highway impact of the Burringham Road Roundabout rerouting implications on the following three off-site junctions assessed in the TA (given these junctions within the agreed study area would be impacted by the rerouting of development traffic – the Site access would see a reduction in traffic and other off-site junctions not effected).

- Junction 1 - Frodingham Grange Roundabout.
- Junction 2 - Berkeley Roundabout, and
- Junction 3 - Scotter Road/Brumby Common Lane/West Common Lane Junction.

Capacity Assessment Modelling Software and Interpretation

7.14 This TAA has adopted the same methodology as used in the TA for the assessment of the above off-site junctions, with the roundabouts (junctions 1 and 2) assessed using the JUNCTIONS 11 ARCADY module and proposals of the priority give-way T-junctions (junction 3) assessed using the JUNCTIONS 11 PICADY module. The roundabouts have also been assessed in Lane Simulation mode, in line with methodology used in the TA.

Assessment Scenarios

7.15 The following highway assessment scenarios will be used to quantify the development's impact on the highway network, with the opening year and end of local plan year consistent with the TA:

- 2027 Base + Committed.
- 2027 Base + Committed (Burringham Road Roundabout Impact).
- 2027 Base + Committed + Development (Burringham Road Roundabout Impact).
- 2036 Base + Committed.
- 2036 Base + Committed (Burringham Road Roundabout Impact), and
- 2036 Base + Committed + Development (Burringham Road Roundabout Impact).

7.16 The traffic flows associated with the above assessment scenarios are included as **Appendix 7.**

Junction Assessments – 2027 and 2036 Assessment Scenarios (Burringham Road Roundabout Impact Scenarios)

Junction 1 - Frodingham Grange Roundabout

7.17 The Frodingham Grange Roundabout has been assessed using JUNCTIONS 11 ARCADY module in lane simulation mode. **Table 4** presents the JUNCTIONS 11 capacity assessment results in the 2027 and 2036 assessment scenarios. The Junction 1 capacity assessment output data is contained within **Appendix 8.**

Table 4: Junction 1 (Frodingham Grange Roundabout) Burringham Road Roundabout Impact Capacity Assessment

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	[Lane Simulation] - 2027 - Base + Committed									
1 - A18 Doncaster Road (E)	D1	3.0	8.78	0.41	A	D2	8.6	24.08	0.64	C
2 - A1077 (S)		6.2	15.56	0.64	C		2.6	10.41	0.43	B
3 - A18 Doncaster Road (W)		1.3	7.68	0.47	A		0.7	4.63	0.25	A
4 - A1077 (N)		2.2	8.64	0.37	A		3.3	11.11	0.63	B
	[Lane Simulation] - 2027 - Base + Committed (Burr Road Rdbt Impact)									
1 - A18 Doncaster Road (E)	D3	1.4	4.72	0.26	A	D4	1.4	5.92	0.33	A
2 - A1077 (S)		3.6	11.82	0.45	B		1.6	8.68	0.35	A
3 - A18 Doncaster Road (W)		1.6	5.92	0.40	A		0.7	4.42	0.23	A
4 - A1077 (N)		1.2	7.44	0.33	A		3.0	10.10	0.59	B
	[Lane Simulation] - 2027 - Base + Committed + Development (Burr Road Rdbt Impact)									
1 - A18 Doncaster Road (E)	D5	1.0	4.81	0.27	A	D6	1.9	6.67	0.38	A
2 - A1077 (S)		4.9	13.95	0.54	B		1.8	9.30	0.38	A
3 - A18 Doncaster Road (W)		1.5	6.42	0.44	A		0.6	4.31	0.23	A
4 - A1077 (N)		1.6	7.91	0.35	A		4.0	10.64	0.61	B
	[Lane Simulation] - 2036 - Base + Committed									
1 - A18 Doncaster Road (E)	D7	2.8	10.49	0.45	B	D8	12.8	35.57	0.68	E
2 - A1077 (S)		8.9	18.15	0.69	C		3.4	12.04	0.49	B
3 - A18 Doncaster Road (W)		2.1	8.40	0.51	A		0.7	4.92	0.27	A
4 - A1077 (N)		2.2	9.38	0.40	A		4.1	13.27	0.69	B
	[Lane Simulation] - 2036 - Base + Committed (Burr Road Rdbt Impact)									
1 - A18 Doncaster Road (E)	D9	1.2	5.04	0.28	A	D10	1.5	6.39	0.34	A
2 - A1077 (S)		5.0	13.18	0.51	B		2.0	8.93	0.37	A
3 - A18 Doncaster Road (W)		1.5	6.51	0.45	A		0.6	4.32	0.23	A
4 - A1077 (N)		1.6	7.75	0.37	A		3.5	10.49	0.62	B
	[Lane Simulation] - 2036 - Base + Committed + Development (Burr Road Rdbt Impact)									
1 - A18 Doncaster Road (E)	D11	1.2	5.22	0.29	A	D12 *	**1.7**	**7.83**	**0.40**	**A**
2 - A1077 (S)		6.1	16.54	0.58	C		**2.1**	**9.61**	**0.41**	**A**
3 - A18 Doncaster Road (W)		2.0	7.23	0.48	A		**0.7**	**4.71**	**0.25**	**A**
4 - A1077 (N)		1.7	8.06	0.39	A		**4.3**	**11.86**	**0.68**	**B**

7.18 **Table 4** shows that the introduction of the Burringham Road Roundabout should have a positive impact on the performance of the Frodingham Grange Roundabout, with

vehicle traffic volume reductions resulting in reduced mean maximum queue (MMQ) delay and ratio of flow to capacity (RFC) values. The junction is predicted to operate well within capacity in the 2036 with development scenario, with a maximum RFC of 0.68 recorded (in the PM peak on the A1077 (N) arm).

Junction 2 – Berkeley Roundabout

7.19 The Berkeley Roundabout has been assessed using JUNCTIONS 11 ARCADY module in lane simulation mode. **Table 5** presents the JUNCTIONS 11 capacity assessment results in the 2027 and 2036 assessment scenarios. A copy of the Junction 2 capacity assessment output data is contained within **Appendix 9.**

Table 5: Junction 2 (Berkeley Roundabout) Burringham Road Roundabout Impact Capacity Assessment

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	[Lane Simulation] - 2027 - Base + Committed									
1 - Scotter Road (N)	D1	2.7	18.39	0.71	C	D2	8.0	48.92	0.89	E
2 - Doncaster Road (E)		1.1	13.06	0.46	B		10.0	75.29	0.91	F
3 - A18 Kingsway		2.9	17.14	0.72	C		12.8	71.00	0.94	F
4 - Scotter Road (S)		3.4	16.29	0.77	C		2.1	10.83	0.66	B
5 - A18 Doncaster Road (W)		6.5	19.02	0.67	C		14.0	36.55	0.66	E
	[Lane Simulation] - 2027 - Base + Committed (Burr Road Rdbt Impact)									
1 - Scotter Road (N)	D3	1.1	8.37	0.53	A	D4	3.6	21.06	0.79	C
2 - Doncaster Road (E)		0.6	9.00	0.38	A		4.1	35.92	0.76	E
3 - A18 Kingsway		0.6	7.48	0.39	A		0.8	10.20	0.46	B
4 - Scotter Road (S)		1.9	8.11	0.63	A		0.9	5.71	0.47	A
5 - A18 Doncaster Road (W)		1.2	6.55	0.41	A		3.5	10.52	0.55	B
	[Lane Simulation] - 2027 - Base + Committed + Development (Burr Road Rdbt Impact)									
1 - Scotter Road (N)	D5	1.3	10.06	0.55	B	D6	4.7	27.91	0.81	D
2 - Doncaster Road (E)		0.8	9.99	0.44	A		13.3	92.10	0.95	F
3 - A18 Kingsway		0.7	8.09	0.43	A		1.0	11.34	0.51	B
4 - Scotter Road (S)		1.7	7.82	0.63	A		0.8	6.33	0.48	A
5 - A18 Doncaster Road (W)		2.2	7.35	0.48	A		3.6	11.46	0.58	B
	[Lane Simulation] - 2036 - Base + Committed									
1 - Scotter Road (N)	D7	3.6	26.60	0.79	D	D8	19.1	98.70	1.00	F
2 - Doncaster Road (E)		1.6	15.71	0.57	C		20.9	139.78	1.06	F
3 - A18 Kingsway		4.1	23.22	0.78	C		23.0	123.34	1.05	F
4 - Scotter Road (S)		5.9	25.46	0.86	D		2.7	13.83	0.72	B
5 - A18 Doncaster Road (W)		10.5	30.23	0.69	D		28.1	66.53	0.71	F
	[Lane Simulation] - 2036 - Base + Committed (Burr Road Rdbt Impact)									
1 - Scotter Road (N)	D9	1.8	10.71	0.58	B	D10	6.7	40.09	0.89	E
2 - Doncaster Road (E)		0.9	10.26	0.42	B		9.3	65.48	0.92	F
3 - A18 Kingsway		0.9	8.24	0.44	A		1.0	12.06	0.52	B
4 - Scotter Road (S)		2.5	9.48	0.70	A		1.1	6.12	0.49	A
5 - A18 Doncaster Road (W)		1.8	6.89	0.45	A		4.4	13.69	0.58	B
	[Lane Simulation] - 2036 - Base + Committed + Development (Burr Road Rdbt Impact)									
1 - Scotter Road (N)	D11	2.2	13.38	0.65	B	D12 *	**8.5**	**54.80**	**0.93**	**F**
2 - Doncaster Road (E)		1.0	10.76	0.49	B		**27.7**	**166.99**	**1.06**	**F**
3 - A18 Kingsway		0.8	9.25	0.46	A		**1.1**	**12.70**	**0.54**	**B**
4 - Scotter Road (S)		1.7	9.59	0.68	A		**1.1**	**6.56**	**0.52**	**A**
5 - A18 Doncaster Road (W)		2.2	8.24	0.52	A		**5.0**	**14.63**	**0.63**	**B**

7.20 **Table 5** shows that in the AM peak, the Berkeley Roundabout is predicted to operate within capacity in all scenarios when the Burringham Road Roundabout is operational, with a maximum RFC of 0.68 recorded on Scotter Road (S) in the 2036 with development scenario.

7.21 In the PM peak, the impact of the Burringham Road Roundabout on the operation of Berkeley Roundabout will have a positive influence on junction performance. Comparing the 2036 with and without the Burringham Road Roundabout impact, the RFCs are reduced to below 1 (with a maximum RFC of 0.92 recorded), and average delay for each vehicle reduces significantly (e.g. from 140 seconds per vehicles on Doncaster Road (E) to 66 seconds per vehicle.

7.22 It is noted that the addition of the Proposed Development Traffic does increase the delay on the Doncaster Road (E) arm, from an RFC of 0.92 to 1.06, MMQ increasing from 10 to 28 vehicles, and the delay increasing from 66 to 167 seconds on average.

7.23 Despite the above, the junction is still predicted to operate with overall lower junction queuing and delay when comparing the 2036 future year scenario without the Burringham Road roundabout, and with the Burringham Road roundabout and Proposed development operational. The total junction queuing would reduce from 96 PCU to 46 PCU and 444 seconds to 257 seconds on average.

7.24 To summarise, with the Burringham Road roundabout in place, the junction will operate significantly better overall (even with the Proposed Development operational) than it is predicted to operate in 2027 and 2036 with committed growth and no Burringham Road roundabout in place.

7.25 Notwithstanding the above, the impact of the proposed development on the operation of the roundabout is not considered to be significant, with only a moderate increase in MMQ (largest increase of 10 to 28 PCU on Doncaster Road – which does not extend to the next junction – 35 PCU length: Doncaster Road / Woodland View T-Junction).

7.26 Given the predicted performance of the roundabout once the Burringham Road roundabout is fully operational (that has recently been constructed, but doesn't provide connectivity between the M181 and Burringham Road at the point of writing this report) the proposed development will not have a 'severe' impact on the operation of Berkeley Roundabout in the standard assessment. Based on the committed development considered and proposed highway arrangement committed at this stage, no mitigation is deemed required.

Junction 3 – Scotter Road/Brumby Common Lane/West Common LanBe Junction

7.27 The capacity of Junction 3 has been assessed using the JUNCTIONS 11 PICADY module. **Table 6** presents the JUNCTIONS 11 capacity assessment results in the 2027 and 2036 assessment scenarios. A copy of the Junction 3 capacity assessment output data is contained within **Appendix 10**.

Table 6: Junction 3 (Scotter Road/Brumby Common Lane/West Common Lane Junction) Burringham Road Roundabout Impact Capacity Assessment

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	2027 - Base + Committed									
Stream B-CD	D1	0.3	8.10	0.21	A	D2	0.8	15.72	0.45	C
Stream B-AD		0.3	18.58	0.21	C		0.6	33.67	0.37	D
Stream A-BCD		0.0	7.10	0.00	A		0.0	6.34	0.00	A
Stream D-ABC		0.0	0.00	0.00	A		0.0	0.00	0.00	A
Stream C-ABD		0.5	8.29	0.34	A		0.5	10.45	0.32	B
	2027 - Base + Committed (Burr Road Rdbt Impact)									
Stream B-CD	D3	0.3	7.75	0.23	A	D4	0.9	16.07	0.49	C
Stream B-AD		0.2	16.40	0.19	C		0.5	30.13	0.35	D
Stream A-BCD		0.0	0.00	0.00	A		0.0	6.41	0.00	A
Stream D-ABC		0.0	0.00	0.00	A		0.0	0.00	0.00	A
Stream C-ABD		0.5	7.96	0.35	A		0.5	10.20	0.33	B
	2027 - Base + Committed + Development (Burr Road Rdbt Impact)									
Stream B-CD	D5	0.3	7.75	0.23	A	D6	0.9	16.07	0.49	C
Stream B-AD		0.2	16.43	0.19	C		0.5	30.13	0.35	D
Stream A-BCD		0.0	7.26	0.00	A		0.0	6.41	0.00	A
Stream D-ABC		0.0	0.00	0.00	A		0.0	0.00	0.00	A
Stream C-ABD		0.5	7.96	0.35	A		0.5	10.20	0.33	B
	2036 - Base + Committed									
Stream B-CD	D7	0.3	8.55	0.23	A	D8	1.1	19.45	0.52	C
Stream B-AD		0.3	21.39	0.24	C		0.8	47.36	0.47	E
Stream A-BCD		0.0	7.42	0.00	A		0.0	6.54	0.00	A
Stream D-ABC		0.0	0.00	0.00	A		0.0	0.00	0.00	A
Stream C-ABD		0.6	8.82	0.37	A		0.5	11.50	0.35	B
	2036 - Base + Committed (Burr Road Rdbt Impact)									
Stream B-CD	D9	0.3	8.12	0.25	A	D10	1.2	19.86	0.56	C
Stream B-AD		0.3	18.35	0.22	C		0.7	40.26	0.43	E
Stream A-BCD		0.0	0.00	0.00	A		0.0	6.62	0.00	A
Stream D-ABC		0.0	0.00	0.00	A		0.0	0.00	0.00	A
Stream C-ABD		0.6	8.40	0.38	A		0.6	11.18	0.37	B
	2036 - Base + Committed + Development (Burr Road Rdbt Impact)									
Stream B-CD	D11	0.3	8.12	0.25	A	D12 *	**1.2**	**19.86**	**0.56**	C
Stream B-AD		0.3	18.38	0.22	C		**0.7**	**40.26**	**0.43**	E
Stream A-BCD		0.0	7.61	0.00	A		**0.0**	**6.62**	**0.00**	A
Stream D-ABC		0.0	0.00	0.00	A		**0.0**	**0.00**	**0.00**	A
Stream C-ABD		0.6	8.41	0.38	A		**0.6**	**11.18**	**0.37**	B

7.28 Similar to the findings in the TA, the above shows that the Scotter Road/Brumby Common Lane/West Common Lane Junction is predicted to operate well within

capacity in both the 2027 and 2036 scenarios. A maximum RFC value of 0.56 is predicted in the 2036 with development scenario (well below the 0.85 threshold). Is it noted that the delay is predicted to be 41 seconds on average for vehicles turning right out of Scotter Road in the PM peak, however the Proposed Development is not predicted to change this due to the nature of the impact of the Burringham Road roundabout on route choice (i.e. development flow vehicles are not predicted to turn right out of Brumby Common Lane (E) to access the site due to the new available routes via Burringham Road)

7.29 Given the findings of the above, the impact of the construction of the Burringham Road roundabout is predicted to have a positive effect on traffic flow through the junctions assessed. Therefore, ultimately no mitigation that enhances capacity at the junctions assessed is considered required as the resulting impact of the development on junction operation is not considered severe.

8. VISION AND VALIDATE CONSIDERATION

Introduction

8.1 As referred to in the TA, a 'Vision and Validate' approach is based on NH highway assessment requirements, where a 20% reduction in single occupancy private car use is achieved. This contrasts with the "Predict and Provide" model and focuses on setting a long-term goal (vision) and then designing transport systems to achieve that vision, rather than simply reacting to projected traffic demand.

Vision and Validate Assessment

8.2 Based on the findings of the TA, this section examines the potential highway impact of the 20% reduction in development traffic single occupancy private car use on the following three off-site junctions mentioned within the TA, given that the Vision and Validate scenario will reduce the development's impact given the reduction in traffic flows, and the other junctions assessed in the TA were predicted to operate within capacity:

- Junction 1 - Frodingham Grange Roundabout.
- Junction 2 - Berkeley Roundabout, and
- Junction 3 - Scotter Road/Brumby Common Lane/West Common Lane Junction.

Assessment Scenarios

8.3 The following highway assessment scenarios will be used to quantify the development's impact on the highway network, with the opening year and end of local plan year consistent with the TA:

- 2027 Base + Committed + Development (Vision and Validate 20% Reduction).
- 2036 Base + Committed + Development (Vision and Validate 20% Reduction).

8.4 The above scenarios assume that the Burringham Road roundabout is full operational (i.e. vehicles can route between the M181 and Burringham Road). The traffic flows associated with the above scenarios are included as **Appendix 11**.

Junction Assessments – 2027 & 2036 Vision and Validate Assessment Scenarios

Junction 1 - Frodingham Grange Roundabout

8.5 **Table 7** presents the JUNCTIONS 11 capacity assessment results in the 2027 and 2036 assessment scenarios. The Junction 1 capacity assessment output data is contained within **Appendix 12.**

Table 7: Junction 1 (Frodingham Grange Roundabout) Vision and Validate Capacity Assessment

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	[Lane Simulation] - 2027 - Base + Committed + Development (Vision and Validate) (Burr Road Rdbt Impact)									
1 - A18 Doncaster Road (E)	D1	1.1	5.21	0.27	A	D2	1.8	6.91	0.37	A
2 - A1077 (S)		5.9	13.90	0.54	B		2.4	9.30	0.39	A
3 - A18 Doncaster Road (W)		1.6	6.26	0.43	A		0.6	4.40	0.23	A
4 - A1077 (N)		1.4	7.76	0.36	A		3.5	10.98	0.63	B
	[Lane Simulation] - 2036 - Base + Committed + Development (Vision and Validate) (Burr Road Rdbt Impact)									
1 - A18 Doncaster Road (E)	D3	0.9	5.37	0.30	A	D4 *	**2.1**	**8.03**	**0.41**	**A**
2 - A1077 (S)		6.0	16.11	0.57	C		**2.8**	**9.43**	**0.42**	**A**
3 - A18 Doncaster Road (W)		1.9	6.81	0.47	A		**0.5**	**4.56**	**0.25**	**A**
4 - A1077 (N)		1.8	8.26	0.39	A		**4.9**	**11.85**	**0.69**	**B**

8.6 The above shows that in the Vision and Validate scenario, the Frodingham Grange roundabout is predicted to operate well within capacity in both 2027 and 2036. The improvements are however negligible when compared to the standard assessment approach presented in **Table 4**.

Junction 2 – Berkeley Roundabout

8.7 **Table 8** presents the JUNCTIONS 11 capacity assessment results in the 2027 and 2036 assessment scenarios. A copy of the Junction 2 capacity assessment output data is included as **Appendix 13.**

Table 8: Junction 2 (Berkeley Roundabout) Vision & Validate Capacity Assessment

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	[Lane Simulation] - 2027 - Base + Committed + Development (Vision and Validate) (Burr Road Rdbt Impact)									
1 - Scotter Road (N)	D1	1.2	10.33	0.59	B	D2	4.0	27.19	0.80	D
2 - Doncaster Road (E)		1.0	9.48	0.45	A		10.3	69.85	0.90	F
3 - A18 Kingsway		0.6	8.51	0.41	A		1.0	11.30	0.50	B
4 - Scotter Road (S)		1.9	8.20	0.63	A		1.0	6.21	0.47	A
5 - A18 Doncaster Road (W)		1.8	7.31	0.48	A		3.4	11.27	0.58	B
	[Lane Simulation] - 2036 - Base + Committed + Development (Vision and Validate) (Burr Road Rdbt Impact)									
1 - Scotter Road (N)	D3	1.6	12.12	0.62	B	D4 *	**9.7**	**50.65**	**0.91**	**F**
2 - Doncaster Road (E)		0.9	10.80	0.45	B		**24.5**	**150.38**	**1.04**	**F**
3 - A18 Kingsway		0.8	8.98	0.45	A		**1.2**	**12.94**	**0.52**	**B**
4 - Scotter Road (S)		2.0	9.55	0.68	A		**1.1**	**6.69**	**0.50**	**A**
5 - A18 Doncaster Road (W)		2.1	7.87	0.51	A		**4.9**	**14.00**	**0.62**	**B**

8.8 Comparing the results in **Table 5** and **Table 8**, the Vision and Validate scenario does improve the junction performance slightly. On Doncaster Road the predicted PRC reduced from 1.08 to 1.04, with the MMQ reducing from 29 to 25. The findings of the previous section are still appropriate, of which the Vision and Validate assessment further reduces the limited impact of the proposed development on the operation of Berkeley Roundabout.

8.9 Given the above, the limited impact does not warrant grounds for the proposed development to provide mitigation at Berkeley Roundabout, whilst the RFC is (slightly) over 1, MMQs do not extend to neighbouring junctions.

Junction 3 – Scotter Road/Brumby Common Lane/West Common Lane Junction

8.10 The capacity of Junction 3 has been assessed using the JUNCTIONS 11 PICADY module. **Table 9** presents the JUNCTIONS 11 capacity assessment results in the 2027 and 2036 assessment scenarios. A copy of the Junction 3 capacity assessment output data is contained within **Appendix 14.**

Table 9: Junction 3 (Scotter Road/Brumby Common Lane/West Common Lane Junction) Vision & Validate Capacity Assessment

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	2027 - Base + Committed + Development (Vision and Validate) (Burr Road Rdbt Impact)									
Stream B-CD	D1	0.3	7.75	0.23	A	D2	0.9	16.07	0.49	C
Stream B-AD		0.2	16.43	0.19	C		0.5	30.13	0.35	D
Stream A-BCD		0.0	7.26	0.00	A		0.0	6.41	0.00	A
Stream D-ABC		0.0	0.00	0.00	A		0.0	0.00	0.00	A
Stream C-ABD		0.5	7.96	0.35	A		0.5	10.20	0.33	B
	2036 - Base + Committed + Development (Vision and Validate) (Burr Road Rdbt Impact)									
Stream B-CD	D3	0.3	8.12	0.25	A	D4 *	1.2	19.86	0.56	C
Stream B-AD		0.3	18.38	0.22	C		0.7	40.26	0.43	E
Stream A-BCD		0.0	7.61	0.00	A		0.0	6.62	0.00	A
Stream D-ABC		0.0	0.00	0.00	A		0.0	0.00	0.00	A
Stream C-ABD		0.6	8.41	0.38	A		0.6	11.18	0.37	B

8.11 As with the TA, the above shows that the Scotter Road/Brumby Common Lane/West Common Lane Junction is predicted to operate well within capacity in both the 2027 and 2036 scenarios. Similar to the Frodingham Grange and Berkeley roundabout assessments, the Vision and Validate scenario only performance marginally better than the standard assessment.

9. MALTGRADE SENSITIVITY TESTING

Introduction

9.1 As refenced within the TA, the 2,500 dwelling Maltgrade development (application reference: PA/2015/0396) will be included with this TAA as a 'sensitivity test' in both the 2027 and 2036 assessment years. However, whilst the 2015 application permission has since expired, and that the 593 dwellings of the 2,500 dwelling scheme is currently being considered as part of the live application PA/2023/1124.

9.2 A sensitivity test that includes traffic generated by the 2,500 dwelling Maltgrade development has therefore been presented. The sensitivity test assumes that the Burringham Road roundabout is operational.

9.3 The Maltgrade application assumes that a connection from the Proposed Development onto Scotter Road (at the Brumby Common Lane junction) will come forward and be operational.

Maltgrade Sensitivity Test

9.4 This section examines the potential highway impact of the 2,500 dwelling Maltgrade development proposals on the following three off-site junctions assessed in the TA.

- Junction 1 - Frodingham Grange Roundabout.
- Junction 2 - Berkeley Roundabout, and
- Junction 3 - Scotter Road/Brumby Common Lane/West Common Lane Junction.

Assessment Scenarios

9.5 The following highway assessment scenarios will be used to quantify the development's impact on the highway network, given that the majority of the Maltgrade development will not be operational in 2027:

- 2036 Base + Committed (including Maltgrade Development).
- 2036 Base + Committed (including Maltgrade Development) + Development, and
- 2036 Base + Committed (including Maltgrade Development) + Development (Vision and Validate Impact).

9.6 The traffic flows associated with the above scenarios are included as **Appendix 15**. The Maltgrade development flows have been extracted from the associated TA produced by Arup in January 2016 (report reference: 232952-00).

Junction Assessments – 2036 Maltgrade Assessment Scenarios

Junction 1 - Frodingham Grange Roundabout

9.7 **Table 10** presents the JUNCTIONS 11 capacity assessment results in the 2036 assessment scenarios. The Junction 1 capacity assessment output data for Junction 1 is contained within **Appendix 16**.

Table 10: Junction 1 (Frodingham Grange Roundabout) Maltgrade Sensitivity Test Capacity Assessment

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	[Lane Simulation] - 2036 - Base + Committed (Maltgrade) (Burr Road Rdbt Impact)									
1 - A18 Doncaster Road (E)	D3	1.2	5.18	0.29	A	D4	1.7	7.57	0.40	A
2 - A1077 (S)		6.3	15.63	0.56	C		2.6	9.68	0.40	A
3 - A18 Doncaster Road (W)		1.4	6.86	0.46	A		0.6	4.57	0.24	A
4 - A1077 (N)		1.4	8.15	0.39	A		4.3	13.24	0.68	B
	[Lane Simulation] - 2036 - Base + Committed (Maltgrade) + Development (Burr Road Rdbt Impact)									
1 - A18 Doncaster Road (E)	D5	1.2	5.69	0.31	A	D6	2.3	9.14	0.46	A
2 - A1077 (S)		9.7	20.92	0.66	C		3.0	10.86	0.47	B
3 - A18 Doncaster Road (W)		1.9	7.96	0.52	A		0.6	4.80	0.26	A
4 - A1077 (N)		1.7	8.54	0.42	A		5.3	14.88	0.74	B
	[Lane Simulation] - 2036 - Base + Committed (Maltgrade) + Development (Burr Road Rdbt Impact) (Vision + Validate)									
1 - A18 Doncaster Road (E)	D7	1.4	5.52	0.31	A	D8 *	**2.3**	**9.16**	**0.46**	**A**
2 - A1077 (S)		9.3	20.36	0.67	C		**2.4**	**10.63**	**0.45**	**B**
3 - A18 Doncaster Road (W)		1.6	7.58	0.50	A		**0.7**	**4.77**	**0.26**	**A**
4 - A1077 (N)		2.2	8.72	0.42	A		**5.2**	**14.40**	**0.70**	**B**

9.8 **Table 10** shows that the Frodingham Grange Roundabout is predicted to continue to operate within capacity if the Maltgrade 2,500 dwellings come forward, with a maximum RFC of 0.70 recorded (in the PM peak on the A1077 (N) arm.

9.9 Given that the Frodingham Grange roundabout is predicted to operate within capacity in all scenarios assessed in Sections 7, 8 and 9, no further assessment of Frodingham Grange roundabout is considered required.

Junction 2 – Berkeley Roundabout

9.10 **Table 11** presents the JUNCTIONS 11 capacity assessment results in the 2036 assessment scenarios. A copy of the Junction 2 capacity assessment output data is contained within **Appendix 17.**

Table 11: Junction 2 (Berkeley Roundabout) Capacity Assessment

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	[Lane Simulation] - 2036 - Base + Committed (Maltgrade) (Burr Road Rdbt Impact)									
1 - Scotter Road (N)	D3	1.7	12.46	0.63	B	D4	9.4	55.70	0.91	F
2 - Doncaster Road (E)		0.9	9.40	0.41	A		9.8	70.31	0.95	F
3 - A18 Kingsway		1.2	10.14	0.52	B		2.0	17.89	0.67	C
4 - Scotter Road (S)		3.4	13.05	0.78	B		1.1	6.70	0.54	A
5 - A18 Doncaster Road (W)		2.1	7.69	0.48	A		5.0	14.88	0.62	B
	[Lane Simulation] - 2036 - Base + Committed (Maltgrade) + Development (Burr Road Rdbt Impact)									
1 - Scotter Road (N)	D5	2.5	17.08	0.70	C	D6 *	15.5	85.85	0.99	F
2 - Doncaster Road (E)		0.9	10.43	0.50	B		32.0	187.32	1.06	F
3 - A18 Kingsway		1.3	11.18	0.55	B		2.2	18.76	0.70	C
4 - Scotter Road (S)		3.3	13.36	0.78	B		1.1	7.39	0.54	A
5 - A18 Doncaster Road (W)		2.5	9.68	0.56	A		5.5	16.50	0.66	C
	[Lane Simulation] - 2036 - Base + Committed (Maltgrade) + Development (Burr Road Rdbt Impact) (Vision + Validate)									
1 - Scotter Road (N)	D7	2.4	15.21	0.70	C	D8	14.7	80.04	0.96	F
2 - Doncaster Road (E)		0.9	11.19	0.49	B		24.1	149.12	1.03	F
3 - A18 Kingsway		1.3	10.82	0.56	B		2.4	19.24	0.71	C
4 - Scotter Road (S)		3.6	13.34	0.76	B		1.3	7.41	0.56	A
5 - A18 Doncaster Road (W)		2.3	8.89	0.55	A		5.5	15.49	0.65	C

9.11 **Table 11** shows that in the AM peak period, the Berkeley Roundabout is predicted to operate within capacity in all scenarios assessed where the Burringham Road roundabout is operational, with a maximum RFC if 0.76 recorded (on Scotter Road (S)).

9.12 In the PM peak, the addition of the Maltgrade 2,500 dwellings further exacerbates the capacity issues at the roundabout. The maximum RFC recorded in the 'with development plus Maltgrade' scenario is 1.06 (on Doncaster Road (E)), with a queue of 32 PCU predicted. The inclusion of the Maltgrade 2,500 dwellings does not result in an increase in the RFC on Doncaster Road (remaining at 1.06), when comparing the above table with **Table 5.** RFCs do increase on other arms; however, these do not increase to over 1 (0.99 RFC recorded on Scotter Road (N), and the predicted queue lengths are minimal).

9.13 Furthermore, with the addition of a vision and validate scenario, the roundabout is still predicted to operate over capacity (on the Doncaster Road (E) arm) (1.03 RFC recorded).

9.14 Notwithstanding the above, whilst the junction is predicted to operate over capacity, the junction is still predicted to operate better than predicted in 2027 and 2036 in a scenario where the Burringham Road roundabout is not operational (similar to the findings set out in Section 2). In 2036, without the Burringham Road roundabout, the Proposed Development or Maltgrade operational, the predicted overall junction MMQ length and average delay in the PM peak is 96 PCU and 444 seconds (as presented in **Table 5**, this drops to 59 PCU and 318 seconds in the scenario where the Burringham Road roundabout, Maltgrade and the Proposed Development are all operational. It should be noted that the MMQ and delays is further reduced (to 46 PCU and 274 seconds) in the Vision and Validate scenario.

9.15 Given the above, whilst the roundabout is expected to operate over capacity (on Doncaster Road (E) in the PM peak), mitigation is not deemed required at the Berkeley Roundabout given the benefits the Burringham Road roundabout has on junction performance. Whilst the RFC is over 0.85 on Doncaster Road, the queue length of 32 PCU on Doncaster Road does not extend through the next junction on Doncaster Road

(and therefore does not impact performance of a neighbouring junction). Junction capacity enhancements should not be provided to simply improve capacity if safety issues are not present, and the focus should be to encourage sustainable and active travel trips (of which the Proposed Development promotes with the active and sustainable travel infrastructure proposed).

9.16 Additionally, prior to the consideration of the Maltgrade flows, the inclusion of the Proposed Development only results in an RFC recording of 1.04 and 1.06 on Doncaster Road in the Vision and Validate and standard assessment scenarios respectively, only slightly over the RFC value of 1 capacity threshold.

9.17 Based on the above, mitigation at the Berkeley roundabout is not considered required as part of this phase of development at Lincolnshire Lakes given that even with the Maltgrade 2,500 dwellings in place the junction is predicted to perform significantly better than it would perform in the future year scenarios, based on an assessment of the existing highway arrangement.

Junction 3 – Scotter Road/Brumby Common Lane/West Common Lane Junction

9.18 **Table 12** presents the JUNCTIONS 11 capacity assessment results in the 2036 assessment scenarios. A copy of the Junction 3 capacity assessment output data is contained within **Appendix 18.**

Table 12: Junction 3 (Scotter Road/Brumby Common Lane/West Common Lane Junction) Capacity Assessment

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	2036 - Base + Committed (Maltgrade) (Burr Road Rdbt Impact)									
Stream B-CD	D3	0.8	14.73	0.46	B	D4	95.6	967.13	1.86	F
Stream B-AD		0.7	37.75	0.40	E		2.9	154.35	0.82	F
Stream A-BCD		0.0	9.10	0.00	A		0.0	7.11	0.00	A
Stream D-ABC		2.9	90.71	0.78	F		0.8	47.49	0.46	E
Stream C-ABD		1.0	10.70	0.51	B		0.8	13.59	0.46	B
	2036 - Base + Committed (Maltgrade) + Development (Burr Road Rdbt Impact)									
Stream B-CD	D5	0.8	14.73	0.46	B	D6	95.6	967.13	1.86	F
Stream B-AD		0.7	37.75	0.40	E		2.9	154.35	0.82	F
Stream A-BCD		0.0	9.10	0.00	A		0.0	7.11	0.00	A
Stream D-ABC		2.9	90.71	0.78	F		0.8	47.49	0.46	E
Stream C-ABD		1.0	10.70	0.51	B		0.8	13.59	0.46	B
	2036 - Base + Committed (Maltgrade) + Development (Burr Road Rdbt Impact) (Vision + Validate)									
Stream B-CD	D7	0.8	14.73	0.46	B	D8 *	95.6	967.13	1.86	F
Stream B-AD		0.7	37.75	0.40	E		2.9	154.35	0.82	F
Stream A-BCD		0.0	9.10	0.00	A		0.0	7.11	0.00	A
Stream D-ABC		2.9	90.71	0.78	F		0.8	47.49	0.46	E
Stream C-ABD		1.0	10.70	0.51	B		0.8	13.59	0.46	B

9.19 As shown above, the Scotter Road/Brumby Common Lane/West Common Lane Junction operates above capacity with the addition of the Maltgrade development proposals.

9.20 As mentioned previously, the Maltgrade proposals assume that a connection through from the Proposed Development onto Scotter Road (at the Brumby Common Lane junction) is operational, therefore either the Maltgrade application, or a future phase of development that provides the vehicular connection onto Scotter Road, would consider junction capacity improvements at the Scotter Road/Brumby Common Lane/West Common Lane junction.

9.21 Without the consideration of Maltgrade (and no connection through onto Scotter Road from the west), the crossroads junction is predicted to operate well within capacity as presented in Sections 2 and 3.

9.22 Given the above, mitigation at the Brumby Common Lane / Scotter Road / West Common Lane junction is not considered required as part of the Proposed Development application.

10. HIGHWAY SAFETY REVIEW UPDATE

Introduction

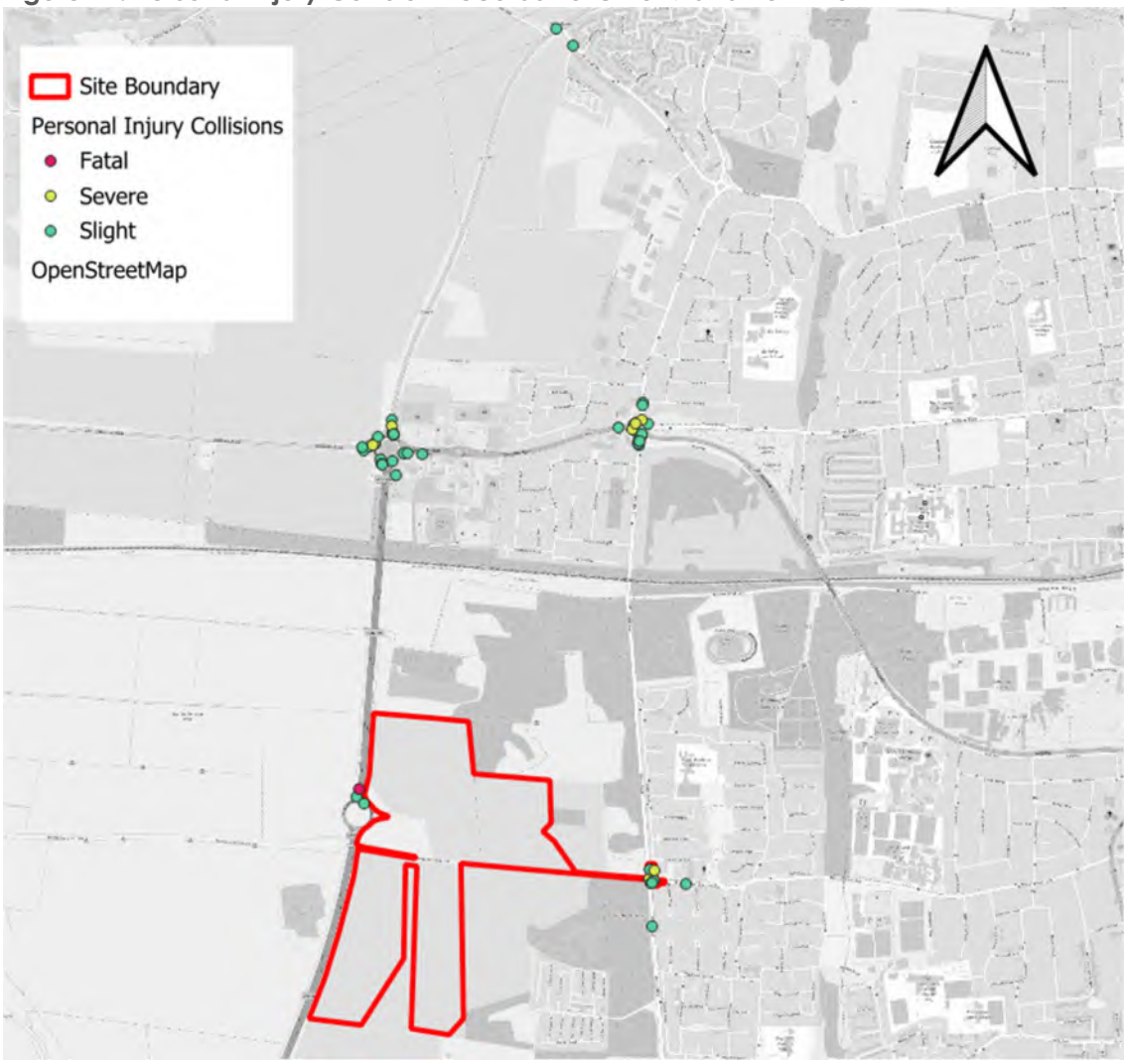
10.1 NH stated in their comments that "*The JSJV would recommend that BWB presents PIC data for the most recent 5-year period excluding the years 2020 and 2021.*"

10.2 An updated assessment is presented below, which now includes data from 2018, 2019, 2022, 2023 and 2024.

Road Safety

10.3 Using data provided by NLC for the highway network within the wider vicinity of the Site (matching the highway assessment study area). The recorded collisions are illustrated in **Figure 12**, with full details provided at **Appendix 19**.

Figure 12: Personal Injury Collision Records 2018-2019 and 2022-2024



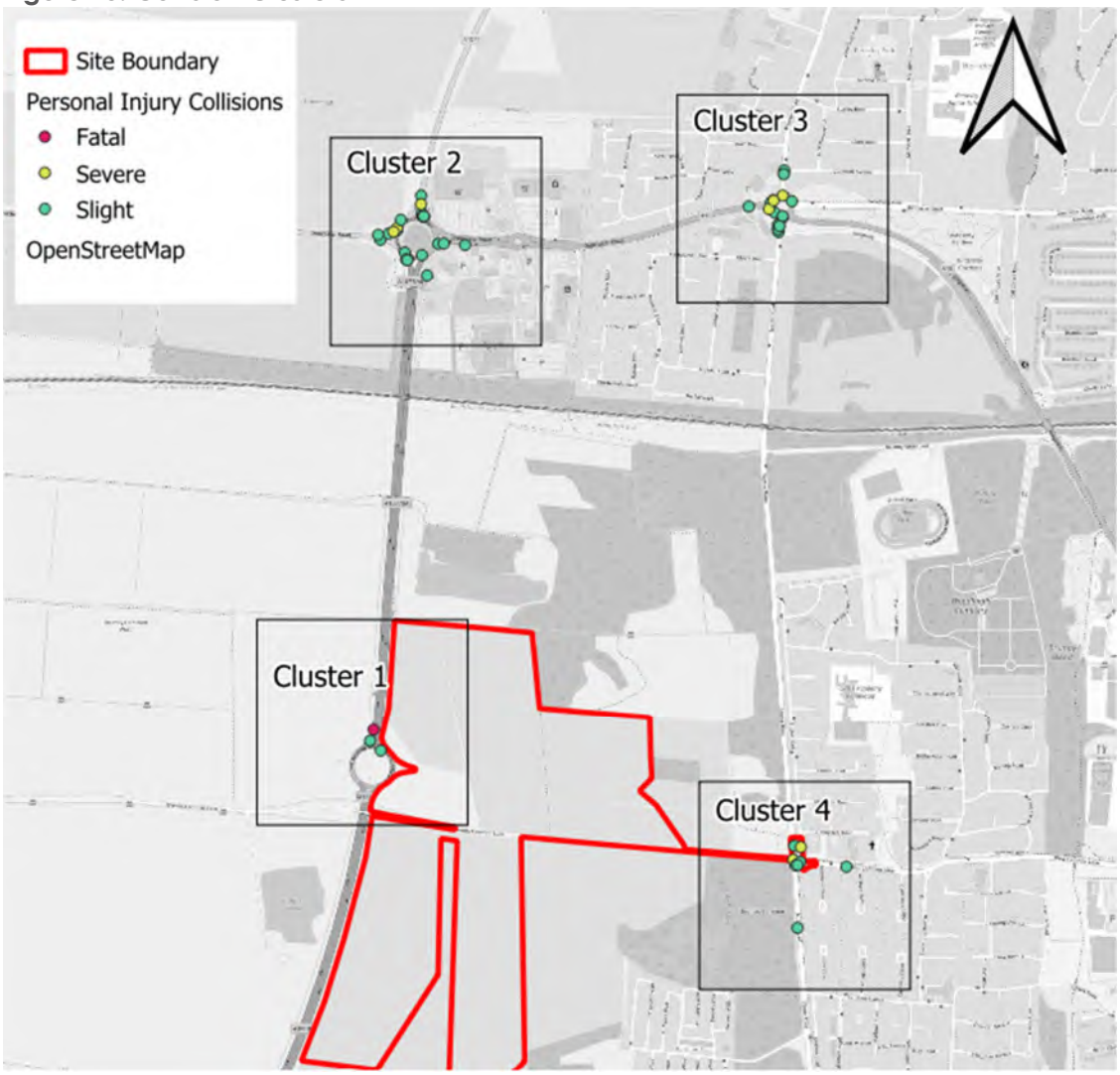
10.4 One fatal collision was recorded in the local area which have been reviewed below:

- 1282316 – NLC – This collision took place on the Friday 24th February 2023 at 21:45 during evening hours, with wet/damp road surface noted. The collision took place at the M181/A1077 roundabout, within the vicinity of the site access. The collision involved a car, who lost control and crashed into the barrier, due to what was reported as aggressive driving and careless/reckless/in a hurry. There were two casualties, with one fatal and one serious. This indicates that the road geometry and layout did not directly contribute to the collision and was likely as a result of driver impairment.

10.5 In summary, there are no obvious road geometry/layout factors which resulted in fatalities at any of the collisions identified within the wider vicinity of the Site, with all of the PIC's appearing to be as a result of driver error/impairment.

10.6 Further analysis of the recorded collisions has identified four collision clusters (as per the figure below), which are defined as a group of 3 or more collisions within the same junction or road link location.

Figure 13: Collision Clusters



10.7 Each of these clusters have been reviewed further below which list the contributory factors relating to each of the collisions (where available).

Collision Cluster 1

10.8 This is located at the M181/A1077 roundabout. sThe location of the four PICs are illustrated on **Figure 14** overleaf.

Figure 14: Collision Cluster 1

10.9 The fatal collision that has occurred has been previously mentioned.

10.10 The other two PICs were classed as slight in severity.

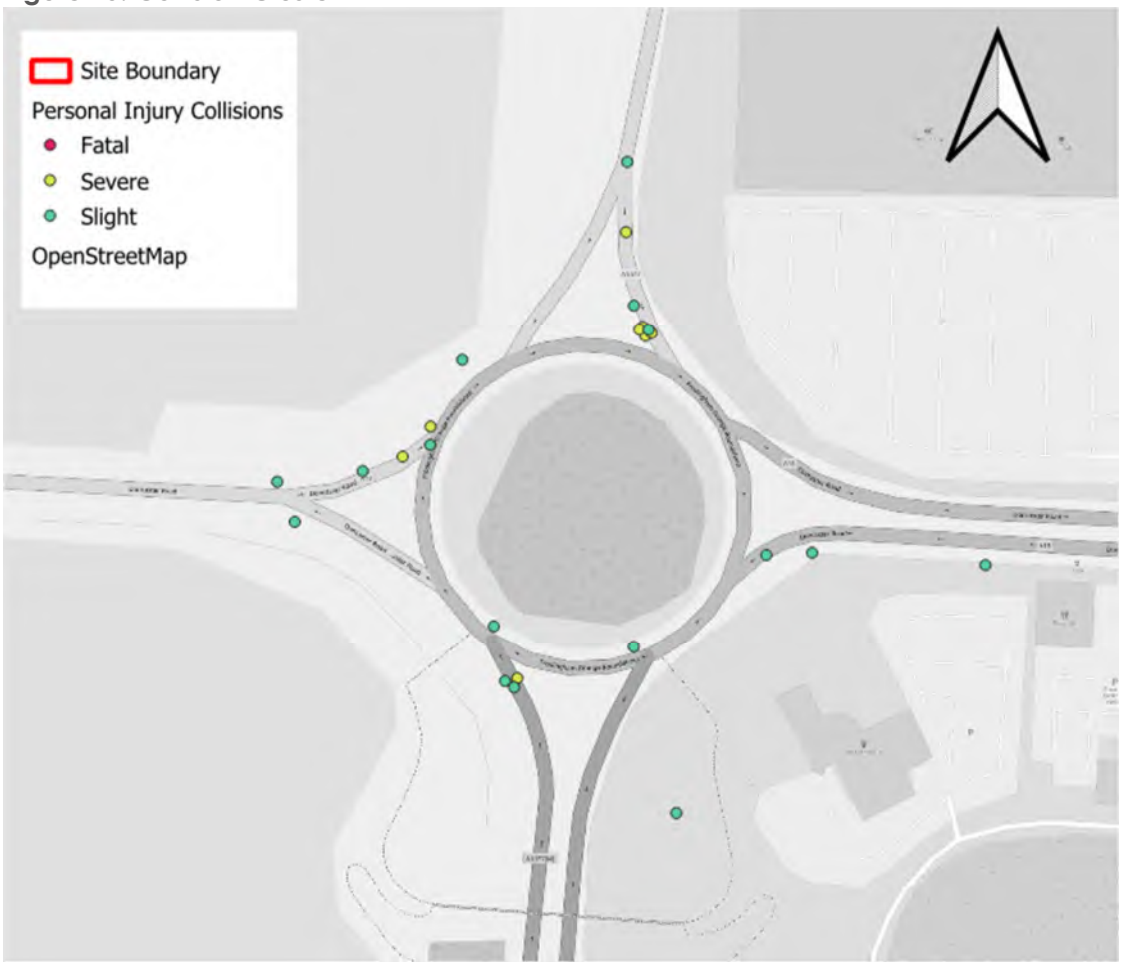
10.11 The two slight PICs occurred in 2022, during the middle of the day (14:45 and 12:17). One of the PICs included an emergency vehicle on call travelling in slippery road conditions, whilst the other occurred whilst the driver was under the influence of drugs.

10.12 Given the above, there is no highway safety concern at the proposed site access roundabout, where cluster 1 is located, that could be exacerbated by the development proposals.

Collision Cluster 2

10.13 This is located at the A18 Doncaster Road/A1077 roundabout. There were 24 collisions recorded at this junction, with seven classified as serious and 17 as slight. Within the cluster located on the A1077 (S) arm of the roundabout, there were four collisions classified as serious. The location of the 24 PICs are illustrated on **Figure 15** overleaf.

Figure 15: Collision Cluster 2



10.14 Of the 24 PICs recorded, eight were classed as serious in severity. Five of which occurred in 2018, and only two between 2019 and 2024.

10.15 None of the eight serious PICs involved pedestrians, and only one involved a cyclist. The incident that involved a cyclist occurred as the bicycle rear ended a car on approach to the give-way (on the A18 western approach).

10.16 Of the other seven PICs, six involved rear shunts on approach to the junction, likely during periods of queuing. The other serious PIC involved a vehicle colliding with a motorcyclist as the vehicle changed lanes.

10.17 Of the remaining PICs (all classed as slight in severity), zero involved pedestrians or cyclists.

10.18 **Table 13** below provides a summary of the most common contributory factors (where the contributory factor has appeared more than once) for all 24 PICs recorded at the Frodingham Grange roundabout in the 5-year period analysed.

Table 13: Cluster 2 PIC Contributory Factor Review

Contributory Factors	Tally
308 - Following too close	2
405 - Failed to look properly	10
406 - Failed to judge other persons path or speed	12
602 - Careless/Reckless/In a hurry	8

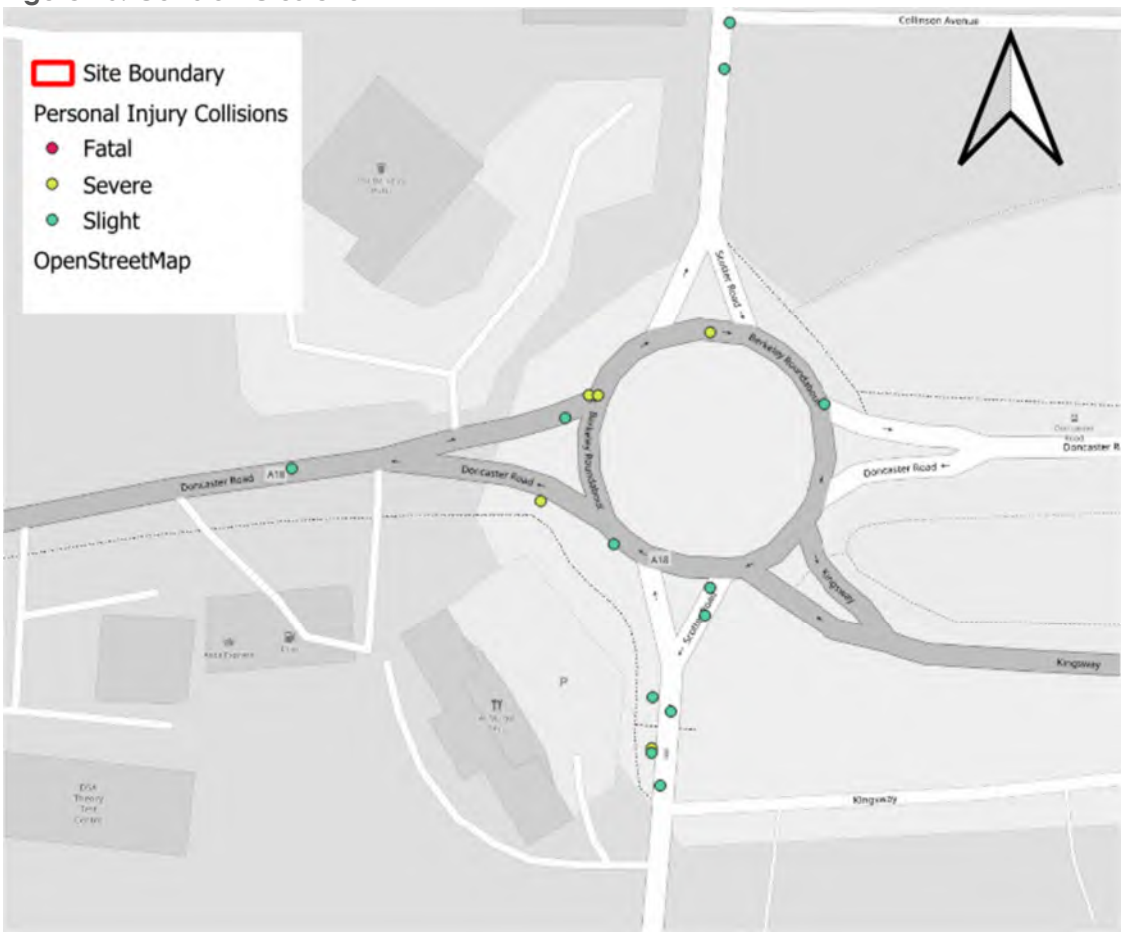
10.19 The above shows that there do not appear to be any trends that are causing the PICs, albeit the analysis did highlight rear shunts are occurring (which likely accounts for the number of PICs that had contributory factors 405 and 406. It should be noted that the number of trips routing through this roundabout in the near future will reduce (reducing the likelihood of rear shunts occurring) once the Burringham Road roundabout is operational.

10.20 Given the above, there are no highway safety related concerns that could be exacerbated by the development proposals.

Collision Cluster 3

10.21 This is located at the A18 Doncaster Road/Scotter Road/Doncaster Road/A18 roundabout. There are 17 collisions located at this junction, with five classified as serious and 12 as slight. Within the cluster located on the A18 Doncaster Road (W) arm of the roundabout, there are two collisions classified as serious and two as slight. The location of the 17 PICs are illustrated on **Figure 16**Figure 15 overleaf.

Figure 16: Collision Cluster 3



10.22 Of the five PICs classed as serious in severity, zero involved pedestrians, and only one involved a cyclist. The PIC that involved a cyclist occurred as a cyclist collided with a vehicle on the roundabout circulatory. Classed as a driver error who stated that they didn't see the cyclist.

10.23 Of the remaining four PICs, one included a rear shunt, two involved drivers driving erratically, and the final PIC occurred as a bus manoeuvrer caused confusion as another vehicle entered the roundabout.

10.24 **Table 14** below provides a summary of the most common contributory factors (where the contributory factor has appeared more than once) for all 17PICs recorded at the Berkeley Roundabout in the 5-year period analysed.

Table 14: Cluster 3 PIC Contributory Factor Review

Contributory Factors	Tally
302 - Disobeyed Give Way or Stop sign or markings	2
405 - Failed to look properly	5
406 - Failed to judge other persons path or speed	3
602 - Careless/Reckless/In a hurry	5

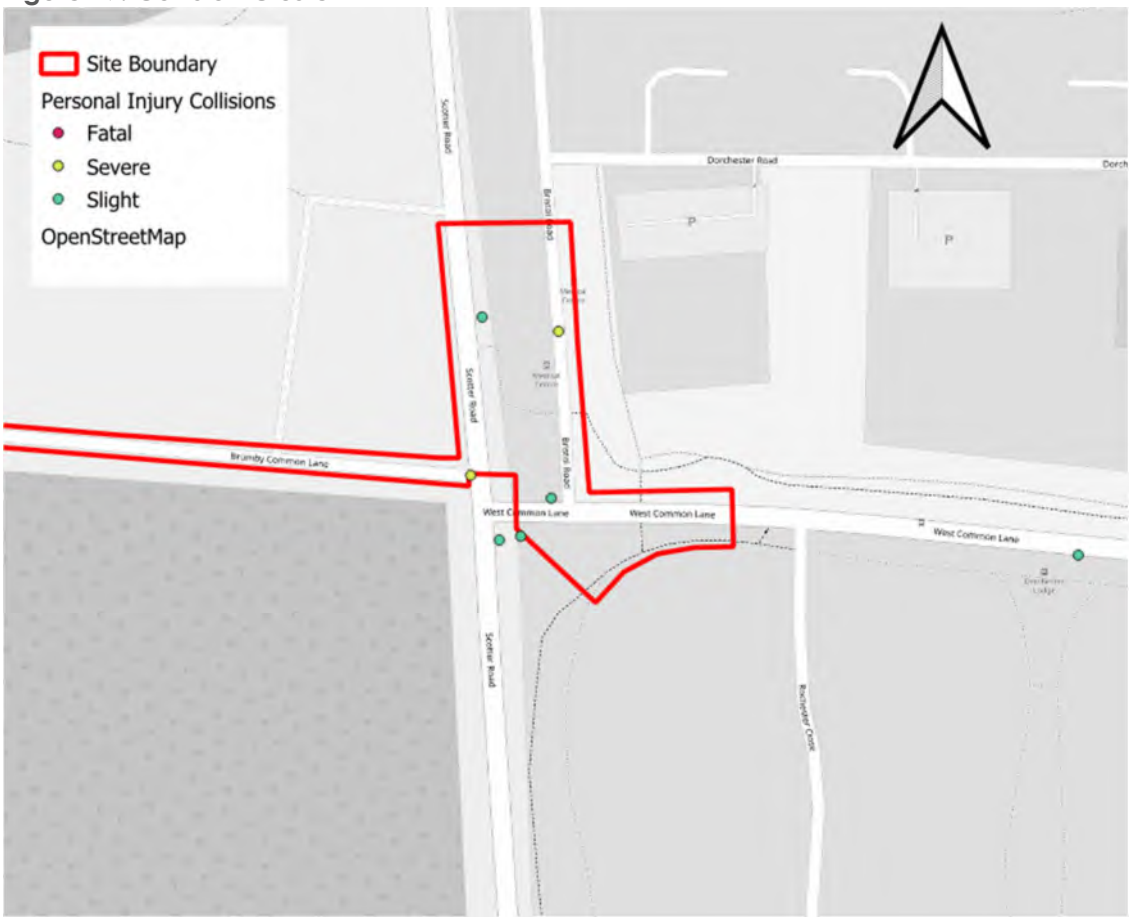
10.25 The above contributory factors suggest that there are not any trends that could be as a result of the geometry of the highway at Berkeley roundabout, and therefore there are no highway safety related issues at the roundabout that could be exacerbated by the development proposals.

10.26 As with the case for the Frodingham Grange roundabout, it should be noted that the number of trips routing through Berkeley roundabout in the near future will reduce (reducing the likelihood of PICs occurring) once the Burringham Road roundabout is operational.

Collision Cluster 4

10.27 Cluster 4 is located at the Scotter Road/West Common Lane/Brumby Common Lane junction. There are eight collisions located at this junction, with two classified as serious and six as slight. Within the cluster located on the West Common Lane arm of the junction, there are three collisions classified as slight. The location of the 17 PICs are illustrated on Figure 17Figure 15 overleaf.

Figure 17: Collision Cluster 4



10.28 Of the two serious PICs recorded, neither involved a pedestrian or cyclist.

10.29 One of the two serious PICs was a single vehicle collision that flipped on Brumby Common Lane, the second occurred on Bristol Road as a car was overtaking a parked van and car, colliding with an oncoming vehicle.

10.30 Of the remaining PICs, only one involved pedestrians. The PIC involving pedestrians involved two children, who were crossing West Common Lane and collided with an oncoming vehicle.

10.31 **Table 15** below provides a summary of the most common contributory factors (where the contributory factor has appeared more than once) for all eight PICs recorded at the Scotter Road/West Common Lane/Brumby Common Lane junction in the 5-year period analysed.

Table 15: Cluster 4 PIC Contributory Factor Review

Contributory Factors	Tally
601 - Careless/Reckless/In a hurry	2
801 - Crossed road masked by stationary or parked veh	2
802 - Failed to look properly	2

10.32 The above contributory factors suggest that there are not any trends that could be as a result of the geometry of the highway at the Brumby Common Lane / Scotter Road / West Common Lane junction.

10.33 Notwithstanding the above, it should be noted that the proposed development is to improve active travel facilities at the junction, providing safer crossing facilities for walkers, wheelers and cyclists. No further mitigation that addresses any vehicle safety concerns at the junction is warranted.

11. TRAVEL PLAN UPDATE

11.1 NH stated in their comments that "*The JSJV notes that there is no mention of the source of funding for the Travel Plan. Therefore, we suggest that firm financial commitments regarding funding for the proposed measures and the appointment of the Travel Plan Coordinator should be explicitly outlined within the Travel Plan.*"

11.2 The TP submitted is a Framework Travel Plan. Each residential and non-residential Reserved Matters Application will produce a detailed TP building on the information provided within this FTP and will set out the funding information.

11.3 Notwithstanding the above, the Site Wide Travel Plan Co-ordinator (SWTPC) role will be funded by the applicant (Hargreaves Land Limited).

12. SUMMARY & CONCLUSIONS

Summary

12.1 This Transport Assessment Addendum has been prepared following the submission of a Transport Assessment (report reference: **LLP1-BWB-GEN-XX-RP-TR-0004-S2-P4**) that accompanied a hybrid planning application (application reference: PA/2025/254) for a residential let mixed-use scheme on land at Lincolnshire Lakes, Scunthorpe, North Lincolnshire.

12.2 The TAA addresses planning application consultation comments raised by North Lincolnshire Council Highways, National Highways and Active Travel England, most notably:

- The internal layout has been amended to take into account LTN 1/20 and bus stop requirements.
- The Scotter Road active travel proposals have been updated to include a signalised crossing on the West Common Lane arm as recommended.

- The CLoS assessments in the TA are still considered appropriate, with additional visual information presented in this TAA, and the active travel routes to the two local primary schools are considered appropriate (once the Scotter Road active travel proposals are implemented).
- The single point of vehicular access is considered appropriate from a capacity and safety perspective.
- The Area Action Plan trip envelope (generated in 2013 in the URS report) has been reviewed and demonstrates that the implementation of the proposed development and the 2,500 dwelling Maltgrade scheme do not exceed the trip envelopes set out in the URS report.
- The trip generation Vision and Validate scenario queries have been clarified, highlighting that the 20% reduction in vehicle trips is a 20% reduction on the car driver mode share percentage.
- The trip distribution used has been tweaked to align with the proportions agreed with NH previously.
- The updated PIC analysis (using 5-years' worth of data that excludes 2020 and 2021 continues to demonstrate that there are no highway safety concerns that could be exacerbated by the development proposals. It has been acknowledged that the forthcoming opening of the Burringham Road roundabout will ultimately reduce traffic through the junctions where the larger clusters were observed (Frodingham Grange roundabout and Berkeley roundabout).

12.3 Whilst the TA presented the highway impact at junctions within the agreed study area, the highway impact did not consider the following three elements that would influence the highway impact findings:

- Impact of the Burringham Road roundabout (that has recently been constructed but movement between the M181 and Burringham Road has not yet been completed) on traffic re-routing.
- A Vision and Validate assessment scenario (i.e. at 20% reduction in development traffic), and
- A sensitivity test of the Maltgrade scheme (a 2,500-dwelling scheme, of which 593 dwellings are currently being reconsidered under planning application reference: PA/2023/1124).

12.4 This TAA presents the methodology behind quantifying the impacts of the Burringham Road roundabout on re-routing of traffic. This considers the recorded number of vehicles in the 2024 surveys, where vehicles may be heading to (i.e. a proportion to MSOAs within Scunthorpe between the M181/M180), and which routes vehicles to the MSOAs will take both before and once the roundabout is operational.

12.5 The re-routing implications the Burringham Road roundabout is predicted to result in a reduction in traffic flow through the Frodingham Grange and Berkeley roundabouts to the north, given it will be shorter (and likely quicker) to route into many areas within Scunthorpe via Burringham Road.

12.6 The Vision and Validate scenario considers a 20% reduction in traffic flows in scenarios where the Burringham Road roundabout is operational.

12.7 The Maltgrade sensitivity test assumes that the 2,500 dwellings will be constructed and that a link between the Proposed Development and Scotter Road will be operational (which will in turn require an upgrade to the Scotter Road crossroads as either part of the Maltgrade application or an alternative future phase of development at Lincolnshire Lakes).

Conclusions

12.8 The impact of the introduction of the Burringham Road roundabout predicts that Frodingham Grange and the Scotter Road crossroads will both operate well within capacity in the future years with it in place. In the sensitivity test scenario, the Frodingham Grange roundabout operates within capacity, however the Scotter Road crossroads does not. Albeit this is because in the sensitivity test, a link through to the west of Brumby Common Lane is assumed to be operational, and therefore a junction improvement scheme will come forward as part of either Maltgrade or a future development phase if the Maltgrade scheme comes forward.

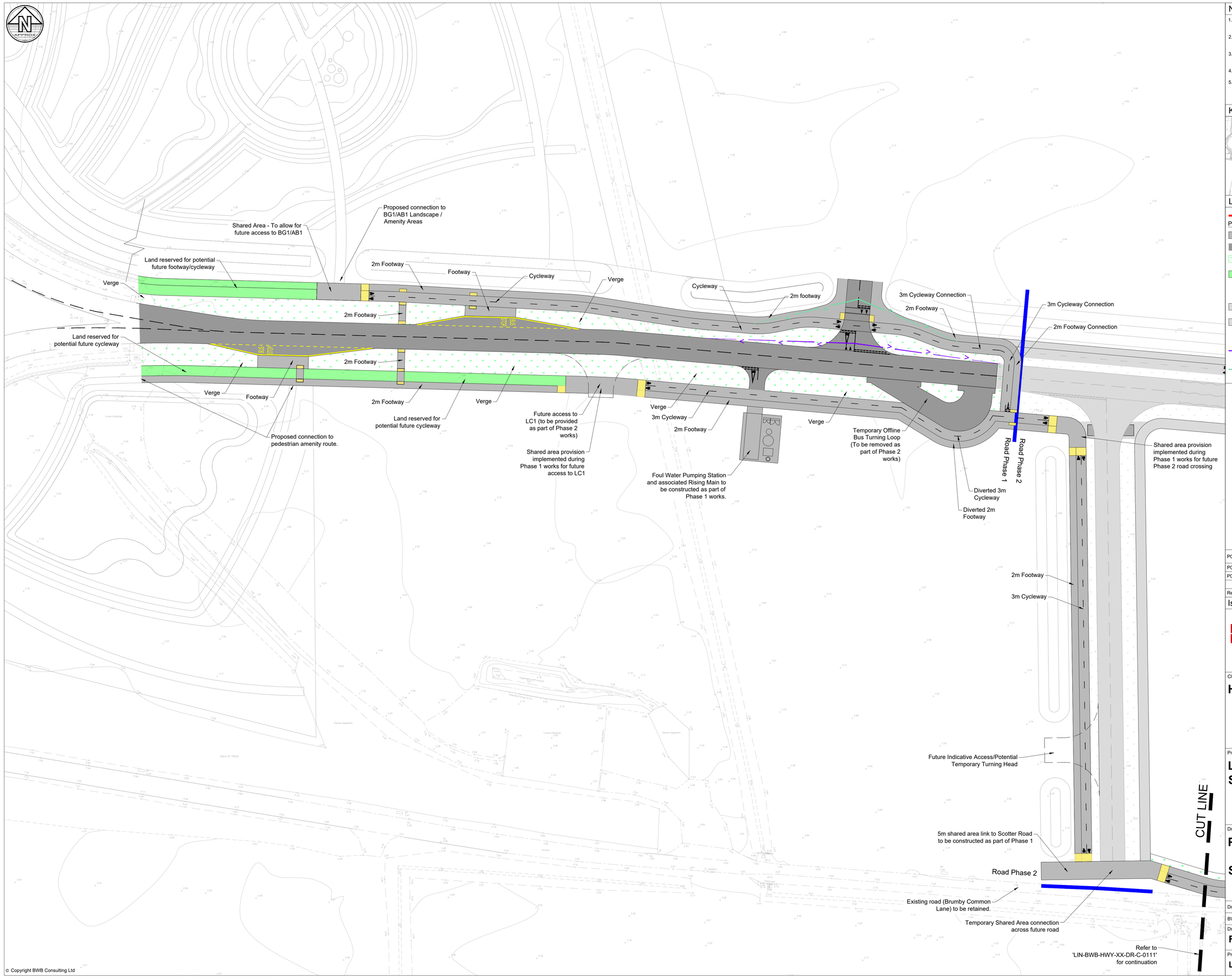
12.9 Whilst the Berkeley roundabout is predicted to continue to operate over capacity in the future year assessments once the Burringham Road roundabout is operational, the roundabout is predicted to operate significantly better than predicted without the Burringham Road roundabout in place.

12.10 Even in the sensitivity test (which includes the assessment of traffic of both Maltgrade and the Proposed Development), the Berkeley roundabout is predicted to operate significantly better than if the Burringham Road roundabout was not operational and neither the Proposed Development or the 2,500 dwellings associated with Maltgrade come forward (with total junction RFC and MMQ lengths significantly reducing). Whilst an RFC of over 1 is predicted on the Doncaster Road (E) arm, the length of the queue is only predicted to be 22 PCU, not extending to neighbouring junctions.

12.11 The implementation of the Burringham Road roundabout will therefore have a significant benefit on capacity of junctions considered in the agreed TA study area and can absorb traffic associated with both the Proposed Development and the 2,500 dwelling Maltgrade scheme. Mitigation at the Berkeley roundabout is therefore not deemed required to support the implementation of the Proposed Development.

12.12 Given the above, and in addition to the TA findings, it is considered that there are no highway related reasons as to why the Proposed Development should not be granted planning permission.

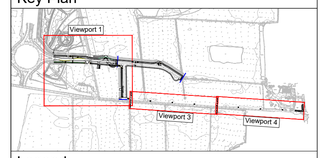
DRAWINGS



Notes

1. Do not scale this drawing. All dimensions must be checked/ verified on site. If in doubt ask.
2. This drawing is to be read in conjunction with all relevant architects, engineers and specialists drawings and specifications.
3. All dimensions in millimetres unless noted otherwise. All levels in metres unless noted otherwise.
4. Any discrepancies noted on site are to be reported to the engineer immediately.
5. Refer to BWB Drawing:
   LIN-BWB-HWY-XX-DR-C-0111_Phase 1 Works Sheet 2
   LIN-BWB-HWY-XX-DR-C-0112_Phase 2 Works

Key Plan



Legend

- Planning Boundary

Phase 1 Works:

- Proposed Footways, Cycleways or Shared Areas
- Proposed Carriageway
- Proposed Verge
- Proposed Verge (Land Reserved for Potential Future Cycleway)
- Proposed Shared Warning Paving
- Future Phase 2 Works - Footways, Cycleways or Shared Areas
- Future Phase 2 Works - Carriageway
- Future Phase 2 Works - Shared Warning Paving
- Proposed Vehicular Junction Visibility (MfS 1/20 - 2.4 x 43m)
- Proposed Cyclist Junction Visibility (LTN 1/20 - 2.4 x 31m)

Rev	Date	Details of issue / revision	Drw	Rev
P06	18.07.25	Updated to remove emergency access to Brumby Common Lane	AB	RAD
P05	18.06.25	Updated to suit comments	AB	CR
P04	24.12.24	Planning issue	AB	CB
		For details of previous issue / revisions, refer to revision P03		

Issues & Revisions

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Birmingham | 0121 233 3322
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London | 020 7407 3879
Manchester | 0161 233 4260
Nottingham | 0115 924 1100
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Client

Hargreaves Land Ltd.

Project Title

Lincolnshire Lakes, Scunthorpe

Drawing Title

Phase 1 Works

Sheet 1

Drawn:	A. Biag		Reviewed:	C. Brackley
BWB Ref:	221638	Date:	Nov '24	Scale@A1: 1:250

Drawing Status

For Planning

Project - Originator - Zone - Level - Type - Role - Number	Status	Rev
LIN-BWB-HWY-XX-DR-C-0110	**S8**	**P06**

Notes

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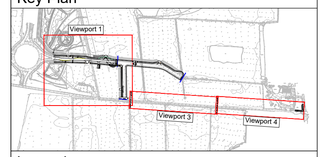
5. Refer to BWB Drawing:
   LIN-BWB-HWY-XX-DR-C-0110_Phase 1 Works Sheet 1
   LIN-BWB-HWY-XX-DR-C-0112_Phase 2 Works

Key Plan



Legend

Planning Boundary

Phase 1 Works:

Proposed Footways, Cycleways or Shared Areas

Proposed Verge

CUT LINE

3m Cycleway

2m Footway

2m Verge

Existing road (Brumby Common Lane) to be retained.

Refer to drawing 'LIN-BWB-HWY-XX-DR-C-0110' for continuation

CUT LINE

3m Cycleway

2m Footway

2m Verge

Existing road (Brumby Common Lane) to be retained.

Refer to Viewport 4 below for continuation

VIEWPORT 3

CUT LINE

2m Verge

3m Cycleway

2m Footway

Active travel proposals to tie into proposed off-site provision detailed on LIN-BWB-HWY-XX-DR-TR-100

Existing road (Brumby Common Lane) to be retained.

Existing road (Brumby Common Lane) to be retained.

Refer to Viewport 3 above for continuation

VIEWPORT 4

Rev	Date	Details of issue / revision	Drw	Rev
P05	18.06.25	Updated to suit comments	AB	CR
P04	24.12.24	Planning issue	AB	CB

For details of previous issue / revisions, refer to revision P03

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Client

Hargreaves Land Ltd.

Project Title

Lincolnshire Lakes, Scunthorpe

Drawing Title

Phase 1 Works

Sheet 2

Drawn:	A. Biag		Reviewed:	C. Brackley
BWB Ref:	221638	Date:	Nov '24	Scale@A1: 1:250

Drawing Status

For Planning

Project - Originator - Zone - Level - Type - Role - Number	Status	Rev
LIN-BWB-HWY-XX-DR-C-0111	**S8**	**P05**

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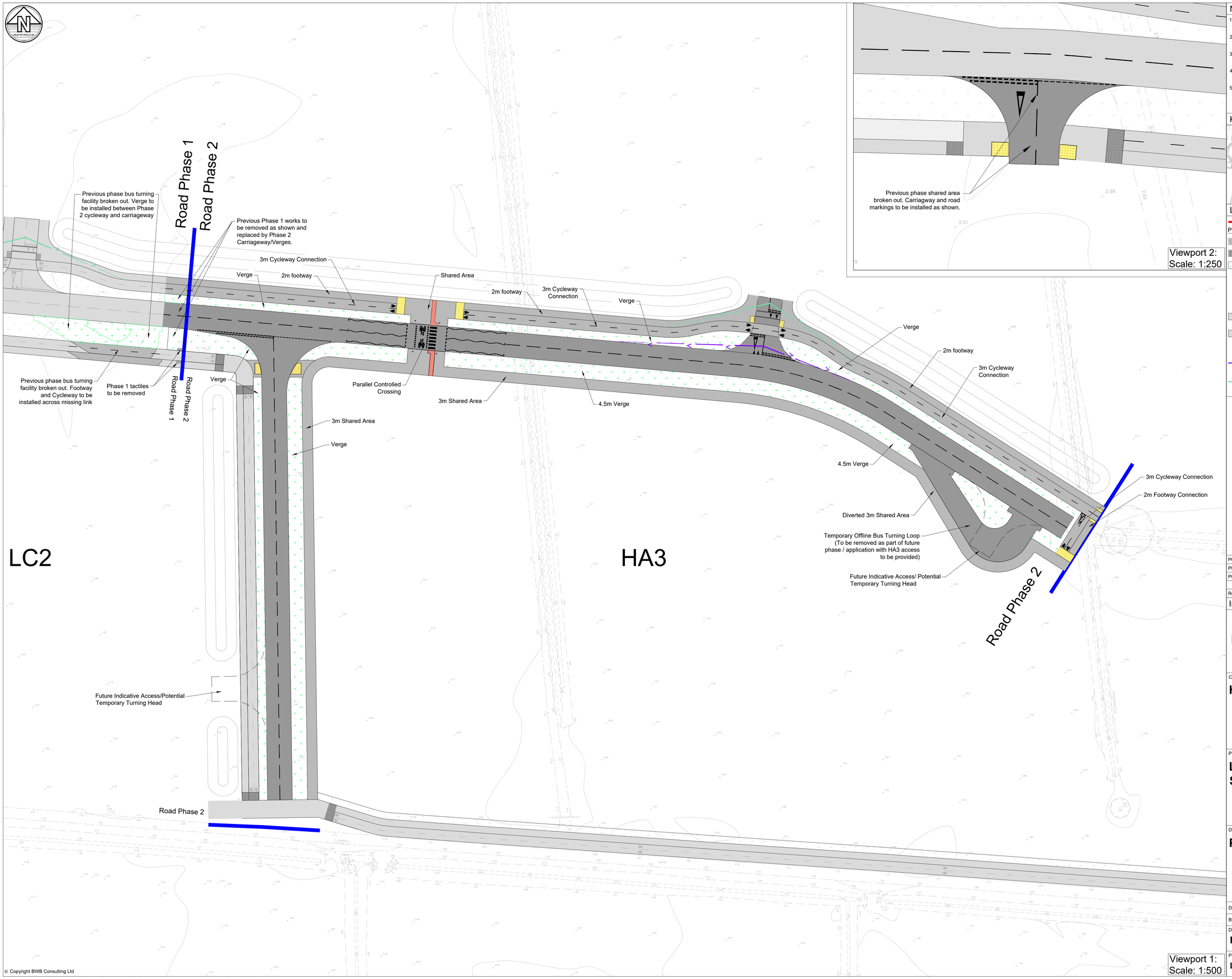

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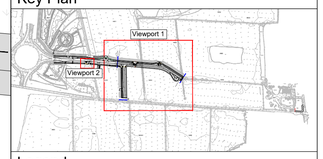
   LIN-BWB-HWY-XX-DR-C-0111_Phase 1 Works Sheet 2

Key Plan



Legend

- Planning Boundary

Phase 2 Works:

- Proposed Footways or Shared Areas
- Proposed Carriageway
- Proposed Verge
- Proposed Shared Warning Paving
- Proposed Tactile Paving (Controlled Crossing)
- Proposed Tactile Paving (Uncontrolled Crossing)
- Phase 1 Existing - Footways, Cycleways or Shared Areas
- Phase 1 Existing - Carriageway
- Phase 1 Existing - Shared Warning Paving
- Proposed Vehicular Junction Visibility (MfS 1/20 - 2.4 x 43m)
- Proposed Cyclist Junction Visibility (LTN 1/20 - 2.4 x 31m)

Rev	Date	Details of issue / revision	Drw	Rev
P06	18.07.25	Updated to amend Phase 2 Bus Turning Loop	AB	RAD
P05	18.06.25	Updated to suit comments	AB	CR
P04	24.12.24	Planning issue	AB	CB
For details of previous issue / revisions, refer to revision P03				

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www.bwbconsulting.com

Client

Hargreaves Land Ltd.

Project Title

Lincolnshire Lakes, Scunthorpe

Drawing Title

Phase 2 Works

Drawn:	A. Biag		Reviewed:	C. Brackley
BWB Ref:	221638	Date:	Nov '24	Scale@A1: Varies

Drawing Status

For Planning

Project - Originator - Zone - Level - Type - Role - Number	Status	Rev
LIN-BWB-HWY-XX-DR-C-0112	**S8**	**P06**

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APPENDICES

Appendix 1: NLC Highways Comments

To: Dean Watson, Principal Development Management Officer, Major Applications

From: Highway Development Services

Subject: PA/2025/254 – Hybrid planning permission comprising of outline, with all matters reserved for up to 550 dwellings, a local centre (use Class E), associated landscaping drainage and other infrastructure works. Full planning permission for the construction of a new vehicular access off the M181/A1077(M) roundabout, a pedestrian and cycle link to Scotter Road, a pumping station, earthworks and off-plot drainage, ecological and associated landscaping and infrastructure works

Date: 4th April 2025

Thank you for consulting with Highways on the above application, we have reviewed the information submitted and would offer the following comments:

Site access and link road

It is proposed that the site will be served by a single point of access taken from the M181 / A1077(M) roundabout. The main spine road will form part of an east – west link road, but a connection to Scotter Road is not proposed as part of this application.

As previously stated, our preference is for the east – west link road between the M181 / A1077(M) roundabout and Scotter Road to be delivered in its entirety as part of this application. The Link Road is identified as a key piece of infrastructure in the Lincolnshire Lakes Area Action Plan (AAP).

The provision of the full link road connecting would provide greater connectivity between the existing urban area to the east, the proposed development and the M181/A1077(M) for all residents and facilitate better public transport connections into the development site.

A sole point of vehicular access to the site from the M181/A1077(M) roundabout is a concern given the A1077(M) is still the responsibility of National Highways and designated as a motorway thereby restricting access to the site from certain modes of transport.

The timescales for de-trunking of the M181/A1077 (M) are currently unknown, although anticipated to be around 18 months. The A1077 (M) will also need to be de-classified to remove the motorway status as it will otherwise restrict who can access the development. The de-classification process will need to be supported by physical changes to the A1077 (M) between the northern roundabout and Frodingham Grange Roundabout, to allow for the safe movement of pedestrians and cyclists and reinforce the speed limits. This doesn't appear to be considered in the application. Further work is required to identify the necessary improvements. The developer would be expected to be contributing towards these, if not wholly funding them. This is particularly crucial if the full length of the east - west link road is not provided.

Given the size of the development, it is strongly recommended that the applicant has discussions with emergency services regarding whether a singular vehicular access to the site is suitable. The Council would not support an emergency vehicular access onto Brumby Common Lane due to width and condition of the road.

The width of the spine road is shown as 7.5m wide, which seems excessive and 6.75m would be more appropriate. The design and environment of the spine road will need to support a 30mph limit. Failure to do this at this stage is likely to result in issues relating to excessive vehicle speeds and would require NLC to retrofit traffic calming at our own cost.

Sustainable transport

It is noted that the proposals include the provision of a dedicated active travel route connecting the site to Scotter Road. Clarity over the phasing of the full delivery of this link in relation to the housing is required. Given the unknown timescales for the de-trunking and declassification of the A1077 (M), there is a risk that access to the site could be severely restricted for all modes other than private vehicles. Confirmation is also required as to whether this will be offered up to the Council for adoption.

Where the proposed active travel route crosses junctions on the link road, priority needs to be given to pedestrians and cyclists in accordance with LTN 1/20 and Active Travel England guidance. Cycle parking should be provided for each dwelling.

The proposals for segregation between the active travel route and Brumby Common Lane is not clear and needs to be clarified. There will also need to be segregation provided between the footway and cycle route along the proposed active travel corridor.

The provision of a controlled crossing on Scotter Road to link the sites active travel corridor with further NMU facilities along Scotter Road and West Common Lane is welcomed. However, it is not clear why a controlled crossing has been proposed on Bristol Road with nothing other than a widened central refuge proposed on West Common Lane. West Common Lane sees significantly higher traffic demand than Bristol Road and the Council would want to see a controlled crossing provided on West Common Lane.

What, if any measures are proposed to prevent pedestrians cutting across the cycle route between Scotter Road and Bristol Road. Pedestrians should have priority over cyclists on the verge between Scotter Road and Bristol Road.

A footway/cycleway will need to be provided to the proposed amenity area, although we wouldn't want either of these extended to the roundabout until the de-classification and supporting works have been completed, at which point they should be provided/funded by the developer.

Off-road pedestrian and cycle infrastructure will need to be provided on the north – south connection.

The provision of a controlled crossing on the link road within the site is required, to link the northern residential development to the proposed active travel route along Brumby Common Lane. A parallel crossing would be acceptable initially, although this would need upgrading to a signalised crossing once the link road connects through to Scotter Road.

The location of the bus stops on the link road are extremely close to the roundabout and should be moved further eastwards if possible. No bus stops are shown for Phase 2, NLC would recommend that some are provided. Whilst we understand why laybys have been provided, these are traditionally unpopular with bus operators in North Lincolnshire. We would recommend a discussion with NLC's Public Transport Team about the preferred style.

TRIP GENERATION

Trip rates utilised for residential and non-residential uses are acceptable. The non-primary trip assumptions / calculations appear reasonable.

It is noted that throughout the TA the maximum level of food retail is stated as 500m². however, Table 27 states up 1,000m² of food retail is included in the trip generation. This needs to be confirmed.

Para 5.57 states that the development will target of 20% reduction in car driver trips. However, the TA further states a 14.3% reduction in car driver trips has been redistributed across other modes. Where is the additional 5.7% reduction coming from?

It is noted that the figures presented in Table 33 for car driver reflects a reduction of 20% and not the 14.3% stated in para 5.57. The AM, PM and Daily figures states in Table 33 do not reflect the level of change stated in Table 32.

It is noted that these figures will be used to inform assessments in a TA Addendum but further details / information as to how they have been calculated will be required at that stage.

Similar clarity is required for the figures stated in para 5.61 and Tables 34 and 35. For instance the change in car driver figures from Table 31 to Table 35 reflect a decrease of 20%, as stated in para 5.61. However, the change in car passengers in the AM peak from 26 (Table 31) to 46 (Table 35) is a far greater than the +6% stated in Table 34.

Highway assessment parameters

The traffic growth factors obtained from TEMPRO are acceptable.

Highway impact assessment

The modelling of the junctions identified by the TA is considered appropriate. However, given that the TA only presents the results of the impact assessment and reserves any further proposals to mitigate against impacts for a TA Addendum there is nothing further to comment. Clarity is required as to when this will be provided as this is required to fully understand what mitigation measures may be required.

It is noted that the HGV% for some junction impact assessments is 0, whilst this does not impact on capacity results for a junction it assumes all vehicles are 5.75m long and can therefore lead to underreporting of queue lengths. Given that the models have been validated against queueing data this is not likely to pose an issue.

Travel plan

Whilst it is acknowledged that few services/amenities to the west of the site are identified in Figure 9, the walking and cycling catchments appear to rely on the use of Brumby Common Lane and other rural roads. Given the nature of Brumby Common Lane and the other surrounding roads it is not expected that this will be an attractive route for active travel and therefore could hinder any access to the west of the site.

We would query the feasibility of the modal split targets detailed in Section 6 and the TA. It is noted that a bus service will be provided through the development and the 35 service has been identified. However, this route only provides an hourly service. Whilst this has been discussed and agreed with the Council's public transport team, there is a risk that an hourly service won't be attractive enough to drive meaningful changes in travel patterns and behaviours for residents.

In addition to the above, given the active travel route and associated crossing facilities will not be provided until Phase 2 of the development, is it realistic to expect residents to alter travel patterns and behaviours once they have established the use of private vehicles.

This is particularly prevalent due to the connection with Scotter Road not being provided as part of the development and sole access being taken from the M181 / A1077(M) roundabout with timescales for the de-trunking and declassification of the A1077(M) being unknown.

The proposed modal split changes as part of the Vision and Validate method and how they were derived needs to be clarified.

There is a concern that the proposed development will be unsustainable in terms of transport, with private vehicles being the most practical and attractive option for many residents. A 20% reduction in car driver trips would appear ambitious given the identified constraints and it is unclear what mitigation measures would be put in place if this target isn't achieved.

Appendix 2: NH Comments

National Highways Planning Response (NHPR 25-01)
Formal Recommendation to an Application for Planning Permission

From: Head of Planning & Development
Operations Directorate
Highways England.
North East Region
[redacted]

To: **North Lincolnshire Council – Dean Watson**

CC: [redacted]

Council's Reference: PA/SCR/2025/251 AND PA/2025/254

Location: Land to the east of the M181/A1077(M), Scunthorpe, DN17 1US

Proposal: EIA screening request Hybrid planning application comprising of: Full planning application for the construction of a new vehicular access off the M181/A1077(M) roundabout, a pedestrian and cycle link to Scotter Road, a foul pumping station, earthworks and 'off-plot' drainage, ecological and associated landscaping and infrastructure works. Outline planning application, with all matters reserved, for the development of up to 550 residential dwellings (Use Class C3), a local centre (Use Class E) and associated 'on-plot' landscaping, drainage and other infrastructure works.

National Highways Ref: NH/25/10137

Referring to the consultation on a planning application dated **February 24 2025** referenced above, in the vicinity of the M181 at Brumby Common that forms part of the Strategic Road Network, notice is hereby given that National Highways' formal recommendation is that we:

~~a) offer no objection (see reasons at Annex A);~~

~~b) recommend that conditions should be attached to any planning permission that may be granted (see Annex A – National Highways recommended Planning Conditions & reasons);~~

c) recommend that planning permission not be granted for a specified period (see reasons at Annex A);

~~d) recommend that the application be refused (see reasons at Annex A)~~

Highways Act 1980 Section 175B **is not** relevant to this application.

This represents National Highways' formal recommendation and is copied to the Department for Transport as per the terms of our Licence.

Should the Local Planning Authority not propose to determine the application in accordance with this recommendation they are required to consult the Secretary of State for Transport, as set out in the Town and Country Planning (Development Affecting Trunk Roads) Direction 2018, via transportplanning@dft.gov.uk and may not determine the application until the consultation process is complete.

The Local Planning Authority must also copy any consultation under the 2018 Direction to PlanningYNE@nationalhighways.co.uk

This response and all comments outlined herein are made in respect of planning matters only in National Highways' position as a statutory planning consultee and does not confer any proprietary rights nor amount to the giving or refusal of consent, assent, approval, or awareness of or by National Highways in or of any other aspects or matters (including, but not limited to, the use of property belonging to National Highways). If anyone wishes for National Highways to consider any aspects which do not relate to planning submissions, they should call our contact centre on 0300 123 5000

Signature: [redacted] **Date: June 17 2025**

Name: Simon GP Geoghegan **Position: Planning and Development**

National Highways, 2 City Walk, Leeds LS11 9AR

[redacted]

Standing advice to the local planning authority

The Climate Change Committee's 2022 Report to Parliament notes that for the UK to achieve net zero carbon status by 2050, action is needed to support a modal shift away from car travel. The NPPF supports this position, with paragraphs 77 and 110 prescribing that significant development should offer a genuine choice of transport modes, while paragraphs 109 and 115 advise that appropriate opportunities to promote walking, cycling and public transport should be taken up as part of a vision-led approach.

Moreover, the carbon reduction hierarchy (avoid-switch-improve) as set out in clause 4.3 of PAS2080:2023 promotes approaches and measures to minimise resource consumption and thereby reduce carbon emissions.

These considerations should be weighed alongside any relevant Local Plan policies to ensure that planning decisions are in line with the necessary transition to net zero carbon.

Annex A National Highway's assessment of the proposed development

National Highways has been appointed by the Secretary of State for Transport as a strategic highway company under the provisions of the Infrastructure Act 2015 and is the highway authority, traffic authority and street authority for the Strategic Road Network (SRN). The SRN is a critical national asset and as such we work to ensure that it operates and is managed in the public interest, both in respect of current activities and needs as well as in providing effective stewardship of its long-term operation and integrity.

Recommended Non-Approval

It is recommended that the application should not be approved until **September 18 2025**.

Reason

- We note that there is no mention of the source of funding for the Travel Plan. Therefore, we suggest that firm financial commitments regarding funding for the proposed measures and the appointment of the Travel Plan Coordinator should be explicitly outlined within the Travel Plan.

- BWB should present Personal Injury Collision [PIC] data for the most recent 5-year period excluding the years 2020 and 2021.

- BWB should confirm whether the agreed vehicle trip distribution, previously accepted by National Highways, has been used or if the original vehicle trip distribution has been applied. National Highways previously considered this data insufficient for routing an appropriate volume of trips east on the M180.

- The Applicant should provide a review of the total vehicle trip generation that was considered within the original AAP for the Lincolnshire Lakes Site and what percentage of this has been taken by other planning applications as well as the proposed development in question.

DevHU0161: Lincolnshire Lakes Phase 1

Case ref:	DevHU0161	Document ref:	TM05	Date issued:	17/03/2024
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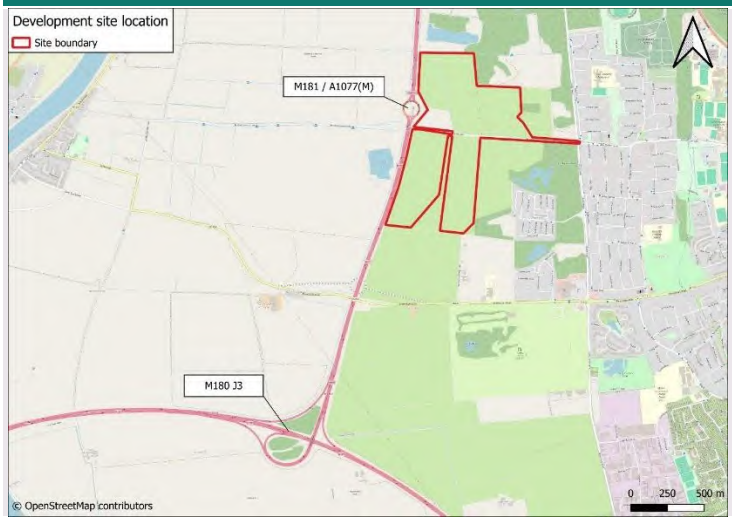
Headline Summary

Planning Outcome

The recommendation to National Highways is holding recommendation.

Site Location



Technical Summary

This review has highlighted the need for the following information:

- The JSJV notes that there is no mention of the source of funding for the Travel Plan. Therefore, we suggest that firm financial commitments regarding funding for the proposed measures and the appointment of the Travel Plan Coordinator should be explicitly outlined within the Travel Plan.
- The JSJV would recommend that BWB presents PIC data for the most recent 5-year period excluding the years 2020 and 2021.
- The JSJV recommends that BWB confirm whether the agreed vehicle trip distribution, previously accepted by National Highways, has been used or if the original vehicle trip distribution—considered insufficient for routing an appropriate volume of trips east along the M180—has been applied.
- The Applicant should provide a review of the total vehicle trip generation that was considered within the original AAP for the Lincolnshire Lakes Site and what percentage of this has been taken by other planning applications as well as the proposed development in question.

1 Introduction

1.1 In February 2025, Hargreaves Land Limited [the Applicant] submitted an EIA screening request hybrid application [ref: PA/SCR/2025/251] comprising of:

> *"Full planning application for the construction of a new vehicular access off the M181/A1077(M) roundabout, a pedestrian and cycle link to Scotter Road, a foul pumping station, earthworks and 'off-plot' drainage, ecological and associated landscaping and infrastructure works. Outline planning application, with all matters reserved, for the development of up to 550 residential dwellings (Use Class C3), a local centre (Use Class E) and associated 'on-plot' landscaping, drainage and other infrastructure works. Land to the east of the M181/A1077(M), Scunthorpe, DN17 1US."*

1.2 The Applicant's Transport Consultant is BWB and the Local Planning Authority [LPA] is North Lincolnshire Council [NLC]. The JSJV would note that pre-application discussions between National Highways and BWB have been ongoing since December in the form of a number of Transport Scoping Notes [TSN's].

Consultation History

1.3 Since the first TSN, National Highways has provided comments a number of BWB's documents and emails. The following highlights the document or email prepared by BWB, followed by the corresponding National Highways/JSJV response:

- "Transport Scoping Note" [referred to as TSN] (ref: LLP1-BWB-GEN-XX-RP-TR-001_Transport Scoping Note P04) (December 2023).
  - TM01: "AA.23.19.22 Lincolnshire Lakes" (January 2024).
- "Transport Technical Note – Response To National Highways Scoping Comments" [referred to as TTN] (March 2024).
  - TM02: "DevHU0161: Lincolnshire Lakes" (March 2024).
- Email response to National Highways' comments made to TTN [referred to as Email response 1] (May 2024).
  - TM03: "DevHU0161: Lincolnshire Lakes Phase 1 Scoping" (May 2024).
- Email update to National Highways regarding changes to forthcoming application [referred to as Email response 2] (December 2024).
  - TM04: "DevHU0161: Lincolnshire Lakes Phase 1 Scoping" (December 2024).

1.4 The JSJV would note that as part of TM03 and TM04, the following was agreed with National Highways:

- After an independent analysis using our own residential person trip rates and 70% car mode share, a similar volume of residential vehicle trips in the AM and PM peak is forecast compared to that assumed as part of the AAP. JSJV/NH were inclined to consider the Area Action Plan [AAP] vehicle trip rates quoted by BWB to be appropriate.
- After review, it was noted that the AAP B2 trip rates and traffic generation were considerably higher than both those proposed by BWB and the JSJV; as a result, we agreed that the original AAP B2 trip rates may have been excessive. We also noted that, as BWB's B2 vehicle trip generation was significantly lower than the JSJV's; consequently, we could not consider BWB's B2 vehicle trip rates to be appropriate unless additional evidence is provided to justify their use.

- BWB forecast that 12.5% of vehicle trips would route east along the M180. JSJV confirmed that this aligned with our previous analysis using National Highways' gravity model GraHAM, which forecast 13% of vehicle trips to route east along the M180.
- The JSJV concluded that although the trip rates put forward by BWB were significantly lower in the AM peak, the variance in vehicle movements experienced at the SRN is not considered to be material.

1.5 The Jacobs SYSTRA Joint Venture [JSJV] has undertaken a review of the hybrid planning application, on behalf of National highways, offering comments in this TM05 to the following documentation:

- Planning Application 1 at Lincolnshire Lakes (North), Scunthorpe, North Lincolnshire Transport Assessment (ref: LLP1-BWB-GEN-XX-RP-TR-0004) [referred to as the TA];
- Framework Travel Plan (ref: LLP1-BWB-GENXX-RP-TR-0005-S2-P3) [referred to as the FTP]; and
- EIA Screening Report (ref: LLP1-BWB-ZZ-XX-T-EC-0001).

2 Background

Lincolnshire Lakes Area Action Plan

2.1 The Lincolnshire Lakes Area Action Plan [AAP] (adopted May 2016) sets out the planning policy framework within which the development will be delivered. BWB notes the emerging Local Plan separates Lincolnshire Lakes into two Strategic Allocations (Northern and Southern). The Northern Strategic Allocation is being delivered by Hargreaves Land Limited, with the Southern Strategic Allocation being delivered by Keepmoat Homes Ltd (AA.23.19.06/DevHU0097 Lincolnshire Lakes).

2.2 The wider Lincolnshire Lakes development, as set out within the AAP, will provide up to a total of 6,304 dwellings. Within the Southern Strategic Allocation, a full planning application (on Maltgrade owned land) has been submitted by Keepmoat Homes Ltd (planning ref: PA/2023/1124) for part of the Plot 6 and half of Plot 2 of the AAP for 599 dwellings.

2.3 **Figure 1** shows the indicative location/extent of the Wider Lincolnshire Lakes (North) and OPA#1.

Figure 1: Extent of LL Wider Site and LL OPA#1

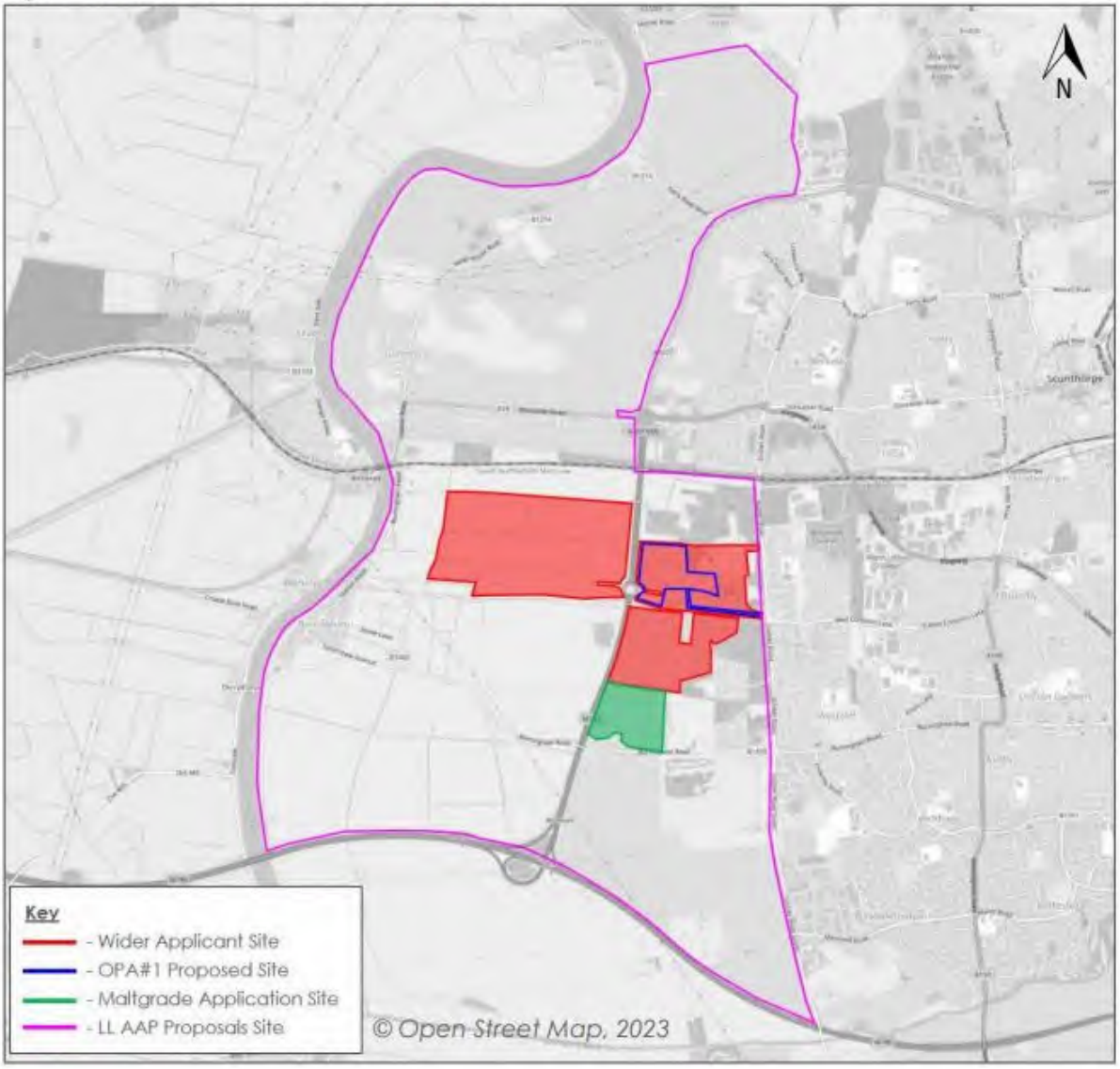


Figure 1. Northern Lincolnshire Lakes and OPA#1 (Extracted from TSN)

3 Existing Situation

3.1 The location of the application site, relative to the Strategic Road Network [SRN], is presented in **Figure 2**. The site is located approximately:

- 2.4km to the north of the M180 / M181 junction (M180 J3); and
- Adjacent to the M181 / A1077(M) roundabout.

Figure 2. Development site in relation to SRN

4 Proposed Development

4.1 As part of the revised pre-application submission, BWB outline that the application will also comprise of:

- Up to 550 dwellings – an increase from the 430 considered to date;
- 2,499sqm local centre.
- 1,000sqm GP surgery; and
- 500sqm creche.

5 EIA Screening Opinion

5.1 The Applicant has submitted a request to NLC for an Environmental Impact Assessment [EIA] screening opinion.

5.2 Screening is the process by which the planning authority decides whether a development of the types listed in Schedule 2 of the EIA Regulations needs to undergo EIA before an application for planning permission is made. There are a number of circumstances that can prompt a planning authority to prepare and adopt an EIA screening opinion:

- Under Regulation 6 of the EIA Regulations a developer can ask the planning authority to give an EIA screening opinion before any application for planning permission is made. The planning authority must respond to such requests within three weeks unless an extension is agreed. Once the screening opinion has been adopted it will be made available for public inspection at the place where the Planning Register is held (the relevant borough or district council) for a period of 2 years;

- Under Regulation 8 of the EIA Regulations where a planning application has been made without an environmental statement and the planning authority has no record of having previously adopted a screening opinion for the proposal, the planning authority can adopt an EIA screening opinion. This will determine whether or not the scheme requires an EIA. This must be done within three weeks of the planning application being deemed valid (can be extended if the developer agrees). Once the screening opinion has been adopted it will be placed on the Planning Register (held by the relevant borough or district council) under the record for the submitted application.

5.3 The request for the Applicant for a screening opinion is submitted pursuant to Regulation 6 of the EIA Regulations.

5.4 We would note that it is for the planning authority to form and adopt a screening opinion. Nonetheless, with reference to Circular 01/2022 (para .55), National Highways will engage in the relevant screening or scoping process where a potential impact on the SRN is identified.

5.5 In this instance, we would agree with the Applicant that the proposal does not comprise Schedule 1 development and, therefore, is not a type of development for which Environmental Impact Assessment is mandatory.

5.6 The Applicant does state, however, that the development falls within Schedule 2 10(b) ('Urban development projects'), but conclude that, with regard to the Indicative Criteria and Thresholds within the Planning Practice Guidance and the screening criteria set out in Schedule 3 of the EIA Regulations, any impacts would not be 'significant' such as to warrant the submission of a formal EIA, and any potential temporary adverse effects could be managed in accordance with standard methods.

5.7 We note that the Applicant does acknowledge the potential for environmental impacts arising from the proposed development and states that these aspects will be considered and addressed through the provision of supporting reports, including:

- Transport Assessment; and
- Travel Plan.

5.8 Again, with reference to Circular 01/2022, the JSJV would expect the applicant to provide sufficient environmental information to satisfy the LPA, and any other consenting authorities, that all environmental implications of the proposals have been appropriately considered. As stated later within this TM05, we would also recommend that a Construction Traffic Management Plan [CTMP] is submitted alongside the application. This should be provided to National Highways for review and agreement in writing prior to commencement of construction.

5.9 Further, National Highways will expect to see measures implemented that fully mitigate any and all environmental impacts arising from and relating to the interaction between developments and the SRN; there are three aspects to this:

- The environmental impacts arising from the temporary construction works;
- The environmental impacts of the permanent transport solution associated with the development; and
- The environmental impact of the road network upon the development itself.

5.10 Any assessment undertaken by, or on behalf of, the Applicant should be sufficiently comprehensive to establish the likely transport related environmental impacts, including air quality, light pollution and noise, and to identify the measures to mitigate these impacts.

5.11 Without prejudice to the planning authority's screening opinion, therefore, JSJV welcomes the decision to submit the above-mentioned reports alongside the planning application.

6 Travel Plan and Sustainable Access

Vision

6.1 Although BWB has utilised a 'vision and validate' approach when considering trip generation targets, this has not been specifically presented for the proposed development. Circular 01/2022 paragraph 48 states that the vision should adhere to the following:

> *"Where a transport assessment is required, this should start with a vision of what the development is seeking to achieve and then test a set of scenarios to determine the optimum design and transport infrastructure to realise this vision."*

Accessibility by Walking

6.2 BWB notes that the guidance provided by the Chartered Institution of Highways & Transportation[1] (CIHT) suggests a preferred maximum walking distance of 2km for a number of trip types, including commuting and school trips. BWB has provided 2km and 5km isochrone map illustrating the existing amenities and facilities located within the catchments, as shown in **Figure 3**.

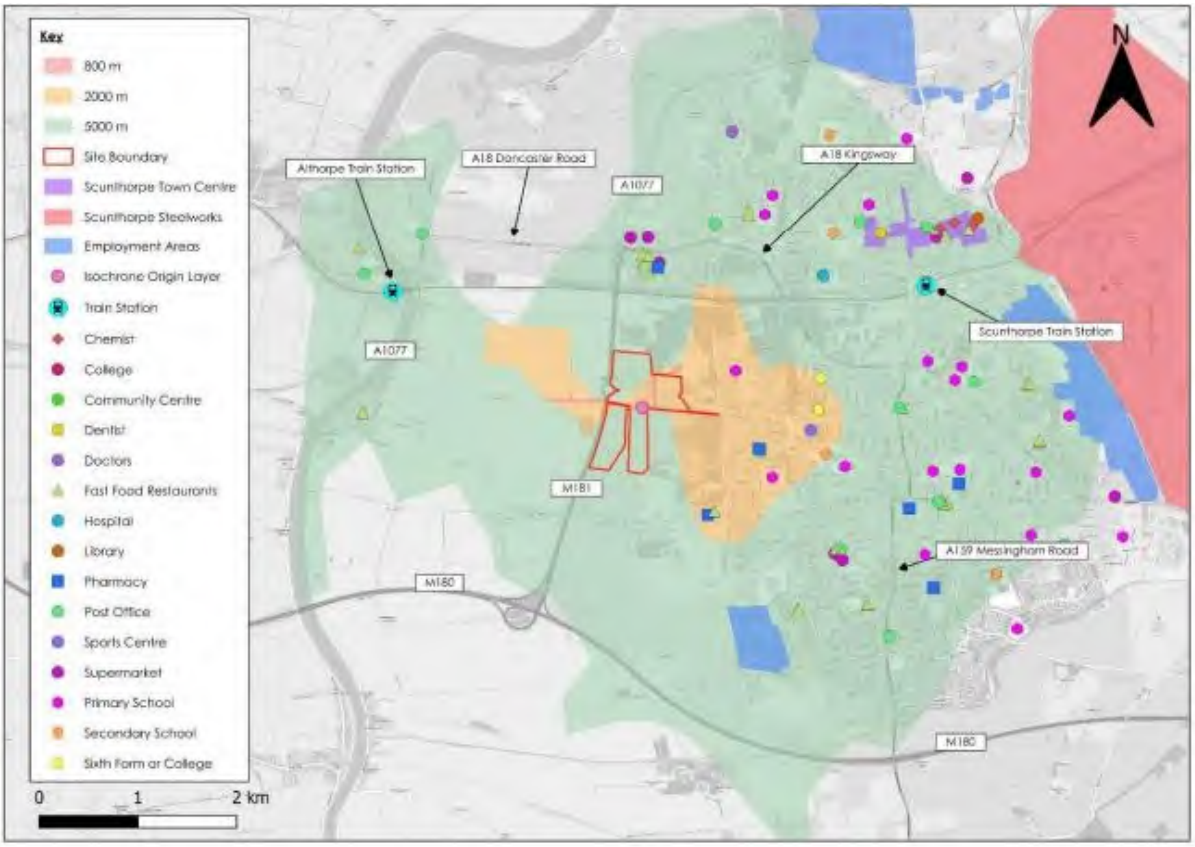


Figure 3. 2km and 5km walking and cycling isochrone[2]

[1] Guidelines for Providing for Journeys on Foot, CIHT

[2] Planning Application 1 at Lincolnshire Lakes (North) Scunthorpe, North Lincolnshire Framework Travel Plan

6.3 BWB has provided a list of key attractors within 2km walking distances, as shown in **Figure 4**.

Table 8: Key Local Amenities

Amenity type	Amenity	Approximate Walking Distance: metres (minutes)	Approximate Cycling time: metres (minutes)
Local Centre	Local Centre	On Site	On Site
Local Centre	Food Shop	On Site	On Site
Local Centre	Non-Food Shop	On Site	On Site
Health	Doctor's Surgery	On Site	On Site
Health	Pharmacy	On Site	On Site
Education	Creche	On Site	On Site
Health	West Common Lane Teaching Practice	1.2km (16 min)	1.2km (5 min)
Religion	The Haven Church of Reconciliation	1.4km (19 min)	1.4km (5 min)
Education	Oasis Academy Parkwood	2.0km (27 min)	2.0km (7 min)
Community Centre	Westcliff Community Association	1.7km (22 min)	1.7km (6 min)
Food Shop	Tesco Express	1.8km (24 min)	1.8km (7 min)
Takeaway	Sam's Plaice Westcliff	1.8km (24 min)	1.8km (7 min)
Takeaway	Pizza Plaza	1.8km (24 min)	1.8km (7 min)
Health	Co-op Pharmacy	1.8km (24 min)	1.8km (7 min)
Post Office	Westcliff Post Office	1.8km (24 min)	1.8km (7 min)
Education	Trent View Specialist College	2.0km (31 min)	2.0km (10 min)
Education	Westcliff Primary School	2.1km (28 min)	2.1km (8 min)
Shops	Asda Scunthorpe S'store & Subway	2.1km (27 min)	2.1km (7 min)
Education	John Leggat College	2.1km (30 min)	2.1km (10 min)
Shops	North Lincolnshire Shopping Park	3.4km (45 min)	3.4km (11 min)
Shops	Gallagher Retail Park	3.5km (46 min)	3.5km (12 min)
Place of interest	Central Park	3.6km (47 min)	3.6km (15 min)
Health	Scunthorpe General Hospital	3.6km (49 min)	3.6km (15 min)
Shops	Ashby High Street	4.3km (59 min)	4.3km (17 min)
Transport	Scunthorpe Train Station	4.9km (1hr 4 min)	4.9km (19 min)
Town Centre	Scunthorpe Town Centre	4.9km (1hr 6 min)	4.9km (19 min)
Shops	Scunthorpe Retail Park	5.0km (1hr 7 min)	5.0km (17 min)

Figure 4. Key local amenities[3]

6.4 As can be seen in **Figure 4**, a number of existing amenities fall within a 2km walking distance from the proposed site, including a post office, pharmacy, Tesco Express, and a secondary school. Furthermore, the JSJV notes that, as the proposed development includes a local centre, a food shop, a non-food shop, a doctor's surgery, a pharmacy, and a nursery, a number of future amenities will be available on-site for the residents of the development, providing good opportunities for walking to local amenities.

6.5 Additionally, the JSJV would note that the ASDA Scunthorpe Superstore is only located within a 2.1km walking distance. However, we would also note a lack of employment opportunities within a 2km walking distance.

Accessibility by Cycling

6.6 BWB notes that the guidance provided by the Chartered Institution of Highways & Transportation[4] suggests cycling has the potential to substitute short car trips, particularly those under 5km.

6.7 As can be seen in **Figure 3** and **Figure 4**, a number of existing amenities fall within a 5km walking distance from the proposed site, including all those stated within the 2km

[3] Planning Application 1 at Lincolnshire Lakes (North) Scunthorpe, North Lincolnshire Framework Travel Plan

[4] Guidelines for Providing for Journeys on Foot, CIHT

walking distance, as well as a primary school, North Lincolnshire Shopping Park, a retail park, a hospital, and Scunthorpe Train Station and town centre.

6.8 The JSJV would note that a number of employment opportunities fall within a 5km cycling distance.

Walking and Cycling Infrastructure

6.9 BWB notes that the proposal includes a:

> *"…high-quality network of active travel infrastructure, with segregated pedestrian and cycle links alongside the main spine road and the section of carriageway that will route along the eastern side of the local centre.*
>
> *Pedestrians and cyclists will be able to access the internal network of footways and cycleways via the active travel corridor proposed adjacent to Brumby Common Lane [as indicated in **Figure 5**]. The 5m wide corridor will provide an attractive non-motorised user connection from the Site to Scotter Road (and onwards into areas of Scunthorpe to the east, north and south). A signalised tiger crossing is proposed to route pedestrians and cyclists across Scotter Road and linking into the existing shared footway/cycleway provision on Scotter Road and West Common Lane."*

Figure 5. Local highway network[5]

6.10 The JSJV notes that providing walking and cycling infrastructure that connects to existing footways and cycleways offers a viable and sustainable transport option to and from the proposed development site.

Bus Provision

6.11 BWB notes that the closest bus stop are located approximately 800m to the east of the site access on Scotter Road; the JSJV would note the distance will be even further from the extremities of the residential development. BWB notes this stop is served by the number 3, which operates on an hourly basis serving the Scunthorpe Bus Station.

6.12 The proposed site is also located within the North Lincolnshire Demand Responsive Transport (DRT) bus service catchment area, which BWB states provides a flexible,

[5] Planning Application 1 at Lincolnshire Lakes (North) Scunthorpe, North Lincolnshire Framework Travel Plan

on-demand public transport option for residents in rural and less-connected areas to access Scunthorpe. Seven vehicles operate within the service, running from 7am to 7pm on weekdays and from 8am to 6pm on Saturdays.

6.13 A dedicated app allows passengers to book journeys 24/7, track buses in real time, and receive journey updates. The app also informs users if a regular bus service would be more suitable, directing them to operator websites for timetable and ticketing information. Due to the availability of regular bus services within Scunthorpe, the DRT cannot be used for travel between two points within the town or within designated restricted zones. However, it facilitates travel into and out of Scunthorpe from areas without conventional bus services.

6.14 Residents of the proposed development will be able to access the DRT service from the first occupation of a dwelling. This service will complement a planned bus route, which is set to operate through the site upon the occupation of the 200th dwelling.

6.15 A public transport strategy has been proposed to maximise the accessibility to key destinations by rerouting bus service 35 into the site. BWB notes that following discussions with NLC's public transport team, the service rerouting proposal, shown in **Figure 6**, will be implemented by no later than the occupation of the 200th dwelling.

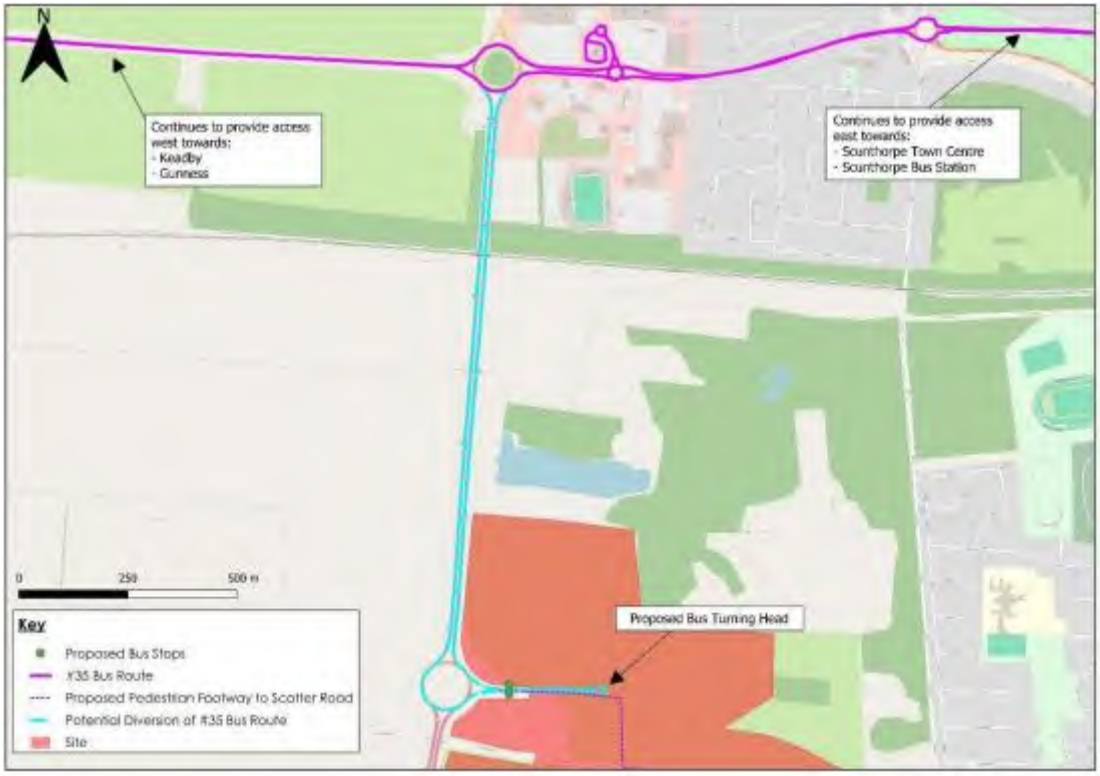


Figure 6. Bus service proposal[6]

6.16 Before the occupation of the 200th dwelling, residence will be able to use the North Lincolnshire DRT Service.

6.17 The JSJV would consider this approach to be appropriate and will offer a viable and sustainable alternative to driving a car.

[6] Planning Application 1 at Lincolnshire Lakes (North) Scunthorpe, North Lincolnshire Framework Travel Plan

Travel Plan Measures

6.18 BWB has presented a range of measures and initiatives to promote active and sustainable travel to / from the proposed development site. The JSJV has presented the key measures in **Table 1** for reference.

Table 1. Proposed Travel Plan measures

Mode of transport	Measure
Walking and Cycling	Internal high quality segregated active travel infrastructure, including a connection with Scotter Road to the east. The link to Scotter Road to be open before 1st occupation.
	All residents and staff will be provided with detailed information about the transport facilities to and from the site through Travel Welcome Packs.
	Distribute a map showing key pedestrian features within the local network.
	Residents with school aged children will be encouraged to explore the sustainable travel plans offered by their local schools and take up initiatives such as walking buses.
	A cycle voucher (equivalent to the cost of Stagecoach's East Midlands Flexi10 ticket).
	The TPC will seek to organise cycle repair events, such as Dr Bike, and cycle training to occur on site on a regular basis and / or as needed.
Public transport	The development will be served by a bus service (discussions ongoing to divert bus service no. 35 into the site). The bus will make use of the proposed internal bus stops and turning head to facilitate safe access and egress. The rerouted service will be implemented prior to the occupation of the 200th dwelling, of which prior to this residents will be able to make use of the North Lincolnshire DRT service.
	As part of a bus service routing through the Site, residents will be able to apply for a free Scunthorpe 28 Day MegRider pass.
Car sharing	The promotion of existing car sharing services such as www.carshare.com, www.shareacar.com, www.liftshare.com, and www.nationalcarshare.co.uk. These sites do not require members to have a car as some existing members will offer lifts in exchange for a contribution towards fuel costs.

6.19 Overall, the JSJV welcomes the proposed TP measures proposed by BWB and would suggest that they have the potential to reduce car use within the proposed development.

Mode share

6.20 BWB has presented a baseline mode share across the TA and TP derived from 'Method of Travel to Work' data from the 2011 National Census. The JSJV would note that the 2011 Census mode share has been derived from an average across the North Lincolnshire 012, 016, 017 and 018 MSOA's.

6.21 The JSJV has provided a comparison mode share using Method of Travel to Work data from the 2021 National Census for the same MSOA's. The proposed baseline mode share and JSJV's comparison is shown in **Table 2**.

Table 2. Proposed baseline mode share

Mode	2011 Census (MSOA 012, 016, 017 and 018)	2021 Census (MSOA 012, 016, 017 and 018)	Variance
Train	0.3%	0.2%	-0.10%
Bus, minibus or coach	4.6%	2.7%	-1.90%
Motorcycle, scooter or moped	1.8%	0.6%	-1.20%
Driving a car or van	**71.7%**	**73.8%**	**+2.10%**
Passenger in a car or van	8.3%	8.5%	+0.20%
Bicycle	6.2%	4.8%	-1.40%
On foot	6.6%	8.3%	+1.70%
Other method of travel to work	0.5%	1.0%	+0.50%

6.22 As can be seen from **Table 2**, the variance between the 2011 and 2021 Census data is relatively small, however, the 2021 baseline mode share for driving a car or van is slightly greater than presented by BWB. Considering the current lack of public transport provision and employment opportunities within walking distance of the site, and the small variance in mode share show in **Table 2**, the JSJV would suggest BWB's baseline mode share is acceptable.

6.23 BWB has proposed a target mode share for the residential aspect of the proposed development of a 20% reduction in driving a car or van mode share, as shown in **Figure 7**.

Table 15: Residential Modal Split Vision and Validate Targets

Mode	Census Modal Split	Vision and Validate Modal Split	% Change
Car Driver	71.7%	57.4%	-14.3%
Car Passenger	8.3%	12.5%	4.2%
Motorcycle	1.8%	2.7%	0.9%
Public Transport	4.9%	7.4%	2.5%
On Foot	6.6%	9.9%	3.3%
Bicycle	6.2%	9.3%	3.1%
Other	0.5%	0.8%	0.3%

Figure 7. Residential target mode share

6.24 The JSJV would consider the targets presented in **Figure 7** to be ambitious, however, considering the proposed improvements to public transport and active travel infrastructure, we would consider a 14.3% reduction in car driver trips as achievable.

6.25 Notwithstanding the above, the JSJV would note that within the TA, BWB has assessed the impact of the proposed development on the SRN without taking into account the reduction in vehicle trips as a result of the target mode share, providing a worst-case assessment.

Travel Plan management, funding and monitoring

6.26 The JSJV would note the following information is provided by BWB:

- For the 550 dwellings proposed, a Site Wide Travel Plan Co-ordinator (SWTPC) will be appointed to oversee the TPC role for the whole of the residential development.
- The role of the SWTPC will be to secure any necessary funding to support the TP and ensure its efficient and effective use.
- An Annual Monitoring Report will be prepared by the SWTPC and issued to NLC.
- The TP will be reviewed against the targets annually as part of the monitoring report exercise. If the targets are not met and aspects of the TP are seen to be underperforming, the SWTPC will review the measures in place and revise them where appropriate in consultation with NLC.
- From first occupation until a period of five years after 50% dwelling occupation, each year during a neutral month, the SWTPC will organise a five-day automatic traffic count (ATC) at the Site access junction, in order to determine the number of vehicle arrivals and departures during the peak hour periods on an average week for the full Site.

6.27 The JSJV notes that there is no mention of the source of funding for the Travel Plan. Therefore, we suggest that firm financial commitments regarding funding for the proposed measures and the appointment of the Travel Plan Coordinator should be explicitly outlined within the Travel Plan.

7 Transport Assessment

Personal Injury Collison

7.1 BWB has reviewed of Personal Injury Collision (PIC) data for the 2019–2024 period, using data from North Lincolnshire Council (NLC). The JSJV would state that data from 2020 and 2021 should not be considered representative due to the COVID-19 travel restrictions; it should therefore not be used in the most recent 5-year period analysis for the SRN.

7.2 Notwithstanding the above, BWB notes that one fatal collision occurred on 24th February 2023 at 21:45 at the M181/A1077 roundabout.

7.3 The incident involved a car losing control and crashing into a barrier due to aggressive and reckless driving.

7.4 The road surface was wet/damp, but the collision was attributed to driver behaviour rather than road design.

7.5 Furthermore, BWB note a collision cluster at M181/A1077 Roundabout, including:

- One fatal collision.
- One serious collision.
- Two slight collisions.

7.6 The serious collision details was due to a car driver failing to look properly, losing control, and colliding with an HGV.

7.7 The driver was assigned the contributory factors "Failed to look properly" and "Loss of control."

7.8 BWB concludes that there are no clear road geometry or layout issues contributing to the recorded fatalities. Instead, driver error and impairment are the predominant causes of collisions at this location.

7.9 The JSJV would recommend that BWB presents PIC data for the most recent 5-year period excluding the years 2020 and 2021.

Residential Trip Generation

7.10 Previously, the AAP residential vehicle trip rates quoted by BWB, as shown in **Table 3**, were considered to be appropriate for the residential aspect of the proposed development after an independent review by the JSJV.

Table 3. AAP vehicle trip rates and generation (550 dwellings)

	AM Peak Period (08:00-09:00)			PM Peak Period (17:00-18:00)		
	Arrivals	Departures	Two-way	Arrivals	Departures	Two-way
Vehicle trip rate	0.130	0.552	0.682	0.354	0.211	0.566
Resi trip gen	72	304	375	195	116	311

Non-residential Trip Generation

7.11 As shown in **Table 4**, for the remaining aspects of the proposed development, BWB notes that TRICS has been used to inform the trip rates for the non-residential land uses. We would note that these land uses are:

- Local centre;
- GP surgery; and
- Creche.

Table 4. BWB non-residential vehicle trip rates and generation

	AM Peak Period (08:00-09:00)			PM Peak Period (17:00-18:00)		
	Arrivals	Departures	Two-way	Arrivals	Departures	Two-way
Local centre trip rate	4.644	3.9	8.544	6.045	6.447	12.492
Local centre trip gen	116	97	214	151	161	312
GP trip rate	3.118	1.559	4.677	1.216	2.174	**3.39**
GP trip gen	31	16	47	12	22	34
Creche trip rate	3.453	2.952	6.405	2.866	3.505	6.371
Creche centre trip gen	17	15	32	14	18	32

7.12 For comparison, the JSJV has undertaken a trip rate analysis using the TRICS Online Database (version 7.11.4), the results of this analysis and comparison to BWB's vehicle trip generation are shown in **Table 6**, with the TRICS selection parameters outlined on **Table 5**.

Table 5. TRICS selection parameters

Parameter	Local Centre	GP Surgery	Creche
Land use category	Local Shops (01/I)	GP Surgeries 05/G	Nursery 04/D
Location	Suburban Area, Neighbourhood Centre	Suburban Area, Edge of Town, Neighbourhood Centre	Suburban Area, Edge of Town, Neighbourhood Centre
Actual range	1115-2700 sqm GFA	600-2150 sqm GFA	150-725 sqm GFA

Table 6. JSJV proposed vehicle trip generation analysis

	AM Peak Period (08:00-09:00)			PM Peak Period (17:00-18:00)		
	Arrivals	Departures	Two-way	Arrivals	Departures	Two-way
Local centre trip rate	4.613	4.053	8.666	6.161	6.603	12.764
Local centre trip gen	115	101	217	154	165	319
Variance	**-1**	**+4**	**+3**	**+3**	**+4**	**+7**
GP trip rate	2.546	1.317	3.863	1.23	2.028	3.258
GP trip gen	25	13	39	12	20	33
Variance	**-6**	**-2**	**-8**	**0**	**-1**	**-1**
Creche trip rate	3.563	3.175	6.738	3.253	3.841	7.094
Creche centre trip gen	18	16	34	16	19	35
Variance	**+1**	**+1**	**+2**	**+2**	**+2**	**+4**

7.13 As can be seen in **Table 6**, at most, the JSJV forecast the proposed development to generate 7 more two-way local centre vehicle trips in the PM peak.

7.14 Consequently, the JSJV would consider BWB's proposed non-residential vehicle trip generation as appropriate.

7.15 BWB note that these non-residential uses essentially constitute a village centre, and that there are likely to be a significant number of internal and linked trips with the residential element. Such information will be available during the planning application stage, and the JSJV and National Highways will review this information when it is available.

Total Vehicle Trip generation

7.16 As can be seen in **Figure 8**, BWB forecast the proposed development to generate a total of 667 two-way vehicle trips in the AM peak and 689 two-way vehicle trips in the PM peak.

Table 24: Proposed Site Vehicle Trip Generation

Time Period	Trip Generation		
	Arrive	Depart	Two-Way
08:00 – 09:00	236	431	**667**
17:00 – 18:00	372	316	**689**
Total	3304	3893	**7200**

Figure 8. Total proposed development vehicle trip generation

Non-primary Trip Calculations

7.17 BWB notes it is necessary to calculate the type of trips that will be generated and attracted by the non-residential aspects of the proposal.

7.18 These calculations consider the vehicle types of trips generated and attracted by the development, focusing on non-primary trips, which are not entirely new to the network.

7.19 BWB refers to the TRICS Research Report 14/1 that provides guidance on the proportion of non-primary trips:

- Pass-by trips can make up 20%-50% of total trips, with high pass-by rates observed for convenience stores and similar uses near major roads.
- Pass-by trips are more common during peak commuting hours.
- Differentiated rates should be applied for different land uses

7.20 As a result, BWB has proposed the following non-primary trip proportions, as shown in **Figure 9**.

Table 26: Non-Primary Trip Proportions

Land Use	Trip Type			
	Linked With Site Residential	Pass-By	Internal	Primary
Residential	0%	0%	0%	100%
Local Centre	30%	30%	10%	30%
GP Surgery	20%	20%	10%	50%
Creche	35%	35%	10%	20%

Figure 9. BWB non-primary trip proportions

7.21 The GP surgery, creche, and local centre are primarily intended to serve the Proposed Development (and the wider Lincolnshire Lakes development in future phases). It is expected that a small proportion of trips to and from these non-residential land uses will involve cars (due to factors like age, illness, or the need to drop off children at the creche). As a result, 10% of trips to these non-residential areas have been classified as internal trips.

7.22 The JSJV considers the proportions shown in **Figure 9** to be acceptable. Furthermore, given the size, nature, and location of the non-residential land uses, the JSJV does not anticipate that a large proportion of primary trips will impact the SRN, as it is unlikely that people will travel from the M180 to access the non-residential aspects of the development.

7.23 Furthermore, by providing a local amenity, residents will be able to access the non-residential aspects of the development by active methods of transport. Without the proposed amenities, residents would need to travel further, likely using private vehicles and possibly using the SRN.

7.24 In principle, therefore, we would suggest that the provision of a local amenities, such as a local centre, GP surgery and a nursery within walking distance of the residential area has the potential to reduce the number of trips using the SRN to access other areas. The JSJV would also note that the revised development is in line with Circular 01/2022 were it is stated that “New development should be facilitating a reduction in the need to travel by private car and focused on locations that are or can be made sustainable”.

7.25 BWB’s proposed total vehicle trip generation by trip type and land use is shown in **Figure 10**.

Table 27: Proposed Vehicle Trip Generation by Trip Type

Trip Type	%	AM	PM	Daily
Residential				
Primary	100%	375	311	2,693
Pass By	0%	0	0	0
Linked with Resi	0%	0	0	0
Internal	0%	0	0	0
Total	100%	375	311	2,693
Local Centre (Including up to 1000sqm of Food Retail				
Primary	30%	64	94	1,138
Pass By	30%	64	94	1,138
Linked with Resi	30%	64	94	1,138
Internal	10%	21	31	379
Total	100%	214	312	3,793
Doctors/Pharmacy				
Primary	50%	23	17	271
Pass By	20%	9	7	108
Linked with Resi	20%	9	7	108
Internal	10%	5	3	54
Total	100%	47	34	541
Creche				
Primary	20%	6	6	34
Pass By	35%	11	11	60
Linked with Resi	35%	11	11	60
Internal	10%	3	3	17
Total	100%	32	32	172
Total				
Primary	53%	469	428	4,136
Pass By	20%	85	112	1,306
Linked with Resi	20%	85	112	1,306
Internal	7%	29	38	451
Total	**100%**	**667**	**689**	**7,200**

Figure 10. BWB’s proposed vehicle trip generation by trip type

7.26 As can be seen in **Figure 10**, BWB forecast the proposed development to generate a total of 469 two-way primary vehicle trips in the AM peak and 428 two-way vehicle trips in the PM peak; the JSJV would consider this to be appropriate.

Distribution

7.27 As can be seen in **Figure 11**, BWB has presented the vehicle trip distribution for the proposed development.

Table 39: Distribution Route Proportions

Route	Description	%
A	M18 North of Junction 5	2.8%
B	A161 Crowle Bridge	0%
C	A18 Doncaster Road (West of Frodingham Grange Roundabout)	1%
D	Ferry Road W (West of A1077)	10.1%
E	Ferry Road W (East of A1077)	0%
F	Holyrood Drive	0%
G	A1077 Phoenix Parkway (East of Skippingdale Roundabout)	17.2%
H	Luneburg Way (South of Skippingdale Roundabout)	0%
I	Scotter Road (North of Berkeley Roundabout)	0%
J	Doncaster Road (East of Berkeley Roundabout)	32.1%
K	A18 Kingsway (South East of Berkeley Roundabout)	8.1%
L	W Common Lane	0%
M	Burringham Road (East of Scotter Road)	1.9%
N	Scotter Road South	2.4%
O	Burringham Road (West of Scotter Road)	0%
P	Ermine Street (North of M180 Junction 4)	2%
Q	Barnetby Top	3.7%
R	A15 (North of M180 Junction 5)	4.7%
S	M180 East of Junction 5	3.5%
T	Kings Road (South of A18)	1.5%
U	A15 (South of M180 Junction 4)	3.2%

Figure 11. BWB proposed distribution

7.28 BWB notes that “NLC and NH have agreed that the distribution suitably represents the impact of the 550 dwellings”.

7.29 The JSJV would note that although National Highways has previously agreed to the trip distribution for the proposed development, the vehicle trip distribution presented in the TA and Figure 11 is not the distribution that was agreed.

7.30 The JSJV would note that the vehicle distribution that was previously agreed as appropriate by National Highways is shown in **Figure 12**.

Point	Network Periphery Point	BWB Residential Traffic Distribution Pattern (Original)	BWB Revised Residential Traffic Distribution Pattern in accordance of NH comments	Difference
A	M18 (N)	2.8%	2.8%	0%
B	A161 (N)	0.0%	0.0%	0%
C	A18 (W)	1.0%	1.0%	0%
D	A1077 (N)	27.3%	22.8%	-4.5%
E	Scotter Road (N)	0.0%	0.0%	0%
F	Doncaster Road	32.1%	27.6%	-4.5%
G	A18 (E)	8.1%	8.1%	0%
H	West Common Lane	0.0%	0.0%	0%
I	Scotter Road S)	4.3%	4.3%	0%
J	A15 (N)	2.0%	2.0%	0%
K	Barnetby Top	3.7%	3.7%	0%
L	A15 (N)	4.7%	4.7%	0%
M	M180 (E)	3.5%	12.5%	+9.0%
N	A18 (S)	1.5%	1.5%	0%
O	A15 (S)	3.2%	3.2%	0%
P	A161 (S)	1.2%	1.2%	0%
Q	M18 (S)	5.0%	5.0%	0%
R	B1538	0.0%	0.0%	0%

Figure 12. BWB updated vehicle trip distribution

7.31 The vehicle distribution shown in **Figure 12** was presented within BWB's email response (May 2024). The updated distribution assigns a higher percentage of trips eastwards via the M180 towards Immingham and Grimsby. The JSJV considered this approach appropriate as it aligned with our previous analysis, using National Highways' gravity model GraHAM, which forecast a higher percentage of vehicle trips to route east along the M180 through M180 Junction 4 and 5.

7.32 Therefore, the JSJV recommends that BWB confirm whether the agreed vehicle trip distribution, previously accepted by National Highways, has been used or if the original vehicle trip distribution—considered insufficient for routing an appropriate volume of trips east along the M180—has been applied.

7.33 Considering the difference in distribution percentages between the two sets of distribution data, the JSJV will refrain from commenting on the assessments carried out for M180 Junction 3, as there is likely to be a difference in the results.

Lincolnshire Lakes Remaining Trip Generation

7.34 Notwithstanding the above, as previously requested, the Applicant should provide a review of the total vehicle trip generation that was considered within the original AAP for the Lincolnshire Lakes Site and what percentage of this has been taken by other planning applications as well as the proposed development in question.

8 Construction Traffic Management Plan

8.1 Due to the proposed site location being in close proximity to the SRN, the JSJV would also recommend that a Construction Traffic Management Plan [CTMP] is submitted alongside the application. This should be provided to National Highways for review and agreement in writing prior to commencement of construction. Construction will then be expected to proceed in accordance with the approved CTMP.

8.2 The CTMP will need to include at least the following:

- A dust management plan.
- A noise management plan.
- Pollution prevention measures.
- Staffing numbers.
- Contractor parking.
- Construction traffic routes.
- Details of delivery arrangements (including for any abnormal loads); and
- Measures to limit and manage transfer of debris on to the highway.

9 Boundary Treatment

9.1 The site is located adjacent to the M181 / A1077(M) roundabout. Its western boundary is coincidental with the highway boundary.

9.2 Therefore, the Applicant should demonstrate to National Highways that there are no drainage, structural, boundary treatments or other constructions that would have an impact on National Highways land interests. It should be noted, for example, that the structural stability of the highway should not be undermined, and that surface water should not drain towards or into the highway. As stated within paragraph 57 of Circular 01/2022, for reasons of safety, liability and maintenance:

> *"…structures should be sited sufficiently far from the highway boundary of the SRN so that they cannot topple on to the SRN or undermine its geotechnical integrity. Alternatively, an appropriate structural assessment that accords with the DMRB must be provided. A Road Restraints Risk Assessment must also be carried out where any furniture, structures or other features would be sited adjacent to the SRN."*

9.3 Furthermore, to ensure the integrity of the highway drainage systems, paragraph 58 states:

> *"…no new connections into those systems from third party development and proposed drainage schemes will be accepted. Where there is already an existing informal or formal connection into the highway drainage system from a proposed development site, the right for a connection may be allowed to continue provided that the flow, rate and quality of the discharge into the highway drainage system remains unaltered or results in a betterment. The company may require a drainage management and maintenance agreement to be entered into to secure this requirement in perpetuity."*

9.4 The JSJV would suggest therefore, that further information be provided with regards to the proposed boundary treatment between the M181 and the application site; particularly (but not exclusively), the information should consider:

- The impact of earthworks on the stability and integrity of the SRN;
- The impact of earthworks on drainage, and the drainage requirements needed to ensure that surface water does not flow from the application site on to the SRN;
- Access for maintenance of the highway boundary is maintained; and
- Boundary treatments are adequate and appropriate; particularly in regard to dazzle and distraction from opposing head lights.

Appendix 3: ATE Comments

Active Travel England
West Offices
Station Rise
York
YO1 6GA
Tel: 0300 330 3000

Your Ref: PA/2025/254
Our Ref: ATE/25/00322/HYB
Date: 20 March 2025

Active Travel England Planning Response
Detailed Response to an Application for Planning Permission

From: Planning & Development Division, Active Travel England

To: North Lincolnshire Council

Application Ref: PA/2025/254

Site Address: Land East of M181/A1077(M), Burringham,, SCUNTHORPE,, DN17 1US

Description of development: Hybrid planning permission comprising of outline, with all matters reserved for up to 550 dwellings, a local centre (use Class E), associated landscaping, drainage and other infrastructure works. Full Planning permission for the construction of a new vehicular access off the M181/A1077(M) roundabout, a pedestrian and cycle link to Scotter road, a pumping station, earthworks and off-plot drainage, ecological and associated landscaping and infrastructure works

Notice is hereby given that Active Travel England's formal recommendation is as follows:

a. ~~**No Objection:** ATE has undertaken a detailed assessment of this application and is content with the submission.~~

b. ~~**Conditional approval:** ATE recommends approval of the application, subject to the agreement and implementation of planning conditions and/or obligations as set out in this response.~~

c. **Deferral:** ATE is not currently in a position to support this application and requests further assessment, evidence, revisions and/or dialogue as set out in this response.

d. ~~**Refusal:** ATE recommends that the application be refused for the reasons set out in this response.~~

1.0 Background

Active Travel England (ATE) welcomes the opportunity to provide comments on this consultation.

It is understood that the site has been subject to allocations and designations across various Statutory Development Plan documents and policies maps, including within the (now withdrawn) emerging Local Plan. Additionally, the site forms part of the Lincolnshire Lakes Area Action Plan (AAP), adopted in 2016, which sets out the strategy for delivering the sustainable urban extension to the west of Scunthorpe, collectively known as 'Lincolnshire Lakes'.

ATE has not previously been involved in this site. However, we have provided feedback on a nearby application (Ref: PA/2023/1124), which, following responses to its deferral, was approved with conditions/obligations on 08 January 2025. Given the proximity of this site and its relationship with the existing active travel network, our response should be considered alongside those previous responses.

Summary

ATE has reviewed the application against the criteria outlined in the updated ATE Planning Assessment Toolkit, national planning policy, and active travel design guidance. It is noted that the applicant has also completed the ATE toolkit assessment and utilised ATE's Cycle Level of Service (CLoS) Tool, which is wholly welcome.

Following our review, we have identified the following issues requiring further consideration or clarification:

1. Trip Generation Analysis and Travel Plan Targets
2. Active Travel Route Audit
3. Offsite Improvements
4. Placemaking and Permeability

ATE is therefore issuing a deferral response, with further context for this decision outlined below, following the criteria within the ATE Planning Assessment Toolkit.

2.0 Areas of Concern

Trip Generation Analysis and Travel Plan Targets

The general approach to trip generation is welcome, and ATE supports the applicant's commitment to a 'Vision and Validate' approach as prescribed within the updated NPPF. ATE notes that the applicant has provided AM, PM, and daily multi-modal trip data. The inclusion of the latter is particularly useful in understanding total active travel trips throughout the day, capturing non-commuting journeys as identified in the National Travel Survey.

While the overall approach is considered robust, reliance on 2011 Census 'Method of Travel to Work' data to establish a baseline modal split may under-represent active travel. Given the limitations of the 2021 Census, a vision-led baseline incorporating alternative data sources, such as the National Travel Survey, benchmarking planning applications, and scheme interventions, would better align with updated NPPF targets. ATE encourages

the applicant to adopt a more ambitious baseline and work towards further improvements over the monitoring period.

This ambition should also be reflected in the Travel Plan targets. The Vision and Validate targets propose a 20% reduction in car driver trips, redistributed across other mode types. While welcome, this results in only a 6.1% increase in active modes, leading to a 19.2% overall active mode share. Whist this is a laudable share when accounting for the sites location, it raises concerns that the targets do not substantially differ from a traditional Predict and Provide approach within Travel Plan methodology, which aims to reduce car reliance over a five-year period. Further clarity on this methodology would be beneficial and clarification on how the target would differ from that traditionally taken.

Accessibility

Table 8 presents walking and cycling journey times to key amenities. While many services are located towards the upper end of acceptable walking distances, the inclusion of a local centre within the site is welcomed. However, ATE notes concerns regarding the location of the nearest primary school, which exceeds the 2km acceptable walking distance. While the exceedance is marginal, a comprehensive active travel route audit should assess the quality of existing routes and determine necessary offsite improvements.

Active Travel Route Audit

Part 3 of the Transport Assessment (TA) provides a high-level assessment of surrounding walking and cycling infrastructure. However, this is not supported by maps or photographs showing key routes and deficiencies. It would be beneficial if these elements were included.

Appendix 5: Cycle Level of Service (CLoS) Assessments is a welcome addition for understanding key routes. However, the assessment would be more robust if maps identifying routes and photographs highlighting deficiencies were provided.

Offsite Improvements

Access Roundabout:

The primary vehicular access is via the existing M181 roundabout. Clarification is required on what measures will prevent pedestrians and cyclists from leaving the site via this route.

Brumby Common Lane:

A 5m-wide active travel corridor is proposed along Brumby Common Lane, providing a route to Scotter Road and extending into Scunthorpe. Given that this road is currently subject to the national speed limit, ATE requests confirmation on whether vehicular access will remain or whether it will be restricted to active modes only. Additionally, clarity is needed on whether this corridor will serve future development phases west of the M181.

Scotter Road:

The proposed junction improvements are welcomed. ATE recommends that the cycle track be extended to join the carriageway within Bristol Road, as has been done with Scotter Road.

Existing M181 Bridge (North):

It is unclear how this northern bridge connection will be incorporated into the development. Given its designation as a route within the AAP, clarification is required.

Wider Measures:

ATE encourages collaboration between the applicant, Local Planning Authority, and highway authority to establish offsite active travel improvements as part of the wider AAP proposals, potentially supported through cumulative developer contributions.

Placemaking and Permeability

While the proposal remains in outline, illustrative layouts have been provided. ATE generally supports the high-level approach to placemaking and permeability but notes the following observations:

Main Spine Road:

Paragraph 4.13 of the TA confirms a high-quality active travel network with segregated pedestrian and cycle links along the main spine road and local centre routes. This is welcome, but ATE requests explicit confirmation that the infrastructure will remain segregated and not become shared use. Additionally:

- Side road treatments should adhere to LTN 1/20 standards, ensuring pedestrian and cycle priority.
- The applicant should consider cycle tracks on both sides of the highway, rather than a bi-directional track on one side.
- Submission of street hierarchy details and cross-sections would be beneficial, potentially within a Design Code secured by condition.

Frontage:

The illustrative proposals show a consistent buildings line behind swales and active travel corridors, creating a strong built frontage along Brumby Common Lane and the spine road. This is welcom as it enhances natural surveillance and encourages lower vehicle speeds.

Offsite Connections:

Limited details are provided on how the site will connect to future development phases beyond the redline boundary. Further information is required to assess walking and cycling permeability across the AAP area.

3.0 Next Steps

ATE requests that the local planning authority shares this response with the applicant's agent. We would welcome additional details and amendments in line with the above comments, with a view to providing a further response/appropriate wording for conditions as required.

Appendix 4: Public Transport Meeting Correspondence

Jack Lindsay

From: James Lawson <James.Lawson@northlincs.gov.uk>
Sent: 14 May 2025 14:34
To: Jack Lindsay
Subject: RE: Lincolnshire Lakes Development - Bus stops

👍 **James Lawson** reacted to your message:

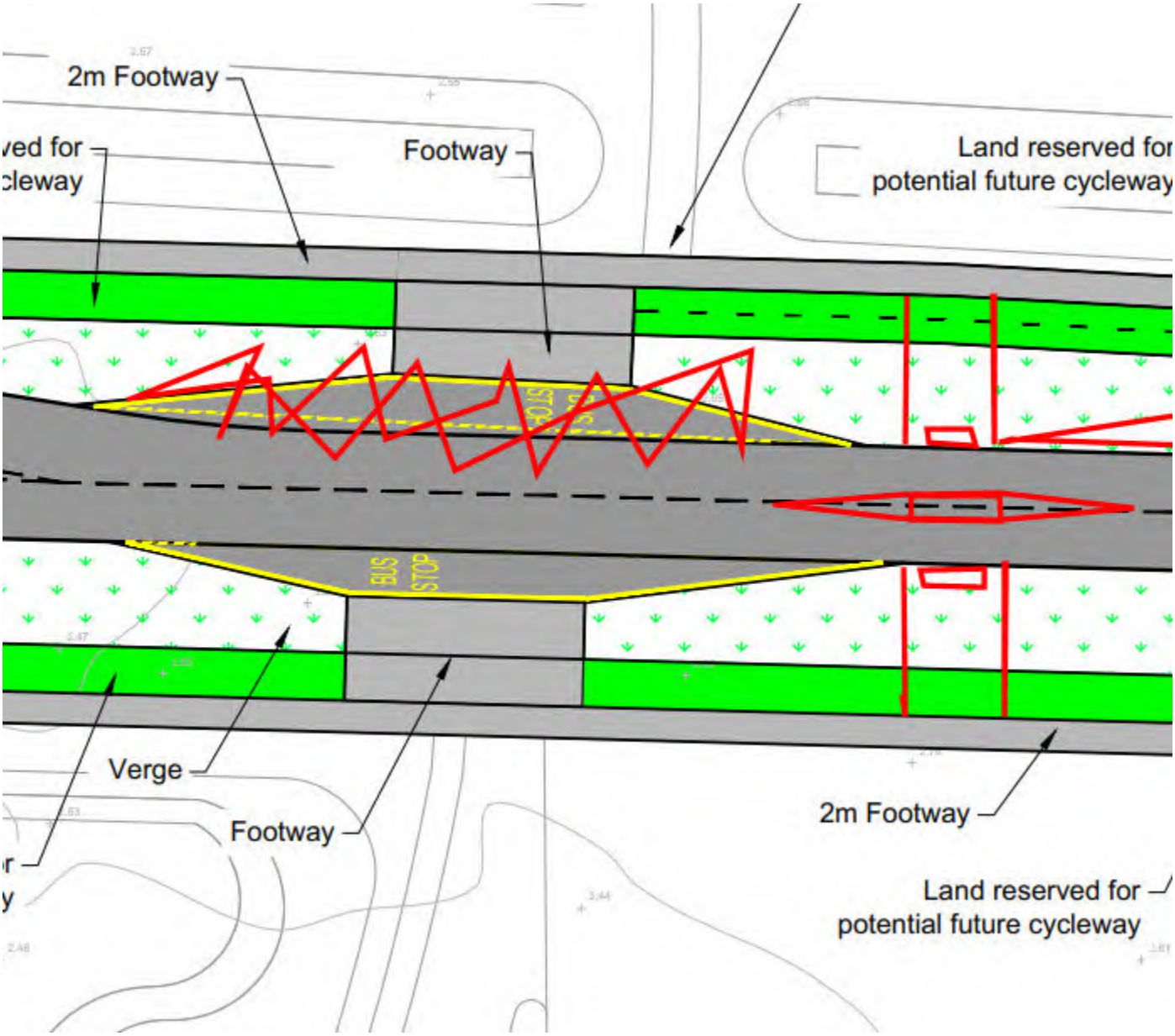
From: Jack Lindsay <Jack.Lindsay@bwbconsulting.com>
Sent: Wednesday, May 14, 2025 9:21:50 AM
To: James Lawson <James.Lawson@northlincs.gov.uk>; James Reevell <James.Reevell@northlincs.gov.uk>
Cc: Louisa Simpson <Louisa.Simpson@northlincs.gov.uk>
Subject: RE: Lincolnshire Lakes Development - Bus stops

Morning both,

Many thanks for your time earlier at such short notice, much appreciated.

As discussed, we'll look to facilitate a design along the lines of the sketch below, shifting the eastbound bus stop east and providing a suitable crossing facility in between the stops.

We'll also illustrate that the phase 2 bus turning loop could be used as an additional stop once phase 2 comes forward, and then as future phases / the through route comes forward additional stops will be provided as laybys.



Kind regards

Jack Lindsay (BA)Hons MSc MCIHT
Associate – Transport and Accessibility Planning
5th Floor, Waterfront House, Station Street, Nottingham, NG2 3DQ
T: 0115 924 1100 | **M:** 07442 283286 | **W:** bwbconsulting.com

From: James Lawson <James.Lawson@northlincs.gov.uk>
Sent: 13 May 2025 13:52
To: Jack Lindsay <Jack.Lindsay@bwbconsulting.com>
Cc: Louisa Simpson <Louisa.Simpson@northlincs.gov.uk>
Subject: RE: Lincolnshire Lakes Development

This email originated from outside of our organisation. Please exercise caution with content, links and attachments.

Good afternoon Jack

Not bad thank you. Hope you are too.

I can do tomorrow morning 09:30-10:00?

If not I'm afraid I'm away until the 27th.

Currently got these dates/times free:

Tuesday 27th – free 14:00 onwards
Wednesday 28th- free 14:00 onwards
Thursday 29th – free 14:00 onwards

Many thanks

James Lawson
Senior Public Transport Officer
North Lincolnshire Council
Communities
01724 296946

From: Jack Lindsay <Jack.Lindsay@bwbconsulting.com>
Sent: 12 May 2025 14:24
To: James Lawson <James.Lawson@northlincs.gov.uk>
Cc: Louisa Simpson <Louisa.Simpson@northlincs.gov.uk>
Subject: RE: Lincolnshire Lakes Development

Good afternoon James,

I hope all is well?

The Lincolnshire Lakes – Phase 1 development has been formally submitted, and we received the attached LHA comments.

One item of note re. the bus stops.

The location of the bus stops on the link road are extremely close to the roundabout and should be moved further eastwards if possible. No bus stops are shown for Phase 2, NLC would recommend that some are provided. Whilst we understand why laybys have been provided, these are traditionally unpopular with bus operators in North Lincolnshire. We would recommend a discussion with NLC's Public Transport Team about the preferred style.

If possible, it would be great to get a bit of time in the diary to discuss the principle / design of the bus stops, so if you could share some meeting dates that would be much appreciated.

Regards

Jack Lindsay (BA)Hons MSc MCIHT
Associate – Transport and Accessibility Planning
5th Floor, Waterfront House, Station Street, Nottingham, NG2 3DQ
T: 0115 924 1100 | **M:** 07442 283286 | **W:** bwbconsulting.com

From: James Lawson <James.Lawson@northlincs.gov.uk>
Sent: 23 December 2024 14:13
To: Jack Lindsay <Jack.Lindsay@bwbconsulting.com>
Cc: Louisa Simpson <Louisa.Simpson@northlincs.gov.uk>
Subject: FW: Lincolnshire Lakes Development

This email originated from outside of our organisation. Please exercise caution with content, links and attachments.

Hi Jack

Please see the below email from Stagecoach.

The service cost is significantly higher than I would have expected due to the need for extra resource. Currently, this is estimated to be £240k per annum for the service 35 service extension.

Let me know if you need anything further.

Many thanks

James Lawson
Senior Public Transport Officer
North Lincolnshire Council
Communities
01724 296946

From: Dave Skepper <Dave.Skepper@stagecoachbus.com>
Sent: 23 December 2024 11:44
To: James Lawson <James.Lawson@northlincs.gov.uk>
Cc: Jenny Couch <Jenny.Couch@northlincs.gov.uk>; Abigail Burridge <Abigail.Burridge@northlincs.gov.uk>
Subject: Re: Lincolnshire Lakes Development

CAUTION: External Email. Do not click links or open attachments unless you recognise the sender and know the content is safe.

Good morning, James

Thanks for the email below regarding the Lincolnshire Lakes Development.

Unfortunately, the link will not open to the outline plan; I think I need authorisation? However, from your email, my understanding is there will be restricted access to the new site, which means buses will need to divert from the M181 roundabout on Doncaster Road, go down to the site, turn around, and return to the same roundabout.

It's disappointing to hear planning permission has been given for house building before the Scotter Road link is constructed. Over the last fifteen years or so, we have discussed many times that the best way of serving Lincolnshire Lakes and Gallagher Retail Park is to push a link through from Scotter Road so buses can provide a logical route in both directions. Also, we have suggested building should start adjacent to Scotter Road in the first phase, so new residents can be served by the existing bus network at Westcliff, which would be within walking distance.

We know from experience, bus passengers dislike 'spur' routes where the bus needs to leave the main route and travel down to a dead end before turning around and coming back; such spurs are frustrating for through passengers who are already on the bus and see the diversion as an unnecessary delay to their journeys.

Against the above background, I agree diverting Service 35 is probably the least damaging option for the existing bus network, but the route change is likely to generate complaints from through customers and may lead to a reduction in passenger numbers; this is especially the case where people have a choice of using the bus or other travel means.

As you know, the existing bus service is a one bus working but the vehicle cycle is fairly tight; adding the extra resource to serve Lincolnshire Lakes will actually help punctuality. Although there will only be a small increase in mileage, the extra time required to deliver the extended route will require an additional bus and driver resource; the additional cost will be circa £240k per year and this sum will need indexing linking to inflation to maintain its value until the delivery date of the scheme. The cost can be offset by any generated revenue from the revised service.

There will need to be some capital provision for new bus stop and shelter infrastructure.

Also, we probably need to reserve an amount for publicity and marketing. New home welcome packs cost around £5 to produce; these usually contain complimentary vouchers for some weekly tickets to encourage new residents to try the bus service; a Scunthorpe Megarider is currently £18, and a Megarider Connect valid for the whole Service 35 route is £31.

I hope all the above helps but if you have any queries, please let me know.

Kind regards

Dave

Dave Skepper

Commercial Director

Stagecoach East Midlands
Warneford House
Runcorn Road
LINCOLN
LN6 3QP
dave.skepper@stagecoachbus.com
T : 01522 663500
M: 07720 696021

From: James Lawson <James.Lawson@northlincs.gov.uk>
Sent: 10 December 2024 09:37
To: Dave Skepper <Dave.Skepper@stagecoachbus.com>
Cc: Jenny Couch <Jenny.Couch@northlincs.gov.uk>; Abigail Burridge <Abigail.Burridge@northlincs.gov.uk>
Subject: Lincolnshire Lakes Development

Good morning, Dave

I wanted to update you on the recent meeting regarding the Lincolnshire Lakes development.

This phase of the development will include 550 homes, but access will initially be limited to the M181 roundabout. Access from Scotter Road is not expected for several years. The development will feature bus stops and a turning circle.

The anticipated opening for this development is late 2026 to early 2027.

Given this, it seems logical to extend the 35 route (see attached Site Plan).

Could you please provide an initial estimate for this extension? Let's say we do all runs to and from the new estate. May provide an opportunity to extend operating hours to 6-7PM.

I need to submit costings and proposals by the new year if possible.

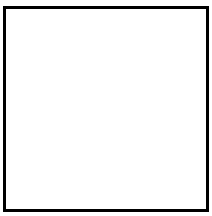
I also welcome any alternative proposals you might have.

Kind regards

James Lawson
Senior Public Transport Officer
North Lincolnshire Council
Communities

01724 296946

This e-mail expresses the opinion of the author and is not necessarily the view of the Council. Please be aware that anything included in an e-mail may have to be disclosed under the Freedom of Information Act and cannot be regarded as confidential. This communication is intended for the address(es) only. Please notify the sender if received in error. All Email is monitored and recorded. Please think before you print- North Lincolnshire Council greening the workplace.



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Appendix 5: Emergency Services Responses

Jack Lindsay

From: Hodgkinson Anthony <Anthony.Hodgkinson@emas.nhs.uk>
Sent: 16 June 2025 09:38
To: Jack Lindsay
Cc: Skarratts Dan
Subject: RE: Application PA/2025/254 Lincolnshire Lakes North - Emergency services feedback request.

Follow Up Flag: Follow up
Flag Status: Flagged

Good morning Jack, sorry for the delay in replying.

Our biggest concern is that if there is only a single road into the estate what happens if that road is closed. This would affect all road users though and not just us / other emergency services.

Regards,

#hello my name is…

Anthony Hodgkinson MBA CMgr FCMI
He/Him
Divisional Senior Manager – Planning
Lincolnshire Division

East Midlands Ambulance Service NHS Trust
Lincolnshire Divisional HQ
Cross O'Cliff Court
Bracebridge Heath
Lincoln
LN4 2HL
www.emas.nhs.uk

NHS East Midlands Ambulance Service NHS Trust

Telephone : 07385085454

Email address:
anthony.hodgkinson@emas.nhs.uk

ISSI:8509116 C/S: LN06

Respond | Develop | Collaborate

From: Jack Lindsay <Jack.Lindsay@bwbconsulting.com>
Sent: 05 June 2025 08:52
To: SAR <SAR@emas.nhs.uk>
Subject: FW: Application PA/2025/254 Lincolnshire Lakes North - Emergency services feedback request.

Good morning,

Further to the below, we've had feedback from the fire service which is great. If we could get feedback from the NHS that would also be very much appreciated. (Fundamentally just any comments on the single point of vehicular access query.

Kind regards

Jack Lindsay (BA)Hons MSc MCIHT
Associate – Transport and Accessibility Planning
5th Floor, Waterfront House, Station Street, Nottingham, NG2 3DQ
T: 0115 924 1100 | **M:** 07442 283286 | **W:** bwbconsulting.com

---

From: Jack Lindsay
Sent: 23 May 2025 15:19
To: businesssafetynl@humbersidefire.gov.uk; sar@emas.nhs.uk
Cc: Olivier Sanga <Olivier.Sanga@bwbconsulting.com>
Subject: Application PA/2025/254 Lincolnshire Lakes North - Emergency services feedback request.

Good afternoon,

We are currently supporting a planning application for circa 600 dwellings and a local centre, application reference PA/2025/254, known as Lincolnshire Lakes Phase 1. The illustrative masterplan is attached.

The local highway authority has recommended that we seek feedback from the emergency services to confirm they are content with the principle of the vehicle access proposals (LHA feedback attached).

Ultimately the site will be served by a single point of vehicular access off the M181 roundabout to the west. A 7.3m wide spine road will be constructed that provides access to the minor arms (and onwards to resi plots / the local centre).

Do the emergency services have any comments on the suitability of the single point of vehicular access?

Although not part of this phase of development, a future phase will complete the east-west connection with Scotter Road.

I've attached more detailed drawings of the highway arrangement FYI (note that the drawings state Phase 1 and 2, but both of these elements come forward as part of 'Lincolnshire Lakes Phase 1').

I look forward to hearing from you.

Kind regards

Jack Lindsay (BA)Hons MSc MCIHT
Associate – Transport and Accessibility Planning
5th Floor, Waterfront House, Station Street, Nottingham, NG2 3DQ
T: 0115 924 1100 | **M:** 07442 283286 | **W:** bwbconsulting.com

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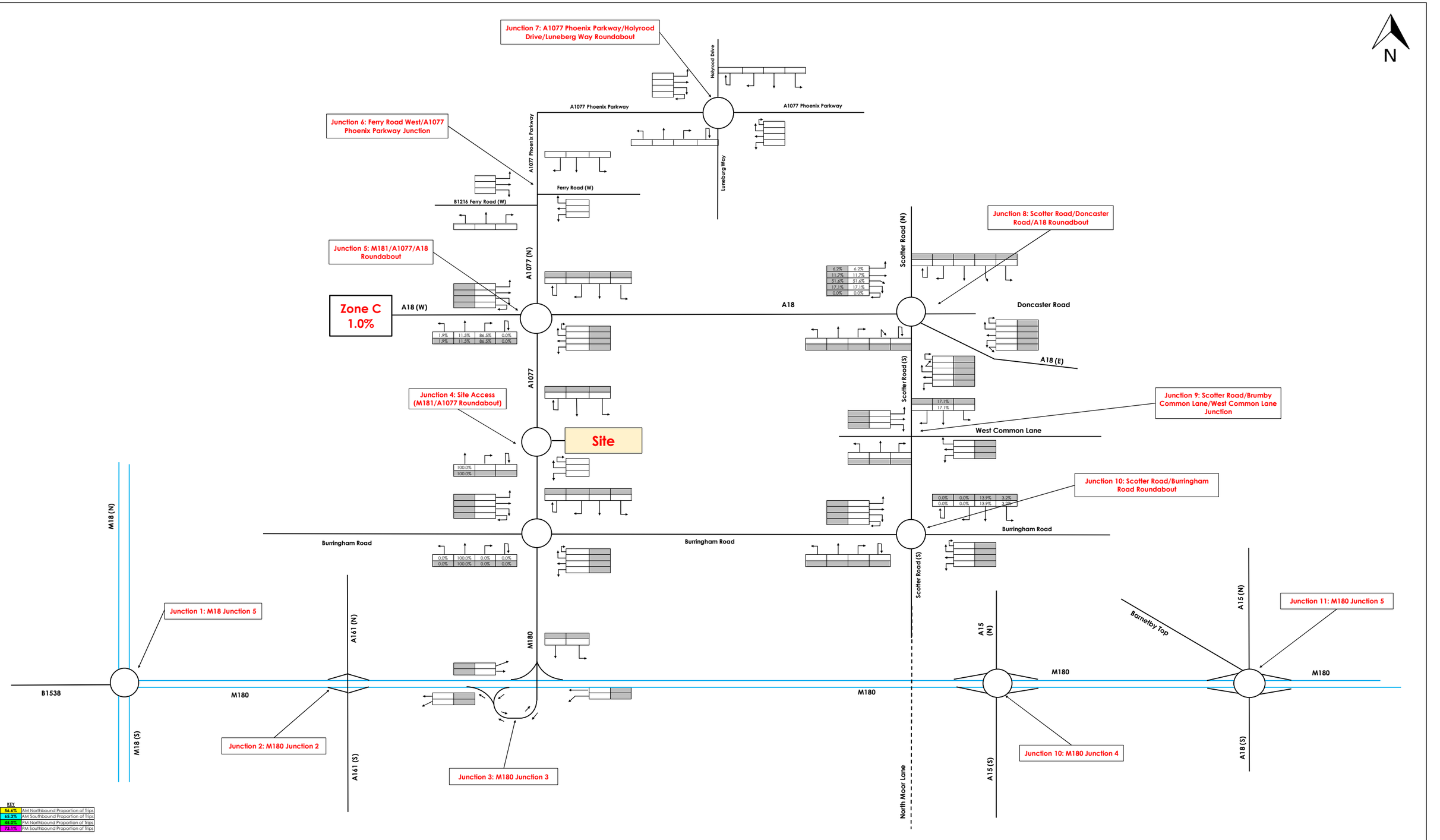
Appendix 6: Distribution Calculations



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Project	Lincolnshire Lakes, Scunthorpe
Drawn	RW
Checked	JL
Approved	JL
Date	17/01/25

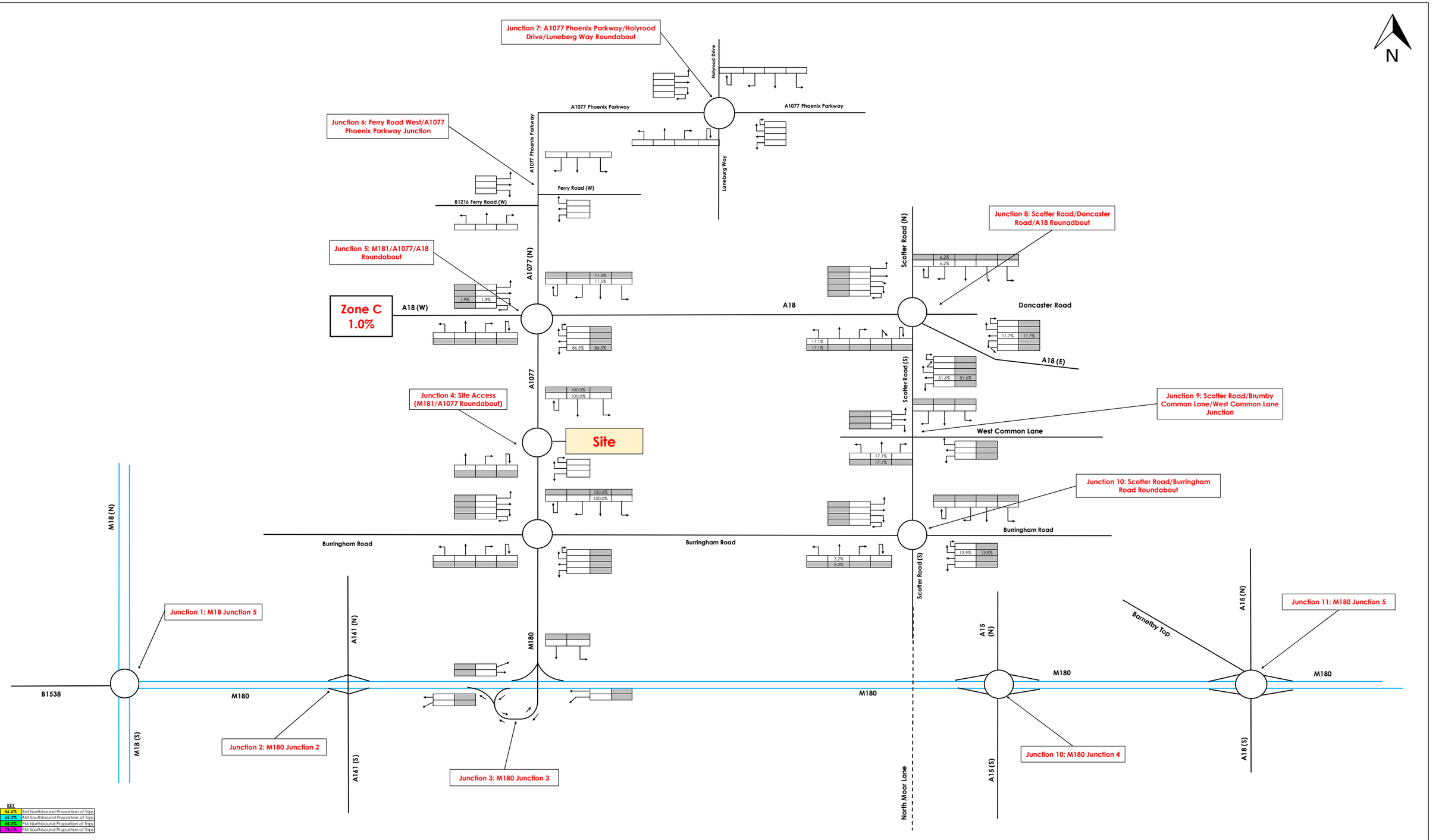
Drawing Title

Diagram 1

Burringham Rd Roundabout Impact - Existing Northbound Distribution Pattern (%)

Project Number

221638



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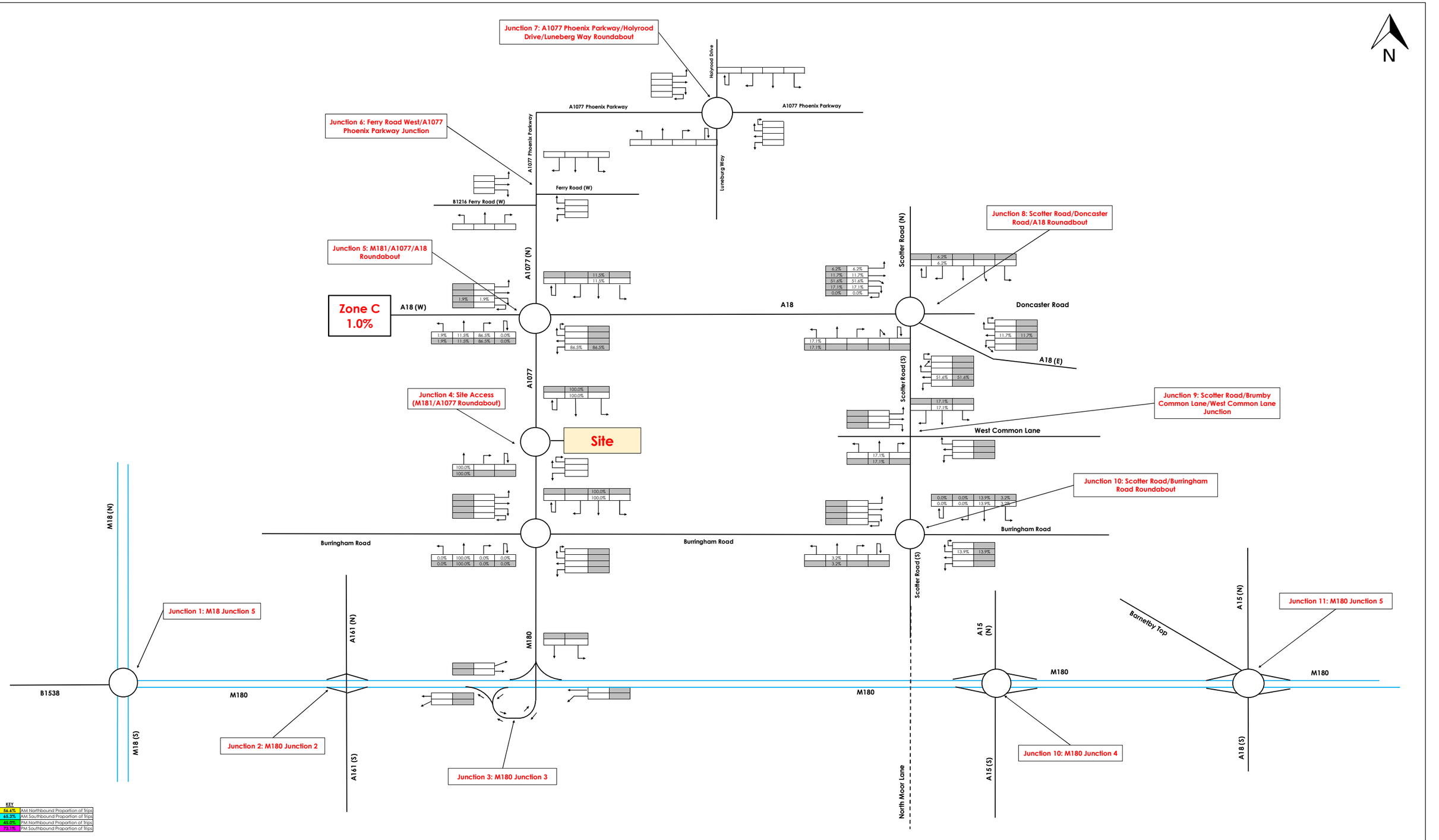
Drawing Title

Diagram 2

Burringham Rd Roundabout Impact - Existing Southbound Distribution Pattern (%)

Project Number

221638



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Project	Lincolnshire Lakes, Scunthorpe
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Date	17/01/25

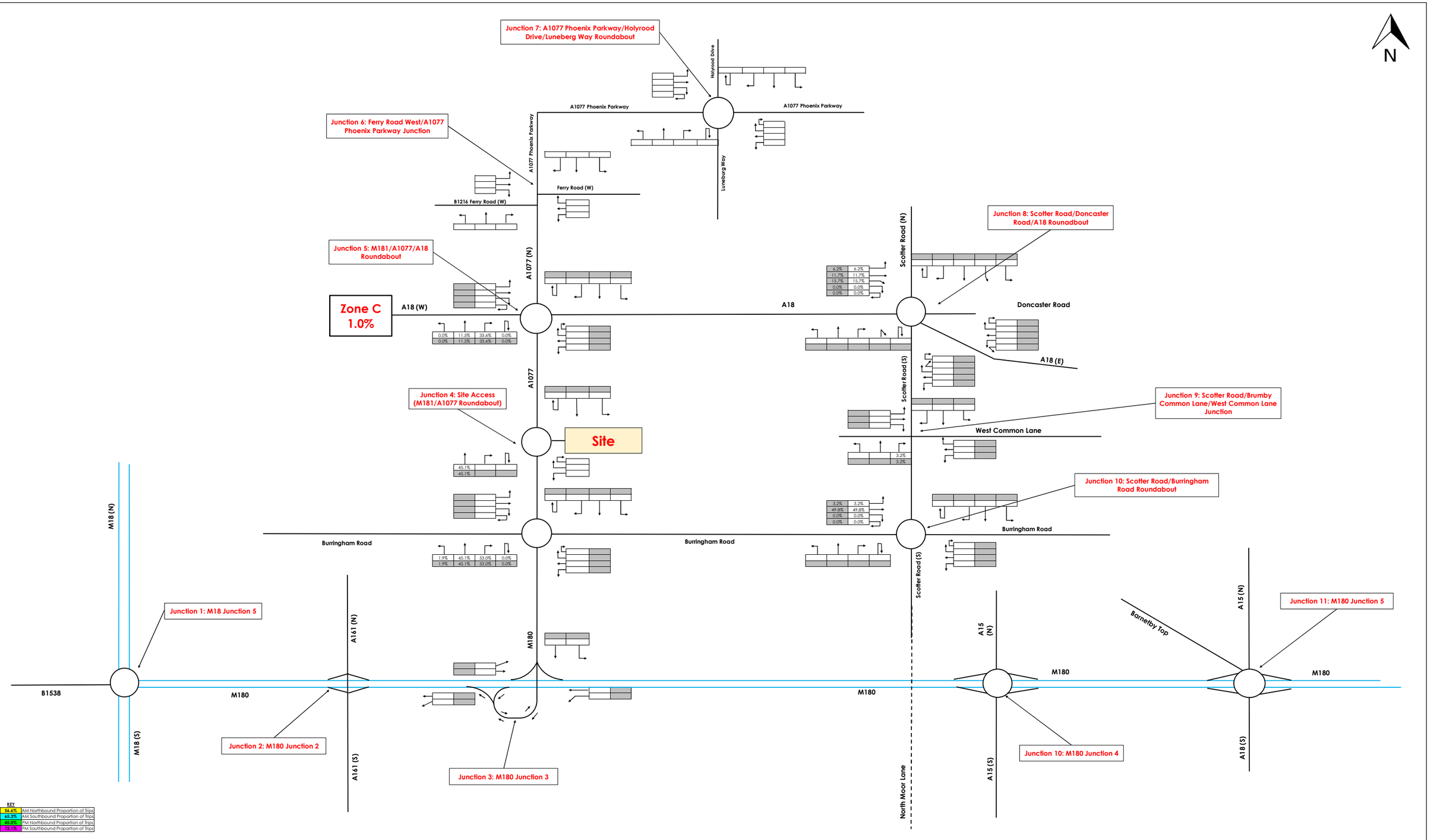
Drawing Title

Diagram 3

Burringham Rd Roundabout Impact - Existing Distribution Pattern (%)

Project Number

221638



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Project	Lincolnshire Lakes, Scunthorpe
Drawn	RW
Checked	JL
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Date	17/01/25

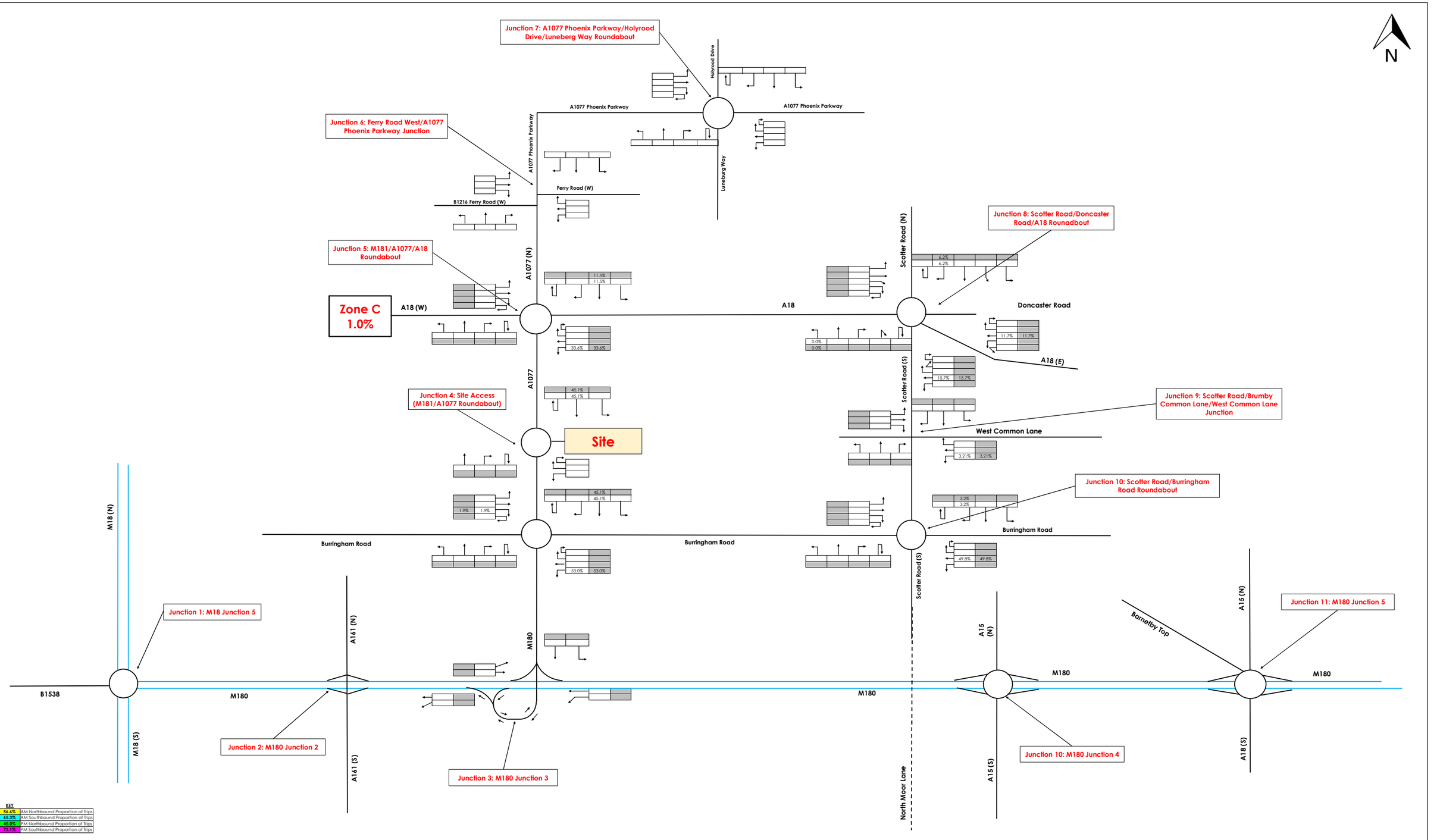
Drawing Title

Diagram 4

Burringham Rd Roundabout Impact - Proposed Northbound Distribution Pattern (%)

Project Number

221638



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Project	Lincolnshire Lakes, Scunthorpe
Drawn	RW
Checked	JL
Approved	JL
Date	17/01/25

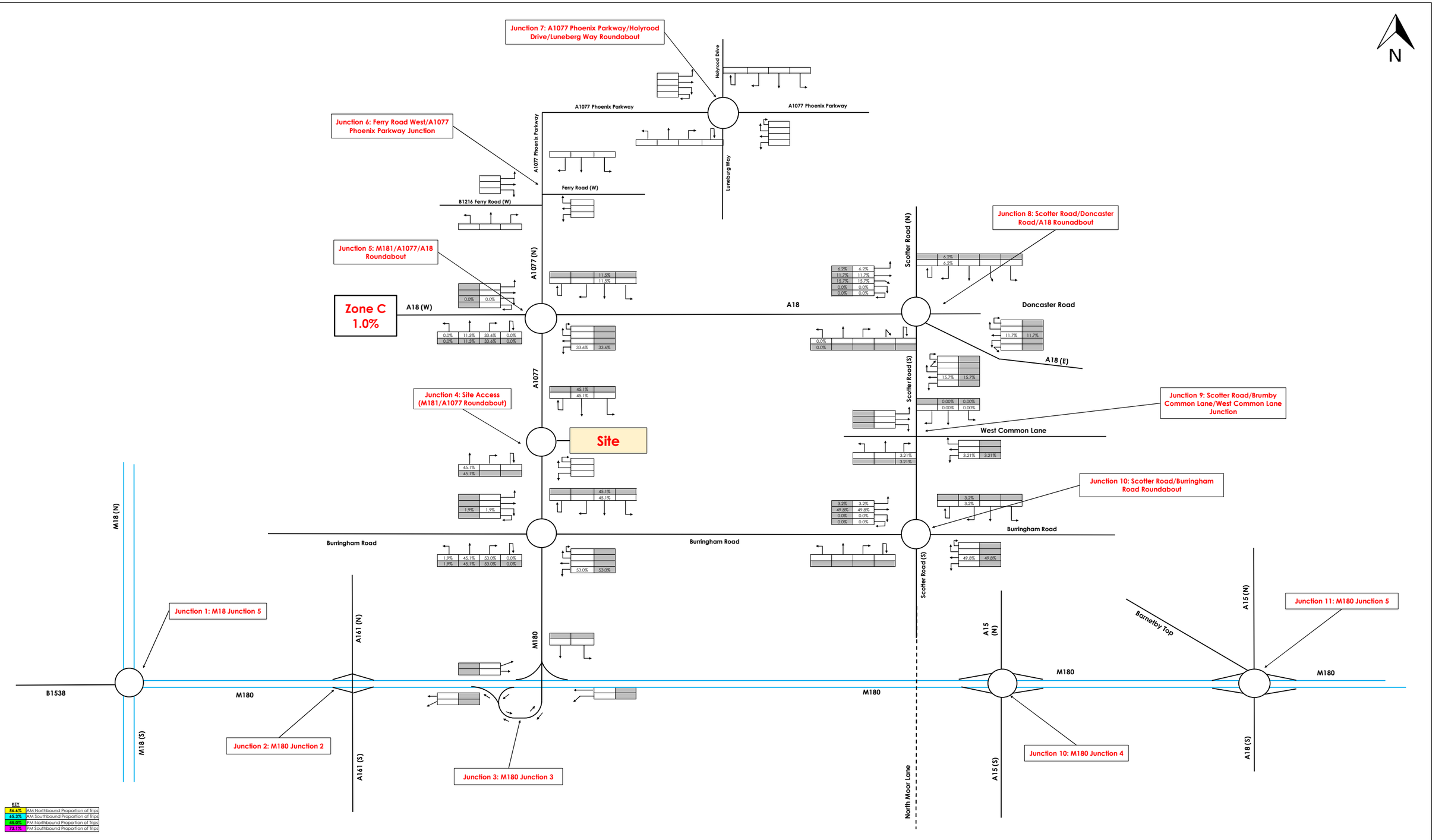
Drawing Title

Diagram 5

Burringham Rd Roundabout Impact - Proposed Southbound Distribution Pattern (%)

Project Number

221638



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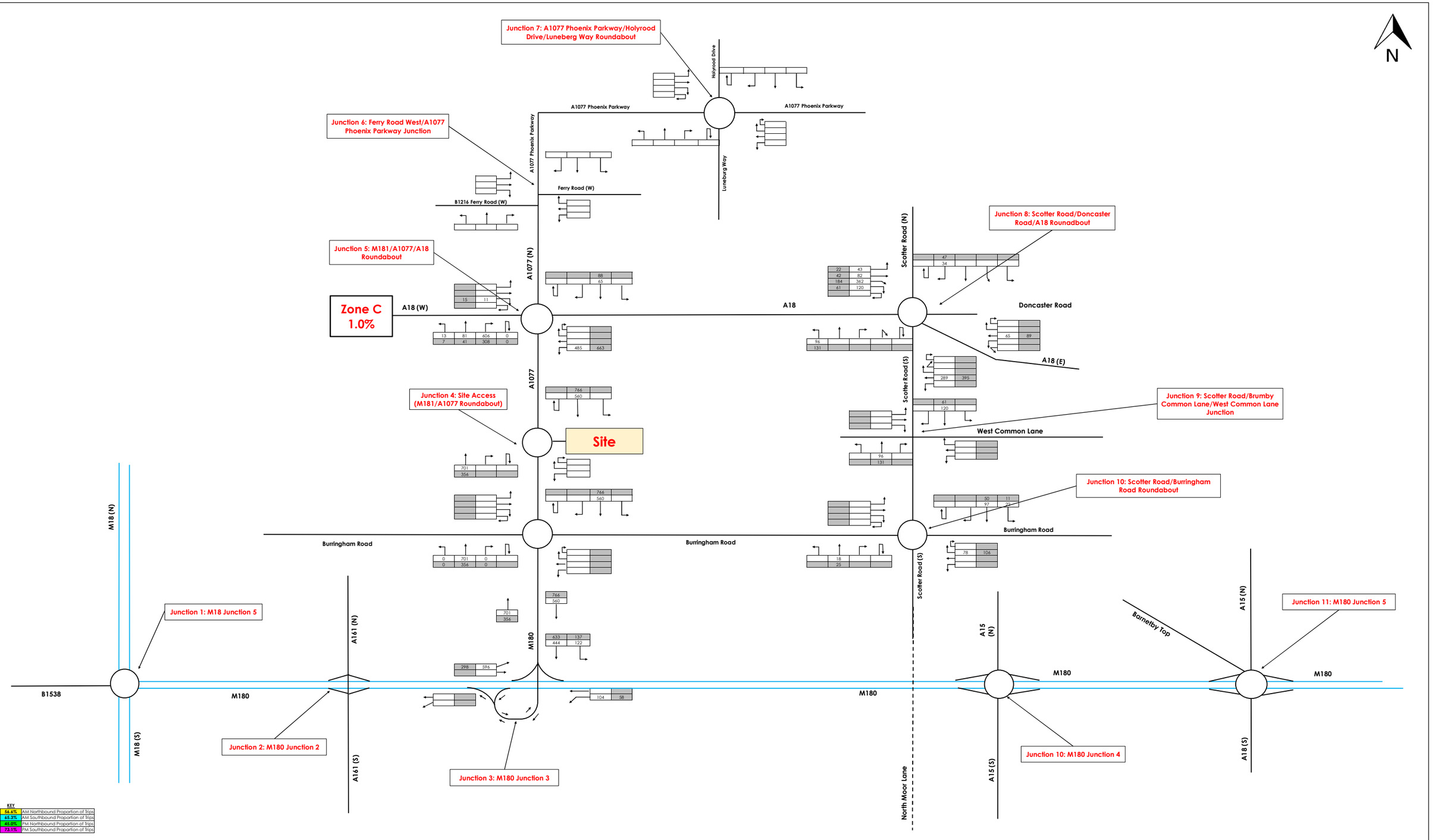
Project
Lincolnshire Lakes, Scunthorpe

Drawn	RW
Checked	JL
Approved	JL
Date	17/01/25

Drawing Title
Diagram 6
Burringham Rd Roundabout Impact - Proposed Distribution Pattern (%)

Project Number
221638



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Project	Lincolnshire Lakes, Scunthorpe
Drawn	RW
Checked	JL
Approved	JL
Date	17/01/25

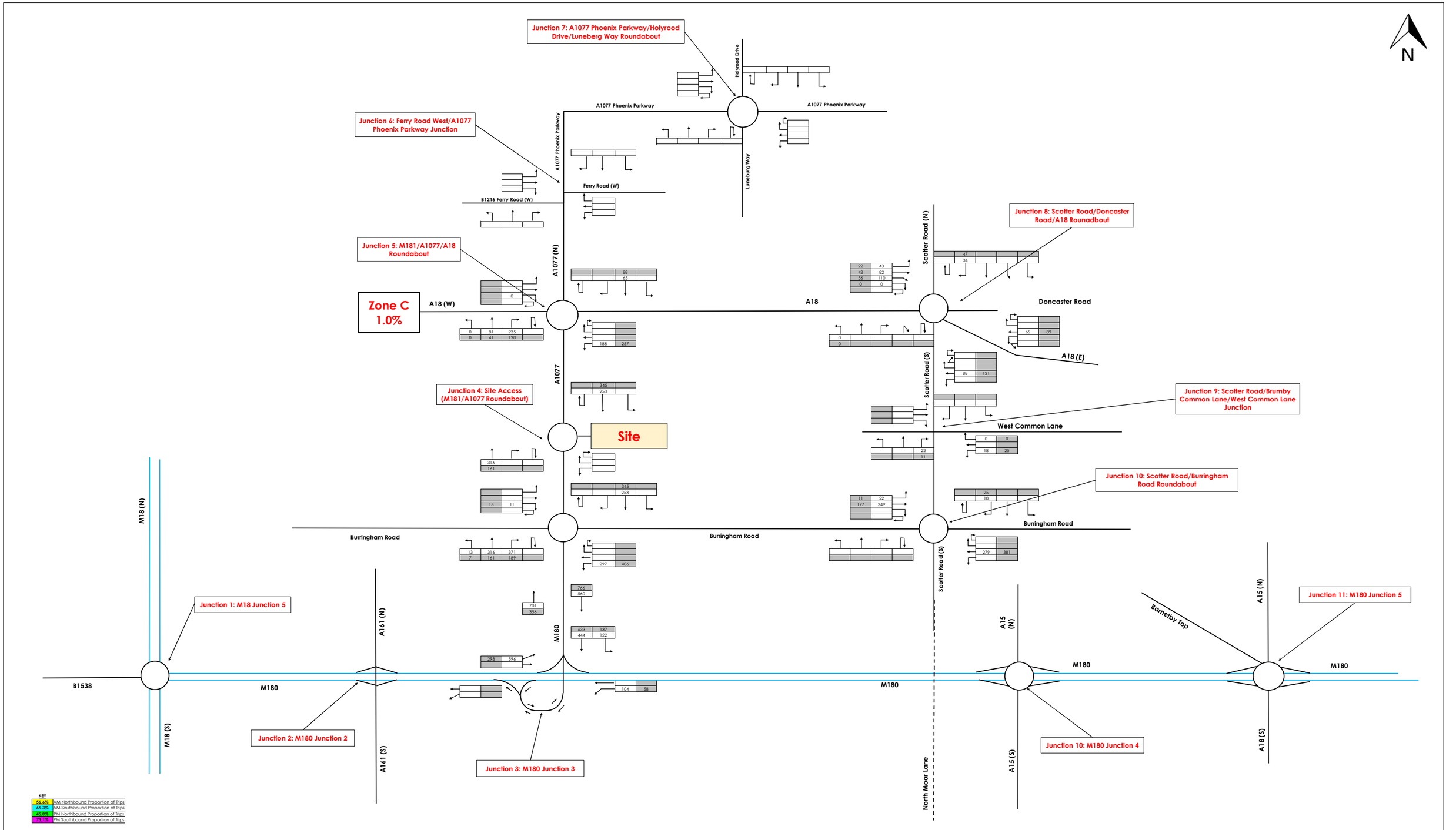
Drawing Title

Diagram 7

2024 Base Flows (Vehicles) - Existing

Project Number

221638



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Project	Lincolnshire Lakes, Scunthorpe
Drawn	RW
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Date	17/01/25

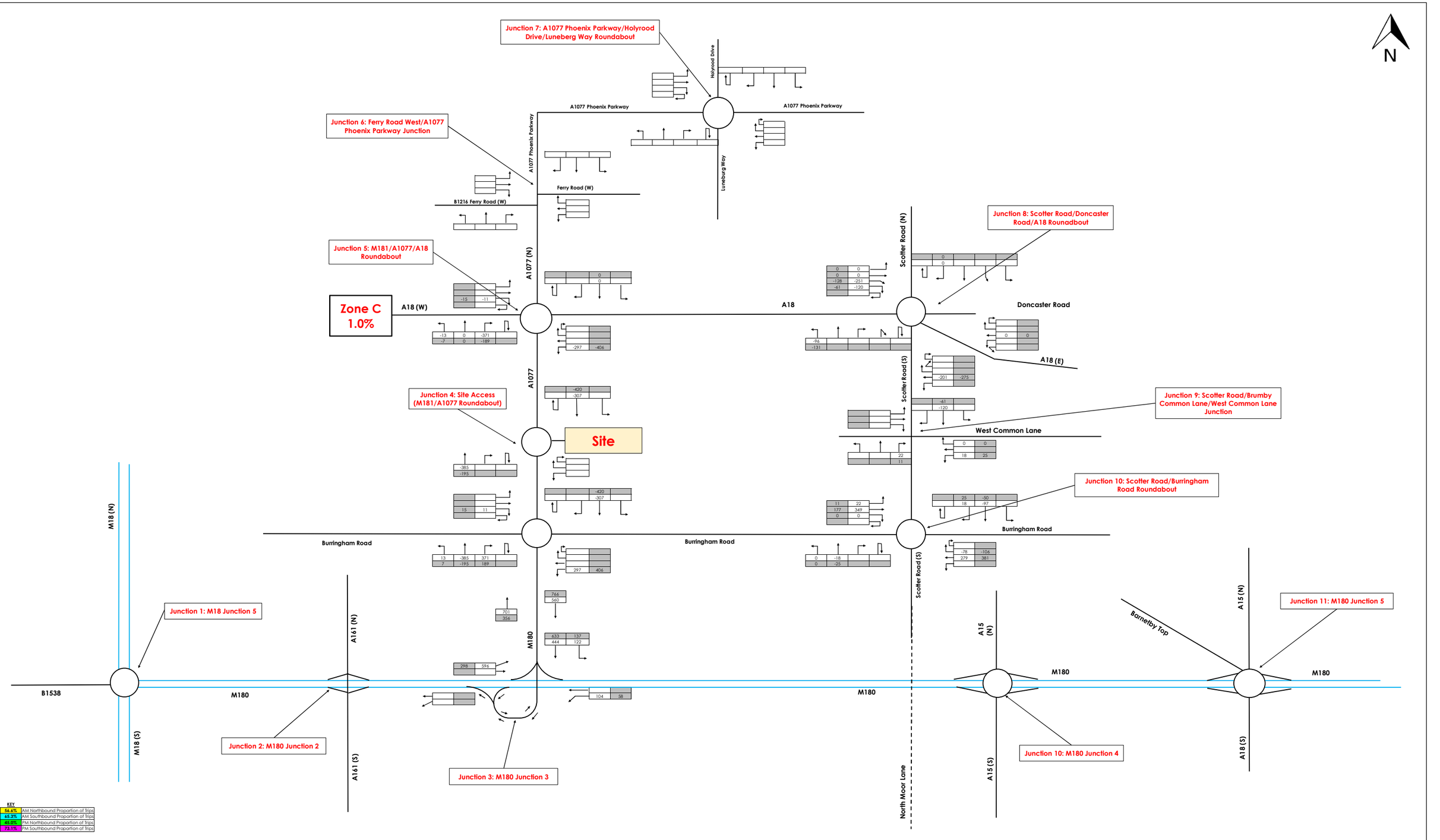
Drawing Title

Diagram 8

2024 Base Flows (Vehicles) - Burringham Rd Roundabout Impact

Project Number

221638



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Project	Lincolnshire Lakes, Scunthorpe
Drawn	RW
Checked	JL
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Date	17/01/25

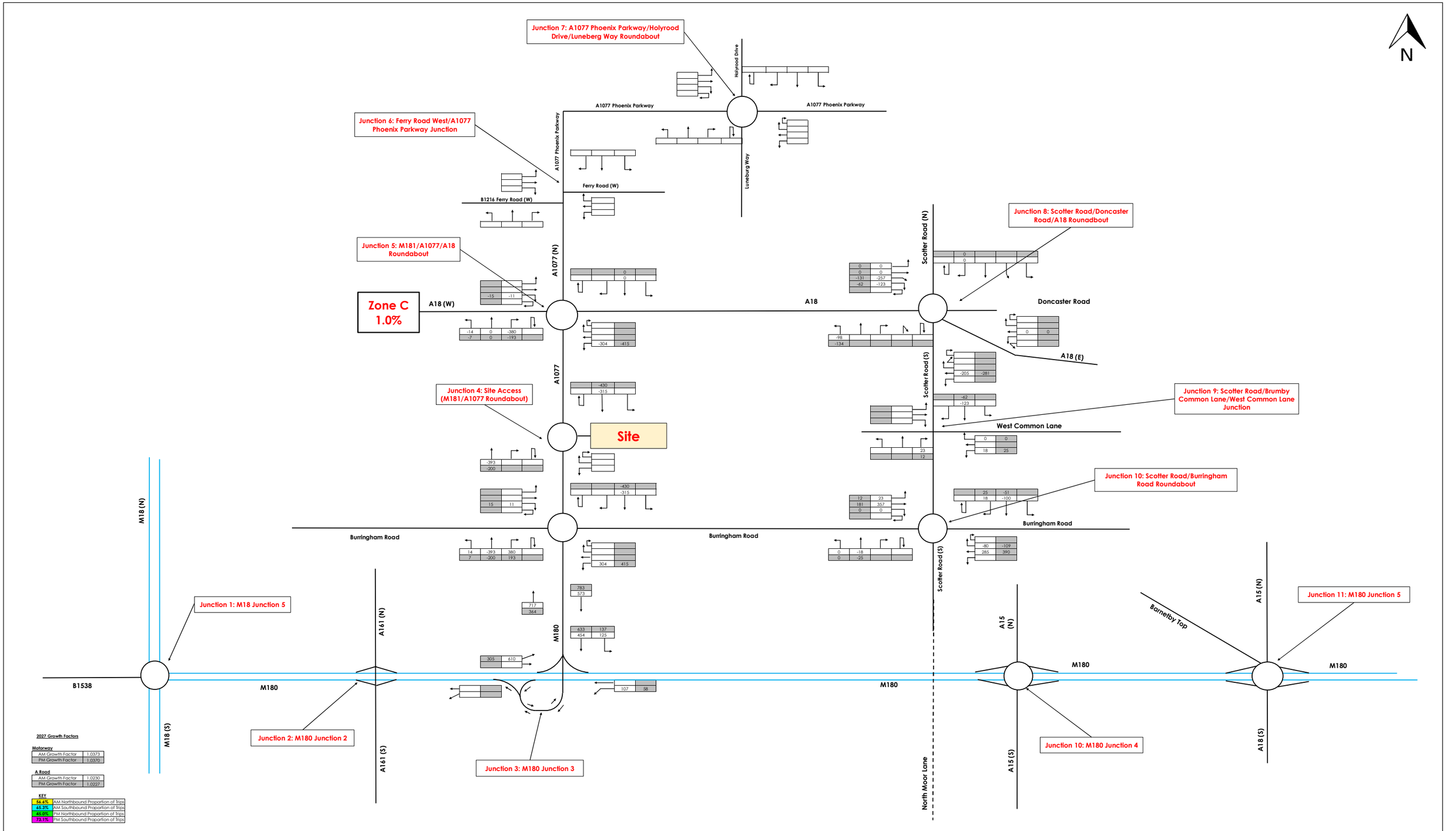
Drawing Title

Diagram 9

2024 Base Flows (Vehicles) - Burringham Rd Roundabout Impact on Traffic Flow

Project Number

221638



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Project	Lincolnshire Lakes, Scunthorpe
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Date	17/01/25

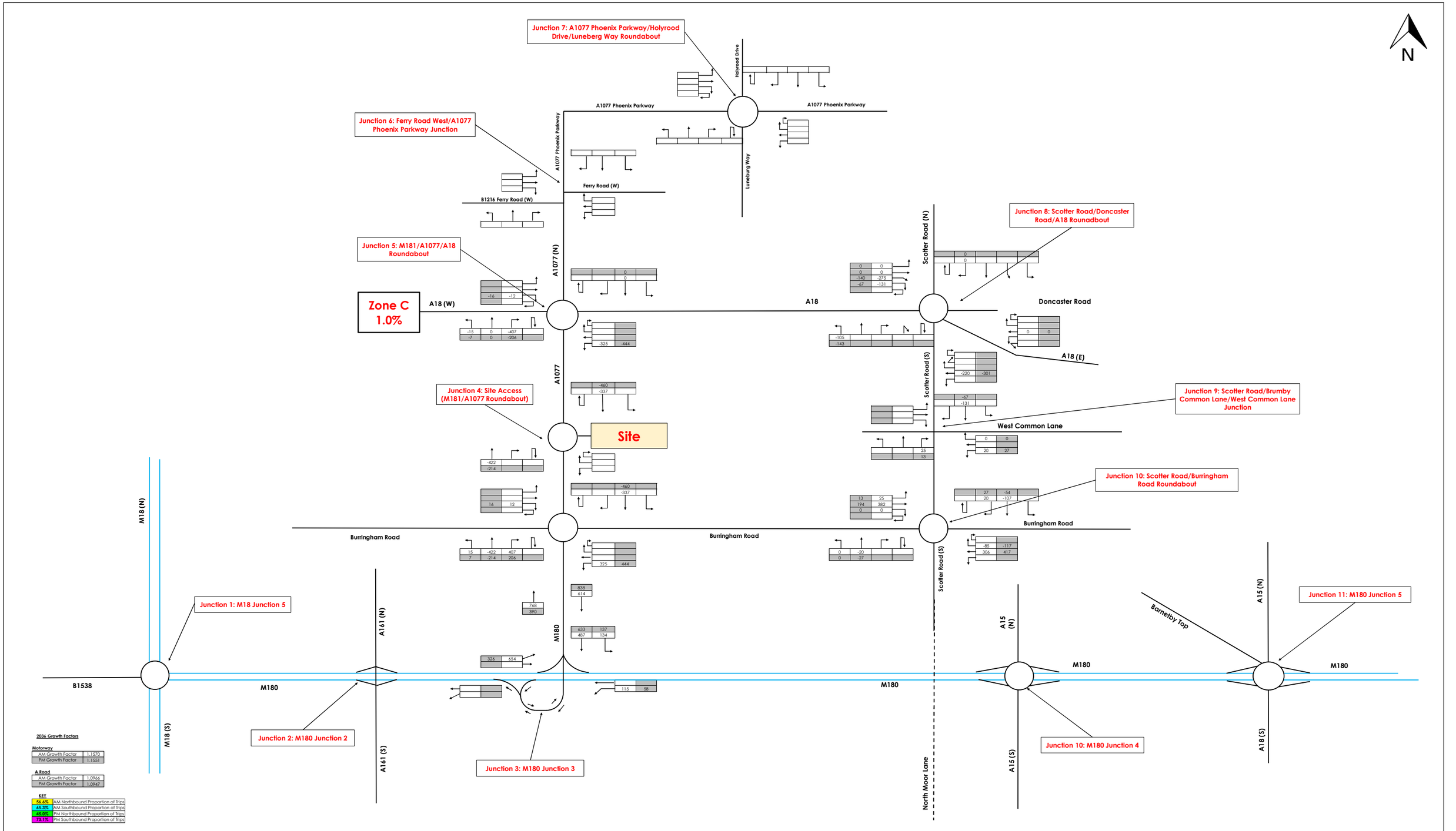
Drawing Title

Diagram 10

2027 Base Flows (Vehicles) - Burringham Rd Roundabout Impact on Traffic Flow

Project Number

221638



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Project	Lincolnshire Lakes, Scunthorpe
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Checked	JL
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Date	17/01/25

Drawing Title

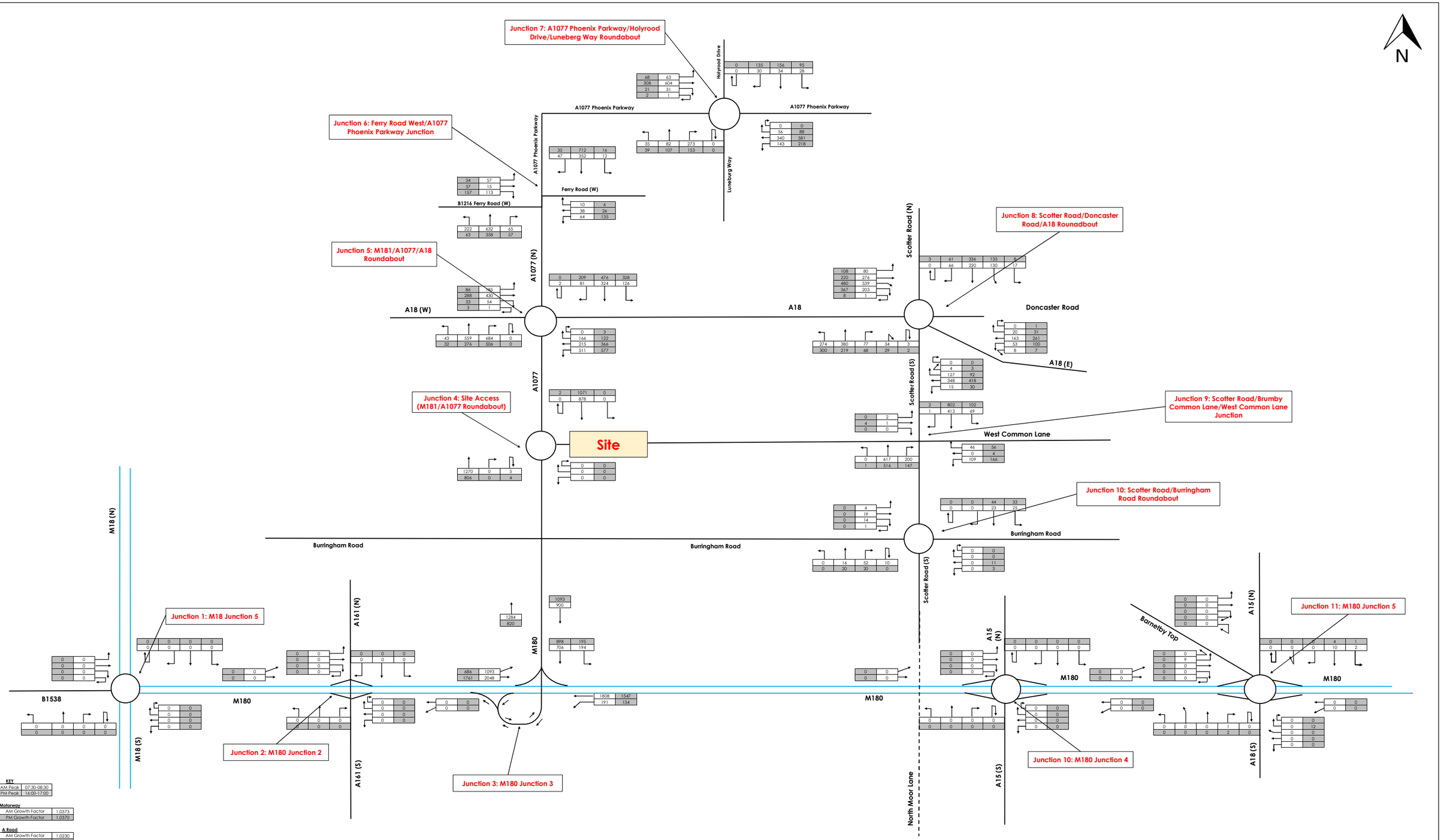
Diagram 11

2036 Base Flows (Vehicles) - Burringham Rd Roundabout Impact on Traffic Flow

Project Number

221638

Appendix 7: Burringham Road Roundabout Highway Assessment Scenario Traffic Flows



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Project	Lincolnshire Lakes, Scunthorpe
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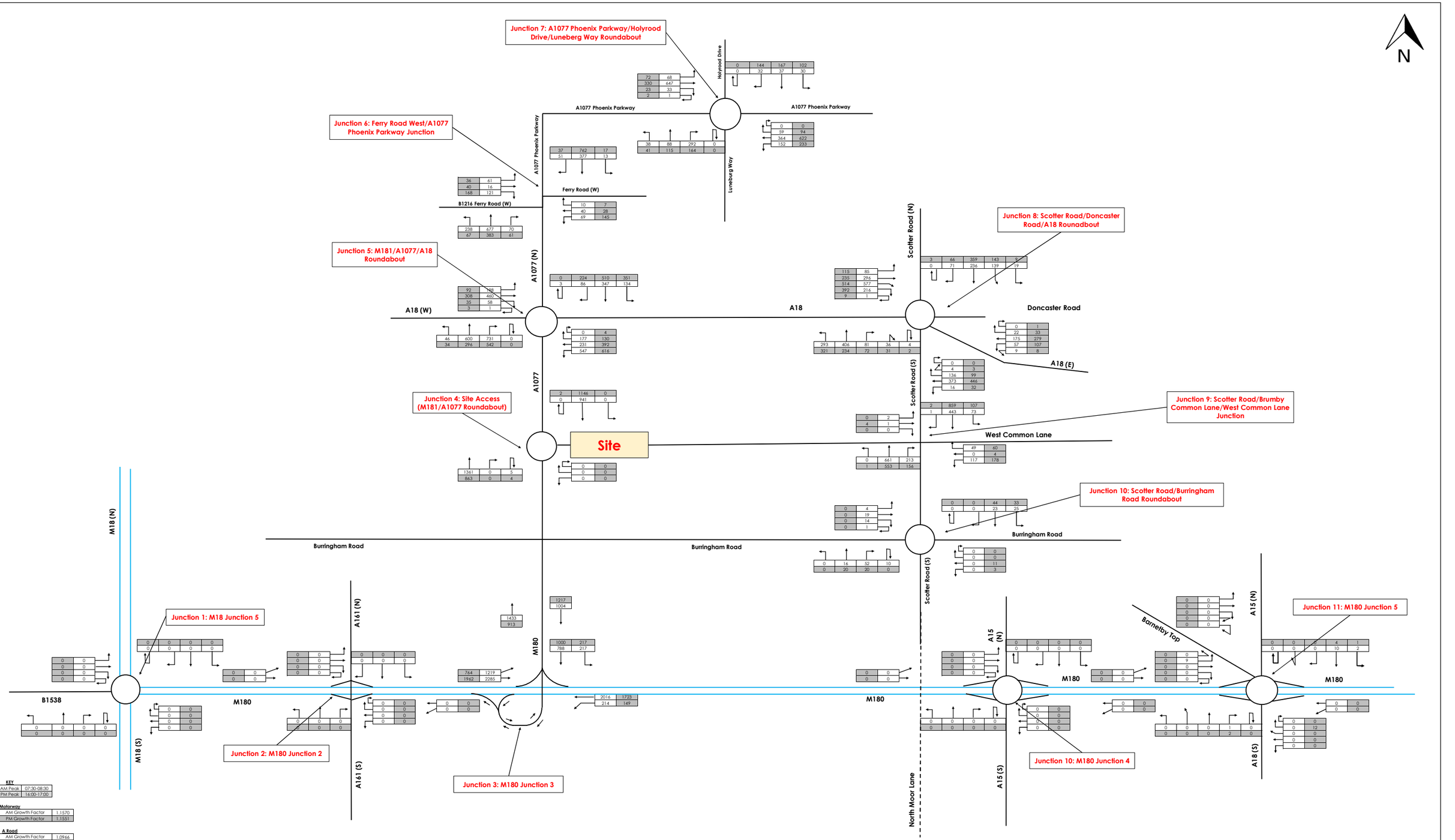
Drawing Title

Diagram 12

2027 Base Flows (PCUs) + Committed Developments (Excluding Maltgrade)

Project Number

221638



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Project	Lincolnshire Lakes, Scunthorpe
Drawn	RW
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Approved	JL
Date	17/01/25

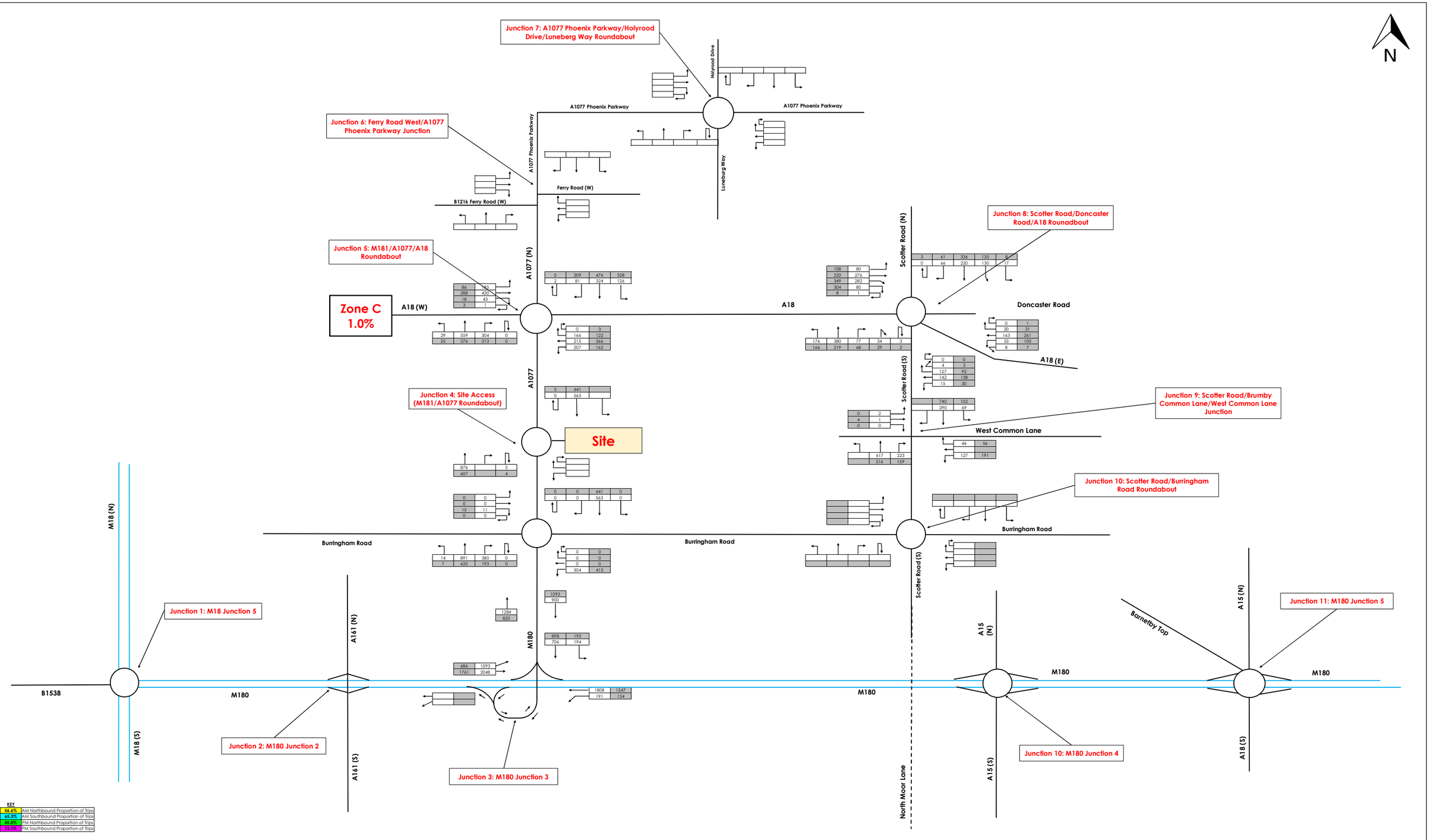
Drawing Title

Diagram 13

2036 Base Flows (PCUs) + Committed Developments (Excluding Maltgrade)

Project Number

221638



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Project
Lincolnshire Lakes, Scunthorpe

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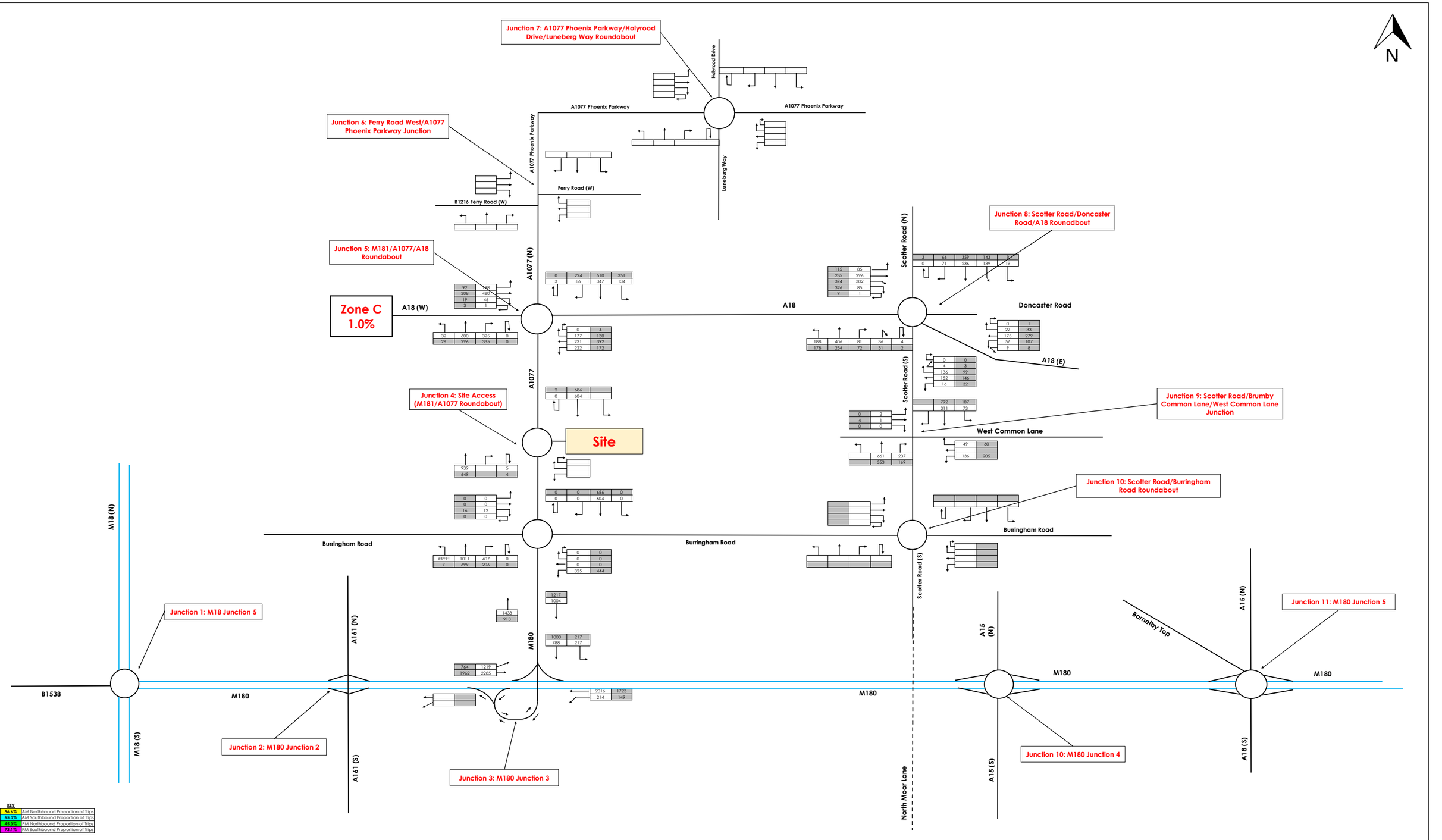
Drawing Title
Diagram 14
2027 Base + Com (Burringham Road Roundabout Impact Included)

Project Number
221638



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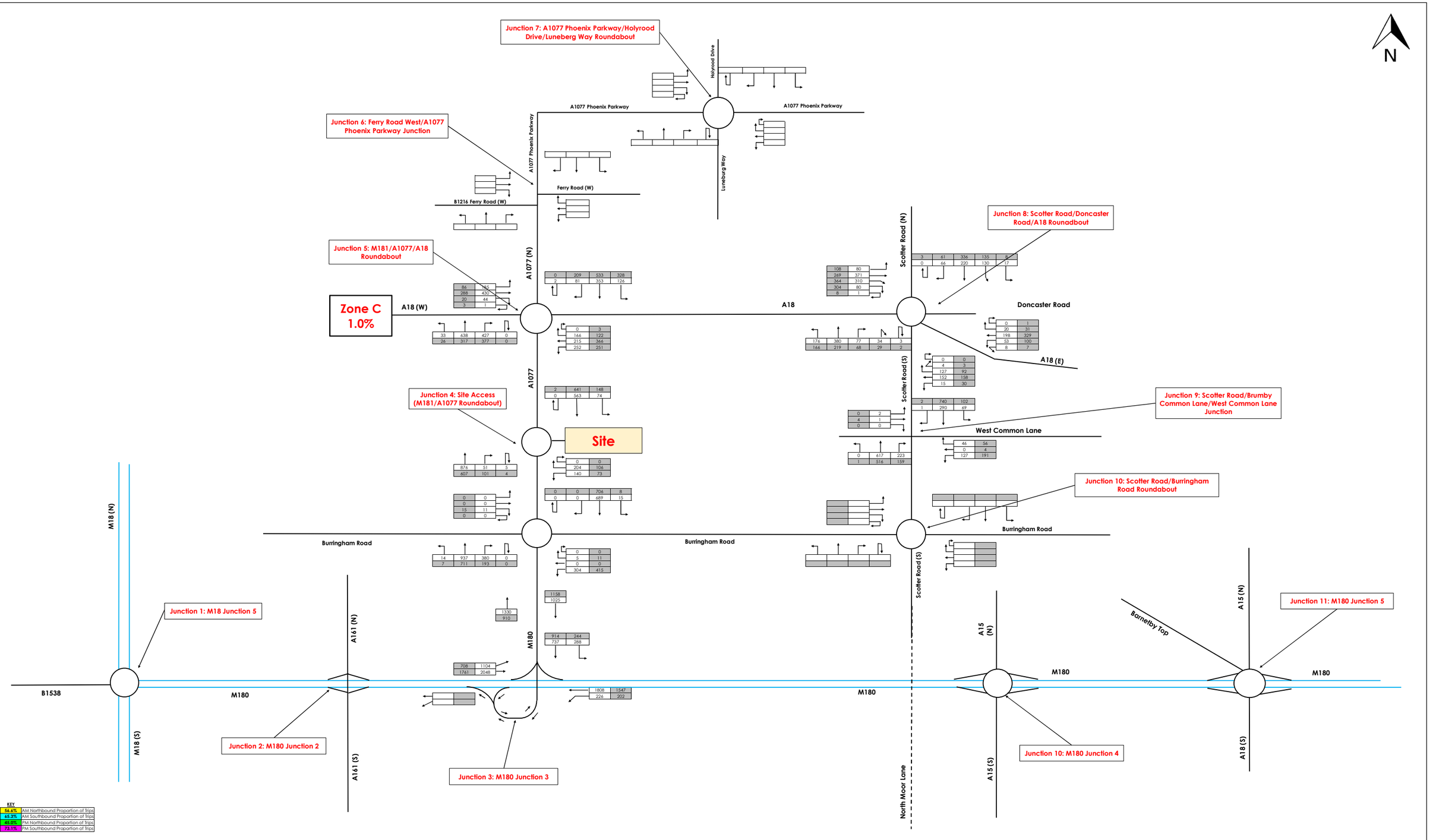
Date	17/01/25
Drawing Title	Diagram 15 2036 Base + Com (Burringham Road Roundabout Included)
Project Number	221638



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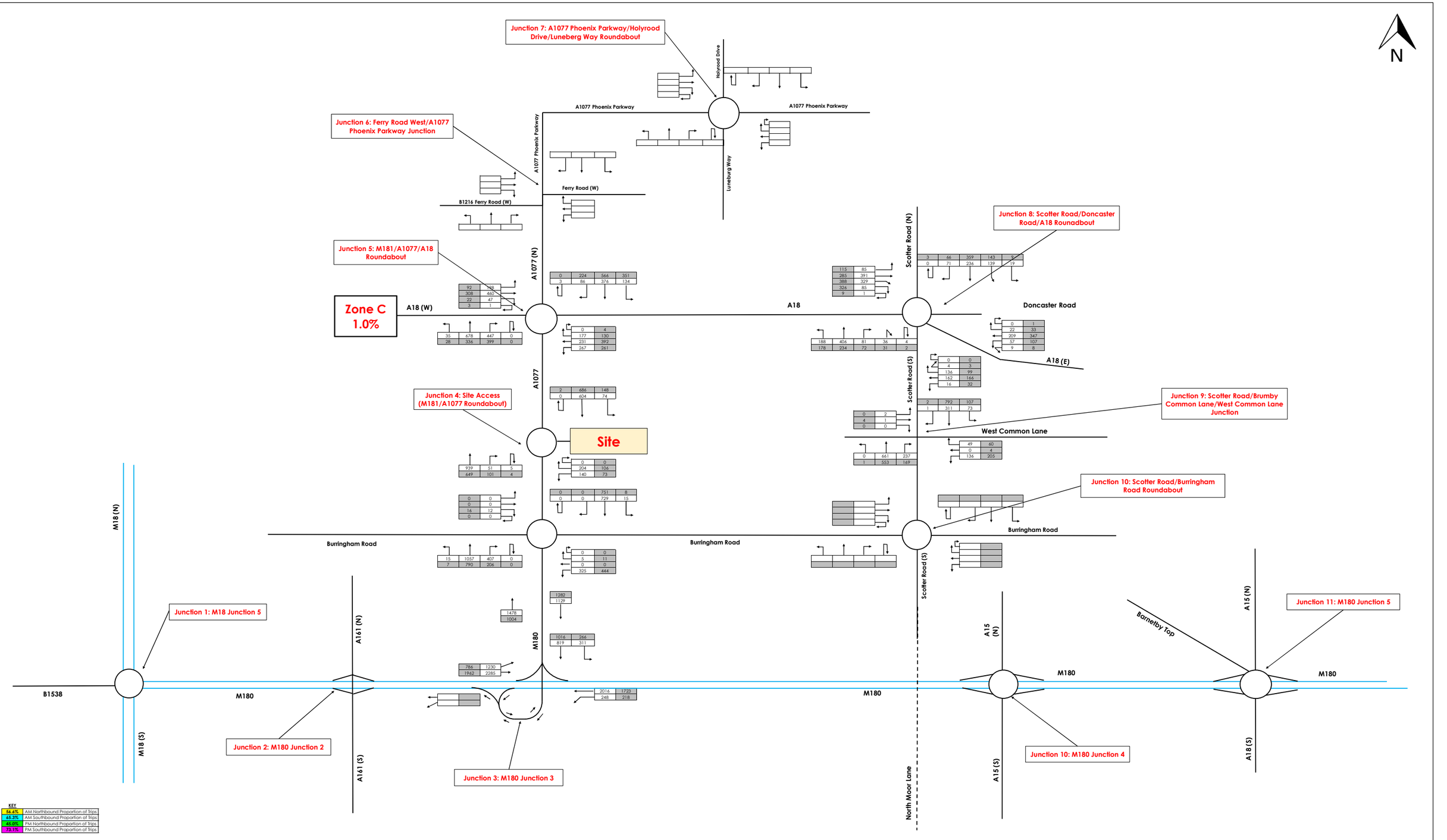
Drawing Title

Diagram 16

2027 Base + Com + Dev (Burringham Road Roundabout Impact Included)

Project Number

221638



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Project	Lincolnshire Lakes, Scunthorpe
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Date	17/01/25

Drawing Title

Diagram 17

2036 Base + Com + Dev (Burringham Road Roundabout Impact Included)

Project Number

221638

Appendix 8: Burringham Road Highway Assessment –JUNCTIONS 11 Output – J1 – Frodingham Grange Roundabout

Junctions 11

ARCADY 11 - Roundabout Module

Version: 11.0.0.2177

For sales and distribution information, program advice and maintenance, contact TRL Software:
+44 (0)1344 379777 software@trl.co.uk trlsoftware.com

Filename: Frodingham Grange Roundabout - Burringham Road Roundabout Impact v.1 RW.j11
Path: \\?\J:\2022\221638-Lincolnshire Lakes, Phase 1\ProjectDelivery\01-WIP\DesignAndCalculations\Transport\Junction Modelling\TAA Addendum\Burringham Road Roundabout Impact\J3 - Frodingham Grange Roundabout
Report generation date: 03/07/2025 15:24:17

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	[Lane Simulation] - 2027 - Base + Committed									
1 - A18 Doncaster Road (E)	D1	3.0	8.78	0.41	A	D2	8.6	24.08	0.64	C
2 - A1077 (S)		6.2	15.56	0.64	C		2.6	10.41	0.43	B
3 - A18 Doncaster Road (W)		1.3	7.68	0.47	A		0.7	4.63	0.25	A
4 - A1077 (N)		2.2	8.64	0.37	A		3.3	11.11	0.63	B
	[Lane Simulation] - 2027 - Base + Committed (Burr Road Rdbt Impact)									
1 - A18 Doncaster Road (E)	D3	1.4	4.72	0.26	A	D4	1.4	5.92	0.33	A
2 - A1077 (S)		3.6	11.82	0.45	B		1.6	8.68	0.35	A
3 - A18 Doncaster Road (W)		1.6	5.92	0.40	A		0.7	4.42	0.23	A
4 - A1077 (N)		1.2	7.44	0.33	A		3.0	10.10	0.59	B
	[Lane Simulation] - 2027 - Base + Committed + Development (Burr Road Rdbt Impact)									
1 - A18 Doncaster Road (E)	D5	1.0	4.81	0.27	A	D6	1.9	6.67	0.38	A
2 - A1077 (S)		4.9	13.95	0.54	B		1.8	9.30	0.38	A
3 - A18 Doncaster Road (W)		1.5	6.42	0.44	A		0.6	4.31	0.23	A
4 - A1077 (N)		1.6	7.91	0.35	A		4.0	10.64	0.61	B
	[Lane Simulation] - 2036 - Base + Committed									
1 - A18 Doncaster Road (E)	D7	2.8	10.49	0.45	B	D8	12.8	35.57	0.68	E
2 - A1077 (S)		8.9	18.15	0.69	C		3.4	12.04	0.49	B
3 - A18 Doncaster Road (W)		2.1	8.40	0.51	A		0.7	4.92	0.27	A
4 - A1077 (N)		2.2	9.38	0.40	A		4.1	13.27	0.69	B
	[Lane Simulation] - 2036 - Base + Committed (Burr Road Rdbt Impact)									
1 - A18 Doncaster Road (E)	D9	1.2	5.04	0.28	A	D10	1.5	6.39	0.34	A
2 - A1077 (S)		5.0	13.18	0.51	B		2.0	8.93	0.37	A
3 - A18 Doncaster Road (W)		1.5	6.51	0.45	A		0.6	4.32	0.23	A
4 - A1077 (N)		1.6	7.75	0.37	A		3.5	10.49	0.62	B
	[Lane Simulation] - 2036 - Base + Committed + Development (Burr Road Rdbt Impact)									
1 - A18 Doncaster Road (E)	D11	1.2	5.22	0.29	A	D12	1.7	7.83	0.40	A
2 - A1077 (S)		6.1	16.54	0.58	C		2.1	9.61	0.41	A
3 - A18 Doncaster Road (W)		2.0	7.23	0.48	A		0.7	4.71	0.25	A
4 - A1077 (N)		1.7	8.06	0.39	A		4.3	11.86	0.68	B

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

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Arm and junction delays are averages for all movements, including movements with zero delay.

File summary

File Description

Title	Frodingham Grange Rdbt
Location	Scunthorpe
Site number	P3
Date	05/12/2024
Version	P1
Status	For Submission
Identifier	JL
Client	Hargreaves Land
Jobnumber	221638
Enumerator	BWB\Robert.Wickenden
Description	

Units

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

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use simulation for HCM roundabouts	Use iterations for HCM roundabouts
5.75						0.85	36.00	20.00		

Lane Simulation options

Criteria type	Stop criteria (%)	Stop criteria time (s)	Stop criteria number of trials	Calculate RFCs	Relaxation factor for capacity/RFC runs	Random seed	Results refresh speed (s)	Individual vehicle animation number of trials	Average animation capture interval (s)	Use quick response	Do flow sampling	Suppress automatic lane creation	Last run random seed	Last run number of trials
Delay	1.00	100000	100000	Calculate for all arms	3.00	-1	3	1	60	✓			1552946070	43

Demand Set Summary

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2027	Base + Committed	AM	ONE HOUR	07:45	09:15	15	✓
D2	2027	Base + Committed	PM	ONE HOUR	16:45	18:15	15	✓
D3	2027	Base + Committed (Burr Road Rdbt Impact)	AM	ONE HOUR	07:45	09:15	15	✓
D4	2027	Base + Committed (Burr Road Rdbt Impact)	PM	ONE HOUR	16:45	18:15	15	✓
D5	2027	Base + Committed + Development (Burr Road Rdbt Impact)	AM	ONE HOUR	07:45	09:15	15	✓
D6	2027	Base + Committed + Development (Burr Road Rdbt Impact)	PM	ONE HOUR	16:45	18:15	15	✓
D7	2036	Base + Committed	AM	ONE HOUR	07:45	09:15	15	✓
D8	2036	Base + Committed	PM	ONE HOUR	16:45	18:15	15	✓
D9	2036	Base + Committed (Burr Road Rdbt Impact)	AM	ONE HOUR	07:45	09:15	15	✓
D10	2036	Base + Committed (Burr Road Rdbt Impact)	PM	ONE HOUR	16:45	18:15	15	✓
D11	2036	Base + Committed + Development (Burr Road Rdbt Impact)	AM	ONE HOUR	07:45	09:15	15	✓
D12	2036	Base + Committed + Development (Burr Road Rdbt Impact)	PM	ONE HOUR	16:45	18:15	15	✓

Analysis Set Details

ID	Use Lane Simulation	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	✓	100.000	100.000

2027 | Base + Committed | AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	4 - A1077 (N) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Info	Simulation	A1 - [Lane Simulation]	This run uses Simulation mode. For detailed information on this mode, please see the User Guide.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	11.14	B

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	11.14	B

Arms

Arms

Arm	Name	Description	No give-way line
1	A18 Doncaster Road (E)		
2	A1077 (S)		
3	A18 Doncaster Road (W)		
4	A1077 (N)		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
1 - A18 Doncaster Road (E)	7.31	8.17	19.3	19.4	117.7	29.0		
2 - A1077 (S)	7.77	7.77	0.0	45.8	117.7	20.0		
3 - A18 Doncaster Road (W)	6.85	7.65	23.2	54.7	117.0	21.0		
4 - A1077 (N)	4.57	7.95	46.3	51.0	117.7	19.0		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final slope	Final intercept (PCU/hr)
1 - A18 Doncaster Road (E)	✓	0.350	2500	0.350	2500
2 - A1077 (S)				0.571	2501
3 - A18 Doncaster Road (W)				0.562	2437
4 - A1077 (N)				0.553	2365

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

Arm Capacity Adjustments

Arm	Type	Reason	Direct capacity adjustment (PCU/hr)
1 - A18 Doncaster Road (E)	Direct		100

Lane Simulation: Arm options

Arm	Lane capacity source	Traffic considering secondary lanes (%)
1 - A18 Doncaster Road (E)	Evenly split	10.00
2 - A1077 (S)	Evenly split	10.00
3 - A18 Doncaster Road (W)	Evenly split	10.00
4 - A1077 (N)	Evenly split	10.00

Lanes

Arm	Side	Lane level	Lane	Destination arms	Has limited storage	Storage (PCU)	Has bottleneck	Has obstruction	Minimum capacity (PCU/hr)	Maximum capacity (PCU/hr)	Signalised
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3		Infinity			0	99999	
			2	1, 4		Infinity			0	99999	
	Exit	1	1			Infinity					
2 - A1077 (S)	Entry	1	1	3, 4		Infinity			0	99999	
			2	1, 2		Infinity			0	99999	
	Exit	1	1			Infinity					
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4		Infinity			0	99999	
			2	1, 2, 3		Infinity			0	99999	
	Exit	1	1			Infinity					
4 - A1077 (N)	Entry	1	1	1, 2	✓	9.00			0	99999	
			2	2, 3, 4	✓	9.00			0	99999	
		2	1	(1, 2, 3, 4)		Infinity					
	Exit	1	1			Infinity					

Entry Lane slope and intercept

Arm	Side	Lane level	Lane	Final slope	Final intercept (PCU/hr)
1 - A18 Doncaster Road (E)	Entry	1	1	0.175	1250
			2	0.175	1250
2 - A1077 (S)	Entry	1	1	0.285	1250
			2	0.285	1250
3 - A18 Doncaster Road (W)	Entry	1	1	0.281	1218
			2	0.281	1218
4 - A1077 (N)	Entry	1	1	0.276	1183
			2	0.276	1183

Summary of Entry Lane allowed movements

Arm	Lane Level	Lane	Destination arm			
			A18 Doncaster Road (E)	A1077 (S)	A18 Doncaster Road (W)	A1077 (N)
1 - A18 Doncaster Road (E)	1	1		✓	✓	
		2	✓			✓
2 - A1077 (S)	1	1			✓	✓
		2	✓	✓		
3 - A18 Doncaster Road (W)	1	1	✓			✓
		2	✓	✓	✓	
4 - A1077 (N)	1	1	✓	✓		
		2		✓	✓	✓
	2	1	✓	✓	✓	✓

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2027	Base + Committed	AM	ONE HOUR	07:45	09:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - A18 Doncaster Road (E)		ONE HOUR	✓	892	100.000
2 - A1077 (S)		ONE HOUR	✓	1286	100.000
3 - A18 Doncaster Road (W)		ONE HOUR	✓	670	100.000
4 - A1077 (N)		ONE HOUR	✓	533	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - A18 Doncaster Road (E)	2 - A1077 (S)	3 - A18 Doncaster Road (W)	4 - A1077 (N)
From	1 - A18 Doncaster Road (E)	0	511	215	166
	2 - A1077 (S)	684	0	43	559
	3 - A18 Doncaster Road (W)	430	54	1	185
	4 - A1077 (N)	126	324	81	2

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Junction	PCU factor for a cyclist	PCU factor for a cyclist in controlling flow
1	0.20	0.80

Heavy Vehicle %

		To			
		1 - A18 Doncaster Road (E)	2 - A1077 (S)	3 - A18 Doncaster Road (W)	4 - A1077 (N)
From	1 - A18 Doncaster Road (E)	0	24	1	9
	2 - A1077 (S)	37	0	4	93
	3 - A18 Doncaster Road (W)	3	6	0	8
	4 - A1077 (N)	7	85	8	0

Cyclist %

		To			
		1 - A18 Doncaster Road (E)	2 - A1077 (S)	3 - A18 Doncaster Road (W)	A1 (
From	1 - A18 Doncaster Road (E)	0	0	0	
	2 - A1077 (S)	0	0	0	
	3 - A18 Doncaster Road (W)	0	0	0	
	4 - A1077 (N)	0	0	0	

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - A18 Doncaster Road (E)	0.41	8.78	3.0	A	813	1220
2 - A1077 (S)	0.64	15.56	6.2	C	1190	1785
3 - A18 Doncaster Road (W)	0.47	7.68	1.3	A	619	928
4 - A1077 (N)	0.37	8.64	2.2	A	483	725

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	673	168	354	2300	0.292	676	666	942	0.0	0.7	5.324	A
2 - A1077 (S)	979	245	351	2307	0.424	980	957	679	0.0	2.0	8.581	A
3 - A18 Doncaster Road (W)	493	123	1075	1821	0.271	494	505	256	0.0	0.7	5.026	A
4 - A1077 (N)	404	101	894	1773	0.228	402	416	675	0.0	0.8	6.288	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	791	198	424	2352	0.336	785	799	1109	0.7	1.9	6.161	A
2 - A1077 (S)	1171	293	415	2306	0.508	1178	1156	796	2.0	3.0	10.294	B
3 - A18 Doncaster Road (W)	614	153	1289	1710	0.359	611	615	303	0.7	1.3	5.774	A
4 - A1077 (N)	490	122	1045	1728	0.283	489	485	855	0.8	1.0	6.932	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	967	242	490	2353	0.411	963	985	1376	1.9	3.0	7.910	A
2 - A1077 (S)	1426	356	504	2260	0.631	1438	1446	948	3.0	6.2	14.925	B
3 - A18 Doncaster Road (W)	747	187	1559	1578	0.474	760	762	383	1.3	1.0	7.679	A
4 - A1077 (N)	562	141	1304	1613	0.348	561	589	1014	1.0	1.7	8.645	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	975	244	510	2369	0.411	970	975	1328	3.0	2.5	8.780	A
2 - A1077 (S)	1410	353	517	2213	0.637	1420	1435	964	6.2	5.6	15.557	C
3 - A18 Doncaster Road (W)	741	185	1545	1567	0.473	742	735	391	1.0	1.3	7.378	A
4 - A1077 (N)	584	146	1262	1600	0.365	578	591	1025	1.7	2.2	8.537	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	811	203	397	2336	0.347	813	801	1107	2.5	1.4	6.585	A
2 - A1077 (S)	1175	294	418	2321	0.506	1168	1182	791	5.6	4.6	11.427	B
3 - A18 Doncaster Road (W)	596	149	1286	1731	0.345	599	605	299	1.3	0.9	5.923	A
4 - A1077 (N)	453	113	1046	1746	0.260	457	480	838	2.2	1.0	7.260	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	663	166	343	2330	0.284	662	669	938	1.4	1.4	5.502	A
2 - A1077 (S)	979	245	346	2304	0.425	973	1001	660	4.6	3.0	9.154	A
3 - A18 Doncaster Road (W)	520	130	1067	1860	0.279	523	522	252	0.9	0.6	5.148	A
4 - A1077 (N)	406	102	880	1787	0.227	401	406	711	1.0	1.0	7.088	A

Lane Results

Lane Level notation: Lane Level 1 is always closest to the junction.

Lanes: Main Results for each time segment

07:45 - 08:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	545	1288	0.423	548	539	0.0	0.6	5.783	A
			2	1, 4	127	1288	0.099	128	128	0.0	0.1	3.486	A
	Exit	1	1		942			942	940	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	452	1150	0.393	454	450	0.0	0.9	9.950	A
			2	1, 2	527	1150	0.458	526	507	0.0	1.1	7.676	A
	Exit	1	1		679			679	671	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	272	916	0.296	273	282	0.0	0.4	5.254	A
			2	1, 2, 3	222	916	0.242	221	224	0.0	0.3	4.744	A
	Exit	1	1		256			256	259	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	210	935	0.225	212	225	0.0	0.3	6.077	A
			2	2, 3, 4	193	935	0.206	190	191	0.0	0.5	6.550	A
		2	1	(1, 2, 3, 4)	404			404	419	0.0	0.0	0.000	A
	Exit	1	1		675			675	675	0.0	0.0	0.000	A

08:00 - 08:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	639	1276	0.501	633	648	0.6	1.7	6.834	A
			2	1, 4	153	1276	0.120	153	150	0.1	0.2	3.414	A
	Exit	1	1		1109			1109	1111	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	569	1132	0.503	575	555	0.9	1.3	11.095	B
			2	1, 2	602	1132	0.531	603	601	1.1	1.7	9.733	A
	Exit	1	1		796			796	801	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	353	856	0.412	349	347	0.4	0.9	6.124	A
			2	1, 2, 3	261	856	0.305	261	267	0.3	0.4	5.323	A
	Exit	1	1		303			303	305	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	270	894	0.302	270	264	0.3	0.5	6.726	A
			2	2, 3, 4	220	894	0.246	219	220	0.5	0.5	7.197	A
		2	1	(1, 2, 3, 4)	490			490	486	0.0	0.0	0.000	A
	Exit	1	1		855			855	837	0.0	0.0	0.000	A

08:15 - 08:30

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	796	1264	0.629	792	800	1.7	2.9	8.968	A
			2	1, 4	170	1264	0.135	171	184	0.2	0.1	3.595	A
	Exit	1	1		1376			1376	1404	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	674	1107	0.609	677	670	1.3	2.5	14.917	B
			2	1, 2	751	1107	0.678	761	775	1.7	3.6	14.930	B
	Exit	1	1		948			948	984	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	408	780	0.523	418	419	0.9	0.5	8.173	A
			2	1, 2, 3	339	780	0.435	342	343	0.4	0.5	7.090	A
	Exit	1	1		383			383	371	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	303	822	0.368	300	319	0.5	0.8	8.592	A
			2	2, 3, 4	260	822	0.316	260	270	0.5	0.9	8.712	A
		2	1	(1, 2, 3, 4)	562			562	591	0.0	0.0	0.000	A
	Exit	1	1		1014			1014	1022	0.0	0.0	0.000	A

08:30 - 08:45

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	798	1261	0.633	796	800	2.9	2.3	9.978	A
			2	1, 4	175	1261	0.139	174	175	0.1	0.2	3.654	A
	Exit	1	1		1328			1328	1365	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	677	1103	0.614	695	681	2.5	2.9	16.647	C
			2	1, 2	733	1103	0.665	725	754	3.6	2.7	14.809	B
	Exit	1	1		964			964	979	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	420	784	0.536	420	411	0.5	0.8	7.534	A
			2	1, 2, 3	321	784	0.409	321	324	0.5	0.5	7.183	A
	Exit	1	1		391			391	383	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	306	834	0.367	302	316	0.8	1.2	8.402	A
			2	2, 3, 4	279	834	0.334	276	275	0.9	1.0	8.705	A
		2	1	(1, 2, 3, 4)	584			584	594	0.0	0.0	0.000	A
	Exit	1	1		1025			1025	1010	0.0	0.0	0.000	A

08:45 - 09:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	655	1281	0.512	656	652	2.3	1.2	7.307	A
			2	1, 4	156	1281	0.122	157	149	0.2	0.2	3.625	A
	Exit	1	1		1107			1107	1133	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	537	1131	0.475	550	556	2.9	2.0	13.172	B
			2	1, 2	637	1131	0.563	618	626	2.7	2.6	10.266	B
	Exit	1	1		791			791	795	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	344	857	0.401	344	346	0.8	0.6	6.210	A
			2	1, 2, 3	252	857	0.294	254	259	0.5	0.3	5.547	A
	Exit	1	1		299			299	304	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	244	893	0.273	246	260	1.2	0.6	7.347	A
			2	2, 3, 4	210	893	0.235	211	220	1.0	0.3	7.151	A
		2	1	(1, 2, 3, 4)	453			453	475	0.0	0.0	0.000	A
	Exit	1	1		838			838	837	0.0	0.0	0.000	A

09:00 - 09:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	540	1290	0.419	540	542	1.2	1.2	5.999	A
			2	1, 4	122	1290	0.095	123	126	0.2	0.1	3.481	A
	Exit	1	1		938			938	962	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	463	1152	0.402	466	470	2.0	1.0	9.645	A
			2	1, 2	515	1152	0.447	507	531	2.6	2.1	8.826	A
	Exit	1	1		660			660	670	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	301	919	0.327	303	299	0.6	0.4	5.382	A
			2	1, 2, 3	219	919	0.238	220	223	0.3	0.2	4.843	A
	Exit	1	1		252			252	252	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	217	939	0.231	215	218	0.6	0.5	7.178	A
			2	2, 3, 4	189	939	0.202	186	188	0.3	0.5	6.974	A
		2	1	(1, 2, 3, 4)	406			406	406	0.0	0.0	0.000	A
	Exit	1	1		711			711	713	0.0	0.0	0.000	A

Lane movements: Main Results for each time segment

07:45 - 08:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	389	97	1250	1288	0.302	391	381	0.0	0.5	5.848	
				3	157	39	1250	1287	0.122	157	158	0.0	0.1	5.655	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	127	32	1250	1290	0.099	128	128	0.0	0.1	3.486	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	33	8	1250	1148	0.029	34	33	0.0	0.0	7.693	
				4	418	104	1250	1150	0.363	420	416	0.0	0.9	10.276	
			2	1	527	132	1250	1151	0.458	526	507	0.0	1.1	7.676	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	145	36	1218	916	0.159	147	152	0.0	0.1	4.647	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	126	32	1218	912	0.138	126	130	0.0	0.3	6.000	
			2	1	180	45	1218	915	0.197	180	179	0.0	0.3	4.539	
				2	41	10	1218	916	0.044	41	44	0.0	0.0	5.565	
				3	0.56	0.14	227	172	0.003	0.56	0.74	0.0	0.0	7.300	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	89	22	1183	939	0.095	90	102	0.0	0.1	5.224	
				2	121	30	1183	937	0.129	122	123	0.0	0.3	7.296	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	127	32	1183	936	0.135	124	123	0.0	0.4	7.521	
				3	65	16	1183	935	0.069	65	67	0.0	0.1	5.506	
				4	1	0.28	385	301	0.004	1	1	0.0	0.0	5.547	
		2	1	1	89	22	-	-	-	89	102	0.0	0.0	0.000	
				2	248	62	-	-	-	248	248	0.0	0.0	0.000	
				3	65	16	-	-	-	65	67	0.0	0.0	0.000	
				4	1	0.28	-	-	-	1	1	0.0	0.0	0.000	

08:00 - 08:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	444	111	1250	1275	0.348	441	454	0.5	1.2	7.048	
				3	195	49	1250	1275	0.153	192	194	0.1	0.5	6.427	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	153	38	1250	1275	0.120	153	150	0.1	0.2	3.414	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	44	11	1250	1133	0.039	43	39	0.0	0.1	9.550	
				4	526	131	1250	1131	0.465	532	516	0.9	1.2	11.313	
			2	1	602	150	1250	1132	0.532	603	601	1.1	1.7	9.733	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	181	45	1218	857	0.211	180	178	0.1	0.3	5.137	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	172	43	1218	856	0.201	169	169	0.3	0.6	7.212	
			2	1	211	53	1218	857	0.246	213	217	0.3	0.3	5.141	
				2	49	12	1218	861	0.057	48	50	0.0	0.1	6.110	
				3	0.28	0.07	142	98	0.003	0.28	0.56	0.0	0.0	8.174	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	113	28	1183	894	0.126	113	114	0.1	0.2	5.916	
				2	157	39	1183	890	0.176	157	150	0.3	0.3	7.784	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	149	37	1183	894	0.167	149	146	0.4	0.3	8.008	
				3	69	17	1183	893	0.078	69	72	0.1	0.2	6.196	
				4	1	0.35	440	336	0.004	1	2	0.0	0.0	7.844	
		2	1	1	113	28	-	-	-	113	115	0.0	0.0	0.000	
				2	306	76	-	-	-	306	297	0.0	0.0	0.000	
				3	69	17	-	-	-	69	72	0.0	0.0	0.000	
				4	1	0.35	-	-	-	1	2	0.0	0.0	0.000	

08:15 - 08:30

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	561	140	1250	1264	0.444	553	567	1.2	2.2	9.058	
				3	235	59	1250	1264	0.186	238	234	0.5	0.6	8.790	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	170	43	1250	1264	0.135	171	184	0.2	0.1	3.595	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	50	12	1250	1103	0.045	52	49	0.1	0.0	12.732	
				4	625	156	1250	1107	0.565	625	622	1.2	2.5	15.230	
			2	1	751	188	1250	1107	0.678	761	775	1.7	3.6	14.930	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	198	50	1218	778	0.255	201	205	0.3	0.3	6.776	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	210	52	1218	779	0.269	217	214	0.6	0.2	9.601	
			2	1	273	68	1218	780	0.351	276	279	0.3	0.4	7.039	
				2	65	16	1218	784	0.082	64	62	0.1	0.1	7.368	
				3	1	0.28	283	181	0.006	1	0.93	0.0	0.0	4.332	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	139	35	1183	823	0.169	137	144	0.2	0.4	8.254	
				2	164	41	1183	821	0.199	163	175	0.3	0.4	9.070	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	166	42	1183	824	0.201	166	180	0.3	0.6	9.408	
				3	92	23	1183	819	0.112	92	88	0.2	0.2	7.820	
				4	1	0.35	550	383	0.004	2	2	0.0	0.0	10.332	
		2	1	1	139	35	-	-	-	139	144	0.0	0.0	0.000	
				2	330	83	-	-	-	330	356	0.0	0.0	0.000	
				3	92	23	-	-	-	92	88	0.0	0.0	0.000	
				4	1	0.35	-	-	-	1	2	0.0	0.0	0.000	

08:30 - 08:45

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	555	139	1250	1260	0.441	548	557	2.2	2.0	10.288	
				3	244	61	1250	1261	0.194	248	243	0.6	0.3	9.395	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	175	44	1250	1260	0.139	174	175	0.1	0.2	3.654	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	49	12	1250	1101	0.045	51	48	0.0	0.2	15.230	
				4	627	157	1250	1104	0.568	644	634	2.5	2.7	16.846	
			2	1	733	183	1250	1103	0.665	725	754	3.6	2.7	14.809	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	216	54	1218	785	0.275	215	212	0.3	0.3	6.343	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	204	51	1218	782	0.261	205	199	0.2	0.5	8.855	
			2	1	253	63	1218	784	0.323	253	259	0.4	0.5	6.889	
				2	67	17	1218	788	0.086	68	64	0.1	0.0	8.441	
				3	0.84	0.21	283	185	0.005	0.84	1	0.0	0.0	6.532	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	137	34	1183	836	0.164	137	140	0.4	0.6	8.045	
				2	168	42	1183	834	0.202	165	176	0.4	0.6	8.889	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	184	46	1183	835	0.221	182	182	0.6	0.8	9.542	
				3	92	23	1183	833	0.110	92	91	0.2	0.2	7.781	
				4	3	0.70	495	348	0.008	3	2	0.0	0.0	6.373	
		2	1	1	137	34	-	-	-	137	141	0.0	0.0	0.000	
				2	352	88	-	-	-	352	360	0.0	0.0	0.000	
				3	92	23	-	-	-	92	91	0.0	0.0	0.000	
				4	3	0.70	-	-	-	3	2	0.0	0.0	0.000	

08:45 - 09:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	471	118	1250	1281	0.368	471	462	2.0	1.0	7.518	
				3	184	46	1250	1280	0.144	185	190	0.3	0.2	6.895	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	156	39	1250	1280	0.122	157	149	0.2	0.2	3.625	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	39	10	1250	1137	0.034	40	40	0.2	0.1	10.397	
				4	500	125	1250	1131	0.442	510	516	2.7	1.9	13.567	
			2	1	637	159	1250	1131	0.563	618	626	2.7	2.6	10.266	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	172	43	1218	858	0.201	174	175	0.3	0.2	5.370	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	172	43	1218	857	0.201	170	171	0.5	0.5	7.101	
			2	1	201	50	1218	856	0.235	203	213	0.5	0.2	5.272	
				2	50	12	1218	858	0.058	49	46	0.0	0.1	6.762	
				3	1	0.28	198	131	0.009	1	0.84	0.0	0.0	9.663	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	111	28	1183	894	0.124	111	119	0.6	0.3	6.875	
				2	132	33	1183	893	0.148	135	141	0.6	0.3	8.024	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	136	34	1183	898	0.151	136	146	0.8	0.3	8.126	
				3	73	18	1183	893	0.081	73	72	0.2	0.1	6.065	
				4	1	0.28	440	327	0.003	1	2	0.0	0.0	5.179	
		2	1	1	111	28	-	-	-	111	118	0.0	0.0	0.000	
				2	269	67	-	-	-	269	283	0.0	0.0	0.000	
				3	73	18	-	-	-	73	72	0.0	0.0	0.000	
				4	1	0.28	-	-	-	1	2	0.0	0.0	0.000	

09:00 - 09:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsi l s
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	383	96	1250	1290	0.297	382	381	1.0	0.9	6.302	
				3	157	39	1250	1291	0.122	158	161	0.2	0.3	5.411	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	122	31	1250	1291	0.095	123	126	0.2	0.1	3.481	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	31	8	1250	1151	0.027	31	32	0.1	0.1	7.065	
				4	432	108	1250	1152	0.375	435	438	1.9	0.9	9.996	
			2	1	515	129	1250	1152	0.447	507	531	2.6	2.1	8.826	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	150	37	1218	918	0.163	153	152	0.2	0.1	4.631	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	151	38	1218	921	0.164	151	147	0.5	0.3	6.203	
			2	1	178	44	1218	920	0.193	177	181	0.2	0.2	4.730	
				2	40	10	1218	917	0.044	42	42	0.1	0.0	5.363	
				3	0.84	0.21	142	106	0.008	0.84	0.56	0.0	0.0	4.053	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	101	25	1183	937	0.108	101	98	0.3	0.3	6.149	
				2	116	29	1183	939	0.123	114	119	0.3	0.3	8.642	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	126	31	1183	939	0.134	123	128	0.3	0.4	7.507	
				3	62	15	1183	937	0.066	62	59	0.1	0.1	6.344	
				4	2	0.42	330	263	0.006	2	2	0.0	0.0	5.566	
		2	1	1	101	25	-	-	-	101	98	0.0	0.0	0.000	
				2	241	60	-	-	-	241	248	0.0	0.0	0.000	
				3	62	15	-	-	-	62	59	0.0	0.0	0.000	
				4	2	0.42	-	-	-	2	2	0.0	0.0	0.000	

2027 | Base + Committed | PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	4 - A1077 (N) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Info	Simulation	A1 - [Lane Simulation]	This run uses Simulation mode. For detailed information on this mode, please see the User Guide.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	14.33	B

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	14.33	B

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2027	Base + Committed	PM	ONE HOUR	16:45	18:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - A18 Doncaster Road (E)		ONE HOUR	✓	1068	100.000
2 - A1077 (S)		ONE HOUR	✓	814	100.000
3 - A18 Doncaster Road (W)		ONE HOUR	✓	410	100.000
4 - A1077 (N)		ONE HOUR	✓	1013	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - A18 Doncaster Road (E)	2 - A1077 (S)	3 - A18 Doncaster Road (W)	4 - A1077 (N)
From	1 - A18 Doncaster Road (E)	3	577	366	122
	2 - A1077 (S)	506	0	32	276
	3 - A18 Doncaster Road (W)	288	33	3	86
	4 - A1077 (N)	328	476	209	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Junction	PCU factor for a cyclist	PCU factor for a cyclist in controlling flow
1	0.20	0.80

Heavy Vehicle %

	To				
		1 - A18 Doncaster Road (E)	2 - A1077 (S)	3 - A18 Doncaster Road (W)	4 - A1077 (N)
From	1 - A18 Doncaster Road (E)	0	24	1	9
	2 - A1077 (S)	37	0	4	93
	3 - A18 Doncaster Road (W)	3	6	0	8
	4 - A1077 (N)	7	85	8	0

Cyclist %

	To				
		1 - A18 Doncaster Road (E)	2 - A1077 (S)	3 - A18 Doncaster Road (W)	A1 (
From	1 - A18 Doncaster Road (E)	0	0	0	
	2 - A1077 (S)	0	0	0	
	3 - A18 Doncaster Road (W)	0	0	0	
	4 - A1077 (N)	0	0	0	

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - A18 Doncaster Road (E)	0.64	24.08	8.6	C	982	1472
2 - A1077 (S)	0.43	10.41	2.6	B	738	1107
3 - A18 Doncaster Road (W)	0.25	4.63	0.7	A	379	569
4 - A1077 (N)	0.63	11.11	3.3	B	931	1397

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	826	206	536	1906	0.433	832	808	841	0.0	1.5	7.174	A
2 - A1077 (S)	601	150	544	2243	0.268	604	609	824	0.0	1.3	7.167	A
3 - A18 Doncaster Road (W)	312	78	679	2060	0.152	311	309	469	0.0	0.4	3.911	A
4 - A1077 (N)	755	189	625	1931	0.391	753	749	365	0.0	1.5	7.020	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	952	238	661	1902	0.500	959	959	1016	1.5	2.5	10.060	B
2 - A1077 (S)	751	188	635	2147	0.350	751	751	985	1.3	2.0	8.385	A
3 - A18 Doncaster Road (W)	370	93	832	1972	0.188	370	379	553	0.4	0.4	4.292	A
4 - A1077 (N)	918	230	758	1851	0.496	918	924	443	1.5	2.4	8.285	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	1188	297	796	1847	0.643	1182	1166	1236	2.5	7.6	19.894	C
2 - A1077 (S)	876	219	776	2086	0.420	884	895	1203	2.0	2.6	10.412	B
3 - A18 Doncaster Road (W)	453	113	996	1850	0.245	452	454	663	0.4	0.6	4.571	A
4 - A1077 (N)	1118	279	912	1813	0.616	1121	1122	536	2.4	3.1	10.735	B

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	1168	292	795	1905	0.613	1161	1188	1229	7.6	8.6	24.077	C
2 - A1077 (S)	881	220	772	2041	0.432	883	892	1184	2.6	2.6	10.374	B
3 - A18 Doncaster Road (W)	458	115	980	1854	0.247	457	462	674	0.6	0.7	4.631	A
4 - A1077 (N)	1115	279	907	1773	0.629	1116	1126	530	3.1	3.3	11.114	B

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	952	238	662	1880	0.506	955	990	1006	8.6	2.7	12.947	B
2 - A1077 (S)	716	179	632	2125	0.337	718	739	985	2.6	1.4	8.445	A
3 - A18 Doncaster Road (W)	369	92	797	2028	0.182	368	382	553	0.7	0.5	4.284	A
4 - A1077 (N)	933	233	739	1871	0.499	928	924	426	3.3	2.3	8.508	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	804	201	531	1887	0.426	803	815	837	2.7	1.8	7.596	A
2 - A1077 (S)	602	151	528	2144	0.281	604	620	806	1.4	1.2	7.435	A
3 - A18 Doncaster Road (W)	313	78	678	2068	0.151	312	316	455	0.5	0.4	3.914	A
4 - A1077 (N)	750	188	620	1909	0.393	749	768	370	2.3	1.6	7.212	A

Lane Results

Lane Level notation: Lane Level 1 is always closest to the junction.

Lanes: Main Results for each time segment

16:45 - 17:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	725	1256	0.577	731	712	0.0	1.5	7.722	A
			2	1, 4	101	1256	0.080	101	96	0.0	0.1	3.260	A
	Exit	1	1		841			841	842	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	221	1095	0.202	224	227	0.0	0.4	7.293	A
			2	1, 2	381	1095	0.347	379	383	0.0	0.9	7.109	A
	Exit	1	1		824			824	814	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	174	1028	0.170	174	170	0.0	0.3	4.014	A
			2	1, 2, 3	138	1028	0.134	138	139	0.0	0.1	3.786	A
	Exit	1	1		469			469	457	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	406	1010	0.402	405	407	0.0	0.7	7.191	A
			2	2, 3, 4	349	1010	0.346	348	342	0.0	0.8	6.796	A
		2	1	(1, 2, 3, 4)	755			755	755	0.0	0.0	0.002	A
	Exit	1	1		365			365	361	0.0	0.0	0.000	A

17:00 - 17:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	840	1234	0.680	848	847	1.5	2.4	10.955	B
			2	1, 4	111	1234	0.090	111	112	0.1	0.2	3.591	A
	Exit	1	1		1016			1016	1030	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	290	1069	0.271	288	287	0.4	0.8	8.473	A
			2	1, 2	461	1069	0.431	462	464	0.9	1.2	8.342	A
	Exit	1	1		985			985	988	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	201	985	0.204	200	205	0.3	0.3	4.426	A
			2	1, 2, 3	170	985	0.172	170	174	0.1	0.1	4.136	A
	Exit	1	1		553			553	548	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	494	973	0.508	492	496	0.7	1.3	8.479	A
			2	2, 3, 4	424	973	0.436	425	428	0.8	1.0	7.979	A
		2	1	(1, 2, 3, 4)	918			918	928	0.0	0.0	0.026	A
	Exit	1	1		443			443	446	0.0	0.0	0.000	A

17:15 - 17:30

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	1043	1211	0.862	1037	1025	2.4	7.5	22.181	C
			2	1, 4	145	1211	0.120	145	141	0.2	0.1	3.645	A
	Exit	1	1		1236			1236	1240	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	325	1029	0.316	329	339	0.8	0.8	9.057	A
			2	1, 2	551	1029	0.536	555	556	1.2	1.8	11.044	B
	Exit	1	1		1203			1203	1189	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	249	938	0.265	249	248	0.3	0.3	4.688	A
			2	1, 2, 3	204	938	0.217	203	206	0.1	0.3	4.431	A
	Exit	1	1		663			663	670	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	600	931	0.645	600	599	1.3	1.8	10.719	B
			2	2, 3, 4	518	931	0.557	520	523	1.0	1.3	10.384	B
		2	1	(1, 2, 3, 4)	1118			1118	1125	0.0	0.0	0.163	A
	Exit	1	1		536			536	538	0.0	0.0	0.000	A

17:30 - 17:45

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	1034	1211	0.854	1028	1047	7.5	8.5	26.913	D
			2	1, 4	133	1211	0.110	134	140	0.1	0.1	3.666	A
	Exit	1	1		1229			1229	1248	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	339	1030	0.329	340	335	0.8	0.8	8.929	A
			2	1, 2	542	1030	0.526	542	557	1.8	1.7	11.046	B
	Exit	1	1		1184			1184	1203	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	250	943	0.265	249	252	0.3	0.4	4.785	A
			2	1, 2, 3	209	943	0.221	208	210	0.3	0.3	4.450	A
	Exit	1	1		674			674	682	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	591	932	0.635	592	600	1.8	1.8	11.379	B
			2	2, 3, 4	525	932	0.564	525	526	1.3	1.5	10.454	B
		2	1	(1, 2, 3, 4)	1115			1116	1127	0.0	0.0	0.148	A
	Exit	1	1		530			530	534	0.0	0.0	0.000	A

17:45 - 18:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	845	1234	0.685	849	880	8.5	2.6	14.232	B
			2	1, 4	107	1234	0.087	106	109	0.1	0.2	3.368	A
	Exit	1	1		1006			1006	1028	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	271	1070	0.253	271	278	0.8	0.5	8.219	A
			2	1, 2	445	1070	0.416	446	461	1.7	0.9	8.550	A
	Exit	1	1		985			985	1007	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	204	994	0.205	204	209	0.4	0.3	4.415	A
			2	1, 2, 3	165	994	0.166	164	172	0.3	0.2	4.126	A
	Exit	1	1		553			553	561	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	502	978	0.513	498	498	1.8	1.3	8.613	A
			2	2, 3, 4	431	978	0.441	430	426	1.5	1.0	8.231	A
		2	1	(1, 2, 3, 4)	933			933	920	0.0	0.0	0.063	A
	Exit	1	1		426			426	437	0.0	0.0	0.000	A

18:00 - 18:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	707	1257	0.563	705	720	2.6	1.7	8.187	A
			2	1, 4	97	1257	0.077	97	95	0.2	0.1	3.322	A
	Exit	1	1		837			837	856	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	233	1100	0.212	234	238	0.5	0.4	7.339	A
			2	1, 2	369	1100	0.336	370	382	0.9	0.8	7.481	A
	Exit	1	1		806			806	828	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	169	1028	0.164	168	172	0.3	0.3	4.043	A
			2	1, 2, 3	144	1028	0.140	144	144	0.2	0.2	3.762	A
	Exit	1	1		455			455	464	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	411	1011	0.407	411	417	1.3	0.9	7.399	A
			2	2, 3, 4	339	1011	0.335	338	350	1.0	0.7	6.965	A
		2	1	(1, 2, 3, 4)	750			750	765	0.0	0.0	0.003	A
	Exit	1	1		370			370	370	0.0	0.0	0.000	A

Lane movements: Main Results for each time segment

16:45 - 17:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsi l s
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	448	112	1250	1257	0.357	452	437	0.0	0.9	8.027	
				3	277	69	1250	1257	0.220	279	275	0.0	0.5	7.329	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	2	0.50	548	552	0.004	2	2	0.0	0.0	3.008	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	99	25	1250	1258	0.079	99	93	0.0	0.1	3.266	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	25	6	1243	1093	0.023	26	24	0.0	0.0	4.845	
				4	195	49	1250	1097	0.178	198	202	0.0	0.4	7.838	
			2	1	381	95	1250	1096	0.347	379	383	0.0	0.9	7.109	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	106	27	1218	1029	0.103	106	105	0.0	0.2	3.786	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	68	17	1218	1029	0.066	68	65	0.0	0.1	4.398	
			2	1	109	27	1218	1027	0.106	109	110	0.0	0.1	3.691	
				2	26	7	1218	1029	0.025	26	26	0.0	0.0	4.205	
				3	3	0.69	594	500	0.005	3	3	0.0	0.0	3.800	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	245	61	1183	1010	0.243	245	242	0.0	0.4	6.996	
				2	160	40	1183	1010	0.159	160	165	0.0	0.4	7.688	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	188	47	1183	1011	0.186	186	187	0.0	0.5	7.418	
				3	162	40	1183	1010	0.160	161	155	0.0	0.3	6.358	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	245	61	-	-	-	245	244	0.0	0.0	0.003	
				2	348	87	-	-	-	348	355	0.0	0.0	0.002	
				3	162	40	-	-	-	162	156	0.0	0.0	0.001	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	

17:00 - 17:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	512	128	1250	1234	0.415	517	523	0.9	1.5	11.211	
				3	329	82	1250	1234	0.266	331	324	0.5	0.9	10.618	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	2	0.61	540	536	0.005	2	2	0.0	0.0	3.037	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	109	27	1250	1235	0.088	109	110	0.1	0.2	3.604	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	29	7	1250	1069	0.028	29	29	0.0	0.0	5.841	
				4	261	65	1250	1070	0.244	259	258	0.4	0.7	9.022	
			2	1	461	115	1250	1069	0.431	462	464	0.9	1.2	8.342	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	125	31	1218	984	0.127	124	127	0.2	0.2	3.994	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	76	19	1218	985	0.077	75	78	0.1	0.1	5.167	
			2	1	138	35	1218	985	0.140	139	140	0.1	0.1	4.018	
				2	29	7	1218	984	0.029	29	31	0.0	0.0	4.630	
				3	3	0.70	684	557	0.005	3	3	0.0	0.0	4.648	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	290	72	1183	973	0.298	289	297	0.4	0.8	8.449	
				2	205	51	1183	973	0.210	203	199	0.4	0.5	8.554	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	233	58	1183	973	0.240	235	235	0.5	0.6	8.528	
				3	190	48	1183	973	0.196	190	192	0.3	0.4	7.587	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	290	72	-	-	-	290	299	0.0	0.0	0.030	
				2	438	109	-	-	-	438	436	0.0	0.0	0.020	
				3	190	48	-	-	-	190	193	0.0	0.0	0.030	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	

17:15 - 17:30

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	635	159	1250	1211	0.525	633	623	1.5	4.6	22.420	
				3	408	102	1250	1211	0.337	404	402	0.9	2.9	21.878	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	3	0.81	694	675	0.005	3	3	0.0	0.0	3.585	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	142	35	1250	1211	0.117	142	138	0.2	0.1	3.647	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	33	8	1250	1031	0.032	32	35	0.0	0.1	6.478	
				4	292	73	1250	1030	0.284	296	304	0.7	0.7	9.603	
			2	1	551	138	1250	1029	0.536	555	556	1.2	1.8	11.044	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	151	38	1218	939	0.161	150	152	0.2	0.2	4.300	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	98	25	1218	939	0.105	98	97	0.1	0.1	5.322	
			2	1	166	41	1218	939	0.176	165	168	0.1	0.2	4.259	
				2	35	9	1218	939	0.038	35	35	0.0	0.0	5.197	
				3	3	0.65	647	502	0.005	3	3	0.0	0.0	5.267	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	362	91	1183	931	0.390	362	361	0.8	1.1	10.783	
				2	238	59	1183	930	0.256	238	238	0.5	0.7	10.553	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	294	74	1183	930	0.316	296	293	0.6	0.7	10.578	
				3	224	56	1183	930	0.241	224	230	0.4	0.6	10.240	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	363	91	-	-	-	362	362	0.0	0.0	0.146	
				2	532	133	-	-	-	532	532	0.0	0.0	0.179	
				3	224	56	-	-	-	224	231	0.0	0.0	0.170	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	

17:30 - 17:45

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	635	159	1250	1211	0.524	627	639	4.6	5.4	27.233	
				3	400	100	1250	1211	0.330	400	408	2.9	3.1	26.503	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	3	0.78	694	671	0.005	3	3	0.0	0.0	2.771	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	130	33	1250	1210	0.108	130	137	0.1	0.1	3.689	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	36	9	1250	1029	0.035	36	36	0.1	0.1	6.533	
				4	303	76	1250	1031	0.294	305	299	0.7	0.7	9.464	
			2	1	542	136	1250	1030	0.527	542	557	1.8	1.7	11.046	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	154	39	1218	943	0.164	154	154	0.2	0.2	4.335	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	95	24	1218	942	0.101	95	98	0.1	0.1	5.524	
			2	1	171	43	1218	943	0.181	170	171	0.2	0.3	4.300	
				2	34	9	1218	944	0.036	35	36	0.0	0.0	5.142	
				3	4	0.91	692	530	0.007	4	3	0.0	0.0	4.864	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	355	89	1183	932	0.381	359	364	1.1	0.9	11.448	
				2	236	59	1183	931	0.254	232	237	0.7	0.9	11.198	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	290	73	1183	931	0.312	291	292	0.7	0.8	10.618	
				3	234	59	1183	932	0.251	234	234	0.6	0.7	10.335	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	355	89	-	-	-	355	363	0.0	0.0	0.162	
				2	526	131	-	-	-	527	530	0.0	0.0	0.135	
				3	234	59	-	-	-	234	235	0.0	0.0	0.142	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	

17:45 - 18:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	519	130	1250	1235	0.420	520	541	5.4	1.7	14.428	
				3	326	82	1250	1234	0.264	329	340	3.1	0.9	13.978	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	3	0.63	563	557	0.005	3	3	0.0	0.0	3.147	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	105	26	1250	1234	0.085	104	107	0.1	0.2	3.374	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	27	7	1250	1073	0.025	27	29	0.1	0.0	5.525	
				4	244	61	1250	1070	0.228	245	249	0.7	0.5	8.797	
			2	1	445	111	1250	1070	0.416	446	461	1.7	0.9	8.550	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	127	32	1218	995	0.127	127	128	0.2	0.1	4.046	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	78	19	1218	997	0.078	77	81	0.1	0.2	5.019	
			2	1	132	33	1218	995	0.133	131	138	0.3	0.2	4.020	
				2	30	8	1211	987	0.030	30	31	0.0	0.0	4.638	
				3	3	0.70	609	494	0.006	3	3	0.0	0.0	3.806	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	301	75	1183	979	0.307	299	298	0.9	0.7	8.424	
				2	201	50	1183	980	0.205	199	199	0.9	0.6	9.109	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	236	59	1183	979	0.241	235	236	0.8	0.6	8.789	
				3	195	49	1183	978	0.199	195	190	0.7	0.4	7.827	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	301	75	-	-	-	301	298	0.0	0.0	0.067	
				2	437	109	-	-	-	437	433	0.0	0.0	0.062	
				3	195	49	-	-	-	195	189	0.0	0.0	0.056	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	

18:00 - 18:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsi l s
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	429	107	1250	1257	0.341	429	439	1.7	1.0	8.434	
				3	278	69	1250	1257	0.221	276	281	0.9	0.6	7.871	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	2	0.54	525	525	0.004	2	2	0.0	0.0	3.392	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	95	24	1250	1257	0.076	95	93	0.2	0.1	3.321	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	24	6	1243	1093	0.022	24	25	0.0	0.1	5.011	
				4	209	52	1250	1098	0.190	211	213	0.5	0.3	7.848	
			2	1	369	92	1250	1100	0.336	370	382	0.9	0.8	7.481	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	104	26	1218	1027	0.101	104	108	0.1	0.1	3.751	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	65	16	1218	1027	0.063	64	64	0.2	0.2	4.563	
			2	1	115	29	1218	1026	0.112	115	115	0.2	0.1	3.695	
				2	26	7	1218	1025	0.026	27	27	0.0	0.0	3.999	
				3	3	0.63	541	456	0.006	3	2	0.0	0.0	4.384	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	246	62	1183	1012	0.244	247	250	0.7	0.5	7.221	
				2	165	41	1183	1009	0.163	164	168	0.6	0.4	7.859	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	186	47	1183	1011	0.184	186	194	0.6	0.4	7.754	
				3	153	38	1183	1010	0.151	152	156	0.4	0.3	6.394	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	246	62	-	-	-	246	249	0.0	0.0	0.003	
				2	351	88	-	-	-	351	360	0.0	0.0	0.003	
				3	153	38	-	-	-	153	156	0.0	0.0	0.002	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	

2027 | Base + Committed (Burr Road Rdbt Impact) | AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	4 - A1077 (N) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Info	Simulation	A1 - [Lane Simulation]	This run uses Simulation mode. For detailed information on this mode, please see the User Guide.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	7.92	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	7.92	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2027	Base + Committed (Burr Road Rdbt Impact)	AM	ONE HOUR	07:45	09:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - A18 Doncaster Road (E)		ONE HOUR	✓	588	100.000
2 - A1077 (S)		ONE HOUR	✓	892	100.000
3 - A18 Doncaster Road (W)		ONE HOUR	✓	659	100.000
4 - A1077 (N)		ONE HOUR	✓	533	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - A18 Doncaster Road (E)	2 - A1077 (S)	3 - A18 Doncaster Road (W)	4 - A1077 (N)
From	1 - A18 Doncaster Road (E)	0	207	215	166
	2 - A1077 (S)	304	0	29	559
	3 - A18 Doncaster Road (W)	430	43	1	185
	4 - A1077 (N)	126	324	81	2

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Junction	PCU factor for a cyclist	PCU factor for a cyclist in controlling flow
1	0.20	0.80

Heavy Vehicle %

From	To	1 - A18 Doncaster Road (E)	2 - A1077 (S)	3 - A18 Doncaster Road (W)	4 - A1077 (N)
	1 - A18 Doncaster Road (E)	0	24	1	9
	2 - A1077 (S)	37	0	4	93
	3 - A18 Doncaster Road (W)	3	6	0	8
	4 - A1077 (N)	7	85	8	0

Cyclist %

From	To	1 - A18 Doncaster Road (E)	2 - A1077 (S)	3 - A18 Doncaster Road (W)	A1 (
	1 - A18 Doncaster Road (E)	0	0	0	
	2 - A1077 (S)	0	0	0	
	3 - A18 Doncaster Road (W)	0	0	0	
	4 - A1077 (N)	0	0	0	

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - A18 Doncaster Road (E)	0.26	4.72	1.4	A	545	818
2 - A1077 (S)	0.45	11.82	3.6	B	821	1231
3 - A18 Doncaster Road (W)	0.40	5.92	1.6	A	606	909
4 - A1077 (N)	0.33	7.44	1.2	A	487	730

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	442	110	355	2578	0.171	440	443	654	0.0	0.6	3.885	A
2 - A1077 (S)	687	172	344	2287	0.300	684	673	451	0.0	2.3	8.179	A
3 - A18 Doncaster Road (W)	505	126	794	2028	0.249	506	491	234	0.0	0.6	4.352	A
4 - A1077 (N)	417	104	591	1942	0.215	419	415	709	0.0	0.7	6.051	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	530	132	407	2506	0.211	532	537	781	0.6	0.5	4.231	A
2 - A1077 (S)	799	200	432	2273	0.352	799	828	507	2.3	2.1	9.442	A
3 - A18 Doncaster Road (W)	615	154	930	1938	0.317	613	604	300	0.6	0.9	4.889	A
4 - A1077 (N)	489	122	708	1901	0.257	481	482	834	0.7	1.2	6.389	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	628	157	512	2524	0.249	631	646	957	0.5	0.7	4.600	A
2 - A1077 (S)	996	249	511	2240	0.445	993	994	633	2.1	3.5	11.584	B
3 - A18 Doncaster Road (W)	721	180	1153	1810	0.398	714	729	351	0.9	1.6	5.635	A
4 - A1077 (N)	600	150	868	1811	0.331	602	605	999	1.2	1.1	7.441	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	669	167	493	2564	0.261	663	664	925	0.7	1.4	4.717	A
2 - A1077 (S)	961	240	515	2134	0.450	960	998	641	3.5	3.6	11.817	B
3 - A18 Doncaster Road (W)	732	183	1124	1848	0.396	739	737	351	1.6	0.8	5.921	A
4 - A1077 (N)	565	141	851	1839	0.307	567	587	1012	1.1	0.9	7.209	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	534	133	381	2552	0.209	534	546	769	1.4	0.8	4.318	A
2 - A1077 (S)	809	202	421	2295	0.352	804	824	495	3.6	2.6	9.363	A
3 - A18 Doncaster Road (W)	576	144	929	1914	0.301	577	595	296	0.8	0.8	5.004	A
4 - A1077 (N)	449	112	698	1870	0.240	455	475	809	0.9	0.8	6.417	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	471	118	332	2575	0.183	468	458	630	0.8	0.7	3.972	A
2 - A1077 (S)	672	168	360	2299	0.292	668	683	441	2.6	1.9	8.187	A
3 - A18 Doncaster Road (W)	487	122	769	1988	0.245	486	494	259	0.8	0.5	4.556	A
4 - A1077 (N)	400	100	565	1921	0.208	397	419	690	0.8	0.7	6.066	A

Lane Results

Lane Level notation: Lane Level 1 is always closest to the junction.

Lanes: Main Results for each time segment

07:45 - 08:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	314	1288	0.243	312	317	0.0	0.5	4.182	A
			2	1, 4	128	1288	0.099	128	126	0.0	0.1	3.150	A
	Exit	1	1		654			654	646	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	453	1152	0.393	450	446	0.0	1.7	10.004	B
			2	1, 2	234	1152	0.203	233	227	0.0	0.5	5.545	A
	Exit	1	1		451			451	440	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	297	995	0.298	297	288	0.0	0.3	4.586	A
			2	1, 2, 3	209	995	0.210	209	203	0.0	0.3	4.030	A
	Exit	1	1		234			234	244	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	221	1019	0.217	219	222	0.0	0.4	6.061	A
			2	2, 3, 4	197	1019	0.193	199	193	0.0	0.2	6.038	A
		2	1	(1, 2, 3, 4)	417			417	418	0.0	0.0	0.000	A
	Exit	1	1		709			709	693	0.0	0.0	0.000	A

08:00 - 08:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	377	1279	0.295	378	384	0.5	0.4	4.555	A
			2	1, 4	153	1279	0.119	153	153	0.1	0.1	3.434	A
	Exit	1	1		781			781	785	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	534	1127	0.474	532	552	1.7	1.8	11.954	B
			2	1, 2	265	1127	0.235	267	276	0.5	0.3	5.714	A
	Exit	1	1		507			507	515	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	348	957	0.363	344	345	0.3	0.6	5.183	A
			2	1, 2, 3	267	957	0.279	268	259	0.3	0.3	4.504	A
	Exit	1	1		300			300	300	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	261	987	0.264	259	258	0.4	0.4	6.417	A
			2	2, 3, 4	228	987	0.231	221	224	0.2	0.8	6.355	A
		2	1	(1, 2, 3, 4)	489			489	484	0.0	0.0	0.000	A
	Exit	1	1		834			834	851	0.0	0.0	0.000	A

08:15 - 08:30

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	437	1260	0.347	441	462	0.4	0.5	5.058	A
			2	1, 4	191	1260	0.152	190	184	0.1	0.2	3.478	A
	Exit	1	1		957			957	956	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	651	1105	0.589	644	656	1.8	3.0	15.292	C
			2	1, 2	345	1105	0.312	349	338	0.3	0.4	6.278	A
	Exit	1	1		633			633	650	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	404	894	0.452	401	413	0.6	0.9	5.941	A
			2	1, 2, 3	317	894	0.354	313	316	0.3	0.7	5.247	A
	Exit	1	1		351			351	356	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	315	943	0.335	316	317	0.4	0.7	7.488	A
			2	2, 3, 4	284	943	0.301	285	288	0.8	0.4	7.382	A
		2	1	(1, 2, 3, 4)	600			600	605	0.0	0.0	0.001	A
	Exit	1	1		999			999	1012	0.0	0.0	0.000	A

08:30 - 08:45

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	476	1264	0.377	473	477	0.5	0.9	5.101	A
			2	1, 4	193	1264	0.153	190	187	0.2	0.4	3.748	A
	Exit	1	1		925			925	955	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	642	1104	0.582	639	660	3.0	3.2	15.436	C
			2	1, 2	320	1104	0.290	320	338	0.4	0.4	6.631	A
	Exit	1	1		641			641	642	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	407	903	0.451	411	414	0.9	0.6	6.289	A
			2	1, 2, 3	325	903	0.360	328	323	0.7	0.3	5.459	A
	Exit	1	1		351			351	366	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	295	947	0.311	296	306	0.7	0.5	7.404	A
			2	2, 3, 4	271	947	0.286	271	281	0.4	0.4	6.979	A
		2	1	(1, 2, 3, 4)	565			565	586	0.0	0.0	0.000	A
	Exit	1	1		1012			1012	1022	0.0	0.0	0.000	A

08:45 - 09:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	386	1283	0.301	386	391	0.9	0.6	4.616	A
			2	1, 4	148	1283	0.115	149	155	0.4	0.2	3.578	A
	Exit	1	1		769			769	789	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	525	1130	0.465	522	535	3.2	2.0	11.613	B
			2	1, 2	288	1130	0.255	283	289	0.4	0.5	6.262	A
	Exit	1	1		495			495	517	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	327	957	0.342	326	337	0.6	0.5	5.311	A
			2	1, 2, 3	249	957	0.260	251	258	0.3	0.3	4.611	A
	Exit	1	1		296			296	299	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	238	990	0.241	239	251	0.5	0.5	6.508	A
			2	2, 3, 4	211	990	0.214	213	223	0.4	0.3	6.309	A
		2	1	(1, 2, 3, 4)	449			449	474	0.0	0.0	0.000	A
	Exit	1	1		809			809	833	0.0	0.0	0.000	A

09:00 - 09:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	349	1292	0.270	348	333	0.6	0.5	4.236	A
			2	1, 4	121	1292	0.093	120	126	0.2	0.2	3.289	A
	Exit	1	1		630			630	654	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	443	1148	0.386	439	447	2.0	1.6	10.322	B
			2	1, 2	229	1148	0.200	228	236	0.5	0.3	5.209	A
	Exit	1	1		441			441	446	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	293	1002	0.292	292	288	0.5	0.3	4.775	A
			2	1, 2, 3	194	1002	0.193	194	206	0.3	0.2	4.257	A
	Exit	1	1		259			259	257	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	214	1026	0.209	211	226	0.5	0.5	5.769	A
			2	2, 3, 4	186	1026	0.181	188	193	0.3	0.2	6.445	A
		2	1	(1, 2, 3, 4)	400			400	418	0.0	0.0	0.000	A
	Exit	1	1		690			690	696	0.0	0.0	0.000	A

Lane movements: Main Results for each time segment

07:45 - 08:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	160	40	1250	1289	0.124	158	156	0.0	0.4	4.475	
				3	154	38	1250	1287	0.120	154	161	0.0	0.1	3.948	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	128	32	1250	1288	0.100	128	126	0.0	0.1	3.150	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	19	5	1228	1131	0.017	19	21	0.0	0.1	7.505	
				4	433	108	1250	1153	0.376	431	425	0.0	1.7	10.229	
			2	1	234	59	1250	1153	0.203	233	227	0.0	0.5	5.545	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	146	37	1218	995	0.147	148	149	0.0	0.1	3.908	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	150	38	1218	996	0.151	149	140	0.0	0.2	5.329	
			2	1	179	45	1218	995	0.180	180	174	0.0	0.2	3.891	
				2	29	7	1218	1001	0.029	29	28	0.0	0.1	4.901	
				3	0.86	0.21	239	200	0.004	0.86	0.79	0.0	0.0	4.887	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	93	23	1183	1022	0.091	93	96	0.0	0.2	5.226	
				2	127	32	1183	1020	0.125	126	126	0.0	0.3	7.171	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	136	34	1183	1019	0.134	138	130	0.0	0.1	6.874	
				3	60	15	1183	1021	0.058	60	62	0.0	0.1	5.054	
				4	1	0.27	401	349	0.003	1	1	0.0	0.0	4.264	
		2	1	1	93	23	-	-	-	93	97	0.0	0.0	0.000	
				2	263	66	-	-	-	263	258	0.0	0.0	0.000	
				3	60	15	-	-	-	60	62	0.0	0.0	0.000	
				4	1	0.27	-	-	-	1	1	0.0	0.0	0.000	

08:00 - 08:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	178	45	1250	1280	0.139	180	188	0.4	0.3	4.941	
				3	198	50	1250	1279	0.155	198	195	0.1	0.1	4.254	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	153	38	1250	1280	0.119	153	153	0.1	0.1	3.434	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	24	6	1250	1129	0.021	24	27	0.1	0.1	9.521	
				4	510	128	1250	1127	0.453	507	524	1.7	1.7	12.188	
			2	1	265	66	1250	1127	0.235	267	276	0.5	0.3	5.714	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	174	43	1218	956	0.182	173	174	0.1	0.2	4.490	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	174	43	1218	956	0.182	171	171	0.2	0.4	5.922	
			2	1	224	56	1218	956	0.234	225	218	0.2	0.3	4.408	
				2	43	11	1218	952	0.045	43	41	0.1	0.0	4.996	
				3	1	0.27	283	219	0.005	1	0.93	0.0	0.0	5.789	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	118	29	1183	987	0.119	118	117	0.2	0.2	5.879	
				2	143	36	1183	985	0.145	142	141	0.3	0.3	7.183	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	149	37	1183	985	0.151	143	145	0.1	0.7	7.253	
				3	77	19	1183	988	0.078	77	77	0.1	0.1	5.373	
				4	2	0.54	528	448	0.005	2	2	0.0	0.0	4.902	
		2	1	1	118	29	-	-	-	118	117	0.0	0.0	0.000	
				2	292	73	-	-	-	292	288	0.0	0.0	0.000	
				3	77	19	-	-	-	77	77	0.0	0.0	0.000	
				4	2	0.54	-	-	-	2	2	0.0	0.0	0.000	

08:15 - 08:30

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	214	53	1250	1261	0.169	217	231	0.3	0.3	5.274	
				3	223	56	1250	1262	0.177	224	231	0.1	0.3	4.882	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	191	48	1250	1262	0.151	190	184	0.1	0.2	3.478	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	32	8	1250	1103	0.029	32	34	0.1	0.1	12.710	
				4	619	155	1250	1105	0.560	612	623	1.7	2.9	15.549	
			2	1	345	86	1250	1105	0.312	349	338	0.3	0.4	6.278	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	208	52	1218	892	0.233	206	211	0.2	0.4	4.949	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	196	49	1218	897	0.218	195	202	0.4	0.6	7.021	
			2	1	265	66	1218	894	0.296	261	266	0.3	0.6	5.118	
				2	51	13	1218	900	0.057	52	49	0.0	0.1	5.961	
				3	0.43	0.11	152	114	0.004	0.43	0.64	0.0	0.0	5.195	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	140	35	1183	940	0.148	142	141	0.2	0.2	6.693	
				2	176	44	1183	942	0.186	174	176	0.3	0.5	8.594	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	190	47	1183	944	0.201	190	194	0.7	0.3	8.082	
				3	93	23	1183	943	0.098	94	91	0.1	0.1	6.511	
				4	3	0.70	612	491	0.006	3	3	0.0	0.0	7.694	
		2	1	1	140	35	-	-	-	140	141	0.0	0.0	0.003	
				2	365	91	-	-	-	365	369	0.0	0.0	0.000	
				3	93	23	-	-	-	93	91	0.0	0.0	0.000	
				4	3	0.70	-	-	-	3	3	0.0	0.0	0.000	

08:30 - 08:45

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	237	59	1250	1263	0.187	236	232	0.3	0.5	5.490	
				3	239	60	1250	1263	0.189	237	245	0.3	0.5	4.799	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	193	48	1250	1264	0.153	190	187	0.2	0.4	3.748	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	29	7	1228	1082	0.027	29	31	0.1	0.2	14.002	
				4	613	153	1250	1104	0.555	611	629	2.9	3.0	15.567	
			2	1	320	80	1250	1104	0.289	320	338	0.4	0.4	6.631	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	200	50	1218	903	0.222	203	210	0.4	0.3	5.351	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	206	52	1218	900	0.229	209	204	0.6	0.3	7.308	
			2	1	271	68	1218	900	0.301	274	273	0.6	0.1	5.229	
				2	52	13	1218	896	0.058	52	49	0.1	0.1	6.749	
				3	1	0.32	348	255	0.005	1	1	0.0	0.0	5.800	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	129	32	1183	944	0.137	128	134	0.2	0.2	6.572	
				2	165	41	1183	943	0.175	168	172	0.5	0.3	8.530	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	185	46	1183	945	0.196	185	189	0.3	0.4	7.898	
				3	83	21	1183	942	0.088	84	90	0.1	0.1	5.891	
				4	2	0.59	528	424	0.006	2	2	0.0	0.0	5.405	
		2	1	1	129	32	-	-	-	129	134	0.0	0.0	0.000	
				2	351	88	-	-	-	351	360	0.0	0.0	0.000	
				3	83	21	-	-	-	83	90	0.0	0.0	0.000	
				4	2	0.59	-	-	-	2	2	0.0	0.0	0.000	

08:45 - 09:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	185	46	1250	1284	0.144	185	193	0.5	0.3	4.960	
				3	200	50	1250	1282	0.156	200	198	0.5	0.3	4.342	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	148	37	1250	1284	0.115	149	155	0.4	0.2	3.578	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	27	7	1250	1125	0.024	26	28	0.2	0.1	9.173	
				4	498	125	1250	1131	0.441	496	507	3.0	1.9	11.866	
			2	1	288	72	1250	1131	0.255	283	289	0.4	0.5	6.262	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	166	41	1218	958	0.173	164	168	0.3	0.3	4.516	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	161	40	1218	958	0.168	162	169	0.3	0.2	6.148	
			2	1	212	53	1218	956	0.221	212	218	0.1	0.2	4.496	
				2	36	9	1218	958	0.037	36	38	0.1	0.0	5.289	
				3	2	0.43	305	240	0.007	2	1	0.0	0.0	4.821	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	110	27	1183	989	0.111	110	114	0.2	0.2	5.901	
				2	129	32	1183	991	0.130	130	137	0.3	0.3	7.392	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	142	36	1183	992	0.144	143	149	0.4	0.2	7.284	
				3	66	17	1183	989	0.067	68	72	0.1	0.1	5.167	
				4	2	0.54	549	455	0.005	2	3	0.0	0.0	5.336	
		2	1	1	110	27	-	-	-	110	115	0.0	0.0	0.000	
				2	271	68	-	-	-	271	286	0.0	0.0	0.000	
				3	66	17	-	-	-	66	72	0.0	0.0	0.000	
				4	2	0.54	-	-	-	2	3	0.0	0.0	0.000	

09:00 - 09:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	171	43	1250	1291	0.132	170	160	0.3	0.3	4.591	
				3	179	45	1250	1292	0.139	179	172	0.3	0.3	3.968	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	121	30	1250	1292	0.093	120	126	0.2	0.2	3.289	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	21	5	1250	1147	0.018	20	21	0.1	0.1	6.858	
				4	422	105	1250	1148	0.368	419	426	1.9	1.5	10.644	
			2	1	229	57	1250	1146	0.200	228	236	0.5	0.3	5.209	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	144	36	1218	1003	0.143	143	145	0.3	0.2	4.204	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	149	37	1218	1000	0.149	149	143	0.2	0.1	5.386	
			2	1	162	41	1218	1000	0.162	162	172	0.2	0.2	4.087	
				2	30	8	1218	998	0.030	30	34	0.0	0.1	5.143	
				3	1	0.32	218	178	0.007	1	0.93	0.0	0.0	4.742	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	99	25	1183	1024	0.096	97	102	0.2	0.1	5.072	
				2	116	29	1183	1024	0.113	113	124	0.3	0.4	6.753	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	126	32	1183	1026	0.123	128	128	0.2	0.2	7.330	
				3	58	15	1183	1027	0.057	59	63	0.1	0.0	5.374	
				4	1	0.27	296	254	0.004	1	1	0.0	0.0	6.775	
		2	1	1	99	25	-	-	-	99	101	0.0	0.0	0.000	
				2	242	60	-	-	-	242	253	0.0	0.0	0.000	
				3	58	15	-	-	-	58	63	0.0	0.0	0.000	
				4	1	0.27	-	-	-	1	1	0.0	0.0	0.000	

2027 | Base + Committed (Burr Road Rdbt Impact) | PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	4 - A1077 (N) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Info	Simulation	A1 - [Lane Simulation]	This run uses Simulation mode. For detailed information on this mode, please see the User Guide.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	7.89	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	7.89	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2027	Base + Committed (Burr Road Rdbt Impact)	PM	ONE HOUR	16:45	18:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - A18 Doncaster Road (E)		ONE HOUR	✓	653	100.000
2 - A1077 (S)		ONE HOUR	✓	614	100.000
3 - A18 Doncaster Road (W)		ONE HOUR	✓	395	100.000
4 - A1077 (N)		ONE HOUR	✓	1013	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - A18 Doncaster Road (E)	2 - A1077 (S)	3 - A18 Doncaster Road (W)	4 - A1077 (N)
From	1 - A18 Doncaster Road (E)	3	162	366	122
	2 - A1077 (S)	313	0	25	276
	3 - A18 Doncaster Road (W)	288	18	3	86
	4 - A1077 (N)	328	476	209	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Junction	PCU factor for a cyclist	PCU factor for a cyclist in controlling flow
1	0.20	0.80

Heavy Vehicle %

		To			
		1 - A18 Doncaster Road (E)	2 - A1077 (S)	3 - A18 Doncaster Road (W)	4 - A1077 (N)
From	1 - A18 Doncaster Road (E)	0	24	1	9
	2 - A1077 (S)	37	0	4	93
	3 - A18 Doncaster Road (W)	3	6	0	8
	4 - A1077 (N)	7	85	8	0

Cyclist %

		To			
		1 - A18 Doncaster Road (E)	2 - A1077 (S)	3 - A18 Doncaster Road (W)	A1 (
From	1 - A18 Doncaster Road (E)	0	0	0	
	2 - A1077 (S)	0	0	0	
	3 - A18 Doncaster Road (W)	0	0	0	
	4 - A1077 (N)	0	0	0	

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - A18 Doncaster Road (E)	0.33	5.92	1.4	A	602	903
2 - A1077 (S)	0.35	8.68	1.6	A	569	853
3 - A18 Doncaster Road (W)	0.23	4.42	0.7	A	369	554
4 - A1077 (N)	0.59	10.10	3.0	B	919	1379

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	487	122	526	2286	0.213	485	485	698	0.0	0.7	4.236	A
2 - A1077 (S)	483	121	513	2252	0.214	486	462	498	0.0	0.9	6.597	A
3 - A18 Doncaster Road (W)	299	75	552	2168	0.138	298	298	447	0.0	0.4	3.757	A
4 - A1077 (N)	757	189	471	1986	0.381	753	744	379	0.0	1.3	6.639	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	588	147	613	2226	0.264	586	593	816	0.7	0.8	4.766	A
2 - A1077 (S)	554	138	627	2098	0.264	554	555	573	0.9	1.3	6.992	A
3 - A18 Doncaster Road (W)	360	90	644	2051	0.175	359	370	537	0.4	0.5	4.027	A
4 - A1077 (N)	874	218	557	1924	0.454	870	898	446	1.3	2.2	7.752	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	723	181	782	2196	0.329	724	729	1050	0.8	1.2	5.474	A
2 - A1077 (S)	695	174	789	2011	0.345	695	677	717	1.3	1.6	7.864	A
3 - A18 Doncaster Road (W)	438	110	810	2053	0.213	441	446	675	0.5	0.7	4.421	A
4 - A1077 (N)	1123	281	708	1903	0.590	1125	1114	543	2.2	3.0	9.154	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	741	185	750	2236	0.331	737	721	1056	1.2	1.4	5.916	A
2 - A1077 (S)	674	169	767	2052	0.328	678	677	720	1.6	1.6	8.680	A
3 - A18 Doncaster Road (W)	455	114	795	1958	0.232	454	449	654	0.7	0.3	4.315	A
4 - A1077 (N)	1092	273	715	1914	0.571	1091	1106	531	3.0	2.7	10.101	B

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	612	153	649	2253	0.272	613	611	835	1.4	0.7	5.136	A
2 - A1077 (S)	526	131	653	2180	0.241	526	543	610	1.6	1.2	7.391	A
3 - A18 Doncaster Road (W)	365	91	609	2063	0.177	364	358	569	0.3	0.5	4.038	A
4 - A1077 (N)	910	228	567	1965	0.463	918	919	406	2.7	2.1	7.567	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	462	115	532	2300	0.201	460	475	712	0.7	0.6	4.068	A
2 - A1077 (S)	482	120	506	2210	0.218	482	473	486	1.2	0.8	6.457	A
3 - A18 Doncaster Road (W)	299	75	553	2134	0.140	300	308	435	0.5	0.3	3.782	A
4 - A1077 (N)	759	190	484	1995	0.381	758	785	369	2.1	1.3	6.657	A

Lane Results

Lane Level notation: Lane Level 1 is always closest to the junction.

Lanes: Main Results for each time segment

16:45 - 17:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	398	1258	0.316	397	393	0.0	0.6	4.468	A
			2	1, 4	89	1258	0.071	88	92	0.0	0.1	3.226	A
	Exit	1	1		698			698	693	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	245	1104	0.222	247	231	0.0	0.5	7.674	A
			2	1, 2	238	1104	0.216	239	231	0.0	0.4	5.761	A
	Exit	1	1		498			498	486	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	173	1063	0.163	173	170	0.0	0.3	3.850	A
			2	1, 2, 3	126	1063	0.118	125	128	0.0	0.1	3.637	A
	Exit	1	1		447			447	446	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	412	1052	0.392	410	404	0.0	0.7	6.835	A
			2	2, 3, 4	344	1052	0.327	342	340	0.0	0.6	6.388	A
		2	1	(1, 2, 3, 4)	757			757	750	0.0	0.0	0.000	A
	Exit	1	1		379			379	364	0.0	0.0	0.000	A

17:00 - 17:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	473	1243	0.381	473	479	0.6	0.7	5.082	A
			2	1, 4	114	1243	0.092	113	113	0.1	0.1	3.403	A
	Exit	1	1		816			816	847	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	279	1072	0.260	277	271	0.5	0.9	7.606	A
			2	1, 2	275	1072	0.257	278	284	0.4	0.3	6.545	A
	Exit	1	1		573			573	575	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	209	1037	0.201	207	209	0.3	0.4	4.211	A
			2	1, 2, 3	151	1037	0.146	152	160	0.1	0.1	3.792	A
	Exit	1	1		537			537	552	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	473	1029	0.460	472	487	0.7	1.1	7.736	A
			2	2, 3, 4	401	1029	0.390	399	411	0.6	1.1	7.766	A
		2	1	(1, 2, 3, 4)	874			874	901	0.0	0.0	0.003	A
	Exit	1	1		446			446	441	0.0	0.0	0.000	A

17:15 - 17:30

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	581	1213	0.479	581	589	0.7	1.1	5.896	A
			2	1, 4	142	1213	0.117	143	140	0.1	0.1	3.663	A
	Exit	1	1		1050			1050	1030	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	341	1025	0.333	343	334	0.9	1.0	8.895	A
			2	1, 2	353	1025	0.345	353	343	0.3	0.6	7.105	A
	Exit	1	1		717			717	730	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	238	991	0.240	239	246	0.4	0.4	4.657	A
			2	1, 2, 3	200	991	0.202	202	200	0.1	0.2	4.137	A
	Exit	1	1		675			675	670	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	604	987	0.612	606	594	1.1	1.7	9.363	A
			2	2, 3, 4	518	987	0.525	518	521	1.1	1.3	8.745	A
		2	1	(1, 2, 3, 4)	1123			1123	1118	0.0	0.0	0.065	A
	Exit	1	1		543			543	536	0.0	0.0	0.000	A

17:30 - 17:45

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	604	1219	0.495	598	582	1.1	1.3	6.418	A
			2	1, 4	138	1219	0.113	139	140	0.1	0.1	3.798	A
	Exit	1	1		1056			1056	1043	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	322	1031	0.312	326	326	1.0	0.8	10.109	B
			2	1, 2	352	1031	0.342	353	352	0.6	0.8	7.679	A
	Exit	1	1		720			720	732	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	253	996	0.254	253	252	0.4	0.2	4.468	A
			2	1, 2, 3	202	996	0.203	201	197	0.2	0.2	4.121	A
	Exit	1	1		654			654	645	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	597	985	0.606	597	599	1.7	1.4	10.364	B
			2	2, 3, 4	496	985	0.503	495	507	1.3	1.3	9.322	A
		2	1	(1, 2, 3, 4)	1092			1092	1105	0.0	0.0	0.189	A
	Exit	1	1		531			531	533	0.0	0.0	0.000	A

17:45 - 18:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	505	1236	0.409	505	496	1.3	0.7	5.454	A
			2	1, 4	107	1236	0.087	108	115	0.1	0.0	3.748	A
	Exit	1	1		835			835	844	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	245	1064	0.230	244	259	0.8	0.8	8.150	A
			2	1, 2	281	1064	0.264	281	284	0.8	0.4	6.852	A
	Exit	1	1		610			610	601	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	209	1047	0.200	209	202	0.2	0.2	4.148	A
			2	1, 2, 3	156	1047	0.149	154	157	0.2	0.3	3.897	A
	Exit	1	1		569			569	562	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	486	1026	0.474	490	495	1.4	1.2	7.818	A
			2	2, 3, 4	424	1026	0.414	429	425	1.3	0.9	7.246	A
		2	1	(1, 2, 3, 4)	910			910	917	0.0	0.0	0.002	A
	Exit	1	1		406			406	425	0.0	0.0	0.000	A

18:00 - 18:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	373	1257	0.296	370	384	0.7	0.5	4.247	A
			2	1, 4	89	1257	0.071	90	91	0.0	0.1	3.300	A
2 - A1077 (S)	Entry	1	1	3, 4	240	1106	0.217	240	233	0.8	0.4	7.641	A
			2	1, 2	243	1106	0.219	242	240	0.4	0.4	5.597	A
	Exit	1	1		486			486	506	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	164	1063	0.155	166	173	0.2	0.1	3.880	A
			2	1, 2, 3	135	1063	0.127	135	134	0.3	0.2	3.658	A
	Exit	1	1		435			435	452	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	415	1049	0.395	414	427	1.2	0.8	6.661	A
			2	2, 3, 4	345	1049	0.329	345	358	0.9	0.5	6.652	A
		2	1	(1, 2, 3, 4)	759			759	782	0.0	0.0	0.000	A
	Exit	1	1		369			369	366	0.0	0.0	0.000	A

Lane movements: Main Results for each time segment

16:45 - 17:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsi l s
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	128	32	1250	1259	0.101	128	121	0.0	0.2	4.931	
				3	270	67	1250	1259	0.214	269	272	0.0	0.4	4.300	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0.80	0.20	556	560	0.001	0.80	2	0.0	0.0	3.422	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	89	22	1250	1260	0.070	87	90	0.0	0.1	3.221	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	22	5	1250	1102	0.020	22	18	0.0	0.0	4.434	
				4	223	56	1250	1102	0.202	225	213	0.0	0.5	8.190	
			2	1	238	60	1250	1103	0.216	239	231	0.0	0.4	5.761	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	106	26	1218	1062	0.100	106	107	0.0	0.1	3.711	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	67	17	1218	1060	0.064	67	62	0.0	0.1	4.104	
			2	1	112	28	1218	1063	0.105	111	113	0.0	0.1	3.578	
				2	10	3	1191	1041	0.010	10	13	0.0	0.0	3.950	
				3	3	0.87	487	429	0.008	3	2	0.0	0.0	4.790	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	242	60	1183	1051	0.230	240	239	0.0	0.4	6.571	
				2	170	43	1183	1050	0.162	171	165	0.0	0.3	7.501	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	193	48	1183	1050	0.183	190	187	0.0	0.4	7.260	
				3	152	38	1183	1051	0.144	153	154	0.0	0.2	5.772	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	242	60	-	-	-	242	241	0.0	0.0	0.000	
				2	362	91	-	-	-	362	355	0.0	0.0	0.000	
				3	152	38	-	-	-	152	154	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	

17:00 - 17:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsi l s
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	147	37	1250	1245	0.118	147	141	0.2	0.3	5.691	
				3	326	82	1250	1244	0.262	326	338	0.4	0.4	4.877	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	2	0.40	611	608	0.003	2	3	0.0	0.0	2.813	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	113	28	1250	1240	0.091	111	110	0.1	0.1	3.420	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	23	6	1250	1071	0.021	23	22	0.0	0.0	4.985	
				4	256	64	1250	1070	0.240	253	248	0.5	0.9	8.039	
			2	1	275	69	1250	1070	0.257	278	284	0.4	0.3	6.545	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	125	31	1218	1039	0.121	125	127	0.1	0.2	3.838	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	82	21	1218	1041	0.079	81	82	0.1	0.2	4.817	
			2	1	132	33	1218	1039	0.127	133	140	0.1	0.1	3.753	
				2	16	4	1218	1042	0.016	16	17	0.0	0.0	3.924	
				3	3	0.67	650	560	0.005	3	3	0.0	0.0	4.908	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	276	69	1183	1027	0.268	278	292	0.4	0.4	7.571	
				2	197	49	1183	1030	0.192	196	195	0.3	0.7	8.158	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	218	54	1183	1028	0.212	214	222	0.4	0.8	8.461	
				3	183	46	1183	1027	0.178	185	188	0.2	0.3	7.287	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	276	69	-	-	-	276	292	0.0	0.0	0.005	
				2	415	104	-	-	-	415	420	0.0	0.0	0.002	
				3	183	46	-	-	-	183	189	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	

17:15 - 17:30

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsi l s
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	170	42	1250	1213	0.140	169	179	0.3	0.4	6.463	
				3	411	103	1250	1214	0.339	412	409	0.4	0.7	5.694	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	3	0.73	889	866	0.003	3	4	0.0	0.0	3.457	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	139	35	1250	1213	0.115	140	136	0.1	0.1	3.669	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	29	7	1250	1032	0.028	29	30	0.0	0.1	6.707	
				4	312	78	1250	1026	0.304	313	304	0.9	0.9	9.297	
			2	1	353	88	1250	1027	0.344	353	343	0.3	0.6	7.105	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	150	38	1218	991	0.152	150	151	0.2	0.2	4.127	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	88	22	1218	995	0.089	89	95	0.2	0.2	5.535	
			2	1	176	44	1218	991	0.178	178	176	0.1	0.2	4.041	
				2	20	5	1137	936	0.022	21	21	0.0	0.0	4.948	
				3	3	0.80	677	551	0.006	3	3	0.0	0.0	4.152	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	363	91	1183	987	0.368	366	356	0.4	1.0	9.467	
				2	241	60	1183	989	0.244	241	238	0.7	0.7	9.093	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	288	72	1183	987	0.292	287	292	0.8	0.7	8.944	
				3	230	58	1183	988	0.233	230	229	0.3	0.6	8.596	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	363	91	-	-	-	363	359	0.0	0.0	0.039	
				2	529	132	-	-	-	529	530	0.0	0.0	0.088	
				3	230	58	-	-	-	230	230	0.0	0.0	0.077	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	

17:30 - 17:45

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	192	48	1250	1219	0.157	190	189	0.4	0.5	6.936	
				3	412	103	1250	1220	0.338	408	393	0.7	0.8	6.215	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	4	1	667	647	0.006	4	4	0.0	0.0	3.552	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	134	34	1250	1218	0.110	135	136	0.1	0.1	3.805	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	26	6	1250	1036	0.025	26	27	0.1	0.1	7.104	
				4	296	74	1250	1032	0.287	300	298	0.9	0.7	10.623	
			2	1	352	88	1250	1033	0.341	353	352	0.6	0.8	7.679	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	156	39	1218	997	0.157	157	153	0.2	0.1	4.095	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	96	24	1218	998	0.097	96	99	0.2	0.1	5.073	
			2	1	177	44	1218	998	0.178	177	171	0.2	0.1	4.042	
				2	22	5	1218	1000	0.022	21	22	0.0	0.0	4.753	
				3	3	0.80	650	532	0.006	3	3	0.0	0.0	4.004	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	367	92	1183	984	0.372	366	363	1.0	1.0	10.311	
				2	229	57	1183	985	0.233	231	236	0.7	0.4	10.510	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	278	70	1183	985	0.283	278	285	0.7	0.7	9.770	
				3	217	54	1183	987	0.220	217	222	0.6	0.6	8.988	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	367	92	-	-	-	367	363	0.0	0.0	0.229	
				2	508	127	-	-	-	508	519	0.0	0.0	0.183	
				3	217	54	-	-	-	217	222	0.0	0.0	0.131	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	

17:45 - 18:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsi l s
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	155	39	1250	1236	0.126	155	152	0.5	0.2	5.988	
				3	350	87	1250	1236	0.283	350	343	0.8	0.5	5.263	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	3	0.80	583	576	0.006	3	2	0.0	0.0	4.385	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	103	26	1250	1236	0.084	105	113	0.1	0.0	3.734	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	24	6	1250	1070	0.023	24	24	0.1	0.1	5.776	
				4	221	55	1250	1062	0.208	220	235	0.7	0.7	8.607	
			2	1	281	70	1250	1063	0.264	281	284	0.8	0.4	6.852	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	130	32	1218	1050	0.123	129	125	0.1	0.2	3.630	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	79	20	1218	1053	0.075	81	77	0.1	0.1	5.034	
			2	1	137	34	1218	1049	0.131	136	138	0.1	0.2	3.823	
				2	17	4	1191	1020	0.017	17	17	0.0	0.0	4.512	
				3	2	0.53	541	461	0.005	2	2	0.0	0.0	4.279	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	282	71	1183	1025	0.276	287	295	1.0	0.6	7.727	
				2	204	51	1183	1024	0.199	203	199	0.4	0.6	8.046	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	232	58	1183	1026	0.227	235	232	0.7	0.5	7.805	
				3	193	48	1183	1026	0.188	193	192	0.6	0.4	6.853	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	282	71	-	-	-	282	294	0.0	0.0	0.004	
				2	436	109	-	-	-	436	432	0.0	0.0	0.000	
				3	193	48	-	-	-	193	191	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	

18:00 - 18:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsi l s
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	112	28	1250	1256	0.089	112	117	0.2	0.1	4.796	
				3	260	65	1250	1257	0.207	258	267	0.5	0.4	4.049	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	2	0.47	417	418	0.004	2	2	0.0	0.0	2.025	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	87	22	1250	1257	0.070	88	89	0.0	0.1	3.325	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	19	5	1250	1102	0.018	19	20	0.1	0.0	4.619	
				4	221	55	1250	1105	0.200	221	213	0.7	0.3	8.162	
			2	1	243	61	1250	1108	0.219	242	240	0.4	0.4	5.597	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	105	26	1218	1066	0.098	106	109	0.2	0.1	3.712	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	60	15	1218	1067	0.056	60	64	0.1	0.0	4.173	
			2	1	120	30	1218	1066	0.112	120	119	0.2	0.1	3.644	
				2	14	3	1218	1065	0.013	13	13	0.0	0.0	3.626	
				3	2	0.40	569	494	0.003	2	2	0.0	0.0	4.540	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	242	61	1183	1048	0.231	241	247	0.6	0.5	6.469	
				2	173	43	1183	1050	0.164	172	180	0.6	0.3	7.124	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	189	47	1183	1048	0.180	188	195	0.5	0.2	7.119	
				3	156	39	1183	1049	0.149	157	163	0.4	0.3	6.320	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	242	61	-	-	-	242	247	0.0	0.0	0.000	
				2	361	90	-	-	-	361	373	0.0	0.0	0.000	
				3	156	39	-	-	-	156	162	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	

2027 | Base + Committed + Development (Burr Road Rdbt Impact) | AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	4 - A1077 (N) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Info	Simulation	A1 - [Lane Simulation]	This run uses Simulation mode. For detailed information on this mode, please see the User Guide.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	9.16	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	9.16	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2027	Base + Committed + Development (Burr Road Rdbt Impact)	AM	ONE HOUR	07:45	09:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - A18 Doncaster Road (E)		ONE HOUR	✓	614	100.000
2 - A1077 (S)		ONE HOUR	✓	1074	100.000
3 - A18 Doncaster Road (W)		ONE HOUR	✓	660	100.000
4 - A1077 (N)		ONE HOUR	✓	549	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - A18 Doncaster Road (E)	2 - A1077 (S)	3 - A18 Doncaster Road (W)	4 - A1077 (N)
From	1 - A18 Doncaster Road (E)	0	233	215	166
	2 - A1077 (S)	413	0	32	629
	3 - A18 Doncaster Road (W)	430	44	1	185
	4 - A1077 (N)	126	340	81	2

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Junction	PCU factor for a cyclist	PCU factor for a cyclist in controlling flow
1	0.20	0.80

Heavy Vehicle %

		To			
		1 - A18 Doncaster Road (E)	2 - A1077 (S)	3 - A18 Doncaster Road (W)	4 - A1077 (N)
From	1 - A18 Doncaster Road (E)	0	24	1	9
	2 - A1077 (S)	37	0	4	93
	3 - A18 Doncaster Road (W)	3	6	0	8
	4 - A1077 (N)	7	85	8	0

Cyclist %

		To			
		1 - A18 Doncaster Road (E)	2 - A1077 (S)	3 - A18 Doncaster Road (W)	A1 (
From	1 - A18 Doncaster Road (E)	0	0	0	
	2 - A1077 (S)	0	0	0	
	3 - A18 Doncaster Road (W)	0	0	0	
	4 - A1077 (N)	0	0	0	

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - A18 Doncaster Road (E)	0.27	4.81	1.0	A	564	846
2 - A1077 (S)	0.54	13.95	4.9	B	990	1486
3 - A18 Doncaster Road (W)	0.44	6.42	1.5	A	606	910
4 - A1077 (N)	0.35	7.91	1.6	A	503	754

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	463	116	343	2584	0.179	463	459	726	0.0	0.6	4.244	A
2 - A1077 (S)	809	202	355	2264	0.357	812	814	450	0.0	2.0	8.633	A
3 - A18 Doncaster Road (W)	488	122	915	1910	0.255	489	492	252	0.0	0.7	4.676	A
4 - A1077 (N)	404	101	665	1927	0.210	405	413	740	0.0	0.7	6.067	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	550	137	413	2519	0.218	548	558	895	0.6	0.8	4.407	A
2 - A1077 (S)	972	243	402	2284	0.426	964	981	560	2.0	3.2	10.273	B
3 - A18 Doncaster Road (W)	615	154	1077	1869	0.329	616	605	289	0.7	0.9	5.191	A
4 - A1077 (N)	485	121	828	1825	0.266	480	498	865	0.7	1.1	6.837	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	656	164	517	2558	0.257	657	680	1054	0.8	0.9	4.743	A
2 - A1077 (S)	1180	295	509	2199	0.537	1181	1173	665	3.2	4.9	13.945	B
3 - A18 Doncaster Road (W)	714	179	1324	1684	0.424	711	720	364	0.9	1.5	6.303	A
4 - A1077 (N)	601	150	967	1775	0.339	604	615	1068	1.1	1.2	7.749	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	681	170	510	2545	0.268	682	679	1055	0.9	0.8	4.806	A
2 - A1077 (S)	1187	297	519	2203	0.539	1184	1192	673	4.9	4.9	13.687	B
3 - A18 Doncaster Road (W)	729	182	1344	1655	0.440	726	733	359	1.5	1.4	6.417	A
4 - A1077 (N)	609	152	960	1739	0.350	604	621	1110	1.2	1.6	7.911	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	569	142	417	2581	0.220	565	567	871	0.8	1.0	4.579	A
2 - A1077 (S)	970	242	429	2233	0.434	976	977	553	4.9	2.6	10.154	B
3 - A18 Doncaster Road (W)	595	149	1092	1857	0.321	593	602	313	1.4	1.0	5.343	A
4 - A1077 (N)	496	124	797	1860	0.267	492	501	888	1.6	1.3	6.816	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	465	116	354	2541	0.183	462	466	739	1.0	0.7	4.190	A
2 - A1077 (S)	825	206	350	2325	0.355	825	825	466	2.6	2.0	8.146	A
3 - A18 Doncaster Road (W)	498	124	924	1845	0.270	495	509	251	1.0	0.9	4.873	A
4 - A1077 (N)	421	105	675	1931	0.218	419	426	744	1.3	0.9	6.134	A

Lane Results

Lane Level notation: Lane Level 1 is always closest to the junction.

Lanes: Main Results for each time segment

07:45 - 08:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	337	1290	0.261	336	333	0.0	0.5	4.563	A
			2	1, 4	127	1290	0.098	127	125	0.0	0.1	3.423	A
	Exit	1	1		726			726	732	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	497	1149	0.433	497	499	0.0	1.5	10.821	B
			2	1, 2	312	1149	0.271	315	316	0.0	0.5	6.070	A
	Exit	1	1		450			450	457	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	283	961	0.295	284	288	0.0	0.5	4.922	A
			2	1, 2, 3	204	961	0.213	205	204	0.0	0.2	4.333	A
	Exit	1	1		252			252	247	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	211	999	0.211	211	220	0.0	0.3	6.022	A
			2	2, 3, 4	193	999	0.193	194	193	0.0	0.4	6.122	A
		2	1	(1, 2, 3, 4)	404			404	416	0.0	0.0	0.000	A
	Exit	1	1		740			740	742	0.0	0.0	0.000	A

08:00 - 08:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	409	1278	0.320	406	410	0.5	0.7	4.759	A
			2	1, 4	142	1278	0.111	141	148	0.1	0.1	3.469	A
	Exit	1	1		895			895	891	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	592	1136	0.521	585	603	1.5	2.2	13.135	B
			2	1, 2	381	1136	0.335	380	378	0.5	1.0	6.904	A
	Exit	1	1		560			560	563	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	346	916	0.378	347	345	0.5	0.5	5.554	A
			2	1, 2, 3	269	916	0.293	269	261	0.2	0.4	4.722	A
	Exit	1	1		289			289	294	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	260	954	0.273	258	266	0.3	0.7	6.915	A
			2	2, 3, 4	225	954	0.236	223	232	0.4	0.5	6.740	A
		2	1	(1, 2, 3, 4)	485			485	500	0.0	0.0	0.000	A
	Exit	1	1		865			865	894	0.0	0.0	0.000	A

08:15 - 08:30

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	477	1260	0.379	479	496	0.7	0.8	5.196	A
			2	1, 4	179	1260	0.142	178	184	0.1	0.2	3.545	A
	Exit	1	1		1054			1054	1064	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	722	1105	0.653	722	713	2.2	3.8	18.516	C
			2	1, 2	457	1105	0.414	457	459	1.0	1.2	8.631	A
	Exit	1	1		665			665	683	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	405	846	0.479	402	405	0.5	1.0	6.812	A
			2	1, 2, 3	308	846	0.364	309	315	0.4	0.5	5.658	A
	Exit	1	1		364			364	374	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	309	915	0.338	312	323	0.7	0.5	7.638	A
			2	2, 3, 4	293	915	0.320	291	293	0.5	0.7	7.878	A
		2	1	(1, 2, 3, 4)	601			601	616	0.0	0.0	0.000	A
	Exit	1	1		1068			1068	1068	0.0	0.0	0.000	A

08:30 - 08:45

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	493	1261	0.391	494	495	0.8	0.6	5.291	A
			2	1, 4	188	1261	0.149	188	185	0.2	0.2	3.540	A
	Exit	1	1		1055			1055	1063	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	733	1102	0.665	735	747	3.8	3.5	18.018	C
			2	1, 2	454	1102	0.412	449	445	1.2	1.4	8.328	A
	Exit	1	1		673			673	687	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	411	841	0.489	409	410	1.0	0.8	6.935	A
			2	1, 2, 3	318	841	0.378	317	323	0.5	0.5	5.775	A
	Exit	1	1		359			359	367	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	326	917	0.355	324	329	0.5	0.7	7.652	A
			2	2, 3, 4	283	917	0.309	281	292	0.7	0.9	8.222	A
		2	1	(1, 2, 3, 4)	609			609	623	0.0	0.0	0.000	A
	Exit	1	1		1110			1110	1109	0.0	0.0	0.000	A

08:45 - 09:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	422	1277	0.331	421	414	0.6	0.7	4.967	A
			2	1, 4	146	1277	0.114	144	153	0.2	0.3	3.555	A
	Exit	1	1		871			871	876	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	599	1128	0.531	600	610	3.5	1.9	12.986	B
			2	1, 2	371	1128	0.329	376	367	1.4	0.7	6.724	A
	Exit	1	1		553			553	566	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	344	912	0.377	342	343	0.8	0.6	5.582	A
			2	1, 2, 3	251	912	0.275	250	259	0.5	0.4	5.031	A
	Exit	1	1		313			313	303	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	259	962	0.269	257	268	0.7	0.6	6.862	A
			2	2, 3, 4	237	962	0.246	234	232	0.9	0.7	6.760	A
		2	1	(1, 2, 3, 4)	496			496	500	0.0	0.0	0.000	A
	Exit	1	1		888			888	901	0.0	0.0	0.000	A

09:00 - 09:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	340	1288	0.264	339	347	0.7	0.5	4.475	A
			2	1, 4	125	1288	0.097	123	119	0.3	0.3	3.397	A
	Exit	1	1		739			739	746	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	498	1151	0.433	499	501	1.9	1.5	10.054	B
			2	1, 2	326	1151	0.284	327	323	0.7	0.5	5.957	A
	Exit	1	1		466			466	479	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	289	959	0.301	289	294	0.6	0.5	5.126	A
			2	1, 2, 3	209	959	0.218	206	215	0.4	0.4	4.534	A
	Exit	1	1		251			251	255	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	231	996	0.231	228	228	0.6	0.6	6.380	A
			2	2, 3, 4	190	996	0.191	191	198	0.7	0.3	5.833	A
		2	1	(1, 2, 3, 4)	421			421	424	0.0	0.0	0.000	A
	Exit	1	1		744			744	746	0.0	0.0	0.000	A

Lane movements: Main Results for each time segment

07:45 - 08:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	175	44	1250	1289	0.135	174	175	0.0	0.3	4.900	
				3	162	40	1250	1290	0.125	162	159	0.0	0.2	4.260	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	127	32	1250	1290	0.098	127	125	0.0	0.1	3.423	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	26	6	1250	1152	0.023	25	25	0.0	0.1	8.671	
				4	471	118	1250	1150	0.410	472	474	0.0	1.4	11.037	
			2	1	312	78	1250	1149	0.271	315	316	0.0	0.5	6.070	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	144	36	1218	960	0.150	145	147	0.0	0.1	4.338	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	139	35	1218	961	0.145	139	141	0.0	0.4	5.556	
			2	1	176	44	1218	961	0.184	177	171	0.0	0.2	4.200	
				2	28	7	1218	965	0.029	28	32	0.0	0.0	5.064	
				3	0.16	0.04	198	157	0.001	0.16	0.70	0.0	0.0	4.220	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	91	23	1183	1000	0.091	90	98	0.0	0.2	5.500	
				2	120	30	1183	1000	0.120	121	121	0.0	0.1	6.753	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	127	32	1183	997	0.127	128	129	0.0	0.3	7.029	
				3	64	16	1183	999	0.064	65	63	0.0	0.0	5.030	
				4	2	0.45	463	391	0.005	2	2	0.0	0.0	5.617	
		2	1	1	91	23	-	-	-	91	99	0.0	0.0	0.000	
				2	247	62	-	-	-	247	252	0.0	0.0	0.000	
				3	64	16	-	-	-	64	63	0.0	0.0	0.000	
				4	2	0.45	-	-	-	2	2	0.0	0.0	0.000	

08:00 - 08:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	220	55	1250	1278	0.172	217	216	0.3	0.5	5.122	
				3	189	47	1250	1278	0.148	189	194	0.2	0.2	4.431	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	142	35	1250	1278	0.111	141	148	0.1	0.1	3.469	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	29	7	1250	1133	0.026	30	28	0.1	0.1	10.521	
				4	563	141	1250	1136	0.495	554	575	1.4	2.1	13.371	
			2	1	381	95	1250	1136	0.335	380	378	0.5	1.0	6.904	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	179	45	1218	916	0.195	179	176	0.1	0.2	4.683	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	168	42	1218	916	0.183	168	169	0.4	0.3	6.500	
			2	1	225	56	1218	914	0.246	226	221	0.2	0.2	4.635	
				2	43	11	1218	916	0.047	42	39	0.0	0.1	5.192	
				3	0.65	0.16	247	186	0.003	0.65	0.97	0.0	0.0	6.071	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	108	27	1183	955	0.113	110	117	0.2	0.1	6.351	
				2	152	38	1183	956	0.159	148	149	0.1	0.5	7.666	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	154	39	1183	955	0.162	152	160	0.3	0.3	7.355	
				3	69	17	1183	957	0.072	69	70	0.0	0.1	5.929	
				4	1	0.36	384	310	0.005	1	2	0.0	0.0	6.587	
		2	1	1	108	27	-	-	-	108	117	0.0	0.0	0.000	
				2	306	77	-	-	-	306	311	0.0	0.0	0.000	
				3	69	17	-	-	-	69	71	0.0	0.0	0.000	
				4	1	0.36	-	-	-	1	2	0.0	0.0	0.000	

08:15 - 08:30

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	244	61	1250	1260	0.193	246	256	0.5	0.5	5.526	
				3	233	58	1250	1259	0.185	233	241	0.2	0.3	4.911	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	179	45	1250	1259	0.142	178	184	0.1	0.2	3.545	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	37	9	1250	1101	0.033	36	36	0.1	0.2	15.533	
				4	685	171	1250	1105	0.620	686	677	2.1	3.6	18.812	
			2	1	457	114	1250	1105	0.414	457	459	1.0	1.2	8.631	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	203	51	1218	846	0.240	201	201	0.2	0.4	5.499	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	203	51	1218	846	0.240	201	204	0.3	0.6	8.164	
			2	1	265	66	1218	847	0.313	265	266	0.2	0.4	5.547	
				2	42	10	1218	849	0.049	43	49	0.1	0.0	6.287	
				3	1	0.32	230	163	0.008	1	0.86	0.0	0.0	5.372	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	131	33	1183	915	0.143	131	138	0.1	0.3	7.193	
				2	178	45	1183	913	0.196	181	185	0.5	0.2	8.223	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	193	48	1183	914	0.211	194	194	0.3	0.4	8.766	
				3	97	24	1183	914	0.106	95	96	0.1	0.3	6.898	
				4	2	0.57	527	414	0.005	2	2	0.0	0.0	5.510	
		2	1	1	131	33	-	-	-	131	139	0.0	0.0	0.000	
				2	372	93	-	-	-	372	378	0.0	0.0	0.000	
				3	97	24	-	-	-	97	97	0.0	0.0	0.000	
				4	2	0.57	-	-	-	2	2	0.0	0.0	0.000	

08:30 - 08:45

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	253	63	1250	1261	0.200	254	254	0.5	0.2	5.668	
				3	240	60	1250	1261	0.190	240	241	0.3	0.3	4.968	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	188	47	1250	1262	0.149	188	185	0.2	0.2	3.540	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	31	8	1250	1103	0.028	30	33	0.2	0.2	15.520	
				4	703	176	1250	1102	0.637	705	714	3.6	3.3	18.234	
			2	1	454	113	1250	1102	0.412	449	445	1.2	1.4	8.328	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	196	49	1218	840	0.233	194	201	0.4	0.3	5.609	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	216	54	1218	841	0.257	215	209	0.6	0.5	8.280	
			2	1	270	68	1218	841	0.321	271	275	0.4	0.4	5.601	
				2	47	12	1218	847	0.055	46	48	0.0	0.1	6.763	
				3	0.81	0.20	247	169	0.005	0.81	0.86	0.0	0.0	7.523	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	141	35	1183	914	0.154	141	141	0.3	0.3	7.180	
				2	185	46	1183	915	0.202	183	188	0.2	0.5	8.262	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	193	48	1183	917	0.210	191	198	0.4	0.7	8.860	
				3	89	22	1183	917	0.097	89	92	0.3	0.2	7.413	
				4	2	0.41	336	257	0.006	2	2	0.0	0.0	9.196	
		2	1	1	141	35	-	-	-	141	141	0.0	0.0	0.000	
				2	378	94	-	-	-	378	388	0.0	0.0	0.000	
				3	89	22	-	-	-	89	92	0.0	0.0	0.000	
				4	2	0.41	-	-	-	2	2	0.0	0.0	0.000	

08:45 - 09:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	217	54	1250	1277	0.170	217	217	0.2	0.4	5.398	
				3	206	51	1250	1277	0.161	204	196	0.3	0.3	4.580	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	146	37	1250	1276	0.115	144	153	0.2	0.3	3.555	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	29	7	1250	1129	0.026	30	30	0.2	0.0	10.188	
				4	569	142	1250	1128	0.504	571	580	3.3	1.9	13.254	
			2	1	371	93	1250	1126	0.329	376	367	1.4	0.7	6.724	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	172	43	1218	912	0.189	171	176	0.3	0.2	4.901	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	173	43	1218	914	0.189	172	167	0.5	0.4	6.335	
			2	1	210	52	1218	912	0.230	209	217	0.4	0.3	4.906	
				2	40	10	1218	914	0.043	39	41	0.1	0.1	5.755	
				3	2	0.45	329	249	0.007	2	1	0.0	0.0	4.381	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	114	28	1183	963	0.118	115	116	0.3	0.2	6.249	
				2	145	36	1183	964	0.151	142	152	0.5	0.4	7.670	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	157	39	1183	964	0.163	155	156	0.7	0.5	7.417	
				3	78	20	1183	962	0.081	78	75	0.2	0.2	5.999	
				4	2	0.49	320	262	0.007	2	1	0.0	0.0	5.061	
		2	1	1	114	28	-	-	-	114	115	0.0	0.0	0.000	
				2	302	76	-	-	-	302	307	0.0	0.0	0.000	
				3	78	20	-	-	-	78	75	0.0	0.0	0.000	
				4	2	0.49	-	-	-	2	1	0.0	0.0	0.000	

09:00 - 09:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	181	45	1250	1287	0.140	181	181	0.4	0.2	4.735	
				3	159	40	1250	1288	0.124	159	166	0.3	0.3	4.243	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	125	31	1250	1288	0.097	123	119	0.3	0.3	3.397	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	26	6	1234	1135	0.023	26	25	0.0	0.0	7.711	
				4	473	118	1250	1151	0.411	473	477	1.9	1.4	10.284	
			2	1	326	82	1250	1151	0.284	327	323	0.7	0.5	5.957	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	144	36	1218	958	0.150	142	145	0.2	0.3	4.427	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	145	36	1218	959	0.152	147	149	0.4	0.2	5.849	
			2	1	176	44	1218	959	0.184	174	180	0.3	0.3	4.390	
				2	31	8	1218	958	0.033	31	33	0.1	0.1	5.322	
				3	0.97	0.24	313	243	0.004	0.97	1	0.0	0.0	5.212	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	98	24	1183	996	0.098	97	97	0.2	0.3	5.715	
				2	133	33	1183	997	0.133	131	130	0.4	0.3	7.249	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	123	31	1183	998	0.123	124	134	0.5	0.3	6.560	
				3	66	16	1183	998	0.066	66	63	0.2	0.1	4.939	
				4	1	0.36	416	350	0.004	1	2	0.0	0.0	5.863	
		2	1	1	98	24	-	-	-	98	98	0.0	0.0	0.000	
				2	256	64	-	-	-	256	263	0.0	0.0	0.000	
				3	66	16	-	-	-	66	62	0.0	0.0	0.000	
				4	1	0.36	-	-	-	1	2	0.0	0.0	0.000	

2027 | Base + Committed + Development (Burr Road Rdbt Impact) | PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	4 - A1077 (N) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Info	Simulation	A1 - [Lane Simulation]	This run uses Simulation mode. For detailed information on this mode, please see the User Guide.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	8.43	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	8.43	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2027	Base + Committed + Development (Burr Road Rdbt Impact)	PM	ONE HOUR	16:45	18:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - A18 Doncaster Road (E)		ONE HOUR	✓	722	100.000
2 - A1077 (S)		ONE HOUR	✓	684	100.000
3 - A18 Doncaster Road (W)		ONE HOUR	✓	397	100.000
4 - A1077 (N)		ONE HOUR	✓	1058	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - A18 Doncaster Road (E)	2 - A1077 (S)	3 - A18 Doncaster Road (W)	4 - A1077 (N)
From	1 - A18 Doncaster Road (E)	3	231	366	122
	2 - A1077 (S)	355	0	26	303
	3 - A18 Doncaster Road (W)	288	20	3	86
	4 - A1077 (N)	328	521	209	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Junction	PCU factor for a cyclist	PCU factor for a cyclist in controlling flow
1	0.20	0.80

Heavy Vehicle %

	To				
From		1 - A18 Doncaster Road (E)	2 - A1077 (S)	3 - A18 Doncaster Road (W)	4 - A1077 (N)
	1 - A18 Doncaster Road (E)	0	24	1	9
	2 - A1077 (S)	37	0	4	93
	3 - A18 Doncaster Road (W)	3	6	0	8
	4 - A1077 (N)	7	85	8	0

Cyclist %

	To				
From		1 - A18 Doncaster Road (E)	2 - A1077 (S)	3 - A18 Doncaster Road (W)	A1 (
	1 - A18 Doncaster Road (E)	0	0	0	
	2 - A1077 (S)	0	0	0	
	3 - A18 Doncaster Road (W)	0	0	0	
	4 - A1077 (N)	0	0	0	

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - A18 Doncaster Road (E)	0.38	6.67	1.9	A	659	988
2 - A1077 (S)	0.38	9.30	1.8	A	628	942
3 - A18 Doncaster Road (W)	0.23	4.31	0.6	A	369	554
4 - A1077 (N)	0.61	10.64	4.0	B	962	1443

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	548	137	555	2215	0.247	548	548	710	0.0	0.6	4.844	A
2 - A1077 (S)	524	131	519	2189	0.239	521	518	583	0.0	1.1	6.618	A
3 - A18 Doncaster Road (W)	290	72	594	2119	0.137	290	297	446	0.0	0.2	3.951	A
4 - A1077 (N)	773	193	492	2004	0.386	774	802	393	0.0	1.7	7.003	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	635	159	679	2214	0.287	635	650	906	0.6	1.0	5.280	A
2 - A1077 (S)	610	153	623	2167	0.281	610	618	691	1.1	1.5	7.558	A
3 - A18 Doncaster Road (W)	370	93	700	2046	0.181	370	362	533	0.2	0.3	3.911	A
4 - A1077 (N)	967	242	625	1950	0.496	960	967	446	1.7	2.3	8.040	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	797	199	822	2126	0.375	807	800	1070	1.0	1.4	6.625	A
2 - A1077 (S)	755	189	786	1975	0.382	761	766	842	1.5	1.7	8.830	A
3 - A18 Doncaster Road (W)	438	110	867	1922	0.228	436	446	680	0.3	0.6	4.269	A
4 - A1077 (N)	1138	284	746	1886	0.603	1146	1161	557	2.3	2.9	10.207	B

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	797	199	799	2194	0.363	797	801	1070	1.4	1.9	6.671	A
2 - A1077 (S)	761	190	770	2053	0.370	765	758	826	1.7	1.8	9.303	A
3 - A18 Doncaster Road (W)	454	113	875	1968	0.230	454	453	659	0.6	0.6	4.306	A
4 - A1077 (N)	1134	284	745	1853	0.612	1125	1164	585	2.9	4.0	10.643	B

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	646	162	686	2216	0.292	642	659	865	1.9	1.1	5.718	A
2 - A1077 (S)	595	149	630	2161	0.275	596	611	698	1.8	1.2	7.520	A
3 - A18 Doncaster Road (W)	362	90	689	2012	0.180	362	356	536	0.6	0.5	4.132	A
4 - A1077 (N)	953	238	592	1933	0.493	958	981	461	4.0	1.8	8.453	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	530	132	573	2224	0.238	533	542	742	1.1	0.7	4.524	A
2 - A1077 (S)	523	131	523	2184	0.240	524	533	583	1.2	0.9	6.867	A
3 - A18 Doncaster Road (W)	303	76	599	2184	0.139	301	306	448	0.5	0.5	3.876	A
4 - A1077 (N)	807	202	507	1958	0.412	808	800	395	1.8	1.8	7.202	A

Lane Results

Lane Level notation: Lane Level 1 is always closest to the junction.

Lanes: Main Results for each time segment

16:45 - 17:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	454	1253	0.362	453	456	0.0	0.6	5.114	A
			2	1, 4	95	1253	0.076	95	92	0.0	0.0	3.500	A
	Exit	1	1		710			710	726	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	254	1102	0.231	257	252	0.0	0.4	7.429	A
			2	1, 2	270	1102	0.245	263	266	0.0	0.7	6.031	A
	Exit	1	1		583			583	594	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	162	1052	0.155	163	166	0.0	0.1	4.049	A
			2	1, 2, 3	127	1052	0.121	127	131	0.0	0.1	3.828	A
	Exit	1	1		446			446	458	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	412	1047	0.394	411	433	0.0	0.9	7.061	A
			2	2, 3, 4	361	1047	0.345	362	370	0.0	0.7	6.929	A
		2	1	(1, 2, 3, 4)	773			773	809	0.0	0.0	0.000	A
	Exit	1	1		393			393	387	0.0	0.0	0.000	A

17:00 - 17:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	525	1231	0.426	525	538	0.6	0.8	5.668	A
			2	1, 4	111	1231	0.090	111	112	0.0	0.1	3.441	A
	Exit	1	1		906			906	896	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	288	1073	0.269	286	294	0.4	0.9	8.844	A
			2	1, 2	324	1073	0.302	325	324	0.7	0.6	6.680	A
	Exit	1	1		691			691	701	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	200	1022	0.196	200	201	0.1	0.2	4.025	A
			2	1, 2, 3	170	1022	0.167	170	161	0.1	0.1	3.770	A
	Exit	1	1		533			533	539	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	523	1010	0.518	519	526	0.9	1.2	7.952	A
			2	2, 3, 4	444	1010	0.439	441	441	0.7	1.1	8.130	A
		2	1	(1, 2, 3, 4)	967			967	970	0.0	0.0	0.010	A
	Exit	1	1		446			446	462	0.0	0.0	0.000	A

17:15 - 17:30

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	663	1206	0.550	671	664	0.8	1.2	7.221	A
			2	1, 4	134	1206	0.111	135	136	0.1	0.2	3.725	A
	Exit	1	1		1070			1070	1080	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	360	1026	0.350	363	370	0.9	0.9	9.613	A
			2	1, 2	395	1026	0.385	398	396	0.6	0.8	8.276	A
	Exit	1	1		842			842	849	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	239	975	0.246	238	246	0.2	0.5	4.476	A
			2	1, 2, 3	198	975	0.204	198	200	0.1	0.2	4.018	A
	Exit	1	1		680			680	675	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	606	977	0.621	612	618	1.2	1.5	10.351	B
			2	2, 3, 4	531	977	0.544	535	543	1.1	1.3	9.845	A
		2	1	(1, 2, 3, 4)	1138			1137	1163	0.0	0.1	0.075	A
	Exit	1	1		557			557	567	0.0	0.0	0.000	A

17:30 - 17:45

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	653	1210	0.540	652	663	1.2	1.7	7.276	A
			2	1, 4	144	1210	0.119	144	138	0.2	0.2	3.760	A
	Exit	1	1		1070			1070	1092	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	374	1031	0.363	376	363	0.9	0.9	10.405	B
			2	1, 2	387	1031	0.375	389	396	0.8	0.9	8.529	A
	Exit	1	1		826			826	849	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	250	972	0.258	250	251	0.5	0.3	4.476	A
			2	1, 2, 3	203	972	0.209	204	202	0.2	0.2	4.099	A
	Exit	1	1		659			659	666	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	601	977	0.615	599	624	1.5	2.0	10.652	B
			2	2, 3, 4	531	977	0.544	525	539	1.3	1.8	10.173	B
		2	1	(1, 2, 3, 4)	1134			1132	1168	0.1	0.2	0.193	A
	Exit	1	1		585			585	569	0.0	0.0	0.000	A

17:45 - 18:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	533	1230	0.433	530	543	1.7	1.0	6.194	A
			2	1, 4	114	1230	0.092	113	116	0.2	0.1	3.492	A
	Exit	1	1		865			865	876	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	282	1071	0.263	282	297	0.9	0.8	8.348	A
			2	1, 2	314	1071	0.293	314	314	0.9	0.4	6.933	A
	Exit	1	1		698			698	716	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	207	1025	0.202	206	200	0.3	0.3	4.272	A
			2	1, 2, 3	155	1025	0.151	155	156	0.2	0.2	3.955	A
	Exit	1	1		536			536	550	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	517	1019	0.507	519	527	2.0	1.1	8.321	A
			2	2, 3, 4	437	1019	0.429	439	454	1.8	0.8	8.436	A
		2	1	(1, 2, 3, 4)	953			953	973	0.2	0.0	0.098	A
	Exit	1	1		461			461	465	0.0	0.0	0.000	A

18:00 - 18:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	433	1250	0.346	434	448	1.0	0.6	4.751	A
			2	1, 4	98	1250	0.078	99	94	0.1	0.1	3.439	A
	Exit	1	1		742			742	745	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	254	1101	0.231	255	260	0.8	0.4	7.441	A
			2	1, 2	269	1101	0.244	269	273	0.4	0.5	6.455	A
	Exit	1	1		583			583	581	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	168	1050	0.160	166	171	0.3	0.4	4.032	A
			2	1, 2, 3	135	1050	0.129	135	135	0.2	0.2	3.684	A
	Exit	1	1		448			448	463	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	436	1042	0.418	438	431	1.1	1.2	7.311	A
			2	2, 3, 4	370	1042	0.355	370	370	0.8	0.7	7.059	A
		2	1	(1, 2, 3, 4)	807			807	801	0.0	0.0	0.002	A
	Exit	1	1		395			395	394	0.0	0.0	0.000	A

Lane movements: Main Results for each time segment

16:45 - 17:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsi l s
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	184	46	1250	1253	0.147	183	177	0.0	0.2	5.625	
				3	270	67	1250	1253	0.215	270	279	0.0	0.3	4.851	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	2	0.48	615	615	0.003	2	2	0.0	0.0	2.918	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	93	23	1250	1251	0.074	93	90	0.0	0.0	3.518	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	21	5	1231	1084	0.020	22	21	0.0	0.0	5.002	
				4	233	58	1250	1103	0.211	235	231	0.0	0.4	7.841	
			2	1	270	67	1250	1103	0.244	263	266	0.0	0.7	6.031	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	97	24	1218	1053	0.092	99	100	0.0	0.0	3.733	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	66	16	1218	1054	0.062	64	66	0.0	0.1	4.547	
			2	1	110	27	1218	1053	0.104	110	113	0.0	0.1	3.719	
				2	15	4	1102	953	0.016	15	15	0.0	0.0	4.616	
				3	2	0.52	541	474	0.004	2	2	0.0	0.0	4.178	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	237	59	1183	1047	0.226	236	245	0.0	0.6	6.782	
				2	175	44	1183	1045	0.168	176	188	0.0	0.3	7.688	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	209	52	1183	1048	0.200	209	214	0.0	0.4	7.694	
				3	152	38	1183	1047	0.145	152	156	0.0	0.3	6.323	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	237	59	-	-	-	237	247	0.0	0.0	0.000	
				2	384	96	-	-	-	384	405	0.0	0.0	0.000	
				3	152	38	-	-	-	152	157	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	

17:00 - 17:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsi l s
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	205	51	1250	1231	0.167	203	214	0.2	0.4	6.144	
				3	320	80	1250	1230	0.260	322	324	0.3	0.4	5.412	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	3	0.71	635	624	0.005	3	3	0.0	0.0	3.030	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	108	27	1250	1230	0.088	108	110	0.0	0.1	3.452	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	20	5	1250	1074	0.019	20	20	0.0	0.0	6.244	
				4	267	67	1250	1074	0.249	265	274	0.4	0.9	9.198	
			2	1	324	81	1250	1073	0.302	325	324	0.7	0.6	6.680	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	128	32	1218	1024	0.125	127	123	0.0	0.1	3.716	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	72	18	1218	1027	0.070	73	78	0.1	0.1	4.534	
			2	1	147	37	1218	1026	0.143	147	137	0.1	0.1	3.743	
				2	20	5	1218	1025	0.019	19	21	0.0	0.0	3.890	
				3	3	0.86	638	540	0.006	3	3	0.0	0.0	4.288	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	306	76	1183	1009	0.303	303	308	0.6	0.7	7.922	
				2	217	54	1183	1010	0.215	216	217	0.3	0.5	8.026	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	256	64	1183	1011	0.253	254	250	0.4	0.6	8.524	
				3	188	47	1183	1010	0.186	187	192	0.3	0.5	7.828	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	306	76	-	-	-	306	309	0.0	0.0	0.009	
				2	473	118	-	-	-	473	468	0.0	0.0	0.010	
				3	188	47	-	-	-	188	193	0.0	0.0	0.012	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	

17:15 - 17:30

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	250	63	1250	1206	0.208	254	253	0.4	0.6	7.625	
				3	412	103	1250	1206	0.342	418	411	0.4	0.6	7.018	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	3	0.81	893	864	0.004	3	4	0.0	0.0	3.412	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	131	33	1250	1204	0.109	132	132	0.1	0.2	3.736	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	29	7	1250	1028	0.028	29	30	0.0	0.1	7.090	
				4	331	83	1250	1028	0.322	334	340	0.9	0.9	10.033	
			2	1	395	99	1250	1028	0.384	398	396	0.6	0.8	8.276	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	147	37	1218	975	0.150	147	150	0.1	0.2	4.079	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	93	23	1218	974	0.095	91	96	0.1	0.3	5.131	
			2	1	173	43	1218	974	0.178	172	173	0.1	0.2	3.936	
				2	22	5	1218	974	0.022	22	23	0.0	0.0	4.500	
				3	4	0.90	774	622	0.006	4	4	0.0	0.0	4.885	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	346	86	1183	975	0.355	350	357	0.7	0.9	10.432	
				2	260	65	1183	975	0.267	261	261	0.5	0.6	10.160	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	300	75	1183	975	0.307	305	312	0.6	0.7	10.125	
				3	231	58	1183	975	0.237	230	230	0.5	0.6	9.625	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	346	87	-	-	-	346	358	0.0	0.0	0.080	
				2	561	140	-	-	-	560	574	0.0	0.1	0.075	
				3	231	58	-	-	-	231	231	0.0	0.0	0.068	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	

17:30 - 17:45

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	247	62	1250	1211	0.204	249	257	0.6	0.6	7.565	
				3	406	102	1250	1210	0.336	403	406	0.6	1.1	7.128	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	2	0.52	675	653	0.003	2	3	0.0	0.0	4.004	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	142	35	1250	1211	0.117	142	135	0.2	0.2	3.754	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	34	8	1250	1029	0.033	34	30	0.1	0.1	7.752	
				4	340	85	1250	1030	0.330	342	333	0.9	0.8	10.843	
			2	1	387	97	1250	1031	0.375	389	396	0.8	0.9	8.529	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	149	37	1218	974	0.153	149	150	0.2	0.2	4.085	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	101	25	1218	976	0.104	101	101	0.3	0.1	5.086	
			2	1	175	44	1218	974	0.180	176	176	0.2	0.2	3.968	
				2	26	7	1199	963	0.027	26	23	0.0	0.1	4.999	
				3	2	0.48	619	493	0.004	2	2	0.0	0.0	5.225	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	355	89	1183	976	0.364	353	366	0.9	1.1	10.796	
				2	246	61	1183	977	0.252	246	258	0.6	0.9	10.299	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	309	77	1183	977	0.316	305	311	0.7	1.1	10.179	
				3	222	55	1183	977	0.227	220	228	0.6	0.7	10.169	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	356	89	-	-	-	355	367	0.0	0.1	0.221	
				2	555	139	-	-	-	555	572	0.1	0.0	0.168	
				3	222	56	-	-	-	222	229	0.0	0.0	0.184	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	

17:45 - 18:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsi l s
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	203	51	1250	1231	0.165	199	208	0.6	0.6	6.663	
				3	331	83	1250	1230	0.269	331	335	1.1	0.4	5.954	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	3	0.67	714	699	0.004	3	3	0.0	0.0	3.292	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	111	28	1250	1230	0.090	110	113	0.2	0.1	3.498	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	19	5	1250	1072	0.017	19	23	0.1	0.0	5.411	
				4	263	66	1250	1070	0.246	263	274	0.8	0.8	8.802	
			2	1	314	78	1250	1072	0.292	314	314	0.9	0.4	6.933	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	121	30	1218	1024	0.118	119	122	0.2	0.2	3.979	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	86	22	1218	1025	0.084	87	78	0.1	0.1	4.758	
			2	1	132	33	1218	1023	0.129	134	135	0.2	0.1	3.907	
				2	18	5	1160	978	0.019	18	19	0.1	0.1	4.250	
				3	3	0.86	541	453	0.008	3	3	0.0	0.0	4.349	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	294	74	1183	1018	0.289	295	302	1.1	0.5	8.339	
				2	223	56	1183	1019	0.218	224	224	0.9	0.5	8.281	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	256	64	1183	1018	0.251	257	264	1.1	0.5	8.862	
				3	181	45	1183	1019	0.177	183	190	0.7	0.3	8.093	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	294	74	-	-	-	294	300	0.1	0.0	0.073	
				2	478	120	-	-	-	478	484	0.0	0.0	0.121	
				3	181	45	-	-	-	181	189	0.0	0.0	0.105	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	

18:00 - 18:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsi l s
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	165	41	1250	1251	0.132	167	169	0.6	0.3	5.113	
				3	266	67	1250	1250	0.213	266	279	0.4	0.3	4.572	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	3	0.67	516	516	0.005	3	2	0.0	0.0	2.888	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	95	24	1250	1250	0.076	96	92	0.1	0.1	3.454	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	23	6	1250	1101	0.021	23	23	0.0	0.0	4.585	
				4	231	58	1250	1103	0.210	232	237	0.8	0.4	7.950	
			2	1	269	67	1250	1101	0.244	269	273	0.4	0.5	6.455	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	102	26	1218	1049	0.098	101	106	0.2	0.3	3.802	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	65	16	1218	1049	0.062	66	65	0.1	0.1	4.432	
			2	1	117	29	1218	1050	0.112	117	115	0.1	0.1	3.600	
				2	16	4	1218	1048	0.015	16	17	0.1	0.0	4.098	
				3	2	0.52	677	579	0.004	2	3	0.0	0.0	4.680	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	252	63	1183	1043	0.241	253	248	0.5	0.7	7.124	
				2	184	46	1183	1041	0.176	185	183	0.5	0.5	7.761	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	215	54	1183	1040	0.207	215	211	0.5	0.4	7.759	
				3	155	39	1183	1043	0.149	156	159	0.3	0.2	6.518	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	252	63	-	-	-	252	249	0.0	0.0	0.001	
				2	399	100	-	-	-	399	394	0.0	0.0	0.004	
				3	155	39	-	-	-	155	158	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	

2036 | Base + Committed | AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	4 - A1077 (N) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Info	Simulation	A1 - [Lane Simulation]	This run uses Simulation mode. For detailed information on this mode, please see the User Guide.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	12.79	B

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	12.79	B

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D7	2036	Base + Committed	AM	ONE HOUR	07:45	09:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - A18 Doncaster Road (E)		ONE HOUR	✓	955	100.000
2 - A1077 (S)		ONE HOUR	✓	1377	100.000
3 - A18 Doncaster Road (W)		ONE HOUR	✓	717	100.000
4 - A1077 (N)		ONE HOUR	✓	570	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - A18 Doncaster Road (E)	2 - A1077 (S)	3 - A18 Doncaster Road (W)	4 - A1077 (N)
From	1 - A18 Doncaster Road (E)	0	547	231	177
	2 - A1077 (S)	731	0	46	600
	3 - A18 Doncaster Road (W)	460	58	1	198
	4 - A1077 (N)	134	347	86	3

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Junction	PCU factor for a cyclist	PCU factor for a cyclist in controlling flow
1	0.20	0.80

Heavy Vehicle %

	To				
From		1 - A18 Doncaster Road (E)	2 - A1077 (S)	3 - A18 Doncaster Road (W)	4 - A1077 (N)
	1 - A18 Doncaster Road (E)	0	24	1	9
	2 - A1077 (S)	37	0	4	93
	3 - A18 Doncaster Road (W)	3	6	0	8
	4 - A1077 (N)	7	85	8	0

Cyclist %

	To				
From		1 - A18 Doncaster Road (E)	2 - A1077 (S)	3 - A18 Doncaster Road (W)	A1 (
	1 - A18 Doncaster Road (E)	0	0	0	
	2 - A1077 (S)	0	0	0	
	3 - A18 Doncaster Road (W)	0	0	0	
	4 - A1077 (N)	0	0	0	

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - A18 Doncaster Road (E)	0.45	10.49	2.8	B	873	1309
2 - A1077 (S)	0.69	18.15	8.9	C	1255	1882
3 - A18 Doncaster Road (W)	0.51	8.40	2.1	A	662	994
4 - A1077 (N)	0.40	9.38	2.2	A	527	790

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	711	178	370	2338	0.304	711	716	990	0.0	1.4	5.684	A
2 - A1077 (S)	1006	252	370	2217	0.454	996	1008	711	0.0	3.2	9.221	A
3 - A18 Doncaster Road (W)	544	136	1092	1790	0.304	544	539	275	0.0	0.8	5.170	A
4 - A1077 (N)	430	108	932	1784	0.241	429	430	703	0.0	0.9	6.642	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	849	212	461	2335	0.364	851	868	1189	1.4	1.6	7.020	A
2 - A1077 (S)	1235	309	448	2258	0.547	1242	1250	864	3.2	3.9	11.803	B
3 - A18 Doncaster Road (W)	631	158	1353	1704	0.370	634	644	336	0.8	1.0	6.079	A
4 - A1077 (N)	530	133	1119	1715	0.309	530	518	868	0.9	1.2	7.679	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	1045	261	548	2329	0.449	1047	1048	1439	1.6	2.7	9.705	A
2 - A1077 (S)	1518	380	551	2195	0.692	1510	1496	1043	3.9	8.9	17.487	C
3 - A18 Doncaster Road (W)	797	199	1665	1554	0.513	795	792	396	1.0	2.1	7.876	A
4 - A1077 (N)	628	157	1363	1568	0.401	623	636	1097	1.2	2.2	9.000	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	1051	263	548	2330	0.451	1067	1062	1443	2.7	2.8	10.489	B
2 - A1077 (S)	1524	381	559	2249	0.678	1517	1529	1055	8.9	8.0	18.153	C
3 - A18 Doncaster Road (W)	788	197	1665	1539	0.512	791	790	412	2.1	1.8	8.403	A
4 - A1077 (N)	630	157	1359	1578	0.399	631	635	1097	2.2	1.4	9.376	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	857	214	451	2343	0.366	857	870	1181	2.8	1.6	7.126	A
2 - A1077 (S)	1215	304	450	2249	0.540	1211	1257	858	8.0	5.0	13.078	B
3 - A18 Doncaster Road (W)	648	162	1330	1710	0.379	647	652	331	1.8	1.0	6.509	A
4 - A1077 (N)	518	130	1118	1685	0.308	514	521	858	1.4	1.5	7.836	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	722	180	372	2368	0.305	727	729	987	1.6	1.0	5.756	A
2 - A1077 (S)	1029	257	380	2252	0.457	1022	1061	719	5.0	3.0	9.696	A
3 - A18 Doncaster Road (W)	567	142	1119	1808	0.313	564	552	284	1.0	1.0	5.426	A
4 - A1077 (N)	424	106	936	1742	0.244	423	441	747	1.5	0.9	6.890	A

Lane Results

Lane Level notation: Lane Level 1 is always closest to the junction.

Lanes: Main Results for each time segment

07:45 - 08:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	581	1285	0.452	582	585	0.0	1.2	6.214	A
			2	1, 4	130	1285	0.101	129	131	0.0	0.2	3.442	A
	Exit	1	1		990			990	987	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	468	1145	0.409	461	468	0.0	1.8	10.211	B
			2	1, 2	538	1145	0.470	535	540	0.0	1.4	8.578	A
	Exit	1	1		711			711	713	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	312	912	0.342	313	309	0.0	0.4	5.312	A
			2	1, 2, 3	232	912	0.254	231	231	0.0	0.4	4.984	A
	Exit	1	1		275			275	279	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	241	925	0.261	239	233	0.0	0.6	6.584	A
			2	2, 3, 4	189	925	0.204	188	197	0.0	0.3	6.713	A
		2	1	(1, 2, 3, 4)	430			430	434	0.0	0.0	0.000	A
	Exit	1	1		703			703	714	0.0	0.0	0.000	A

08:00 - 08:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	699	1269	0.551	700	709	1.2	1.5	7.838	A
			2	1, 4	150	1269	0.118	151	159	0.2	0.1	3.594	A
	Exit	1	1		1189			1189	1193	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	582	1123	0.519	585	594	1.8	1.7	12.969	B
			2	1, 2	653	1123	0.581	656	656	1.4	2.2	11.016	B
	Exit	1	1		864			864	868	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	348	838	0.415	349	356	0.4	0.6	6.440	A
			2	1, 2, 3	283	838	0.337	284	288	0.4	0.4	5.639	A
	Exit	1	1		336			336	331	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	282	873	0.323	282	277	0.6	0.7	7.731	A
			2	2, 3, 4	248	873	0.284	249	242	0.3	0.5	7.616	A
		2	1	(1, 2, 3, 4)	530			530	519	0.0	0.0	0.000	A
	Exit	1	1		868			868	888	0.0	0.0	0.000	A

08:15 - 08:30

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	845	1254	0.674	847	853	1.5	2.4	11.167	B
			2	1, 4	200	1254	0.160	200	195	0.1	0.3	3.736	A
	Exit	1	1		1439			1439	1445	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	714	1093	0.653	718	706	1.7	4.0	16.597	C
			2	1, 2	804	1093	0.735	792	790	2.2	5.0	18.085	C
	Exit	1	1		1043			1043	1057	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	434	751	0.579	433	432	0.6	1.2	8.478	A
			2	1, 2, 3	363	751	0.484	362	360	0.4	0.9	7.166	A
	Exit	1	1		396			396	397	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	327	806	0.406	326	333	0.7	1.1	8.995	A
			2	2, 3, 4	301	806	0.374	297	303	0.5	1.2	8.999	A
		2	1	(1, 2, 3, 4)	628			628	641	0.0	0.0	0.003	A
	Exit	1	1		1097			1097	1074	0.0	0.0	0.000	A

08:30 - 08:45

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	856	1254	0.683	871	864	2.4	2.6	12.127	B
			2	1, 4	195	1254	0.156	195	199	0.3	0.2	3.803	A
	Exit	1	1		1443			1443	1465	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	732	1091	0.671	730	720	4.0	4.0	17.301	C
			2	1, 2	792	1091	0.726	786	809	5.0	4.0	18.727	C
	Exit	1	1		1055			1055	1053	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	430	751	0.573	432	434	1.2	1.0	8.979	A
			2	1, 2, 3	358	751	0.477	359	356	0.9	0.8	7.717	A
	Exit	1	1		412			412	407	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	336	807	0.417	338	335	1.1	0.9	9.219	A
			2	2, 3, 4	293	807	0.364	293	300	1.2	0.6	9.563	A
		2	1	(1, 2, 3, 4)	630			630	632	0.0	0.0	0.001	A
	Exit	1	1		1097			1097	1091	0.0	0.0	0.000	A

08:45 - 09:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	699	1271	0.550	700	710	2.6	1.4	7.986	A
			2	1, 4	158	1271	0.124	157	160	0.2	0.1	3.553	A
	Exit	1	1		1181			1181	1222	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	569	1122	0.507	559	578	4.0	2.8	13.178	B
			2	1, 2	647	1122	0.577	652	679	4.0	2.2	13.013	B
	Exit	1	1		858			858	866	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	365	845	0.433	366	364	1.0	0.6	6.809	A
			2	1, 2, 3	283	845	0.335	281	288	0.8	0.4	6.137	A
	Exit	1	1		331			331	333	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	273	873	0.312	269	273	0.9	0.8	7.768	A
			2	2, 3, 4	246	873	0.282	245	248	0.6	0.7	7.917	A
		2	1	(1, 2, 3, 4)	518			518	522	0.0	0.0	0.000	A
	Exit	1	1		858			858	879	0.0	0.0	0.000	A

09:00 - 09:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	589	1285	0.459	595	594	1.4	0.9	6.318	A
			2	1, 4	132	1285	0.103	132	135	0.1	0.1	3.430	A
	Exit	1	1		987			987	1017	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	490	1142	0.429	487	500	2.8	1.6	10.416	B
			2	1, 2	539	1142	0.472	535	561	2.2	1.3	9.212	A
	Exit	1	1		719			719	731	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	326	904	0.360	325	311	0.6	0.5	5.741	A
			2	1, 2, 3	241	904	0.266	239	241	0.4	0.5	5.031	A
	Exit	1	1		284			284	283	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	225	924	0.243	222	232	0.8	0.6	7.042	A
			2	2, 3, 4	200	924	0.216	201	209	0.7	0.3	6.709	A
		2	1	(1, 2, 3, 4)	424			424	438	0.0	0.0	0.000	A
	Exit	1	1		747			747	752	0.0	0.0	0.000	A

Lane movements: Main Results for each time segment

07:45 - 08:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	403	101	1250	1285	0.314	404	405	0.0	0.8	6.466	
				3	178	44	1250	1285	0.139	178	180	0.0	0.3	5.750	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	130	32	1250	1284	0.101	129	131	0.0	0.2	3.442	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	36	9	1250	1140	0.032	35	35	0.0	0.1	7.481	
				4	432	108	1250	1144	0.378	426	433	0.0	1.7	10.612	
			2	1	538	134	1250	1145	0.470	535	540	0.0	1.4	8.578	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	166	42	1218	911	0.183	166	161	0.0	0.2	4.548	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	146	36	1218	912	0.160	146	148	0.0	0.2	6.174	
			2	1	184	46	1218	912	0.202	184	185	0.0	0.2	4.835	
				2	47	12	1218	905	0.052	47	45	0.0	0.2	5.629	
				3	0.36	0.09	97	71	0.005	0.36	0.36	0.0	0.0	3.773	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	106	27	1183	925	0.115	106	101	0.0	0.2	5.810	
				2	135	34	1183	924	0.146	134	132	0.0	0.4	7.616	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	127	32	1183	926	0.137	126	131	0.0	0.3	7.458	
				3	61	15	1183	926	0.066	61	64	0.0	0.1	5.896	
				4	2	0.42	492	382	0.004	2	2	0.0	0.0	4.171	
		2	1	1	106	27	-	-	-	106	102	0.0	0.0	0.000	
				2	262	65	-	-	-	262	266	0.0	0.0	0.000	
				3	61	15	-	-	-	61	64	0.0	0.0	0.000	
				4	2	0.42	-	-	-	2	2	0.0	0.0	0.000	

08:00 - 08:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	487	122	1250	1269	0.384	488	498	0.8	1.1	8.038	
				3	211	53	1250	1270	0.166	211	211	0.3	0.4	7.454	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	150	37	1250	1269	0.118	151	159	0.2	0.1	3.594	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	41	10	1250	1121	0.037	42	42	0.1	0.1	10.230	
				4	541	135	1250	1123	0.482	543	552	1.7	1.7	13.351	
			2	1	653	163	1250	1123	0.581	656	656	1.4	2.2	11.016	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	176	44	1218	838	0.210	178	182	0.2	0.2	5.477	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	172	43	1218	836	0.206	171	175	0.2	0.4	7.483	
			2	1	231	58	1218	836	0.276	232	234	0.2	0.3	5.468	
				2	51	13	1218	835	0.061	51	52	0.2	0.0	6.430	
				3	1	0.30	229	160	0.007	1	0.87	0.0	0.0	6.051	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	123	31	1183	871	0.141	122	121	0.2	0.3	7.089	
				2	160	40	1183	872	0.183	159	156	0.4	0.4	8.595	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	164	41	1183	873	0.188	165	162	0.3	0.3	8.179	
				3	81	20	1183	874	0.093	81	77	0.1	0.1	6.946	
				4	2	0.62	527	391	0.006	2	2	0.0	0.0	6.765	
		2	1	1	123	31	-	-	-	123	121	0.0	0.0	0.000	
				2	324	81	-	-	-	324	318	0.0	0.0	0.000	
				3	81	20	-	-	-	81	77	0.0	0.0	0.001	
				4	2	0.62	-	-	-	2	2	0.0	0.0	0.000	

08:15 - 08:30

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	591	148	1250	1254	0.471	594	601	1.1	1.7	11.535	
				3	254	63	1250	1253	0.202	253	252	0.4	0.7	10.452	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	200	50	1250	1253	0.160	200	195	0.1	0.3	3.736	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	49	12	1250	1097	0.044	49	48	0.1	0.2	13.756	
				4	666	167	1250	1093	0.609	670	658	1.7	3.7	16.985	
			2	1	804	201	1250	1093	0.735	792	790	2.2	5.0	18.085	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	211	53	1218	750	0.281	209	215	0.2	0.6	7.027	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	223	56	1218	752	0.297	224	217	0.4	0.6	10.006	
			2	1	294	73	1218	751	0.391	294	293	0.3	0.7	6.916	
				2	69	17	1218	751	0.091	68	66	0.0	0.2	8.282	
				3	0.83	0.21	350	226	0.004	0.83	1	0.0	0.0	8.320	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	145	36	1183	807	0.179	145	147	0.3	0.4	8.658	
				2	182	46	1183	807	0.226	182	186	0.4	0.6	9.455	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	202	50	1183	808	0.250	200	204	0.3	0.7	9.636	
				3	96	24	1183	806	0.119	93	96	0.1	0.4	8.278	
				4	4	0.98	703	486	0.008	4	4	0.0	0.0	7.392	
		2	1	1	145	36	-	-	-	145	148	0.0	0.0	0.003	
				2	384	96	-	-	-	384	392	0.0	0.0	0.001	
				3	96	24	-	-	-	96	97	0.0	0.0	0.006	
				4	4	0.98	-	-	-	4	4	0.0	0.0	0.000	

08:30 - 08:45

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	596	149	1250	1254	0.475	606	604	1.7	1.9	12.445	
				3	260	65	1250	1255	0.207	266	260	0.7	0.8	11.523	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	195	49	1250	1255	0.156	195	199	0.3	0.2	3.803	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	50	12	1250	1088	0.046	50	50	0.2	0.2	14.990	
				4	683	171	1250	1091	0.626	680	670	3.7	3.7	17.624	
			2	1	792	198	1250	1091	0.726	786	809	5.0	4.0	18.727	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	212	53	1218	749	0.283	214	214	0.6	0.3	7.418	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	218	54	1218	751	0.290	218	219	0.6	0.7	10.574	
			2	1	296	74	1218	751	0.394	297	293	0.7	0.6	7.491	
				2	61	15	1218	750	0.081	61	61	0.2	0.1	8.862	
				3	1	0.27	446	270	0.004	1	2	0.0	0.0	7.395	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	146	36	1183	807	0.181	146	148	0.4	0.4	8.844	
				2	190	48	1183	806	0.236	192	187	0.6	0.5	9.734	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	196	49	1183	806	0.243	196	201	0.7	0.3	9.896	
				3	95	24	1183	807	0.118	94	96	0.4	0.2	9.157	
				4	3	0.74	656	440	0.007	3	3	0.0	0.0	9.560	
		2	1	1	146	36	-	-	-	146	148	0.0	0.0	0.002	
				2	386	97	-	-	-	386	386	0.0	0.0	0.000	
				3	95	24	-	-	-	95	95	0.0	0.0	0.000	
				4	3	0.74	-	-	-	3	3	0.0	0.0	0.000	

08:45 - 09:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	489	122	1250	1271	0.384	491	499	1.9	1.0	8.295	
				3	211	53	1250	1272	0.166	209	212	0.8	0.5	7.397	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	158	39	1250	1272	0.124	157	160	0.2	0.1	3.553	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	42	11	1250	1124	0.038	41	41	0.2	0.2	10.281	
				4	527	132	1250	1123	0.469	518	538	3.7	2.6	13.587	
			2	1	647	162	1250	1123	0.577	652	679	4.0	2.2	13.013	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	185	46	1218	841	0.220	185	185	0.3	0.3	5.757	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	180	45	1218	845	0.213	180	179	0.7	0.3	7.963	
			2	1	229	57	1218	845	0.271	228	235	0.6	0.4	5.954	
				2	53	13	1218	841	0.063	53	53	0.1	0.0	6.982	
				3	0.83	0.21	205	141	0.006	0.71	0.71	0.0	0.0	5.385	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	117	29	1183	872	0.134	117	124	0.4	0.2	7.018	
				2	155	39	1183	870	0.178	152	150	0.5	0.6	8.835	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	161	40	1183	873	0.185	162	165	0.3	0.5	8.650	
				3	82	20	1183	871	0.094	80	80	0.2	0.2	7.052	
				4	3	0.80	585	424	0.008	3	3	0.0	0.0	7.120	
		2	1	1	117	29	-	-	-	117	123	0.0	0.0	0.000	
				2	316	79	-	-	-	316	316	0.0	0.0	0.000	
				3	82	20	-	-	-	82	80	0.0	0.0	0.000	
				4	3	0.80	-	-	-	3	3	0.0	0.0	0.000	

09:00 - 09:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	410	103	1250	1285	0.319	415	418	1.0	0.5	6.629	
				3	179	45	1250	1285	0.139	180	177	0.5	0.3	5.714	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	132	33	1250	1285	0.103	132	135	0.1	0.1	3.430	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	38	10	1250	1144	0.034	38	37	0.2	0.1	7.957	
				4	451	113	1250	1142	0.395	449	463	2.6	1.5	10.781	
			2	1	539	135	1250	1142	0.472	535	561	2.2	1.3	9.212	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	162	40	1218	903	0.179	162	158	0.3	0.2	4.918	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	164	41	1218	902	0.181	163	153	0.3	0.3	6.627	
			2	1	194	49	1218	902	0.215	193	195	0.4	0.3	4.815	
				2	46	12	1218	901	0.051	45	45	0.0	0.2	6.005	
				3	0.48	0.12	253	185	0.003	0.48	0.95	0.0	0.0	3.789	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	98	24	1183	922	0.106	97	103	0.2	0.3	6.390	
				2	127	32	1183	922	0.137	125	129	0.6	0.3	7.937	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	132	33	1183	921	0.143	133	138	0.5	0.2	7.551	
				3	66	16	1183	924	0.071	66	68	0.2	0.1	5.723	
				4	2	0.62	457	353	0.007	2	2	0.0	0.0	6.116	
		2	1	1	98	24	-	-	-	98	103	0.0	0.0	0.000	
				2	258	65	-	-	-	258	266	0.0	0.0	0.000	
				3	66	16	-	-	-	66	68	0.0	0.0	0.000	
				4	2	0.62	-	-	-	2	2	0.0	0.0	0.000	

2036 | Base + Committed | PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	4 - A1077 (N) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Info	Simulation	A1 - [Lane Simulation]	This run uses Simulation mode. For detailed information on this mode, please see the User Guide.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	19.12	C

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	19.12	C

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D8	2036	Base + Committed	PM	ONE HOUR	16:45	18:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - A18 Doncaster Road (E)		ONE HOUR	✓	1142	100.000
2 - A1077 (S)		ONE HOUR	✓	872	100.000
3 - A18 Doncaster Road (W)		ONE HOUR	✓	438	100.000
4 - A1077 (N)		ONE HOUR	✓	1085	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - A18 Doncaster Road (E)	2 - A1077 (S)	3 - A18 Doncaster Road (W)	4 - A1077 (N)
From	1 - A18 Doncaster Road (E)	4	616	392	130
	2 - A1077 (S)	542	0	34	296
	3 - A18 Doncaster Road (W)	308	35	3	92
	4 - A1077 (N)	351	510	224	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Junction	PCU factor for a cyclist	PCU factor for a cyclist in controlling flow
1	0.20	0.80

Heavy Vehicle %

	To				
		1 - A18 Doncaster Road (E)	2 - A1077 (S)	3 - A18 Doncaster Road (W)	4 - A1077 (N)
From	1 - A18 Doncaster Road (E)	0	24	1	9
	2 - A1077 (S)	37	0	4	93
	3 - A18 Doncaster Road (W)	3	6	0	8
	4 - A1077 (N)	7	85	8	0

Cyclist %

	To				
		1 - A18 Doncaster Road (E)	2 - A1077 (S)	3 - A18 Doncaster Road (W)	A1 (
From	1 - A18 Doncaster Road (E)	0	0	0	
	2 - A1077 (S)	0	0	0	
	3 - A18 Doncaster Road (W)	0	0	0	
	4 - A1077 (N)	0	0	0	

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - A18 Doncaster Road (E)	0.68	35.57	12.8	E	1045	1567
2 - A1077 (S)	0.49	12.04	3.4	B	795	1192
3 - A18 Doncaster Road (W)	0.27	4.92	0.7	A	403	605
4 - A1077 (N)	0.69	13.27	4.1	B	996	1495

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	856	214	565	1949	0.439	853	848	890	0.0	2.0	7.604	A
2 - A1077 (S)	632	158	558	2211	0.286	632	649	860	0.0	1.5	7.684	A
3 - A18 Doncaster Road (W)	329	82	710	2026	0.162	329	327	481	0.0	0.4	3.909	A
4 - A1077 (N)	795	199	655	1889	0.421	800	803	384	0.0	1.6	7.393	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	1036	259	685	1926	0.538	1027	1027	1082	2.0	4.4	12.692	B
2 - A1077 (S)	776	194	662	2082	0.373	774	788	1051	1.5	2.0	8.799	A
3 - A18 Doncaster Road (W)	389	97	865	1950	0.199	387	398	571	0.4	0.5	4.176	A
4 - A1077 (N)	974	243	801	1858	0.524	966	973	451	1.6	2.8	8.800	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	1248	312	859	1909	0.654	1229	1229	1331	4.4	12.8	29.580	D
2 - A1077 (S)	949	237	829	1949	0.487	952	957	1259	2.0	3.2	11.517	B
3 - A18 Doncaster Road (W)	485	121	1063	1822	0.266	485	488	718	0.5	0.7	4.822	A
4 - A1077 (N)	1213	303	983	1760	0.690	1207	1204	566	2.8	4.1	11.954	B

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	1253	313	863	1849	0.678	1250	1262	1338	12.8	12.8	35.572	E
2 - A1077 (S)	967	242	830	2098	0.461	966	966	1282	3.2	3.4	12.037	B
3 - A18 Doncaster Road (W)	482	120	1075	1818	0.265	481	486	721	0.7	0.6	4.919	A
4 - A1077 (N)	1206	302	991	1746	0.691	1209	1199	565	4.1	4.1	13.273	B

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	1025	256	692	1938	0.529	1044	1078	1090	12.8	3.2	19.191	C
2 - A1077 (S)	788	197	681	2139	0.368	790	792	1055	3.4	2.2	9.340	A
3 - A18 Doncaster Road (W)	403	101	876	1971	0.204	401	401	595	0.6	0.6	4.449	A
4 - A1077 (N)	967	242	811	1834	0.527	970	985	465	4.1	2.3	9.370	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	851	213	589	1941	0.438	847	874	908	3.2	2.6	8.719	A
2 - A1077 (S)	658	164	566	2176	0.302	660	674	869	2.2	1.3	7.655	A
3 - A18 Doncaster Road (W)	332	83	730	2013	0.165	332	337	496	0.6	0.4	4.138	A
4 - A1077 (N)	824	206	667	1868	0.441	829	837	394	2.3	1.4	7.747	A

Lane Results

Lane Level notation: Lane Level 1 is always closest to the junction.

Lanes: Main Results for each time segment

16:45 - 17:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	756	1251	0.604	754	749	0.0	1.9	8.182	A
			2	1, 4	100	1251	0.080	99	99	0.0	0.2	3.452	A
	Exit	1	1		890			890	900	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	239	1091	0.219	239	245	0.0	0.6	7.771	A
			2	1, 2	393	1091	0.360	393	404	0.0	0.9	7.643	A
	Exit	1	1		860			860	862	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	179	1019	0.175	178	179	0.0	0.2	4.018	A
			2	1, 2, 3	151	1019	0.148	151	148	0.0	0.1	3.779	A
	Exit	1	1		481			481	481	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	431	1002	0.430	431	435	0.0	0.9	7.632	A
			2	2, 3, 4	364	1002	0.364	369	368	0.0	0.7	7.081	A
		2	1	(1, 2, 3, 4)	795			795	810	0.0	0.0	0.001	A
	Exit	1	1		384			384	384	0.0	0.0	0.000	A

17:00 - 17:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	915	1230	0.744	905	908	1.9	4.3	13.929	B
			2	1, 4	121	1230	0.099	121	119	0.2	0.1	3.594	A
	Exit	1	1		1082			1082	1090	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	287	1062	0.270	288	299	0.6	0.6	8.514	A
			2	1, 2	489	1062	0.461	487	489	0.9	1.4	8.933	A
	Exit	1	1		1051			1051	1052	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	212	975	0.217	211	218	0.2	0.3	4.253	A
			2	1, 2, 3	177	975	0.181	176	180	0.1	0.2	4.084	A
	Exit	1	1		571			571	579	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	528	961	0.549	523	524	0.9	1.7	8.947	A
			2	2, 3, 4	446	961	0.464	442	449	0.7	1.2	8.497	A
		2	1	(1, 2, 3, 4)	974			974	978	0.0	0.0	0.051	A
	Exit	1	1		451			451	467	0.0	0.0	0.000	A

17:15 - 17:30

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	1102	1200	0.918	1082	1081	4.3	12.6	33.210	D
			2	1, 4	146	1200	0.122	147	148	0.1	0.1	3.681	A
	Exit	1	1		1331			1331	1339	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	361	1014	0.356	359	362	0.6	1.1	10.089	B
			2	1, 2	589	1014	0.581	593	595	1.4	2.1	12.189	B
	Exit	1	1		1259			1259	1267	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	261	920	0.284	261	262	0.3	0.5	5.001	A
			2	1, 2, 3	224	920	0.243	223	226	0.2	0.3	4.617	A
	Exit	1	1		718			718	703	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	2	2, 3, 4	572	911	0.628	569	559	1.2	1.9	10.902	B
		2	1	(1, 2, 3, 4)	1213			1212	1209	0.0	0.2	0.308	A
	Exit	1	1		566			566	569	0.0	0.0	0.000	A

17:30 - 17:45

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	1108	1199	0.924	1106	1117	12.6	12.6	39.929	E
			2	1, 4	144	1199	0.120	144	145	0.1	0.2	3.695	A
	Exit	1	1		1338			1338	1338	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	357	1014	0.352	356	360	1.1	1.1	9.903	A
			2	1, 2	610	1014	0.602	610	606	2.1	2.3	13.015	B
	Exit	1	1		1282			1282	1282	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	265	916	0.289	265	264	0.5	0.4	5.124	A
			2	1, 2, 3	216	916	0.236	216	222	0.3	0.3	4.677	A
	Exit	1	1		721			721	728	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	644	909	0.709	648	638	2.0	2.0	13.016	B
			2	2, 3, 4	563	909	0.619	562	562	1.9	2.0	12.240	B
		2	1	(1, 2, 3, 4)	1206			1207	1200	0.2	0.1	0.612	A
	Exit	1	1		565			565	565	0.0	0.0	0.000	A

17:45 - 18:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	907	1229	0.738	927	956	12.6	3.0	21.385	C
			2	1, 4	118	1229	0.096	117	122	0.2	0.2	3.495	A
	Exit	1	1		1090			1090	1101	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	299	1056	0.283	299	297	1.1	0.9	8.876	A
			2	1, 2	490	1056	0.464	490	495	2.3	1.3	9.556	A
	Exit	1	1		1055			1055	1076	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	220	972	0.226	219	218	0.4	0.3	4.547	A
			2	1, 2, 3	183	972	0.188	182	183	0.3	0.3	4.334	A
	Exit	1	1		595			595	614	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	520	958	0.543	521	528	2.0	1.3	9.519	A
			2	2, 3, 4	447	958	0.467	450	457	2.0	1.0	9.031	A
		2	1	(1, 2, 3, 4)	967			967	978	0.1	0.0	0.072	A
	Exit	1	1		465			465	465	0.0	0.0	0.000	A

18:00 - 18:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	754	1247	0.604	750	771	3.0	2.5	9.439	A
			2	1, 4	96	1247	0.077	97	103	0.2	0.1	3.536	A
	Exit	1	1		908			908	925	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	253	1089	0.232	257	261	0.9	0.4	7.702	A
			2	1, 2	405	1089	0.372	403	414	1.3	1.0	7.633	A
	Exit	1	1		869			869	889	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	180	1013	0.177	180	186	0.3	0.2	4.270	A
			2	1, 2, 3	152	1013	0.150	152	151	0.3	0.1	3.979	A
	Exit	1	1		496			496	503	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	452	998	0.452	452	455	1.3	0.9	7.916	A
			2	2, 3, 4	372	998	0.373	377	382	1.0	0.5	7.499	A
		2	1	(1, 2, 3, 4)	824			824	834	0.0	0.0	0.012	A
	Exit	1	1		394			394	405	0.0	0.0	0.000	A

Lane movements: Main Results for each time segment

16:45 - 17:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsi l s
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	465	116	1250	1252	0.371	463	461	0.0	1.2	8.422	
				3	291	73	1250	1251	0.233	292	288	0.0	0.7	7.870	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	3	0.67	596	598	0.004	3	3	0.0	0.0	3.254	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	98	24	1250	1251	0.078	97	96	0.0	0.1	3.459	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	22	5	1241	1084	0.020	22	26	0.0	0.0	5.103	
				4	217	54	1250	1090	0.199	217	219	0.0	0.5	8.357	
			2	1	393	98	1250	1091	0.360	393	404	0.0	0.9	7.643	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	109	27	1218	1017	0.107	108	111	0.0	0.1	3.659	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	70	17	1218	1015	0.069	70	68	0.0	0.1	4.629	
			2	1	122	31	1218	1016	0.121	123	121	0.0	0.1	3.728	
				2	25	6	1209	1005	0.025	25	25	0.0	0.0	4.035	
				3	3	0.67	609	506	0.005	3	2	0.0	0.0	3.761	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	261	65	1183	1000	0.261	264	262	0.0	0.4	7.440	
				2	169	42	1183	1000	0.169	168	173	0.0	0.5	8.130	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	202	50	1183	1002	0.201	204	203	0.0	0.5	7.794	
				3	163	41	1183	1001	0.163	165	165	0.0	0.3	6.563	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	261	65	-	-	-	261	264	0.0	0.0	0.002	
				2	371	93	-	-	-	371	380	0.0	0.0	0.000	
				3	163	41	-	-	-	163	166	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	

17:00 - 17:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	572	143	1250	1230	0.465	565	561	1.2	2.7	14.179	
				3	343	86	1250	1230	0.279	340	347	0.7	1.6	13.603	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	3	0.72	654	644	0.004	3	3	0.0	0.0	3.305	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	118	30	1250	1230	0.096	119	116	0.1	0.1	3.602	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	31	8	1241	1052	0.029	31	30	0.0	0.0	5.704	
				4	256	64	1250	1061	0.241	257	269	0.5	0.6	9.102	
			2	1	489	122	1250	1061	0.461	487	489	0.9	1.4	8.933	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	136	34	1218	976	0.140	136	137	0.1	0.2	3.897	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	76	19	1218	977	0.077	75	81	0.1	0.1	4.878	
			2	1	141	35	1218	975	0.145	141	146	0.1	0.1	3.954	
				2	33	8	1218	976	0.034	33	32	0.0	0.1	4.688	
				3	2	0.55	581	464	0.005	2	3	0.0	0.0	4.192	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	320	80	1183	961	0.333	315	315	0.4	1.0	8.854	
				2	208	52	1183	961	0.217	208	209	0.5	0.6	9.189	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	248	62	1183	961	0.258	244	250	0.5	0.8	9.251	
				3	198	49	1183	961	0.206	198	199	0.3	0.4	7.947	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	320	80	-	-	-	320	317	0.0	0.0	0.059	
				2	457	114	-	-	-	457	461	0.0	0.0	0.053	
				3	198	49	-	-	-	198	200	0.0	0.0	0.037	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	

17:15 - 17:30

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	663	166	1250	1200	0.553	651	663	2.7	7.9	33.392	
				3	439	110	1250	1199	0.366	431	418	1.6	4.7	32.975	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	5	1	875	843	0.006	5	5	0.0	0.0	3.525	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	141	35	1250	1200	0.118	142	143	0.1	0.1	3.687	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	35	9	1250	1018	0.034	36	37	0.0	0.1	7.657	
				4	326	81	1250	1014	0.322	323	325	0.6	1.0	10.604	
			2	1	589	147	1250	1013	0.581	593	595	1.4	2.1	12.189	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	162	40	1218	918	0.176	161	161	0.2	0.2	4.514	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	100	25	1218	919	0.109	100	101	0.1	0.2	5.814	
			2	1	183	46	1218	917	0.200	184	184	0.1	0.2	4.446	
				2	36	9	1218	919	0.039	36	39	0.1	0.0	5.526	
				3	4	1	675	512	0.008	4	4	0.0	0.0	3.914	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	389	97	1183	912	0.426	388	394	1.0	1.2	12.477	
				2	251	63	1183	912	0.275	250	251	0.6	0.8	11.489	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	325	81	1183	912	0.356	321	315	0.8	1.2	11.207	
				3	247	62	1183	911	0.271	247	244	0.4	0.7	10.672	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	389	97	-	-	-	389	395	0.0	0.0	0.291	
				2	576	144	-	-	-	576	569	0.0	0.1	0.336	
				3	248	62	-	-	-	247	245	0.0	0.0	0.297	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	

17:30 - 17:45

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	670	167	1250	1199	0.559	672	681	7.9	7.6	40.328	
				3	439	110	1250	1199	0.366	434	436	4.7	5.0	39.423	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	3	0.83	837	802	0.004	3	4	0.0	0.0	3.045	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	141	35	1250	1199	0.118	141	140	0.1	0.2	3.717	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	35	9	1250	1012	0.034	35	37	0.1	0.0	7.306	
				4	322	81	1250	1014	0.318	321	322	1.0	1.0	10.460	
			2	1	610	152	1250	1014	0.602	610	606	2.1	2.3	13.015	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	161	40	1218	915	0.176	161	162	0.2	0.2	4.601	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	104	26	1218	916	0.114	104	102	0.2	0.2	5.983	
			2	1	170	42	1218	917	0.185	170	179	0.2	0.2	4.613	
				2	43	11	1218	918	0.046	43	39	0.0	0.0	5.002	
				3	4	0.97	665	494	0.008	4	4	0.0	0.0	4.460	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	392	98	1183	909	0.431	393	387	1.2	1.3	13.294	
				2	253	63	1183	909	0.278	255	251	0.8	0.7	12.275	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	312	78	1183	909	0.344	313	311	1.2	1.1	12.338	
				3	250	63	1183	909	0.275	248	251	0.7	0.9	12.169	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	391	98	-	-	-	392	387	0.0	0.0	0.596	
				2	565	141	-	-	-	565	561	0.1	0.0	0.667	
				3	251	63	-	-	-	250	252	0.0	0.0	0.566	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	

17:45 - 18:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	551	138	1250	1228	0.449	566	585	7.6	1.8	21.781	
				3	356	89	1250	1228	0.289	360	371	5.0	1.2	20.878	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	3	0.85	712	696	0.005	3	4	0.0	0.0	3.080	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	114	29	1250	1228	0.093	114	118	0.2	0.2	3.509	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	32	8	1250	1054	0.031	32	32	0.0	0.1	6.327	
				4	266	67	1250	1057	0.252	268	265	1.0	0.8	9.458	
			2	1	490	122	1250	1056	0.464	490	495	2.3	1.3	9.556	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	136	34	1218	974	0.139	135	136	0.2	0.1	4.175	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	84	21	1218	975	0.086	84	82	0.2	0.1	5.196	
			2	1	145	36	1218	974	0.149	145	147	0.2	0.2	4.195	
				2	35	9	1218	972	0.036	35	33	0.0	0.1	4.955	
				3	3	0.67	553	437	0.006	3	3	0.0	0.0	4.543	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	316	79	1183	959	0.330	316	319	1.3	0.8	9.549	
				2	204	51	1183	959	0.213	205	209	0.7	0.5	9.439	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	246	61	1183	961	0.256	249	249	1.1	0.5	9.510	
				3	201	50	1183	958	0.210	201	208	0.9	0.5	8.699	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	316	79	-	-	-	316	316	0.0	0.0	0.063	
				2	450	112	-	-	-	450	455	0.0	0.0	0.078	
				3	201	50	-	-	-	201	206	0.0	0.0	0.078	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	

18:00 - 18:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsi l s
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	454	113	1250	1248	0.363	451	467	1.8	1.6	9.721	
				3	301	75	1250	1248	0.241	299	304	1.2	0.9	9.086	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	3	0.65	654	649	0.004	3	3	0.0	0.0	3.766	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	94	23	1250	1247	0.075	94	100	0.2	0.1	3.529	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	27	7	1250	1091	0.025	27	27	0.1	0.0	4.961	
				4	226	56	1250	1091	0.207	230	234	0.8	0.3	8.292	
			2	1	405	101	1250	1089	0.371	403	414	1.3	1.0	7.633	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	109	27	1218	1013	0.108	109	114	0.1	0.1	3.966	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	71	18	1218	1014	0.070	71	71	0.1	0.1	4.782	
			2	1	121	30	1218	1013	0.119	121	120	0.2	0.1	3.890	
				2	29	7	1218	1009	0.029	29	28	0.1	0.0	4.373	
				3	3	0.72	572	473	0.006	3	2	0.0	0.0	3.859	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	273	68	1183	998	0.273	272	274	0.8	0.6	7.682	
				2	179	45	1183	996	0.179	180	182	0.5	0.3	8.528	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	208	52	1183	999	0.208	210	212	0.5	0.3	8.233	
				3	164	41	1183	997	0.164	167	170	0.5	0.2	6.967	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	273	68	-	-	-	273	273	0.0	0.0	0.018	
				2	387	97	-	-	-	387	392	0.0	0.0	0.009	
				3	164	41	-	-	-	164	169	0.0	0.0	0.006	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	

2036 | Base + Committed (Burr Road Rdbt Impact) | AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	4 - A1077 (N) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Info	Simulation	A1 - [Lane Simulation]	This run uses Simulation mode. For detailed information on this mode, please see the User Guide.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	8.67	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	8.67	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D9	2036	Base + Committed (Burr Road Rdbt Impact)	AM	ONE HOUR	07:45	09:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - A18 Doncaster Road (E)		ONE HOUR	✓	630	100.000
2 - A1077 (S)		ONE HOUR	✓	957	100.000
3 - A18 Doncaster Road (W)		ONE HOUR	✓	705	100.000
4 - A1077 (N)		ONE HOUR	✓	570	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - A18 Doncaster Road (E)	2 - A1077 (S)	3 - A18 Doncaster Road (W)	4 - A1077 (N)
From	1 - A18 Doncaster Road (E)	0	222	231	177
	2 - A1077 (S)	325	0	32	600
	3 - A18 Doncaster Road (W)	460	46	1	198
	4 - A1077 (N)	134	347	86	3

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Junction	PCU factor for a cyclist	PCU factor for a cyclist in controlling flow
1	0.20	0.80

Heavy Vehicle %

		To			
		1 - A18 Doncaster Road (E)	2 - A1077 (S)	3 - A18 Doncaster Road (W)	4 - A1077 (N)
From	1 - A18 Doncaster Road (E)	0	24	1	9
	2 - A1077 (S)	37	0	4	93
	3 - A18 Doncaster Road (W)	3	6	0	8
	4 - A1077 (N)	7	85	8	0

Cyclist %

		To			
		1 - A18 Doncaster Road (E)	2 - A1077 (S)	3 - A18 Doncaster Road (W)	A1 (
From	1 - A18 Doncaster Road (E)	0	0	0	
	2 - A1077 (S)	0	0	0	
	3 - A18 Doncaster Road (W)	0	0	0	
	4 - A1077 (N)	0	0	0	

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - A18 Doncaster Road (E)	0.28	5.04	1.2	A	581	872
2 - A1077 (S)	0.51	13.18	5.0	B	883	1324
3 - A18 Doncaster Road (W)	0.45	6.51	1.5	A	644	965
4 - A1077 (N)	0.37	7.75	1.6	A	532	798

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	476	119	371	2586	0.184	474	472	685	0.0	0.6	4.040	A
2 - A1077 (S)	732	183	374	2279	0.321	722	728	472	0.0	2.5	8.254	A
3 - A18 Doncaster Road (W)	522	130	833	1962	0.266	524	528	264	0.0	0.6	4.522	A
4 - A1077 (N)	440	110	615	1928	0.228	442	426	742	0.0	0.7	5.907	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	571	143	445	2524	0.226	573	579	820	0.6	0.7	4.513	A
2 - A1077 (S)	841	210	442	2273	0.370	847	865	576	2.5	2.6	10.082	B
3 - A18 Doncaster Road (W)	626	157	968	1871	0.335	622	627	320	0.6	1.0	5.074	A
4 - A1077 (N)	528	132	739	1867	0.283	525	523	850	0.7	0.9	6.373	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	714	179	549	2546	0.280	713	702	1004	0.7	1.2	5.042	A
2 - A1077 (S)	1060	265	563	2110	0.502	1066	1057	699	2.6	3.9	12.239	B
3 - A18 Doncaster Road (W)	780	195	1227	1763	0.443	781	782	402	1.0	1.1	6.162	A
4 - A1077 (N)	641	160	911	1734	0.370	642	637	1096	0.9	1.4	7.755	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	687	172	540	2504	0.274	688	702	1024	1.2	1.0	4.942	A
2 - A1077 (S)	1075	269	553	2120	0.507	1069	1062	675	3.9	5.0	13.182	B
3 - A18 Doncaster Road (W)	783	196	1242	1740	0.450	776	783	381	1.1	1.5	6.507	A
4 - A1077 (N)	643	161	922	1800	0.357	642	645	1095	1.4	1.6	7.711	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	564	141	437	2548	0.221	564	571	821	1.0	0.8	4.352	A
2 - A1077 (S)	866	217	450	2268	0.382	863	888	550	5.0	3.0	10.476	B
3 - A18 Doncaster Road (W)	627	157	995	1875	0.335	626	633	318	1.5	1.0	5.451	A
4 - A1077 (N)	510	128	746	1794	0.284	512	509	875	1.6	1.0	6.757	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	477	119	363	2593	0.184	479	479	685	0.8	0.4	4.120	A
2 - A1077 (S)	722	181	376	2287	0.316	722	740	466	3.0	1.8	8.320	A
3 - A18 Doncaster Road (W)	523	131	830	1963	0.267	522	540	267	1.0	0.7	4.588	A
4 - A1077 (N)	427	107	619	1884	0.227	429	436	733	1.0	0.8	6.067	A

Lane Results

Lane Level notation: Lane Level 1 is always closest to the junction.

Lanes: Main Results for each time segment

07:45 - 08:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	342	1285	0.266	342	341	0.0	0.4	4.283	A
			2	1, 4	134	1285	0.104	132	131	0.0	0.2	3.421	A
	Exit	1	1		685			685	695	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	484	1144	0.423	477	476	0.0	2.0	10.123	B
			2	1, 2	248	1144	0.217	245	251	0.0	0.4	5.592	A
	Exit	1	1		472			472	466	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	304	984	0.309	307	307	0.0	0.3	4.701	A
			2	1, 2, 3	218	984	0.221	217	220	0.0	0.3	4.278	A
	Exit	1	1		264			264	257	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	238	1013	0.235	238	228	0.0	0.4	5.783	A
			2	2, 3, 4	203	1013	0.200	203	198	0.0	0.3	6.059	A
		2	1	(1, 2, 3, 4)	440			440	429	0.0	0.0	0.000	A
	Exit	1	1		742			742	734	0.0	0.0	0.000	A

08:00 - 08:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	425	1272	0.334	427	422	0.4	0.5	4.923	A
			2	1, 4	146	1272	0.115	146	157	0.2	0.2	3.448	A
	Exit	1	1		820			820	825	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	549	1124	0.489	556	572	2.0	2.2	12.946	B
			2	1, 2	292	1124	0.259	291	294	0.4	0.5	5.944	A
	Exit	1	1		576			576	574	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	358	946	0.378	354	357	0.3	0.6	5.339	A
			2	1, 2, 3	268	946	0.283	267	270	0.3	0.3	4.730	A
	Exit	1	1		320			320	316	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	285	978	0.291	283	278	0.4	0.5	6.286	A
			2	2, 3, 4	242	978	0.247	242	244	0.3	0.5	6.478	A
		2	1	(1, 2, 3, 4)	528			528	524	0.0	0.0	0.000	A
	Exit	1	1		850			850	879	0.0	0.0	0.000	A

08:15 - 08:30

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	520	1254	0.415	518	506	0.5	1.0	5.563	A
			2	1, 4	194	1254	0.155	194	196	0.2	0.1	3.711	A
	Exit	1	1		1004			1004	1017	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	717	1090	0.658	722	701	2.2	3.1	15.986	C
			2	1, 2	343	1090	0.315	344	356	0.5	0.8	6.751	A
	Exit	1	1		699			699	684	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	429	874	0.492	432	435	0.6	0.7	6.590	A
			2	1, 2, 3	351	874	0.402	349	346	0.3	0.5	5.634	A
	Exit	1	1		402			402	398	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	343	931	0.368	342	338	0.5	0.8	7.753	A
			2	2, 3, 4	298	931	0.320	299	299	0.5	0.6	7.751	A
		2	1	(1, 2, 3, 4)	641			641	639	0.0	0.0	0.003	A
	Exit	1	1		1096			1096	1080	0.0	0.0	0.000	A

08:30 - 08:45

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	487	1255	0.388	487	502	1.0	0.8	5.426	A
			2	1, 4	200	1255	0.159	201	199	0.1	0.2	3.758	A
	Exit	1	1		1024			1024	1027	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	709	1093	0.649	707	704	3.1	4.0	17.458	C
			2	1, 2	366	1093	0.335	363	358	0.8	1.0	6.891	A
	Exit	1	1		675			675	690	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	441	869	0.507	438	438	0.7	0.9	6.982	A
			2	1, 2, 3	341	869	0.393	338	345	0.5	0.6	5.917	A
	Exit	1	1		381			381	385	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	348	928	0.376	346	346	0.8	0.8	7.737	A
			2	2, 3, 4	295	928	0.318	296	299	0.6	0.8	7.678	A
		2	1	(1, 2, 3, 4)	643			643	646	0.0	0.0	0.000	A
	Exit	1	1		1095			1095	1089	0.0	0.0	0.000	A

08:45 - 09:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	406	1274	0.319	407	410	0.8	0.6	4.680	A
			2	1, 4	157	1274	0.124	158	161	0.2	0.2	3.538	A
	Exit	1	1		821			821	834	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	576	1122	0.513	572	588	4.0	2.2	13.344	B
			2	1, 2	290	1122	0.259	291	300	1.0	0.7	6.357	A
	Exit	1	1		550			550	552	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	361	939	0.385	360	361	0.9	0.6	5.743	A
			2	1, 2, 3	266	939	0.283	265	273	0.6	0.4	5.073	A
	Exit	1	1		318			318	315	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	270	976	0.277	272	272	0.8	0.5	6.665	A
			2	2, 3, 4	240	976	0.246	240	237	0.8	0.5	6.869	A
		2	1	(1, 2, 3, 4)	510			510	506	0.0	0.0	0.000	A
	Exit	1	1		875			875	901	0.0	0.0	0.000	A

09:00 - 09:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	346	1286	0.269	347	345	0.6	0.3	4.393	A
			2	1, 4	131	1286	0.102	132	133	0.2	0.1	3.427	A
	Exit	1	1		685			685	706	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	477	1143	0.417	478	487	2.2	1.3	10.055	B
			2	1, 2	245	1143	0.214	243	253	0.7	0.4	5.862	A
	Exit	1	1		466			466	472	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	303	985	0.308	300	311	0.6	0.4	4.742	A
			2	1, 2, 3	220	985	0.224	221	229	0.4	0.2	4.382	A
	Exit	1	1		267			267	264	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	229	1012	0.226	229	233	0.5	0.4	6.044	A
			2	2, 3, 4	199	1012	0.196	200	203	0.5	0.4	6.095	A
		2	1	(1, 2, 3, 4)	427			427	435	0.0	0.0	0.000	A
	Exit	1	1		733			733	752	0.0	0.0	0.000	A

Lane movements: Main Results for each time segment

07:45 - 08:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns l
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	168	42	1250	1286	0.131	169	171	0.0	0.2	4.803	
				3	174	43	1250	1285	0.135	173	170	0.0	0.2	3.862	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	134	34	1250	1285	0.104	132	131	0.0	0.2	3.421	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	24	6	1236	1132	0.021	24	24	0.0	0.0	7.721	
				4	460	115	1250	1143	0.403	453	453	0.0	2.0	10.351	
			2	1	248	62	1250	1143	0.217	245	251	0.0	0.4	5.592	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	151	38	1218	985	0.153	153	159	0.0	0.1	4.049	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	153	38	1218	984	0.156	154	148	0.0	0.2	5.433	
			2	1	184	46	1218	986	0.186	183	185	0.0	0.2	4.179	
				2	33	8	1218	984	0.034	33	35	0.0	0.0	4.850	
				3	0.67	0.17	164	132	0.005	0.67	0.54	0.0	0.0	2.474	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	105	26	1183	1012	0.104	104	100	0.0	0.2	5.107	
				2	133	33	1183	1011	0.132	134	128	0.0	0.2	6.696	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	133	33	1183	1011	0.132	135	133	0.0	0.2	6.856	
				3	67	17	1183	1012	0.066	67	63	0.0	0.1	5.139	
				4	2	0.44	492	416	0.004	2	2	0.0	0.0	4.665	
		2	1	1	105	26	-	-	-	105	101	0.0	0.0	0.000	
				2	267	67	-	-	-	267	262	0.0	0.0	0.000	
				3	67	17	-	-	-	67	64	0.0	0.0	0.000	
				4	2	0.44	-	-	-	2	2	0.0	0.0	0.000	

08:00 - 08:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	214	53	1250	1273	0.168	214	211	0.2	0.3	5.290	
				3	211	53	1250	1273	0.166	214	211	0.2	0.2	4.629	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	146	36	1250	1272	0.115	146	157	0.2	0.2	3.448	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	28	7	1236	1114	0.025	28	27	0.0	0.1	9.641	
				4	521	130	1250	1125	0.463	528	544	2.0	2.1	13.256	
			2	1	292	73	1250	1125	0.259	291	294	0.4	0.5	5.944	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	184	46	1218	944	0.194	181	182	0.1	0.4	4.604	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	175	44	1218	943	0.185	173	174	0.2	0.3	6.148	
			2	1	226	56	1218	945	0.239	225	228	0.2	0.3	4.604	
				2	41	10	1218	943	0.044	41	41	0.0	0.0	5.460	
				3	0.94	0.24	274	215	0.004	0.94	1	0.0	0.0	4.415	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	125	31	1183	978	0.127	123	121	0.2	0.2	5.658	
				2	160	40	1183	977	0.164	160	158	0.2	0.2	7.117	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	161	40	1183	977	0.165	161	164	0.2	0.4	7.392	
				3	78	19	1183	980	0.080	78	77	0.1	0.1	5.395	
				4	3	0.74	611	510	0.006	3	3	0.0	0.0	5.009	
		2	1	1	125	31	-	-	-	125	121	0.0	0.0	0.000	
				2	322	80	-	-	-	322	323	0.0	0.0	0.000	
				3	78	19	-	-	-	78	77	0.0	0.0	0.000	
				4	3	0.74	-	-	-	3	3	0.0	0.0	0.000	

08:15 - 08:30

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	255	64	1250	1254	0.203	255	245	0.3	0.6	6.010	
				3	265	66	1250	1254	0.211	264	261	0.2	0.4	5.222	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	194	48	1250	1254	0.155	194	196	0.2	0.1	3.711	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	37	9	1250	1091	0.034	37	36	0.1	0.2	13.227	
				4	680	170	1250	1090	0.624	685	665	2.1	2.9	16.270	
			2	1	343	86	1250	1089	0.315	344	356	0.5	0.8	6.751	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	217	54	1218	874	0.249	218	219	0.4	0.3	5.481	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	212	53	1218	876	0.242	214	216	0.3	0.4	7.769	
			2	1	299	75	1218	874	0.342	298	295	0.3	0.4	5.411	
				2	51	13	1218	878	0.058	50	50	0.0	0.1	6.974	
				3	0.81	0.20	287	207	0.004	0.81	1	0.0	0.0	5.989	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	144	36	1183	930	0.155	144	146	0.2	0.3	7.229	
				2	199	50	1183	931	0.213	198	192	0.2	0.4	8.438	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	195	49	1183	931	0.210	195	196	0.4	0.4	8.325	
				3	100	25	1183	930	0.108	100	100	0.1	0.2	7.107	
				4	3	0.84	638	503	0.007	3	3	0.0	0.0	7.667	
		2	1	1	144	36	-	-	-	144	147	0.0	0.0	0.006	
				2	394	98	-	-	-	394	389	0.0	0.0	0.000	
				3	100	25	-	-	-	100	100	0.0	0.0	0.005	
				4	3	0.84	-	-	-	3	3	0.0	0.0	0.000	

08:30 - 08:45

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	239	60	1250	1255	0.190	239	248	0.6	0.4	5.732	
				3	248	62	1250	1255	0.198	248	254	0.4	0.4	5.182	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	200	50	1250	1256	0.159	201	199	0.1	0.2	3.758	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	36	9	1250	1093	0.033	35	36	0.2	0.2	14.857	
				4	673	168	1250	1093	0.616	671	668	2.9	3.9	17.716	
			2	1	366	92	1250	1092	0.335	363	358	0.8	1.0	6.891	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	222	55	1218	869	0.255	221	221	0.3	0.3	5.786	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	219	55	1218	868	0.253	217	217	0.4	0.6	8.256	
			2	1	291	73	1218	868	0.335	287	293	0.4	0.5	5.759	
				2	50	12	1218	869	0.057	50	51	0.1	0.0	6.907	
				3	0.94	0.24	315	226	0.004	0.81	1	0.0	0.0	4.394	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	152	38	1183	929	0.164	153	156	0.3	0.2	7.116	
				2	196	49	1183	929	0.211	193	190	0.4	0.6	8.607	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	192	48	1183	929	0.206	192	200	0.4	0.6	8.422	
				3	97	24	1183	929	0.104	97	94	0.2	0.2	6.775	
				4	6	2	757	595	0.011	6	4	0.0	0.0	7.089	
		2	1	1	152	38	-	-	-	152	155	0.0	0.0	0.001	
				2	388	97	-	-	-	388	392	0.0	0.0	0.000	
				3	97	24	-	-	-	97	94	0.0	0.0	0.000	
				4	6	2	-	-	-	6	4	0.0	0.0	0.000	

08:45 - 09:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	200	50	1250	1273	0.157	200	202	0.4	0.3	5.044	
				3	207	52	1250	1273	0.163	207	208	0.4	0.3	4.391	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	157	39	1250	1274	0.124	158	161	0.2	0.2	3.538	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	29	7	1236	1110	0.026	29	28	0.2	0.1	9.840	
				4	547	137	1250	1122	0.488	543	561	3.9	2.1	13.664	
			2	1	290	73	1250	1122	0.259	291	300	1.0	0.7	6.357	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	190	47	1218	940	0.202	189	184	0.3	0.2	4.795	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	172	43	1218	939	0.183	171	176	0.6	0.3	6.787	
			2	1	225	56	1218	939	0.240	226	231	0.5	0.3	4.927	
				2	40	10	1218	941	0.042	39	41	0.0	0.1	5.914	
				3	0.81	0.20	274	198	0.004	0.81	1	0.0	0.0	4.654	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	115	29	1183	979	0.118	114	119	0.2	0.2	6.156	
				2	155	39	1183	978	0.158	158	153	0.6	0.3	7.352	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	155	39	1183	979	0.158	155	156	0.6	0.4	7.616	
				3	82	21	1183	977	0.084	82	78	0.2	0.1	6.045	
				4	3	0.74	611	499	0.006	3	3	0.0	0.0	5.749	
		2	1	1	115	29	-	-	-	115	119	0.0	0.0	0.000	
				2	310	77	-	-	-	310	307	0.0	0.0	0.000	
				3	82	21	-	-	-	82	78	0.0	0.0	0.000	
				4	3	0.74	-	-	-	3	3	0.0	0.0	0.000	

09:00 - 09:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	168	42	1250	1288	0.130	169	169	0.3	0.2	4.808	
				3	178	44	1250	1287	0.138	179	176	0.3	0.1	4.070	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	131	33	1250	1287	0.102	132	133	0.2	0.1	3.427	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	25	6	1250	1143	0.022	25	23	0.1	0.1	7.834	
				4	452	113	1250	1144	0.395	453	464	2.1	1.3	10.262	
			2	1	245	61	1250	1143	0.215	243	253	0.7	0.4	5.862	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	156	39	1218	985	0.158	155	159	0.2	0.2	4.171	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	147	37	1218	985	0.150	146	153	0.3	0.2	5.368	
			2	1	184	46	1218	985	0.187	184	192	0.3	0.1	4.235	
				2	36	9	1218	981	0.037	37	36	0.1	0.1	5.163	
				3	0.27	0.07	233	183	0.001	0.27	0.76	0.0	0.0	5.529	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	102	26	1183	1010	0.101	102	103	0.2	0.2	5.510	
				2	126	32	1183	1012	0.125	126	130	0.3	0.2	6.787	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	134	33	1183	1012	0.132	135	137	0.4	0.3	7.050	
				3	62	16	1183	1009	0.062	63	64	0.1	0.1	4.975	
				4	2	0.61	492	418	0.006	2	2	0.0	0.0	4.901	
		2	1	1	102	26	-	-	-	102	103	0.0	0.0	0.000	
				2	260	65	-	-	-	260	266	0.0	0.0	0.000	
				3	62	16	-	-	-	62	64	0.0	0.0	0.000	
				4	2	0.61	-	-	-	2	2	0.0	0.0	0.000	

2036 | Base + Committed (Burr Road Rdbt Impact) | PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	4 - A1077 (N) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Info	Simulation	A1 - [Lane Simulation]	This run uses Simulation mode. For detailed information on this mode, please see the User Guide.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	8.24	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	8.24	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D10	2036	Base + Committed (Burr Road Rdbt Impact)	PM	ONE HOUR	16:45	18:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - A18 Doncaster Road (E)		ONE HOUR	✓	698	100.000
2 - A1077 (S)		ONE HOUR	✓	657	100.000
3 - A18 Doncaster Road (W)		ONE HOUR	✓	422	100.000
4 - A1077 (N)		ONE HOUR	✓	1085	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - A18 Doncaster Road (E)	2 - A1077 (S)	3 - A18 Doncaster Road (W)	4 - A1077 (N)
From	1 - A18 Doncaster Road (E)	4	172	392	130
	2 - A1077 (S)	335	0	26	296
	3 - A18 Doncaster Road (W)	308	19	3	92
	4 - A1077 (N)	351	510	224	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Junction	PCU factor for a cyclist	PCU factor for a cyclist in controlling flow
1	0.20	0.80

Heavy Vehicle %

		To			
		1 - A18 Doncaster Road (E)	2 - A1077 (S)	3 - A18 Doncaster Road (W)	4 - A1077 (N)
From	1 - A18 Doncaster Road (E)	0	24	1	9
	2 - A1077 (S)	37	0	4	93
	3 - A18 Doncaster Road (W)	3	6	0	8
	4 - A1077 (N)	7	85	8	0

Cyclist %

		To			
		1 - A18 Doncaster Road (E)	2 - A1077 (S)	3 - A18 Doncaster Road (W)	A1 (
From	1 - A18 Doncaster Road (E)	0	0	0	
	2 - A1077 (S)	0	0	0	
	3 - A18 Doncaster Road (W)	0	0	0	
	4 - A1077 (N)	0	0	0	

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - A18 Doncaster Road (E)	0.34	6.39	1.5	A	637	956
2 - A1077 (S)	0.37	8.93	2.0	A	611	916
3 - A18 Doncaster Road (W)	0.23	4.32	0.6	A	382	573
4 - A1077 (N)	0.62	10.49	3.5	B	1000	1499

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	524	131	586	2253	0.232	523	518	766	0.0	0.6	4.346	A
2 - A1077 (S)	499	125	564	2149	0.232	500	492	546	0.0	1.2	7.103	A
3 - A18 Doncaster Road (W)	316	79	585	2118	0.149	312	318	479	0.0	0.6	3.852	A
4 - A1077 (N)	835	209	511	1992	0.419	841	826	386	0.0	1.3	6.867	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	619	155	702	2235	0.277	620	622	898	0.6	0.7	4.844	A
2 - A1077 (S)	583	146	683	2119	0.275	589	608	638	1.2	1.1	7.585	A
3 - A18 Doncaster Road (W)	383	96	685	2103	0.182	382	383	587	0.6	0.3	4.051	A
4 - A1077 (N)	996	249	596	1905	0.523	1004	996	470	1.3	2.3	8.200	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	756	189	851	2236	0.338	758	769	1072	0.7	1.5	5.847	A
2 - A1077 (S)	730	183	807	2027	0.360	731	732	802	1.1	2.0	8.761	A
3 - A18 Doncaster Road (W)	449	112	829	1963	0.229	450	471	709	0.3	0.6	4.319	A
4 - A1077 (N)	1199	300	712	1920	0.624	1211	1199	567	2.3	2.8	10.433	B

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	765	191	828	2272	0.337	766	764	1089	1.5	1.2	6.391	A
2 - A1077 (S)	740	185	827	2013	0.368	748	744	768	2.0	2.0	8.926	A
3 - A18 Doncaster Road (W)	462	115	866	2022	0.228	461	473	709	0.6	0.5	4.257	A
4 - A1077 (N)	1172	293	739	1919	0.611	1179	1200	588	2.8	3.5	10.489	B

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	646	162	674	2276	0.284	645	625	907	1.2	1.2	5.291	A
2 - A1077 (S)	606	151	693	2060	0.294	612	608	626	2.0	1.0	7.747	A
3 - A18 Doncaster Road (W)	374	94	714	2081	0.180	375	384	591	0.5	0.3	4.032	A
4 - A1077 (N)	961	240	618	1857	0.518	963	986	471	3.5	2.8	8.325	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	512	128	577	2282	0.224	517	525	752	1.2	0.4	4.507	A
2 - A1077 (S)	508	127	569	2119	0.240	510	509	524	1.0	0.9	6.982	A
3 - A18 Doncaster Road (W)	308	77	593	2093	0.147	307	314	486	0.3	0.5	3.809	A
4 - A1077 (N)	834	209	500	1989	0.419	829	837	400	2.8	1.9	7.019	A

Lane Results

Lane Level notation: Lane Level 1 is always closest to the junction.

Lanes: Main Results for each time segment

16:45 - 17:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	417	1247	0.334	416	414	0.0	0.5	4.569	A
			2	1, 4	107	1247	0.086	107	104	0.0	0.1	3.439	A
	Exit	1	1		766			766	752	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	235	1090	0.216	236	245	0.0	0.6	7.721	A
			2	1, 2	264	1090	0.242	263	247	0.0	0.5	6.638	A
	Exit	1	1		546			546	532	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	187	1054	0.177	186	181	0.0	0.3	3.930	A
			2	1, 2, 3	130	1054	0.123	126	138	0.0	0.3	3.751	A
	Exit	1	1		479			479	476	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	450	1041	0.432	455	447	0.0	0.7	6.999	A
			2	2, 3, 4	385	1041	0.370	387	378	0.0	0.6	6.681	A
		2	1	(1, 2, 3, 4)	835			835	831	0.0	0.0	0.007	A
	Exit	1	1		386			386	395	0.0	0.0	0.000	A

17:00 - 17:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	499	1227	0.407	500	502	0.5	0.6	5.176	A
			2	1, 4	120	1227	0.098	120	120	0.1	0.2	3.428	A
	Exit	1	1		898			898	913	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	291	1056	0.276	295	299	0.6	0.5	8.335	A
			2	1, 2	291	1056	0.276	294	309	0.5	0.5	7.027	A
	Exit	1	1		638			638	631	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	216	1026	0.211	216	218	0.3	0.2	4.127	A
			2	1, 2, 3	166	1026	0.162	166	164	0.3	0.1	3.952	A
	Exit	1	1		587			587	589	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	537	1018	0.528	541	538	0.7	1.2	8.405	A
			2	2, 3, 4	459	1018	0.451	463	459	0.6	1.1	7.932	A
		2	1	(1, 2, 3, 4)	996			996	1000	0.0	0.0	0.003	A
	Exit	1	1		470			470	475	0.0	0.0	0.000	A

17:15 - 17:30

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	630	1201	0.525	632	629	0.6	1.3	6.336	A
			2	1, 4	126	1201	0.105	126	140	0.2	0.2	3.616	A
	Exit	1	1		1072			1072	1100	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	376	1020	0.369	377	366	0.5	1.3	10.800	B
			2	1, 2	354	1020	0.347	354	366	0.5	0.7	7.210	A
	Exit	1	1		802			802	788	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	250	985	0.254	251	260	0.2	0.3	4.427	A
			2	1, 2, 3	199	985	0.202	199	210	0.1	0.3	4.188	A
	Exit	1	1		709			709	712	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	648	986	0.657	655	639	1.2	1.5	10.789	B
			2	2, 3, 4	551	986	0.559	556	560	1.1	1.3	9.801	A
		2	1	(1, 2, 3, 4)	1199			1199	1201	0.0	0.0	0.082	A
	Exit	1	1		567			567	571	0.0	0.0	0.000	A

17:30 - 17:45

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	619	1205	0.513	620	620	1.3	1.0	6.981	A
			2	1, 4	147	1205	0.122	147	144	0.2	0.2	3.806	A
	Exit	1	1		1089			1089	1104	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	361	1015	0.356	369	367	1.3	0.8	10.253	B
			2	1, 2	378	1015	0.373	379	377	0.7	1.2	7.952	A
	Exit	1	1		768			768	777	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	264	975	0.270	263	269	0.3	0.3	4.387	A
			2	1, 2, 3	198	975	0.204	198	204	0.3	0.2	4.089	A
	Exit	1	1		709			709	716	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	618	978	0.632	619	635	1.5	2.0	10.616	B
			2	2, 3, 4	556	978	0.568	560	565	1.3	1.5	10.007	B
		2	1	(1, 2, 3, 4)	1172			1174	1203	0.0	0.0	0.146	A
	Exit	1	1		588			588	584	0.0	0.0	0.000	A

17:45 - 18:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	524	1232	0.425	524	504	1.0	1.1	5.724	A
			2	1, 4	123	1232	0.099	121	121	0.2	0.2	3.440	A
	Exit	1	1		907			907	910	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	293	1053	0.278	293	298	0.8	0.5	8.344	A
			2	1, 2	313	1053	0.297	319	310	1.2	0.5	7.311	A
	Exit	1	1		626			626	637	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	208	1018	0.204	210	217	0.3	0.1	4.103	A
			2	1, 2, 3	166	1018	0.163	165	167	0.2	0.2	3.941	A
	Exit	1	1		591			591	583	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	515	1012	0.509	517	532	2.0	1.4	8.583	A
			2	2, 3, 4	447	1012	0.441	446	454	1.5	1.4	7.971	A
		2	1	(1, 2, 3, 4)	961			961	983	0.0	0.0	0.012	A
	Exit	1	1		471			471	474	0.0	0.0	0.000	A

18:00 - 18:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	408	1249	0.327	412	420	1.1	0.3	4.743	A
			2	1, 4	104	1249	0.083	104	105	0.2	0.1	3.553	A
	Exit	1	1		752			752	766	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	259	1088	0.238	258	252	0.5	0.6	8.243	A
			2	1, 2	249	1088	0.229	252	257	0.5	0.3	6.053	A
	Exit	1	1		524			524	539	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	174	1052	0.165	175	176	0.1	0.2	3.924	A
			2	1, 2, 3	134	1052	0.128	132	138	0.2	0.3	3.663	A
	Exit	1	1		486			486	484	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	460	1044	0.440	457	456	1.4	1.0	7.057	A
			2	2, 3, 4	374	1044	0.358	372	381	1.4	0.9	6.966	A
		2	1	(1, 2, 3, 4)	834			834	834	0.0	0.0	0.002	A
	Exit	1	1		400			400	397	0.0	0.0	0.000	A

Lane movements: Main Results for each time segment

16:45 - 17:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsi l s
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	127	32	1250	1248	0.102	126	126	0.0	0.2	5.086	
				3	290	73	1250	1247	0.233	289	288	0.0	0.3	4.384	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	3	0.74	614	613	0.005	3	3	0.0	0.0	3.818	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	104	26	1250	1248	0.083	104	101	0.0	0.1	3.427	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	22	6	1250	1090	0.021	23	19	0.0	0.0	5.037	
				4	213	53	1250	1089	0.195	214	226	0.0	0.6	8.143	
			2	1	264	66	1250	1091	0.242	263	247	0.0	0.5	6.638	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	119	30	1218	1056	0.113	117	113	0.0	0.2	3.696	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	68	17	1218	1055	0.064	68	68	0.0	0.1	4.333	
			2	1	114	28	1218	1057	0.108	111	121	0.0	0.2	3.672	
				2	14	4	1176	1013	0.014	14	15	0.0	0.0	4.375	
				3	2	0.42	534	463	0.004	2	2	0.0	0.0	3.911	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	269	67	1183	1041	0.259	270	268	0.0	0.5	6.752	
				2	182	45	1183	1041	0.175	185	179	0.0	0.2	7.642	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	219	55	1183	1041	0.211	221	212	0.0	0.3	7.201	
				3	165	41	1183	1042	0.158	165	167	0.0	0.3	6.295	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	269	67	-	-	-	269	270	0.0	0.0	0.016	
				2	400	100	-	-	-	400	393	0.0	0.0	0.000	
				3	165	41	-	-	-	165	168	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	

17:00 - 17:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsi l s
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	150	38	1250	1227	0.122	150	145	0.2	0.2	5.611	
				3	349	87	1250	1227	0.285	350	356	0.3	0.4	5.031	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	3	0.74	614	606	0.005	3	3	0.0	0.0	3.922	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	118	29	1250	1228	0.096	117	117	0.1	0.2	3.415	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	24	6	1250	1057	0.023	24	26	0.0	0.0	6.551	
				4	267	67	1250	1056	0.253	271	273	0.6	0.5	8.646	
			2	1	291	73	1250	1054	0.276	294	309	0.5	0.5	7.027	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	134	33	1218	1027	0.130	134	133	0.2	0.1	3.768	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	82	21	1218	1024	0.080	82	85	0.1	0.1	4.715	
			2	1	147	37	1218	1024	0.143	146	145	0.2	0.1	3.886	
				2	17	4	1218	1026	0.016	17	17	0.0	0.0	4.432	
				3	3	0.74	620	520	0.006	3	3	0.0	0.0	4.540	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	320	80	1183	1018	0.314	321	323	0.5	0.5	8.235	
				2	217	54	1183	1018	0.214	219	214	0.2	0.7	8.844	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	252	63	1183	1018	0.248	253	254	0.3	0.7	8.505	
				3	206	52	1183	1020	0.202	210	204	0.3	0.4	7.510	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	320	80	-	-	-	320	323	0.0	0.0	0.003	
				2	470	117	-	-	-	470	472	0.0	0.0	0.002	
				3	206	52	-	-	-	206	205	0.0	0.0	0.005	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	

17:15 - 17:30

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	189	47	1250	1202	0.157	191	192	0.2	0.4	6.770	
				3	441	110	1250	1201	0.367	441	436	0.4	0.9	6.179	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	4	0.89	855	826	0.004	4	5	0.0	0.0	3.345	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	122	31	1250	1202	0.102	123	136	0.2	0.2	3.626	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	29	7	1250	1018	0.028	28	30	0.0	0.1	8.253	
				4	348	87	1250	1019	0.341	349	336	0.5	1.2	11.224	
			2	1	354	89	1250	1019	0.348	354	366	0.5	0.7	7.210	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	154	39	1218	986	0.157	155	161	0.1	0.2	4.052	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	95	24	1218	984	0.097	96	99	0.1	0.1	5.068	
			2	1	172	43	1218	986	0.175	173	183	0.1	0.3	4.121	
				2	23	6	1218	986	0.024	23	24	0.0	0.0	4.711	
				3	3	0.79	663	543	0.006	3	3	0.0	0.0	4.209	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	382	95	1183	985	0.387	386	386	0.5	0.8	10.922	
				2	266	66	1183	985	0.270	269	253	0.7	0.7	10.432	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	317	79	1183	985	0.322	319	318	0.7	0.9	10.233	
				3	233	58	1183	985	0.237	237	242	0.4	0.4	9.471	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	382	95	-	-	-	382	387	0.0	0.0	0.088	
				2	584	146	-	-	-	584	572	0.0	0.0	0.082	
				3	233	58	-	-	-	233	242	0.0	0.0	0.073	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	

17:30 - 17:45

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	186	46	1250	1203	0.155	187	185	0.4	0.2	7.335	
				3	433	108	1250	1204	0.360	433	434	0.9	0.8	6.859	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	3	0.84	768	737	0.005	3	3	0.0	0.0	4.138	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	143	36	1250	1204	0.119	144	141	0.2	0.2	3.797	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	29	7	1250	1013	0.029	29	31	0.1	0.1	7.351	
				4	332	83	1250	1016	0.327	340	336	1.2	0.7	10.751	
			2	1	378	95	1250	1015	0.372	379	377	0.7	1.2	7.952	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	158	40	1218	975	0.162	159	163	0.2	0.2	4.049	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	105	26	1218	975	0.108	104	107	0.1	0.2	4.930	
			2	1	175	44	1218	974	0.179	174	179	0.3	0.2	4.000	
				2	20	5	1218	977	0.020	20	22	0.0	0.0	4.759	
				3	4	0.89	684	546	0.007	4	3	0.0	0.0	4.482	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	378	95	1183	977	0.387	374	382	0.8	1.5	10.783	
				2	240	60	1183	978	0.245	245	253	0.7	0.5	10.178	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	314	79	1183	976	0.322	316	317	0.9	0.9	10.072	
				3	241	60	1183	977	0.247	244	248	0.4	0.6	9.958	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	378	94	-	-	-	378	385	0.0	0.0	0.157	
				2	553	138	-	-	-	554	569	0.0	0.0	0.126	
				3	241	60	-	-	-	241	248	0.0	0.0	0.155	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	

17:45 - 18:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsi l s
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	164	41	1250	1232	0.133	165	153	0.2	0.3	6.324	
				3	360	90	1250	1231	0.293	359	351	0.8	0.7	5.511	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	4	1	680	668	0.006	4	3	0.0	0.0	4.383	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	119	30	1250	1231	0.096	117	118	0.2	0.2	3.413	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	20	5	1228	1043	0.019	20	23	0.1	0.1	5.116	
				4	273	68	1250	1053	0.259	273	275	0.7	0.4	8.854	
			2	1	313	78	1250	1053	0.297	319	310	1.2	0.5	7.311	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	130	32	1218	1017	0.128	130	135	0.2	0.1	3.772	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	78	20	1218	1020	0.077	80	82	0.2	0.0	4.673	
			2	1	146	37	1218	1018	0.144	146	147	0.2	0.2	3.871	
				2	17	4	1197	1005	0.017	17	17	0.0	0.0	4.424	
				3	3	0.68	727	606	0.005	3	3	0.0	0.0	4.716	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	306	77	1183	1013	0.303	309	314	1.5	0.8	8.591	
				2	208	52	1183	1011	0.206	207	218	0.5	0.6	8.564	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	236	59	1183	1013	0.233	236	249	0.9	0.8	8.559	
				3	211	53	1183	1013	0.208	210	205	0.6	0.6	7.557	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	306	77	-	-	-	306	312	0.0	0.0	0.010	
				2	444	111	-	-	-	444	467	0.0	0.0	0.014	
				3	211	53	-	-	-	211	205	0.0	0.0	0.013	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	

18:00 - 18:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsi l s
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	126	31	1250	1250	0.101	126	128	0.3	0.1	5.116	
				3	282	71	1250	1249	0.226	287	292	0.7	0.2	4.606	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	4	0.95	658	653	0.006	4	3	0.0	0.0	3.200	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	100	25	1250	1250	0.080	101	102	0.2	0.1	3.565	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	21	5	1228	1066	0.020	21	19	0.1	0.0	5.881	
				4	238	60	1250	1089	0.219	237	232	0.4	0.6	8.599	
			2	1	249	62	1250	1088	0.228	252	257	0.5	0.3	6.053	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	113	28	1218	1054	0.107	113	114	0.1	0.1	3.698	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	61	15	1218	1056	0.058	63	63	0.0	0.1	4.348	
			2	1	120	30	1218	1054	0.114	118	121	0.2	0.3	3.664	
				2	12	3	1176	1011	0.011	12	14	0.0	0.0	3.739	
				3	2	0.58	534	461	0.005	3	2	0.0	0.0	3.135	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	266	67	1183	1045	0.255	266	271	0.8	0.5	6.846	
				2	194	48	1183	1045	0.185	191	185	0.6	0.5	7.592	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	198	49	1183	1045	0.189	196	211	0.8	0.5	7.734	
				3	177	44	1183	1044	0.169	176	170	0.6	0.5	6.411	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	266	67	-	-	-	266	269	0.0	0.0	0.000	
				2	392	98	-	-	-	392	394	0.0	0.0	0.000	
				3	177	44	-	-	-	177	170	0.0	0.0	0.007	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	

2036 | Base + Committed + Development (Burr Road Rdbt Impact) | AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	4 - A1077 (N) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Info	Simulation	A1 - [Lane Simulation]	This run uses Simulation mode. For detailed information on this mode, please see the User Guide.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	10.39	B

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	10.39	B

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D11	2036	Base + Committed + Development (Burr Road Rdbt Impact)	AM	ONE HOUR	07:45	09:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - A18 Doncaster Road (E)		ONE HOUR	✓	656	100.000
2 - A1077 (S)		ONE HOUR	✓	1136	100.000
3 - A18 Doncaster Road (W)		ONE HOUR	✓	706	100.000
4 - A1077 (N)		ONE HOUR	✓	587	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - A18 Doncaster Road (E)	2 - A1077 (S)	3 - A18 Doncaster Road (W)	4 - A1077 (N)
From	1 - A18 Doncaster Road (E)	0	248	231	177
	2 - A1077 (S)	433	0	34	669
	3 - A18 Doncaster Road (W)	460	47	1	198
	4 - A1077 (N)	134	364	86	3

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Junction	PCU factor for a cyclist	PCU factor for a cyclist in controlling flow
1	0.20	0.80

Heavy Vehicle %

		To			
		1 - A18 Doncaster Road (E)	2 - A1077 (S)	3 - A18 Doncaster Road (W)	4 - A1077 (N)
From	1 - A18 Doncaster Road (E)	0	24	1	9
	2 - A1077 (S)	37	0	4	93
	3 - A18 Doncaster Road (W)	3	6	0	8
	4 - A1077 (N)	7	85	8	0

Cyclist %

		To			
		1 - A18 Doncaster Road (E)	2 - A1077 (S)	3 - A18 Doncaster Road (W)	A1 (
From	1 - A18 Doncaster Road (E)	0	0	0	
	2 - A1077 (S)	0	0	0	
	3 - A18 Doncaster Road (W)	0	0	0	
	4 - A1077 (N)	0	0	0	

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - A18 Doncaster Road (E)	0.29	5.22	1.2	A	613	919
2 - A1077 (S)	0.58	16.54	6.1	C	1051	1577
3 - A18 Doncaster Road (W)	0.48	7.23	2.0	A	649	974
4 - A1077 (N)	0.39	8.06	1.7	A	539	809

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	498	124	390	2582	0.193	496	498	774	0.0	0.7	4.119	A
2 - A1077 (S)	861	215	386	2307	0.373	870	842	500	0.0	2.0	8.727	A
3 - A18 Doncaster Road (W)	535	134	984	1884	0.284	532	534	272	0.0	1.0	4.797	A
4 - A1077 (N)	456	114	711	1866	0.245	454	443	806	0.0	1.2	6.251	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	601	150	444	2546	0.236	603	600	944	0.7	0.7	4.553	A
2 - A1077 (S)	1046	261	450	2252	0.464	1045	1023	597	2.0	3.4	10.342	B
3 - A18 Doncaster Road (W)	627	157	1188	1776	0.353	623	629	307	1.0	1.2	5.370	A
4 - A1077 (N)	525	131	863	1849	0.284	522	530	948	1.2	1.3	7.065	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	739	185	540	2561	0.289	741	743	1119	0.7	1.0	5.223	A
2 - A1077 (S)	1242	310	564	2200	0.564	1245	1242	717	3.4	6.1	15.721	C
3 - A18 Doncaster Road (W)	767	192	1416	1610	0.476	766	769	393	1.2	2.0	7.160	A
4 - A1077 (N)	630	158	1031	1758	0.358	627	652	1151	1.3	1.4	7.789	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	720	180	561	2509	0.287	717	736	1108	1.0	1.2	5.222	A
2 - A1077 (S)	1270	318	556	2177	0.583	1301	1283	723	6.1	5.1	16.537	C
3 - A18 Doncaster Road (W)	762	191	1461	1651	0.462	764	781	396	2.0	1.6	7.229	A
4 - A1077 (N)	656	164	1011	1697	0.386	658	644	1214	1.4	1.7	8.061	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	610	152	466	2499	0.244	612	603	915	1.2	0.7	4.484	A
2 - A1077 (S)	1020	255	466	2210	0.462	1019	1038	612	5.1	3.7	11.744	B
3 - A18 Doncaster Road (W)	666	167	1164	1725	0.386	665	650	320	1.6	1.2	5.795	A
4 - A1077 (N)	540	135	844	1859	0.290	537	547	984	1.7	1.3	6.969	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	507	127	367	2549	0.199	506	499	780	0.7	0.8	4.221	A
2 - A1077 (S)	869	217	378	2319	0.375	866	866	496	3.7	2.1	8.709	A
3 - A18 Doncaster Road (W)	537	134	978	1957	0.274	538	538	266	1.2	0.7	4.866	A
4 - A1077 (N)	428	107	718	1912	0.224	429	451	796	1.3	0.9	6.491	A

Lane Results

Lane Level notation: Lane Level 1 is always closest to the junction.

Lanes: Main Results for each time segment

07:45 - 08:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	363	1282	0.283	360	364	0.0	0.6	4.443	A
			2	1, 4	136	1282	0.106	137	134	0.0	0.1	3.264	A
	Exit	1	1		774			774	767	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	544	1140	0.477	552	526	0.0	1.3	10.976	B
			2	1, 2	319	1140	0.280	321	317	0.0	0.7	6.002	A
	Exit	1	1		500			500	496	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	312	941	0.331	311	310	0.0	0.6	5.022	A
			2	1, 2, 3	223	941	0.237	221	224	0.0	0.4	4.494	A
	Exit	1	1		272			272	270	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	238	986	0.242	239	235	0.0	0.5	6.032	A
			2	2, 3, 4	218	986	0.221	214	208	0.0	0.7	6.513	A
		2	1	(1, 2, 3, 4)	456			456	447	0.0	0.0	0.000	A
	Exit	1	1		806			806	785	0.0	0.0	0.000	A

08:00 - 08:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	435	1272	0.342	436	438	0.6	0.5	4.934	A
			2	1, 4	165	1272	0.130	167	161	0.1	0.2	3.535	A
	Exit	1	1		944			944	931	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	639	1122	0.569	636	628	1.3	2.7	13.300	B
			2	1, 2	408	1122	0.364	411	395	0.7	0.7	6.849	A
	Exit	1	1		597			597	600	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	355	885	0.402	352	358	0.6	0.8	5.691	A
			2	1, 2, 3	272	885	0.307	271	271	0.4	0.4	4.952	A
	Exit	1	1		307			307	313	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	282	944	0.298	281	281	0.5	0.6	7.021	A
			2	2, 3, 4	244	944	0.258	242	250	0.7	0.7	7.119	A
		2	1	(1, 2, 3, 4)	525			525	531	0.0	0.0	0.000	A
	Exit	1	1		948			948	938	0.0	0.0	0.000	A

08:15 - 08:30

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	538	1256	0.429	539	542	0.5	0.9	5.812	A
			2	1, 4	201	1256	0.160	202	201	0.2	0.2	3.666	A
	Exit	1	1		1119			1119	1129	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	765	1090	0.702	767	762	2.7	4.8	21.955	C
			2	1, 2	477	1090	0.438	478	480	0.7	1.2	8.375	A
	Exit	1	1		717			717	739	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	423	821	0.515	420	424	0.8	1.3	7.837	A
			2	1, 2, 3	344	821	0.419	346	345	0.4	0.7	6.341	A
	Exit	1	1		393			393	392	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	332	898	0.369	332	343	0.6	0.7	7.975	A
			2	2, 3, 4	300	898	0.334	297	309	0.7	0.6	7.572	A
		2	1	(1, 2, 3, 4)	630			630	652	0.0	0.0	0.000	A
	Exit	1	1		1151			1151	1145	0.0	0.0	0.000	A

08:30 - 08:45

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	526	1252	0.420	522	542	0.9	1.0	5.754	A
			2	1, 4	195	1252	0.156	195	194	0.2	0.2	3.760	A
	Exit	1	1		1108			1108	1131	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	807	1092	0.739	837	804	4.8	4.2	23.176	C
			2	1, 2	463	1092	0.424	463	479	1.2	0.9	8.423	A
	Exit	1	1		723			723	733	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	429	808	0.531	429	435	1.3	1.0	7.703	A
			2	1, 2, 3	333	808	0.413	335	346	0.7	0.6	6.646	A
	Exit	1	1		396			396	396	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	349	903	0.386	347	338	0.7	1.1	8.097	A
			2	2, 3, 4	307	903	0.340	311	306	0.6	0.7	8.017	A
		2	1	(1, 2, 3, 4)	656			656	646	0.0	0.0	0.000	A
	Exit	1	1		1214			1214	1185	0.0	0.0	0.000	A

08:45 - 09:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	441	1268	0.348	441	438	1.0	0.5	4.843	A
			2	1, 4	169	1268	0.133	171	165	0.2	0.1	3.553	A
	Exit	1	1		915			915	930	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	650	1117	0.581	653	652	4.2	2.5	15.330	C
			2	1, 2	371	1117	0.332	366	385	0.9	1.2	7.321	A
	Exit	1	1		612			612	608	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	378	891	0.424	379	368	1.0	0.6	6.105	A
			2	1, 2, 3	288	891	0.323	286	281	0.6	0.6	5.396	A
	Exit	1	1		320			320	328	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	273	949	0.288	270	285	1.1	0.8	6.927	A
			2	2, 3, 4	267	949	0.281	266	261	0.7	0.6	7.014	A
		2	1	(1, 2, 3, 4)	540			540	545	0.0	0.0	0.001	A
	Exit	1	1		984			984	971	0.0	0.0	0.000	A

09:00 - 09:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	374	1286	0.291	372	368	0.5	0.6	4.578	A
			2	1, 4	134	1286	0.104	133	132	0.1	0.2	3.253	A
	Exit	1	1		780			780	779	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	533	1143	0.466	528	531	2.5	1.5	10.716	B
			2	1, 2	337	1143	0.295	337	335	1.2	0.6	6.363	A
	Exit	1	1		496			496	510	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	307	944	0.325	308	309	0.6	0.4	5.122	A
			2	1, 2, 3	230	944	0.243	230	228	0.6	0.3	4.525	A
	Exit	1	1		266			266	267	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	220	984	0.224	221	238	0.8	0.5	6.559	A
			2	2, 3, 4	209	984	0.212	207	213	0.6	0.4	6.412	A
		2	1	(1, 2, 3, 4)	428			428	449	0.0	0.0	0.000	A
	Exit	1	1		796			796	797	0.0	0.0	0.000	A

Lane movements: Main Results for each time segment

07:45 - 08:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	182	46	1250	1282	0.142	180	186	0.0	0.4	4.833	
				3	180	45	1250	1282	0.141	180	178	0.0	0.2	4.111	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	136	34	1250	1283	0.106	137	134	0.0	0.1	3.264	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	24	6	1250	1143	0.021	24	25	0.0	0.1	8.750	
				4	518	129	1250	1141	0.454	527	501	0.0	1.3	11.182	
			2	1	319	80	1250	1141	0.280	321	317	0.0	0.7	6.002	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	170	42	1218	943	0.180	170	162	0.0	0.2	4.352	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	143	36	1218	942	0.151	141	148	0.0	0.4	5.789	
			2	1	187	47	1218	943	0.198	186	188	0.0	0.3	4.389	
				2	36	9	1218	948	0.037	34	35	0.0	0.1	5.048	
				3	0.46	0.12	281	222	0.002	0.69	1	0.0	0.0	4.898	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	99	25	1183	986	0.101	98	101	0.0	0.2	5.182	
				2	139	35	1183	988	0.140	141	134	0.0	0.2	7.148	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	147	37	1183	990	0.149	145	140	0.0	0.5	7.262	
				3	68	17	1183	987	0.069	67	65	0.0	0.2	5.617	
				4	2	0.52	523	437	0.005	2	2	0.0	0.0	5.020	
		2	1	1	99	25	-	-	-	99	102	0.0	0.0	0.000	
				2	286	72	-	-	-	286	277	0.0	0.0	0.000	
				3	68	17	-	-	-	68	66	0.0	0.0	0.000	
				4	2	0.52	-	-	-	2	2	0.0	0.0	0.000	

08:00 - 08:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	234	59	1250	1272	0.184	232	234	0.4	0.3	5.274	
				3	202	51	1250	1272	0.159	204	205	0.2	0.2	4.618	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	165	41	1250	1272	0.130	167	161	0.1	0.2	3.535	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	26	7	1250	1123	0.023	27	30	0.1	0.1	9.941	
				4	612	153	1250	1123	0.545	609	598	1.3	2.6	13.616	
			2	1	408	102	1250	1123	0.363	411	395	0.7	0.7	6.849	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	184	46	1218	886	0.207	183	182	0.2	0.3	4.903	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	171	43	1218	883	0.194	170	176	0.4	0.5	6.543	
			2	1	231	58	1218	886	0.261	231	230	0.3	0.3	4.854	
				2	40	10	1218	883	0.045	40	40	0.1	0.1	5.549	
				3	0.69	0.17	211	155	0.004	0.46	0.62	0.0	0.0	4.136	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	122	30	1183	946	0.129	120	124	0.2	0.3	6.605	
				2	160	40	1183	943	0.170	160	157	0.2	0.4	7.578	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	166	41	1183	946	0.175	164	169	0.5	0.5	7.765	
				3	75	19	1183	944	0.080	75	78	0.2	0.2	6.404	
				4	3	0.63	569	460	0.006	3	3	0.0	0.0	4.059	
		2	1	1	122	30	-	-	-	122	124	0.0	0.0	0.000	
				2	325	81	-	-	-	325	327	0.0	0.0	0.000	
				3	75	19	-	-	-	75	77	0.0	0.0	0.000	
				4	3	0.63	-	-	-	3	3	0.0	0.0	0.000	

08:15 - 08:30

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	276	69	1250	1254	0.220	277	281	0.3	0.5	6.033	
				3	263	66	1250	1255	0.209	262	261	0.2	0.4	5.617	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	201	50	1250	1255	0.160	202	201	0.2	0.2	3.666	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	36	9	1250	1092	0.033	36	36	0.1	0.1	18.040	
				4	729	182	1250	1090	0.669	731	726	2.6	4.8	22.310	
			2	1	477	119	1250	1091	0.437	478	480	0.7	1.2	8.375	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	209	52	1218	823	0.254	207	210	0.3	0.5	6.367	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	214	54	1218	820	0.261	213	215	0.5	0.8	9.340	
			2	1	293	73	1218	821	0.357	294	295	0.3	0.4	6.163	
				2	50	13	1218	822	0.061	50	49	0.1	0.2	7.428	
				3	0.69	0.17	234	157	0.004	1	0.85	0.0	0.0	6.067	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	138	34	1183	896	0.154	139	144	0.3	0.3	7.431	
				2	194	48	1183	896	0.216	192	198	0.4	0.5	8.669	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	199	50	1183	897	0.222	197	211	0.5	0.4	8.234	
				3	95	24	1183	896	0.106	94	94	0.2	0.2	6.721	
				4	4	1	682	522	0.008	4	4	0.0	0.0	7.535	
		2	1	1	138	34	-	-	-	138	144	0.0	0.0	0.000	
				2	393	98	-	-	-	393	410	0.0	0.0	0.000	
				3	95	24	-	-	-	95	95	0.0	0.0	0.000	
				4	4	1	-	-	-	4	4	0.0	0.0	0.000	

08:30 - 08:45

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	273	68	1250	1253	0.218	270	280	0.5	0.5	6.002	
				3	253	63	1250	1252	0.202	252	262	0.4	0.5	5.538	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	195	49	1250	1251	0.156	195	194	0.2	0.2	3.760	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	36	9	1250	1091	0.033	38	36	0.1	0.1	17.750	
				4	772	193	1250	1092	0.707	800	767	4.8	4.0	23.657	
			2	1	463	116	1250	1092	0.424	463	479	1.2	0.9	8.423	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	212	53	1218	809	0.262	212	215	0.5	0.5	6.231	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	217	54	1218	808	0.268	217	220	0.8	0.6	9.222	
			2	1	286	71	1218	809	0.353	287	293	0.4	0.5	6.465	
				2	46	12	1218	813	0.057	47	52	0.2	0.1	7.654	
				3	1	0.29	351	235	0.005	1	1	0.0	0.0	8.966	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	147	37	1183	902	0.163	145	144	0.3	0.5	7.585	
				2	202	50	1183	898	0.225	202	195	0.5	0.5	8.764	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	201	50	1183	901	0.223	204	207	0.4	0.5	8.780	
				3	103	26	1183	905	0.113	104	96	0.2	0.2	7.033	
				4	3	0.75	751	562	0.005	3	3	0.0	0.0	7.965	
		2	1	1	147	37	-	-	-	147	145	0.0	0.0	0.000	
				2	403	101	-	-	-	403	402	0.0	0.0	0.000	
				3	103	26	-	-	-	103	96	0.0	0.0	0.000	
				4	3	0.75	-	-	-	3	3	0.0	0.0	0.000	

08:45 - 09:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	235	59	1250	1269	0.185	234	227	0.5	0.3	5.347	
				3	206	52	1250	1269	0.162	207	211	0.5	0.2	4.401	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	169	42	1250	1269	0.133	171	165	0.2	0.1	3.553	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	28	7	1250	1125	0.025	29	31	0.1	0.1	13.879	
				4	622	155	1250	1118	0.557	623	621	4.0	2.5	15.463	
			2	1	371	93	1250	1118	0.332	366	385	0.9	1.2	7.321	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	191	48	1218	892	0.215	192	187	0.5	0.3	5.343	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	187	47	1218	893	0.209	187	182	0.6	0.3	6.919	
			2	1	246	61	1218	891	0.276	243	237	0.5	0.5	5.229	
				2	41	10	1218	895	0.046	42	43	0.1	0.0	6.296	
				3	2	0.40	305	220	0.007	2	1	0.0	0.0	7.375	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	116	29	1183	950	0.122	114	121	0.5	0.3	6.384	
				2	157	39	1183	951	0.165	156	165	0.5	0.5	7.601	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	181	45	1183	951	0.191	179	173	0.5	0.5	7.534	
				3	82	20	1183	948	0.086	83	85	0.2	0.1	6.377	
				4	4	0.92	660	526	0.007	4	4	0.0	0.0	7.091	
		2	1	1	116	29	-	-	-	116	120	0.0	0.0	0.000	
				2	339	85	-	-	-	339	338	0.0	0.0	0.000	
				3	82	20	-	-	-	82	84	0.0	0.0	0.006	
				4	4	0.92	-	-	-	4	4	0.0	0.0	0.000	

09:00 - 09:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	193	48	1250	1285	0.150	192	192	0.3	0.4	4.925	
				3	180	45	1250	1286	0.140	180	176	0.2	0.3	4.271	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	134	33	1250	1286	0.104	133	132	0.1	0.2	3.253	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	24	6	1226	1122	0.022	24	25	0.1	0.1	7.792	
				4	508	127	1250	1142	0.445	504	506	2.5	1.4	10.984	
			2	1	337	84	1250	1142	0.295	337	335	1.2	0.6	6.363	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	151	38	1218	943	0.160	152	151	0.3	0.1	4.436	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	156	39	1218	943	0.165	156	158	0.3	0.2	5.821	
			2	1	193	48	1218	942	0.204	193	191	0.5	0.3	4.455	
				2	37	9	1218	947	0.039	37	37	0.0	0.0	4.867	
				3	0.46	0.12	187	143	0.003	0.46	0.69	0.0	0.0	5.875	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	97	24	1183	986	0.099	98	101	0.3	0.2	5.809	
				2	123	31	1183	986	0.125	123	136	0.5	0.3	7.510	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	144	36	1183	985	0.146	144	146	0.5	0.3	7.061	
				3	63	16	1183	983	0.064	61	65	0.1	0.1	5.622	
				4	2	0.46	478	393	0.005	2	2	0.0	0.0	4.732	
		2	1	1	97	24	-	-	-	97	101	0.0	0.0	0.000	
				2	268	67	-	-	-	268	281	0.0	0.0	0.000	
				3	63	16	-	-	-	63	66	0.0	0.0	0.000	
				4	2	0.46	-	-	-	2	2	0.0	0.0	0.000	

2036 | Base + Committed + Development (Burr Road Rdbt Impact) | PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	4 - A1077 (N) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Info	Simulation	A1 - [Lane Simulation]	This run uses Simulation mode. For detailed information on this mode, please see the User Guide.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	9.31	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	9.31	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D12	2036	Base + Committed + Development (Burr Road Rdbt Impact)	PM	ONE HOUR	16:45	18:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - A18 Doncaster Road (E)		ONE HOUR	✓	768	100.000
2 - A1077 (S)		ONE HOUR	✓	727	100.000
3 - A18 Doncaster Road (W)		ONE HOUR	✓	424	100.000
4 - A1077 (N)		ONE HOUR	✓	1129	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - A18 Doncaster Road (E)	2 - A1077 (S)	3 - A18 Doncaster Road (W)	4 - A1077 (N)
From	1 - A18 Doncaster Road (E)	4	242	392	130
	2 - A1077 (S)	377	0	28	322
	3 - A18 Doncaster Road (W)	308	21	3	92
	4 - A1077 (N)	351	554	224	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Junction	PCU factor for a cyclist	PCU factor for a cyclist in controlling flow
1	0.20	0.80

Heavy Vehicle %

		To			
		1 - A18 Doncaster Road (E)	2 - A1077 (S)	3 - A18 Doncaster Road (W)	4 - A1077 (N)
From	1 - A18 Doncaster Road (E)	0	24	1	9
	2 - A1077 (S)	37	0	4	93
	3 - A18 Doncaster Road (W)	3	6	0	8
	4 - A1077 (N)	7	85	8	0

Cyclist %

		To			
		1 - A18 Doncaster Road (E)	2 - A1077 (S)	3 - A18 Doncaster Road (W)	A1 (
From	1 - A18 Doncaster Road (E)	0	0	0	
	2 - A1077 (S)	0	0	0	
	3 - A18 Doncaster Road (W)	0	0	0	
	4 - A1077 (N)	0	0	0	

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - A18 Doncaster Road (E)	0.40	7.83	1.7	A	707	1061
2 - A1077 (S)	0.41	9.61	2.1	A	663	995
3 - A18 Doncaster Road (W)	0.25	4.71	0.7	A	395	592
4 - A1077 (N)	0.68	11.86	4.3	B	1046	1569

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	564	141	618	2184	0.258	564	561	803	0.0	0.8	4.660	A
2 - A1077 (S)	561	140	558	2180	0.257	567	559	624	0.0	1.0	6.921	A
3 - A18 Doncaster Road (W)	331	83	646	2090	0.158	330	324	479	0.0	0.5	3.922	A
4 - A1077 (N)	872	218	558	2002	0.436	861	844	418	0.0	2.2	6.941	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	688	172	722	2199	0.313	697	707	940	0.8	0.6	5.845	A
2 - A1077 (S)	638	159	679	2114	0.302	638	669	740	1.0	1.4	7.876	A
3 - A18 Doncaster Road (W)	383	96	740	2008	0.191	381	386	578	0.5	0.5	4.159	A
4 - A1077 (N)	1031	258	638	1954	0.528	1024	1029	484	2.2	3.1	8.366	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	854	213	874	2120	0.403	852	857	1178	0.6	1.7	7.176	A
2 - A1077 (S)	806	201	831	1987	0.406	813	817	897	1.4	2.1	9.090	A
3 - A18 Doncaster Road (W)	478	120	922	1931	0.248	480	474	721	0.5	0.6	4.576	A
4 - A1077 (N)	1249	312	808	1838	0.680	1245	1257	593	3.1	4.3	11.857	B

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	869	217	894	2192	0.396	880	864	1148	1.7	1.5	7.834	A
2 - A1077 (S)	819	205	850	2016	0.406	823	825	924	2.1	1.7	9.612	A
3 - A18 Doncaster Road (W)	490	122	938	1938	0.253	486	475	734	0.6	0.7	4.714	A
4 - A1077 (N)	1257	314	793	1859	0.676	1249	1253	632	4.3	4.3	11.824	B

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	689	172	742	2134	0.323	692	698	893	1.5	0.9	5.841	A
2 - A1077 (S)	630	157	684	2101	0.300	632	660	750	1.7	1.2	7.812	A
3 - A18 Doncaster Road (W)	360	90	721	2024	0.178	360	387	595	0.7	0.5	4.280	A
4 - A1077 (N)	1025	256	618	1937	0.529	1018	1020	463	4.3	2.8	8.792	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	578	145	582	2237	0.259	577	589	786	0.9	0.9	5.291	A
2 - A1077 (S)	525	131	549	2171	0.242	529	549	610	1.2	1.0	7.098	A
3 - A18 Doncaster Road (W)	328	82	607	2058	0.159	328	324	472	0.5	0.4	3.973	A
4 - A1077 (N)	841	210	524	1944	0.433	843	861	411	2.8	1.5	7.152	A

Lane Results

Lanes: Main Results for each time segment

16:45 - 17:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	464	1242	0.373	463	462	0.0	0.8	4.971	A
			2	1, 4	101	1242	0.081	102	99	0.0	0.1	3.211	A
	Exit	1	1		803			803	782	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	273	1091	0.251	272	273	0.0	0.7	8.295	A
			2	1, 2	287	1091	0.263	294	287	0.0	0.2	5.930	A
	Exit	1	1		624			624	607	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	190	1037	0.183	190	185	0.0	0.3	4.003	A
			2	1, 2, 3	141	1037	0.136	140	139	0.0	0.2	3.817	A
	Exit	1	1		479			479	480	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	461	1028	0.448	459	448	0.0	1.3	7.022	A
			2	2, 3, 4	409	1028	0.398	404	396	0.0	0.9	6.838	A
		2	1	(1, 2, 3, 4)	872			872	853	0.0	0.0	0.001	A
	Exit	1	1		418			418	420	0.0	0.0	0.000	A

17:00 - 17:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	565	1224	0.462	572	584	0.8	0.6	6.288	A
			2	1, 4	124	1224	0.101	125	123	0.1	0.1	3.750	A
	Exit	1	1		940			940	952	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	296	1057	0.280	298	322	0.7	0.6	8.715	A
			2	1, 2	344	1057	0.326	341	347	0.2	0.7	7.297	A
	Exit	1	1		740			740	758	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	219	1010	0.217	218	218	0.3	0.3	4.207	A
			2	1, 2, 3	164	1010	0.162	164	168	0.2	0.2	4.097	A
	Exit	1	1		578			578	584	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	546	1006	0.543	543	548	1.3	1.6	8.577	A
			2	2, 3, 4	483	1006	0.480	481	481	0.9	1.5	7.984	A
		2	1	(1, 2, 3, 4)	1031			1031	1032	0.0	0.0	0.053	A
	Exit	1	1		484			484	497	0.0	0.0	0.000	A

17:15 - 17:30

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	714	1197	0.597	712	712	0.6	1.5	7.892	A
			2	1, 4	140	1197	0.117	141	145	0.1	0.1	3.642	A
	Exit	1	1		1178			1178	1172	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	384	1013	0.379	385	389	0.6	1.1	9.759	A
			2	1, 2	422	1013	0.416	428	428	0.7	1.0	8.626	A
	Exit	1	1		897			897	912	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	260	959	0.271	262	261	0.3	0.3	4.656	A
			2	1, 2, 3	218	959	0.228	218	213	0.2	0.3	4.479	A
	Exit	1	1		721			721	722	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	672	959	0.700	667	667	1.6	2.5	12.090	B
			2	2, 3, 4	580	959	0.604	578	590	1.5	1.8	10.780	B
		2	1	(1, 2, 3, 4)	1249			1250	1262	0.0	0.1	0.346	A
	Exit	1	1		593			593	598	0.0	0.0	0.000	A

17:30 - 17:45

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	722	1194	0.605	734	713	1.5	1.3	8.692	A
			2	1, 4	147	1194	0.123	146	151	0.1	0.2	3.801	A
	Exit	1	1		1148			1148	1155	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	403	1008	0.400	410	402	1.1	0.8	10.125	B
			2	1, 2	416	1008	0.412	413	423	1.0	0.8	9.245	A
	Exit	1	1		924			924	923	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	272	955	0.285	270	263	0.3	0.4	4.933	A
			2	1, 2, 3	218	955	0.228	216	212	0.3	0.3	4.447	A
	Exit	1	1		734			734	719	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	655	963	0.680	648	655	2.5	2.4	12.359	B
			2	2, 3, 4	599	963	0.622	600	597	1.8	1.6	10.367	B
		2	1	(1, 2, 3, 4)	1257			1254	1252	0.1	0.3	0.367	A
	Exit	1	1		632			632	620	0.0	0.0	0.000	A

17:45 - 18:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	575	1220	0.471	579	584	1.3	0.9	6.252	A
			2	1, 4	113	1220	0.092	113	114	0.2	0.0	3.712	A
	Exit	1	1		893			893	945	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	298	1055	0.283	298	310	0.8	0.8	8.500	A
			2	1, 2	332	1055	0.314	334	349	0.8	0.3	7.345	A
	Exit	1	1		750			750	749	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	204	1016	0.200	204	219	0.4	0.3	4.491	A
			2	1, 2, 3	156	1016	0.154	156	169	0.3	0.2	4.015	A
	Exit	1	1		595			595	591	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	550	1012	0.544	547	552	2.4	1.4	8.851	A
			2	2, 3, 4	475	1012	0.469	470	468	1.6	1.3	8.529	A
		2	1	(1, 2, 3, 4)	1025			1025	1015	0.3	0.0	0.097	A
	Exit	1	1		463			463	480	0.0	0.0	0.000	A

18:00 - 18:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A18 Doncaster Road (E)	Entry	1	1	2, 3	478	1248	0.383	477	485	0.9	0.8	5.713	A
			2	1, 4	100	1248	0.080	100	105	0.0	0.1	3.343	A
	Exit	1	1		786			786	789	0.0	0.0	0.000	A
2 - A1077 (S)	Entry	1	1	3, 4	266	1094	0.244	269	269	0.8	0.5	8.404	A
			2	1, 2	259	1094	0.237	260	280	0.3	0.5	6.164	A
	Exit	1	1		610			610	630	0.0	0.0	0.000	A
3 - A18 Doncaster Road (W)	Entry	1	1	1, 4	187	1048	0.179	186	183	0.3	0.3	4.029	A
			2	1, 2, 3	140	1048	0.134	142	141	0.2	0.1	3.903	A
	Exit	1	1		472			472	485	0.0	0.0	0.000	A
4 - A1077 (N)	Entry	1	1	1, 2	473	1038	0.456	475	472	1.4	0.9	7.231	A
			2	2, 3, 4	368	1038	0.354	368	389	1.3	0.6	7.042	A
		2	1	(1, 2, 3, 4)	841			841	856	0.0	0.0	0.003	A
	Exit	1	1		411			411	419	0.0	0.0	0.000	A

Lane movements: Main Results for each time segment

16:45 - 17:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsi l s
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	175	44	1250	1240	0.141	176	176	0.0	0.3	5.467	
				3	288	72	1250	1242	0.232	287	285	0.0	0.5	4.720	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	4	1	637	632	0.007	4	3	0.0	0.0	3.185	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	96	24	1250	1242	0.078	97	96	0.0	0.1	3.212	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	23	6	1226	1074	0.021	23	22	0.0	0.1	5.780	
				4	251	63	1250	1093	0.229	250	251	0.0	0.7	8.700	
			2	1	287	72	1250	1090	0.263	294	287	0.0	0.2	5.930	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	119	30	1218	1036	0.114	119	112	0.0	0.1	3.604	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	72	18	1218	1036	0.069	71	73	0.0	0.2	4.646	
			2	1	122	30	1218	1037	0.117	121	122	0.0	0.1	3.743	
				2	17	4	1218	1025	0.016	16	16	0.0	0.0	4.478	
				3	3	0.65	502	427	0.006	3	2	0.0	0.0	3.140	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	264	66	1183	1029	0.256	264	259	0.0	0.7	6.738	
				2	197	49	1183	1032	0.191	195	189	0.0	0.6	7.689	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	240	60	1183	1029	0.234	238	226	0.0	0.6	7.365	
				3	169	42	1183	1030	0.164	167	171	0.0	0.3	6.427	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	264	66	-	-	-	264	261	0.0	0.0	0.001	
				2	438	109	-	-	-	438	420	0.0	0.0	0.002	
				3	169	42	-	-	-	169	172	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	

17:00 - 17:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsi l s
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	218	55	1250	1224	0.178	223	227	0.3	0.3	6.910	
				3	347	87	1250	1224	0.283	350	357	0.5	0.3	5.963	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	1	0.35	833	815	0.002	2	4	0.0	0.0	3.369	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	122	31	1250	1224	0.100	123	120	0.1	0.1	3.763	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	24	6	1250	1059	0.023	24	24	0.1	0.0	5.994	
				4	272	68	1250	1058	0.257	274	297	0.7	0.6	9.132	
			2	1	344	86	1250	1057	0.325	341	347	0.2	0.7	7.297	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	133	33	1218	1010	0.132	131	138	0.1	0.2	3.864	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	86	22	1218	1011	0.085	87	80	0.2	0.1	4.833	
			2	1	146	36	1218	1008	0.145	146	146	0.1	0.1	3.991	
				2	16	4	1194	984	0.016	15	19	0.0	0.0	4.875	
				3	2	0.59	597	493	0.005	2	3	0.0	0.0	4.569	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	323	81	1183	1009	0.320	319	317	0.7	1.0	8.635	
				2	224	56	1183	1005	0.223	223	231	0.6	0.6	8.440	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	280	70	1183	1006	0.278	279	280	0.6	0.7	8.370	
				3	205	51	1183	1007	0.204	202	200	0.3	0.8	7.671	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	323	81	-	-	-	323	318	0.0	0.0	0.055	
				2	503	126	-	-	-	503	512	0.0	0.0	0.051	
				3	205	51	-	-	-	205	202	0.0	0.0	0.052	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	

17:15 - 17:30

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	267	67	1250	1198	0.222	265	271	0.3	0.7	8.396	
				3	448	112	1250	1197	0.374	447	441	0.3	0.9	7.639	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	4	1	931	891	0.004	4	5	0.0	0.0	2.839	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	136	34	1250	1198	0.113	137	140	0.1	0.1	3.676	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	33	8	1250	1009	0.033	32	31	0.0	0.1	6.916	
				4	351	88	1250	1011	0.347	353	358	0.6	1.0	10.216	
			2	1	422	105	1250	1012	0.417	428	428	0.7	1.0	8.626	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	158	39	1218	959	0.165	159	161	0.2	0.1	4.038	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	102	26	1218	957	0.107	102	100	0.1	0.2	5.686	
			2	1	190	47	1218	959	0.198	189	185	0.1	0.3	4.397	
				2	24	6	1218	952	0.026	25	24	0.0	0.0	5.120	
				3	4	0.88	717	573	0.006	4	3	0.0	0.0	4.500	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	404	101	1183	961	0.421	398	393	1.0	1.6	12.420	
				2	267	67	1183	958	0.279	268	273	0.6	0.8	11.270	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	338	84	1183	960	0.352	339	344	0.7	1.0	11.009	
				3	242	60	1183	961	0.251	240	246	0.8	0.8	10.594	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	404	101	-	-	-	404	396	0.0	0.0	0.349	
				2	604	151	-	-	-	605	620	0.0	0.0	0.365	
				3	241	60	-	-	-	242	246	0.0	0.0	0.312	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	

17:30 - 17:45

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	280	70	1250	1194	0.235	285	276	0.7	0.5	9.105	
				3	441	110	1250	1193	0.369	449	437	0.9	0.7	8.481	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	4	1	882	842	0.005	4	5	0.0	0.0	3.478	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	142	36	1250	1193	0.119	141	146	0.1	0.2	3.813	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	30	7	1250	1012	0.030	30	32	0.1	0.1	7.897	
				4	374	94	1250	1008	0.371	380	370	1.0	0.7	10.478	
			2	1	416	104	1250	1009	0.412	413	423	1.0	0.8	9.245	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	163	41	1218	955	0.170	160	160	0.1	0.3	4.342	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	110	27	1218	956	0.115	110	103	0.2	0.1	5.892	
			2	1	191	48	1218	954	0.201	190	184	0.3	0.3	4.261	
				2	24	6	1194	941	0.025	24	25	0.0	0.0	5.741	
				3	3	0.76	717	564	0.005	3	3	0.0	0.0	5.425	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	387	97	1183	963	0.401	381	384	1.6	1.5	12.728	
				2	268	67	1183	964	0.278	267	272	0.8	0.9	11.458	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	347	87	1183	963	0.360	348	350	1.0	1.1	10.801	
				3	252	63	1183	964	0.262	253	247	0.8	0.5	10.010	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	388	97	-	-	-	387	383	0.0	0.1	0.369	
				2	616	154	-	-	-	615	623	0.0	0.1	0.362	
				3	253	63	-	-	-	252	246	0.0	0.0	0.370	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	

17:45 - 18:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsi l s
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	216	54	1250	1220	0.177	217	222	0.5	0.4	6.884	
				3	360	90	1250	1220	0.295	362	363	0.7	0.5	5.938	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	3	0.65	637	622	0.004	3	3	0.0	0.0	3.365	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	110	28	1250	1222	0.090	110	111	0.2	0.0	3.721	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	23	6	1250	1056	0.022	23	25	0.1	0.0	6.138	
				4	275	69	1250	1055	0.261	274	285	0.7	0.8	8.888	
			2	1	332	83	1250	1055	0.314	334	349	0.8	0.3	7.345	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	126	31	1218	1015	0.124	125	135	0.3	0.1	3.983	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	78	19	1218	1015	0.076	78	84	0.1	0.1	5.359	
			2	1	135	34	1218	1014	0.133	135	146	0.3	0.2	3.945	
				2	19	5	1218	1008	0.019	19	20	0.0	0.0	4.444	
				3	2	0.53	645	532	0.004	2	3	0.0	0.0	4.664	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	295	74	1183	1010	0.292	297	312	1.5	0.7	8.854	
				2	254	64	1183	1013	0.251	251	240	0.9	0.7	8.844	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	266	66	1183	1012	0.263	263	267	1.1	0.9	9.069	
				3	210	52	1183	1008	0.208	207	201	0.5	0.5	8.106	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	295	74	-	-	-	295	309	0.1	0.0	0.110	
				2	521	130	-	-	-	521	505	0.1	0.0	0.108	
				3	210	52	-	-	-	210	200	0.0	0.0	0.058	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	

18:00 - 18:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsi l s
1 - A18 Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	187	47	1250	1250	0.149	188	189	0.4	0.4	6.271	
				3	292	73	1250	1248	0.234	289	296	0.5	0.4	5.421	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	2	0.59	735	729	0.003	3	3	0.0	0.0	3.292	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	97	24	1250	1248	0.078	97	102	0.0	0.1	3.345	
2 - A1077 (S)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	22	5	1250	1095	0.020	22	22	0.0	0.0	5.575	
				4	244	61	1250	1092	0.224	247	247	0.8	0.5	8.869	
			2	1	259	65	1250	1094	0.237	260	280	0.3	0.5	6.164	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
3 - A18 Doncaster Road (W)	Entry	1	1	1	120	30	1218	1049	0.115	120	113	0.1	0.2	3.590	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	67	17	1218	1045	0.064	66	70	0.1	0.1	4.757	
			2	1	128	32	1218	1047	0.122	128	124	0.2	0.1	3.862	
				2	11	3	1147	975	0.011	11	14	0.0	0.0	4.161	
				3	2	0.59	526	450	0.005	2	2	0.0	0.0	4.515	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
4 - A1077 (N)	Entry	1	1	1	271	68	1183	1038	0.261	275	269	0.7	0.4	7.036	
				2	202	50	1183	1036	0.195	200	203	0.7	0.5	7.680	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	210	52	1183	1037	0.202	211	224	0.9	0.3	7.535	
				3	158	40	1183	1036	0.153	157	165	0.5	0.3	6.652	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	271	68	-	-	-	271	267	0.0	0.0	0.004	
				2	411	103	-	-	-	411	424	0.0	0.0	0.004	
				3	158	40	-	-	-	158	165	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	

Appendix 9: Burringham Road Highway Assessment –JUNCTIONS 11 Output – J2 – Berkeley Circle Roundabout

Junctions 11

ARCADY 11 - Roundabout Module

Version: 11.0.0.2177

For sales and distribution information, program advice and maintenance, contact TRL Software:
+44 (0)1344 379777 software@trl.co.uk trlsoftware.com

Filename: Berkeley Roundabout - Burringham Road Roundabout Impact v.1 AG.j11
Path: J:\2022\221638-Lincolnshire Lakes, Phase 1\ProjectDelivery\01-WIP\DesignAndCalculations\Transport\Junction Modelling\TAA Addendum\Burringham Road Roundabout Impact\J4 - Berkeley Roundabout
Report generation date: 03/07/2025 13:38:31

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	[Lane Simulation] - 2027 - Base + Committed									
1 - Scotter Road (N)	D1	2.7	18.39	0.71	C	D2	8.0	48.92	0.89	E
2 - Doncaster Road (E)		1.1	13.06	0.46	B		10.0	75.29	0.91	F
3 - A18 Kingsway		2.9	17.14	0.72	C		12.8	71.00	0.94	F
4 - Scotter Road (S)		3.4	16.29	0.77	C		2.1	10.83	0.66	B
5 - A18 Doncaster Road (W)		6.5	19.02	0.67	C		14.0	36.55	0.66	E
	[Lane Simulation] - 2027 - Base + Committed (Burr Road Rdbt Impact)									
1 - Scotter Road (N)	D3	1.1	8.37	0.53	A	D4	3.6	21.06	0.79	C
2 - Doncaster Road (E)		0.6	9.00	0.38	A		4.1	35.92	0.76	E
3 - A18 Kingsway		0.6	7.48	0.39	A		0.8	10.20	0.46	B
4 - Scotter Road (S)		1.9	8.11	0.63	A		0.9	5.71	0.47	A
5 - A18 Doncaster Road (W)		1.2	6.55	0.41	A		3.5	10.52	0.55	B
	[Lane Simulation] - 2027 - Base + Committed + Development (Burr Road Rdbt Impact)									
1 - Scotter Road (N)	D5	1.3	10.06	0.55	B	D6	4.7	27.91	0.81	D
2 - Doncaster Road (E)		0.8	9.99	0.44	A		13.3	92.10	0.95	F
3 - A18 Kingsway		0.7	8.09	0.43	A		1.0	11.34	0.51	B
4 - Scotter Road (S)		1.7	7.82	0.63	A		0.8	6.33	0.48	A
5 - A18 Doncaster Road (W)		2.2	7.35	0.48	A		3.6	11.46	0.58	B
	[Lane Simulation] - 2036 - Base + Committed									
1 - Scotter Road (N)	D7	3.6	26.60	0.79	D	D8	19.1	98.70	1.00	F
2 - Doncaster Road (E)		1.6	15.71	0.57	C		20.9	139.78	1.06	F
3 - A18 Kingsway		4.1	23.22	0.78	C		23.0	123.34	1.05	F
4 - Scotter Road (S)		5.9	25.46	0.86	D		2.7	13.83	0.72	B
5 - A18 Doncaster Road (W)		10.5	30.23	0.69	D		28.1	66.53	0.71	F
	[Lane Simulation] - 2036 - Base + Committed (Burr Road Rdbt Impact)									
1 - Scotter Road (N)	D9	1.8	10.71	0.58	B	D10	6.7	40.09	0.89	E
2 - Doncaster Road (E)		0.9	10.26	0.42	B		9.3	65.48	0.92	F
3 - A18 Kingsway		0.9	8.24	0.44	A		1.0	12.06	0.52	B
4 - Scotter Road (S)		2.5	9.48	0.70	A		1.1	6.12	0.49	A
5 - A18 Doncaster Road (W)		1.8	6.89	0.45	A		4.4	13.69	0.58	B
	[Lane Simulation] - 2036 - Base + Committed + Development (Burr Road Rdbt Impact)									
1 - Scotter Road (N)	D11	2.2	13.38	0.65	B	D12	8.5	54.80	0.93	F
2 - Doncaster Road (E)		1.0	10.76	0.49	B		27.7	166.99	1.06	F
3 - A18 Kingsway		0.8	9.25	0.46	A		1.1	12.70	0.54	B
4 - Scotter Road (S)		1.7	9.59	0.68	A		1.1	6.56	0.52	A
5 - A18 Doncaster Road (W)		2.2	8.24	0.52	A		5.0	14.63	0.63	B

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

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Arm and junction delays are averages for all movements, including movements with zero delay.

File summary

File Description

Title	Berkeley Rdbt
Location	Scunthorpe
Site number	J4
Date	10/06/2025
Version	P1
Status	For Submission
Identifier	JL
Client	Hargreaves Land
Jobnumber	221638
Enumerator	BWB\Robert.Wickenden
Description	

Units

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

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use simulation for HCM roundabouts	Use iterations for HCM roundabouts
5.75						0.85	36.00	20.00		

Lane Simulation options

Criteria type	Stop criteria (%)	Stop criteria time (s)	Stop criteria number of trials	Calculate RFCs	Relaxation factor for capacity/RFC runs	Random seed	Results refresh speed (s)	Individual vehicle animation number of trials	Average animation capture interval (s)	Use quick response	Do flow sampling	Suppress automatic lane creation	Last run random seed	Last run number of trials
Delay	1.00	100000	100000	Calculate for all arms	3.00	-1	3	1	60	✓			1936391620	188

Demand Set Summary

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2027	Base + Committed	AM	ONE HOUR	07:45	09:15	15	✓
D2	2027	Base + Committed	PM	ONE HOUR	16:45	18:15	15	✓
D3	2027	Base + Committed (Burr Road Rdbt Impact)	AM	ONE HOUR	07:45	09:15	15	✓
D4	2027	Base + Committed (Burr Road Rdbt Impact)	PM	ONE HOUR	16:45	18:15	15	✓
D5	2027	Base + Committed + Development (Burr Road Rdbt Impact)	AM	ONE HOUR	07:45	09:15	15	✓
D6	2027	Base + Committed + Development (Burr Road Rdbt Impact)	PM	ONE HOUR	16:45	18:15	15	✓
D7	2036	Base + Committed	AM	ONE HOUR	07:45	09:15	15	✓
D8	2036	Base + Committed	PM	ONE HOUR	16:45	18:15	15	✓
D9	2036	Base + Committed (Burr Road Rdbt Impact)	AM	ONE HOUR	07:45	09:15	15	✓
D10	2036	Base + Committed (Burr Road Rdbt Impact)	PM	ONE HOUR	16:45	18:15	15	✓
D11	2036	Base + Committed + Development (Burr Road Rdbt Impact)	AM	ONE HOUR	07:45	09:15	15	✓
D12	2036	Base + Committed + Development (Burr Road Rdbt Impact)	PM	ONE HOUR	16:45	18:15	15	✓

Analysis Set Details

ID	Use Lane Simulation	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	✓	100.000	100.000

2027 | Base + Committed | AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - Doncaster Road (E) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Info	Simulation	A1 - [Lane Simulation]	This run uses Simulation mode. For detailed information on this mode, please see the User Guide.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Berkeley Roundabout	Standard Roundabout		1, 2, 3, 4, 5	17.46	C

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	17.46	C

Arms

Arms

Arm	Name	Description	No give-way line
1	Scotter Road (N)		
2	Doncaster Road (E)		
3	A18 Kingsway		
4	Scotter Road (S)		
5	A18 Doncaster Road (W)		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
1 - Scotter Road (N)	3.25	4.50	13.4	26.4	60.1	23.0		
2 - Doncaster Road (E)	3.83	7.31	57.6	12.1	60.9	38.0		
3 - A18 Kingsway	4.20	7.55	18.8	10.9	60.9	35.0		
4 - Scotter Road (S)	3.09	6.03	17.6	38.0	60.9	36.0		
5 - A18 Doncaster Road (W)	5.97	7.91	4.7	42.2	60.9	40.0		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final slope	Final intercept (PCU/hr)
1 - Scotter Road (N)				0.501	1322
2 - Doncaster Road (E)	✓	0.650	1900	0.650	1900
3 - A18 Kingsway	✓	0.500	1900	0.500	1900
4 - Scotter Road (S)				0.522	1521
5 - A18 Doncaster Road (W)	✓	0.400	2200	0.400	2200

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

Lane Simulation: Arm options

Arm	Lane capacity source	Traffic considering secondary lanes (%)
1 - Scotter Road (N)	Evenly split	10.00
2 - Doncaster Road (E)	Evenly split	10.00
3 - A18 Kingsway	Evenly split	10.00
4 - Scotter Road (S)	Evenly split	10.00
5 - A18 Doncaster Road (W)	Evenly split	10.00

Lanes

Arm	Side	Lane level	Lane	Destination arms	Has limited storage	Storage (PCU)	Has bottleneck	Has obstruction	Minimum capacity (PCU/hr)	Maximum capacity (PCU/hr)	Signalised
1 - Scotter Road (N)	Entry	1	1	1, 2, 3, 4, 5		Infinity			0	99999	
	Exit	1	1			Infinity					
2 - Doncaster Road (E)	Entry	1	1	3, 4, 5	✓	9.00			0	99999	
			2	1, 2	✓	9.00			0	99999	
		2	1	(1, 2, 3, 4, 5)		Infinity					
	Exit	1	1			Infinity					
3 - A18 Kingsway	Entry	1	1	1, 4, 5	✓	9.00			0	99999	
			2	2, 3	✓	9.00			0	99999	
		2	1	(1, 2, 3, 4, 5)		Infinity					
	Exit	1	1			Infinity					
4 - Scotter Road (S)	Entry	1	1	1, 2, 3, 4, 5		Infinity			0	99999	
	Exit	1	1			Infinity					
5 - A18 Doncaster Road (W)	Entry	1	1	1, 2		Infinity			0	99999	
			2	3, 4, 5		Infinity			0	99999	
	Exit	1	1			Infinity					

Entry Lane slope and intercept

Arm	Side	Lane level	Lane	Final slope	Final intercept (PCU/hr)
1 - Scotter Road (N)	Entry	1	1	0.501	1322
2 - Doncaster Road (E)	Entry	1	1	0.325	950
			2	0.325	950
3 - A18 Kingsway	Entry	1	1	0.250	950
			2	0.250	950
4 - Scotter Road (S)	Entry	1	1	0.522	1521
5 - A18 Doncaster Road (W)	Entry	1	1	0.200	1100
			2	0.200	1100

Summary of Entry Lane allowed movements

Arm	Lane Level	Lane	Destination arm				
			Scotter Road (N)	Doncaster Road (E)	A18 Kingsway	Scotter Road (S)	A18 Doncaster Road (W)
1 - Scotter Road (N)	1	1	✓	✓	✓	✓	✓
2 - Doncaster Road (E)	1	1			✓	✓	✓
		2	✓	✓			
	2	1	✓	✓	✓	✓	✓
3 - A18 Kingsway	1	1	✓			✓	✓
		2		✓	✓		
	2	1	✓	✓	✓	✓	✓
4 - Scotter Road (S)	1	1	✓	✓	✓	✓	✓
5 - A18 Doncaster Road (W)	1	1	✓	✓			
		2			✓	✓	✓

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2027	Base + Committed	AM	ONE HOUR	07:45	09:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Scotter Road (N)		ONE HOUR	✓	433	100.000
2 - Doncaster Road (E)		ONE HOUR	✓	244	100.000
3 - A18 Kingsway		ONE HOUR	✓	494	100.000
4 - Scotter Road (S)		ONE HOUR	✓	768	100.000
5 - A18 Doncaster Road (W)		ONE HOUR	✓	1099	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
		1 - Scotter Road (N)	2 - Doncaster Road (E)	3 - A18 Kingsway	4 - Scotter Road (S)	5 - A18 Doncaster Road (W)
From	1 - Scotter Road (N)	0	17	130	220	66
	2 - Doncaster Road (E)	20	0	8	53	163
	3 - A18 Kingsway	127	4	0	15	348
	4 - Scotter Road (S)	380	77	34	3	274
	5 - A18 Doncaster Road (W)	80	276	539	203	1

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Junction	PCU factor for a cyclist	PCU factor for a cyclist in controlling flow
1	0.20	0.80

Heavy Vehicle %

		To				
		1 - Scotter Road (N)	2 - Doncaster Road (E)	3 - A18 Kingsway	4 - Scotter Road (S)	5 - A18 Doncaster Road (W)
From	1 - Scotter Road (N)	0	0	0	0	0
	2 - Doncaster Road (E)	0	0	0	0	0
	3 - A18 Kingsway	0	0	0	0	0
	4 - Scotter Road (S)	0	0	0	0	0
	5 - A18 Doncaster Road (W)	0	0	0	0	0

Cyclist %

		To	
		1 - Scotter Road (N)	2 - Doncaste Road (E)
From	1 - Scotter Road (N)	0	0
	2 - Doncaster Road (E)	0	0
	3 - A18 Kingsway	0	0
	4 - Scotter Road (S)	0	0
	5 - A18 Doncaster Road (W)	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Scotter Road (N)	0.71	18.39	2.7	C	396	594
2 - Doncaster Road (E)	0.46	13.06	1.1	B	222	333
3 - A18 Kingsway	0.72	17.14	2.9	C	452	678
4 - Scotter Road (S)	0.77	16.29	3.4	C	707	1061
5 - A18 Doncaster Road (W)	0.67	19.02	6.5	C	1010	1515

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Scotter Road (N)	326	82	849	901	0.362	327	326	453	0.0	0.6	6.306	A
2 - Doncaster Road (E)	185	46	898	732	0.252	185	184	277	0.0	0.4	7.190	A
3 - A18 Kingsway	364	91	550	836	0.435	365	372	533	0.0	0.8	7.953	A
4 - Scotter Road (S)	581	145	542	1240	0.468	579	576	373	0.0	1.0	5.388	A
5 - A18 Doncaster Road (W)	824	206	479	2042	0.403	823	824	642	0.0	1.7	7.122	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Scotter Road (N)	388	97	1025	826	0.470	388	387	544	0.6	1.1	8.476	A
2 - Doncaster Road (E)	212	53	1070	650	0.327	211	226	343	0.4	0.6	8.857	A
3 - A18 Kingsway	441	110	650	811	0.543	444	449	631	0.8	1.1	10.300	B
4 - Scotter Road (S)	698	175	649	1200	0.582	693	694	444	1.0	1.6	7.533	A
5 - A18 Doncaster Road (W)	983	246	582	1975	0.498	987	993	761	1.7	2.5	9.818	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Scotter Road (N)	474	119	1270	672	0.706	471	474	665	1.1	2.4	14.928	B
2 - Doncaster Road (E)	264	66	1317	581	0.454	262	270	424	0.6	1.1	12.333	B
3 - A18 Kingsway	542	136	791	768	0.706	540	543	789	1.1	2.5	16.284	C
4 - Scotter Road (S)	852	213	791	1111	0.767	853	853	539	1.6	3.3	13.147	B
5 - A18 Doncaster Road (W)	1222	305	709	1831	0.667	1226	1206	935	2.5	6.2	17.807	C

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Scotter Road (N)	471	118	1256	698	0.674	464	477	671	2.4	2.7	18.389	C
2 - Doncaster Road (E)	264	66	1305	576	0.458	263	275	414	1.1	0.9	13.058	B
3 - A18 Kingsway	544	136	793	757	0.718	538	545	776	2.5	2.9	17.138	C
4 - Scotter Road (S)	856	214	791	1120	0.765	858	857	539	3.3	3.4	16.287	C
5 - A18 Doncaster Road (W)	1219	305	708	1938	0.629	1219	1217	942	6.2	6.5	19.016	C

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Scotter Road (N)	394	99	1026	803	0.491	396	402	551	2.7	1.0	10.644	B
2 - Doncaster Road (E)	227	57	1083	658	0.345	228	229	339	0.9	0.4	9.851	A
3 - A18 Kingsway	441	110	665	816	0.540	445	457	647	2.9	1.1	11.462	B
4 - Scotter Road (S)	690	172	662	1176	0.586	690	705	448	3.4	1.4	8.436	A
5 - A18 Doncaster Road (W)	986	247	582	1968	0.501	994	1015	769	6.5	2.3	11.048	B

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Scotter Road (N)	322	80	855	901	0.357	321	333	446	1.0	0.6	6.736	A
2 - Doncaster Road (E)	179	45	900	701	0.255	179	189	276	0.4	0.4	7.638	A
3 - A18 Kingsway	379	95	541	809	0.469	378	382	539	1.1	1.0	8.235	A
4 - Scotter Road (S)	566	142	543	1250	0.453	566	582	375	1.4	0.9	5.777	A
5 - A18 Doncaster Road (W)	826	206	478	2049	0.403	823	834	631	2.3	1.6	7.351	A

Lane Results

Lane Level notation: Lane Level 1 is always closest to the junction.

Lanes: Main Results for each time segment

07:45 - 08:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Scotter Road (N)	Entry	1	1	1, 2, 3, 4, 5	326	897	0.363	327	326	0.0	0.6	6.306	A
	Exit	1	1		453			453	454	0.0	0.0	0.000	A
2 - Doncaster Road (E)	Entry	1	1	3, 4, 5	171	658	0.259	171	168	0.0	0.4	7.310	A
			2	1, 2	14	658	0.022	14	15	0.0	0.0	5.876	A
		2	1	(1, 2, 3, 4, 5)	185			185	185	0.0	0.0	0.000	A
	Exit	1	1		277			277	283	0.0	0.0	0.000	A
3 - A18 Kingsway	Entry	1	1	1, 4, 5	362	812	0.445	363	369	0.0	0.8	7.975	A
			2	2, 3	2	812	0.003	2	3	0.0	0.0	4.739	A
		2	1	(1, 2, 3, 4, 5)	364			364	375	0.0	0.0	0.001	A
	Exit	1	1		533			533	534	0.0	0.0	0.000	A
4 - Scotter Road (S)	Entry	1	1	1, 2, 3, 4, 5	581	1238	0.469	579	576	0.0	1.0	5.388	A
	Exit	1	1		373			373	368	0.0	0.0	0.000	A
5 - A18 Doncaster Road (W)	Entry	1	1	1, 2	266	1004	0.265	265	268	0.0	0.4	4.946	A
			2	3, 4, 5	557	1004	0.555	557	556	0.0	1.3	8.167	A
	Exit	1	1		642			642	641	0.0	0.0	0.000	A

08:00 - 08:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Scotter Road (N)	Entry	1	1	1, 2, 3, 4, 5	388	809	0.480	388	387	0.6	1.1	8.476	A
	Exit	1	1		544			544	550	0.0	0.0	0.000	A
2 - Doncaster Road (E)	Entry	1	1	3, 4, 5	195	602	0.323	193	207	0.4	0.6	9.090	A
			2	1, 2	18	602	0.029	18	19	0.0	0.0	6.256	A
		2	1	(1, 2, 3, 4, 5)	212			212	227	0.0	0.0	0.000	A
	Exit	1	1		343			343	340	0.0	0.0	0.000	A
3 - A18 Kingsway	Entry	1	1	1, 4, 5	439	788	0.557	442	445	0.8	1.0	10.298	B
			2	2, 3	2	788	0.003	2	3	0.0	0.0	4.353	A
		2	1	(1, 2, 3, 4, 5)	441			441	450	0.0	0.0	0.047	A
	Exit	1	1		631			631	638	0.0	0.0	0.000	A
4 - Scotter Road (S)	Entry	1	1	1, 2, 3, 4, 5	698	1182	0.591	693	694	1.0	1.6	7.533	A
	Exit	1	1		444			444	446	0.0	0.0	0.000	A
5 - A18 Doncaster Road (W)	Entry	1	1	1, 2	320	984	0.325	321	322	0.4	0.3	5.502	A
			2	3, 4, 5	663	984	0.674	666	671	1.3	2.1	11.873	B
	Exit	1	1		761			761	775	0.0	0.0	0.000	A

08:15 - 08:30

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Scotter Road (N)	Entry	1	1	1, 2, 3, 4, 5	474	687	0.690	471	474	1.1	2.4	14.928	B
	Exit	1	1		665			665	671	0.0	0.0	0.000	A
2 - Doncaster Road (E)	Entry	1	1	3, 4, 5	243	522	0.466	241	248	0.6	1.0	12.803	B
			2	1, 2	21	522	0.040	21	22	0.0	0.0	7.026	A
		2	1	(1, 2, 3, 4, 5)	264			264	272	0.0	0.0	0.001	A
	Exit	1	1		424			424	418	0.0	0.0	0.000	A
3 - A18 Kingsway	Entry	1	1	1, 4, 5	537	752	0.713	535	538	1.0	2.4	15.598	C
			2	2, 3	5	752	0.006	5	4	0.0	0.0	5.216	A
		2	1	(1, 2, 3, 4, 5)	542			541	548	0.0	0.2	0.736	A
	Exit	1	1		789			789	779	0.0	0.0	0.000	A
4 - Scotter Road (S)	Entry	1	1	1, 2, 3, 4, 5	852	1108	0.769	853	853	1.6	3.3	13.147	B
	Exit	1	1		539			539	537	0.0	0.0	0.000	A
5 - A18 Doncaster Road (W)	Entry	1	1	1, 2	402	958	0.419	401	397	0.3	0.7	6.469	A
			2	3, 4, 5	820	958	0.856	825	809	2.1	5.5	23.304	C
	Exit	1	1		935			935	940	0.0	0.0	0.000	A

08:30 - 08:45

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Scotter Road (N)	Entry	1	1	1, 2, 3, 4, 5	471	694	0.678	464	477	2.4	2.7	18.389	C
	Exit	1	1		671			671	675	0.0	0.0	0.000	A
2 - Doncaster Road (E)	Entry	1	1	3, 4, 5	242	526	0.461	241	253	1.0	0.9	13.591	B
			2	1, 2	22	526	0.041	22	23	0.0	0.0	6.955	A
		2	1	(1, 2, 3, 4, 5)	264			264	275	0.0	0.0	0.014	A
	Exit	1	1		414			414	413	0.0	0.0	0.000	A
3 - A18 Kingsway	Entry	1	1	1, 4, 5	538	752	0.716	534	542	2.4	2.7	16.401	C
			2	2, 3	4	752	0.005	4	4	0.0	0.0	4.403	A
		2	1	(1, 2, 3, 4, 5)	544			542	547	0.2	0.2	0.815	A
	Exit	1	1		776			776	782	0.0	0.0	0.000	A
4 - Scotter Road (S)	Entry	1	1	1, 2, 3, 4, 5	856	1108	0.773	858	857	3.3	3.4	16.287	C
	Exit	1	1		539			539	549	0.0	0.0	0.000	A
5 - A18 Doncaster Road (W)	Entry	1	1	1, 2	403	958	0.420	402	398	0.7	0.8	6.288	A
			2	3, 4, 5	816	958	0.852	817	818	5.5	5.7	25.208	D
	Exit	1	1		942			942	952	0.0	0.0	0.000	A

08:45 - 09:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Scotter Road (N)	Entry	1	1	1, 2, 3, 4, 5	394	809	0.488	396	402	2.7	1.0	10.644	B
	Exit	1	1		551			551	561	0.0	0.0	0.000	A
2 - Doncaster Road (E)	Entry	1	1	3, 4, 5	208	598	0.347	209	210	0.9	0.4	10.183	B
			2	1, 2	19	598	0.033	19	19	0.0	0.0	6.260	A
		2	1	(1, 2, 3, 4, 5)	227			227	227	0.0	0.0	0.001	A
	Exit	1	1		339			339	345	0.0	0.0	0.000	A
3 - A18 Kingsway	Entry	1	1	1, 4, 5	437	784	0.557	441	454	2.7	1.1	11.408	B
			2	2, 3	4	784	0.005	4	4	0.0	0.0	4.376	A
		2	1	(1, 2, 3, 4, 5)	441			441	451	0.2	0.0	0.165	A
	Exit	1	1		647			647	658	0.0	0.0	0.000	A
4 - Scotter Road (S)	Entry	1	1	1, 2, 3, 4, 5	690	1175	0.587	690	705	3.4	1.4	8.436	A
	Exit	1	1		448			448	459	0.0	0.0	0.000	A
5 - A18 Doncaster Road (W)	Entry	1	1	1, 2	324	984	0.330	326	328	0.8	0.5	5.739	A
			2	3, 4, 5	662	984	0.673	668	688	5.7	1.8	13.629	B
	Exit	1	1		769			769	786	0.0	0.0	0.000	A

09:00 - 09:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Scotter Road (N)	Entry	1	1	1, 2, 3, 4, 5	322	894	0.360	321	333	1.0	0.6	6.736	A
	Exit	1	1		446			446	463	0.0	0.0	0.000	A
2 - Doncaster Road (E)	Entry	1	1	3, 4, 5	164	657	0.249	164	173	0.4	0.3	7.813	A
			2	1, 2	15	657	0.023	15	16	0.0	0.0	5.722	A
		2	1	(1, 2, 3, 4, 5)	179			179	189	0.0	0.0	0.000	A
	Exit	1	1		276			276	285	0.0	0.0	0.000	A
3 - A18 Kingsway	Entry	1	1	1, 4, 5	376	815	0.461	374	379	1.1	0.9	8.272	A
			2	2, 3	3	815	0.004	4	3	0.0	0.0	4.112	A
		2	1	(1, 2, 3, 4, 5)	379			379	382	0.0	0.0	0.001	A
	Exit	1	1		539			539	542	0.0	0.0	0.000	A
4 - Scotter Road (S)	Entry	1	1	1, 2, 3, 4, 5	566	1237	0.458	566	582	1.4	0.9	5.777	A
	Exit	1	1		375			375	382	0.0	0.0	0.000	A
5 - A18 Doncaster Road (W)	Entry	1	1	1, 2	258	1004	0.257	259	269	0.5	0.3	4.867	A
			2	3, 4, 5	568	1004	0.565	564	564	1.8	1.3	8.540	A
	Exit	1	1		631			631	649	0.0	0.0	0.000	A

Lane movements: Main Results for each time segment

07:45 - 08:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsi l s
1 - Scotter Road (N)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	13	3	1259	850	0.015	13	13	0.0	0.0	6.145	
				3	98	24	1322	896	0.109	98	97	0.0	0.2	6.222	
				4	167	42	1322	896	0.186	167	166	0.0	0.3	6.369	
				5	49	12	1322	894	0.055	49	50	0.0	0.1	6.298	
2 - Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	7	2	738	513	0.014	7	7	0.0	0.0	6.907	
				4	40	10	950	656	0.061	40	39	0.0	0.1	7.443	
				5	124	31	950	657	0.188	124	123	0.0	0.3	7.290	
			2	1	14	4	935	646	0.022	14	15	0.0	0.0	5.876	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	14	4	-	-	-	14	16	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	7	2	-	-	-	7	7	0.0	0.0	0.000	
				4	40	10	-	-	-	40	39	0.0	0.0	0.000	
				5	124	31	-	-	-	124	124	0.0	0.0	0.000	
3 - A18 Kingsway	Entry	1	1	1	93	23	950	813	0.115	94	96	0.0	0.2	7.939	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	11	3	915	781	0.014	11	12	0.0	0.0	8.173	
				5	257	64	950	813	0.316	258	262	0.0	0.6	7.980	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	2	0.57	455	392	0.006	2	3	0.0	0.0	4.739	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	93	23	-	-	-	93	97	0.0	0.0	0.002	
				2	2	0.57	-	-	-	2	3	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	11	3	-	-	-	11	12	0.0	0.0	0.008	
				5	257	64	-	-	-	257	264	0.0	0.0	0.001	
4 - Scotter Road (S)	Entry	1	1	1	285	71	1521	1237	0.230	283	284	0.0	0.5	5.412	
				2	58	14	1521	1235	0.047	58	59	0.0	0.0	5.246	
				3	26	6	1521	1232	0.021	25	25	0.0	0.1	5.320	
				4	2	0.56	696	566	0.004	2	2	0.0	0.0	5.724	
				5	210	53	1521	1237	0.170	210	205	0.0	0.3	5.399	
5 - A18 Doncaster Road (W)	Entry	1	1	1	61	15	1100	1003	0.061	61	59	0.0	0.1	4.957	
				2	205	51	1100	1004	0.204	204	209	0.0	0.4	4.943	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	404	101	1100	1004	0.403	403	406	0.0	0.9	8.166	
				4	152	38	1100	1003	0.152	153	150	0.0	0.4	8.173	
				5	0.83	0.21	228	208	0.004	0.83	0.94	0.0	0.0	7.650	

08:00 - 08:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns
1 - Scotter Road (N)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	17	4	1315	805	0.021	17	16	0.0	0.1	8.132	
				3	112	28	1322	809	0.139	112	115	0.2	0.3	8.463	
				4	202	50	1322	810	0.249	201	197	0.3	0.6	8.536	
				5	57	14	1322	811	0.070	58	60	0.1	0.2	8.396	
2 - Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	7	2	778	496	0.014	7	7	0.0	0.0	9.335	
				4	45	11	950	602	0.074	44	48	0.1	0.2	9.220	
				5	143	36	950	601	0.238	143	152	0.3	0.4	9.037	
			2	1	18	4	950	602	0.029	18	19	0.0	0.0	6.256	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	18	4	-	-	-	18	19	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	7	2	-	-	-	7	7	0.0	0.0	0.000	
				4	45	11	-	-	-	45	48	0.0	0.0	0.000	
				5	143	36	-	-	-	143	153	0.0	0.0	0.000	
3 - A18 Kingsway	Entry	1	1	1	115	29	950	787	0.146	116	117	0.2	0.3	10.386	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	14	3	930	771	0.018	14	13	0.0	0.0	10.491	
				5	310	78	950	788	0.394	312	315	0.6	0.7	10.257	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	2	0.54	536	447	0.005	2	3	0.0	0.0	4.353	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	115	29	-	-	-	115	117	0.0	0.0	0.060	
				2	2	0.54	-	-	-	2	3	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	14	3	-	-	-	14	13	0.0	0.0	0.024	
				5	310	78	-	-	-	310	316	0.0	0.0	0.044	
4 - Scotter Road (S)	Entry	1	1	1	340	85	1521	1181	0.288	339	343	0.5	0.8	7.499	
				2	74	19	1521	1181	0.063	74	70	0.0	0.1	7.642	
				3	31	8	1521	1181	0.026	30	30	0.1	0.1	7.769	
				4	3	0.70	736	572	0.005	3	3	0.0	0.0	7.269	
				5	250	62	1521	1181	0.212	248	248	0.3	0.6	7.523	
5 - A18 Doncaster Road (W)	Entry	1	1	1	71	18	1100	983	0.072	71	71	0.1	0.1	5.535	
				2	249	62	1100	984	0.253	250	250	0.4	0.3	5.492	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	480	120	1100	984	0.488	482	486	0.9	1.6	11.872	
				4	182	45	1100	984	0.185	182	185	0.4	0.5	11.877	
				5	1	0.27	193	174	0.006	1	0.74	0.0	0.0	11.087	

08:15 - 08:30

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns
1 - Scotter Road (N)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	18	5	1308	691	0.026	18	19	0.1	0.1	15.079	
				3	140	35	1322	687	0.204	142	140	0.3	0.6	14.707	
				4	242	60	1322	687	0.352	239	242	0.6	1.3	14.996	
				5	74	19	1322	687	0.108	72	72	0.2	0.5	15.087	
2 - Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	8	2	854	478	0.018	9	9	0.0	0.0	12.777	
				4	59	15	950	523	0.113	59	59	0.2	0.3	12.846	
				5	175	44	950	521	0.336	174	181	0.4	0.8	12.790	
			2	1	21	5	950	525	0.040	21	22	0.0	0.0	7.026	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	21	5	-	-	-	21	22	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	8	2	-	-	-	8	9	0.0	0.0	0.000	
				4	59	15	-	-	-	59	59	0.0	0.0	0.001	
				5	175	44	-	-	-	175	182	0.0	0.0	0.001	
3 - A18 Kingsway	Entry	1	1	1	138	34	950	751	0.184	137	140	0.3	0.6	15.590	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	16	4	935	742	0.022	16	16	0.0	0.1	15.787	
				5	383	96	950	752	0.508	382	382	0.7	1.7	15.592	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	5	1	647	515	0.009	5	4	0.0	0.0	5.216	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	138	35	-	-	-	138	141	0.0	0.0	0.688	
				2	5	1	-	-	-	5	4	0.0	0.0	1.600	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	16	4	-	-	-	16	17	0.0	0.0	0.743	
				5	383	96	-	-	-	383	386	0.0	0.1	0.743	
4 - Scotter Road (S)	Entry	1	1	1	422	106	1521	1108	0.381	422	423	0.8	1.6	13.196	
				2	85	21	1521	1108	0.077	86	84	0.1	0.3	13.128	
				3	36	9	1521	1109	0.032	36	38	0.1	0.1	13.295	
				4	3	0.72	817	596	0.005	3	3	0.0	0.0	13.072	
				5	306	76	1521	1107	0.276	306	305	0.6	1.2	13.068	
5 - A18 Doncaster Road (W)	Entry	1	1	1	86	21	1100	958	0.090	86	86	0.1	0.1	6.414	
				2	316	79	1100	958	0.330	315	311	0.3	0.6	6.484	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	599	150	1100	958	0.626	602	592	1.6	4.1	23.362	
				4	220	55	1100	959	0.229	223	217	0.5	1.4	23.129	
				5	0.64	0.16	181	159	0.004	0.70	0.68	0.0	0.0	28.539	

08:30 - 08:45

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns
1 - Scotter Road (N)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	18	5	1294	683	0.026	17	18	0.1	0.1	18.466	
				3	140	35	1322	694	0.202	137	142	0.6	0.8	18.537	
				4	241	60	1322	693	0.348	238	244	1.3	1.3	18.376	
				5	72	18	1322	695	0.103	71	73	0.5	0.4	18.122	
2 - Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	9	2	849	465	0.019	9	9	0.0	0.0	12.939	
				4	56	14	950	524	0.107	56	61	0.3	0.2	13.587	
				5	177	44	950	523	0.339	176	183	0.8	0.6	13.623	
			2	1	22	5	940	519	0.042	22	23	0.0	0.0	6.955	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	22	5	-	-	-	22	23	0.0	0.0	0.008	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	9	2	-	-	-	9	9	0.0	0.0	0.000	
				4	56	14	-	-	-	56	61	0.0	0.0	0.010	
				5	177	44	-	-	-	177	183	0.0	0.0	0.016	
3 - A18 Kingsway	Entry	1	1	1	141	35	950	751	0.188	140	141	0.6	0.8	16.231	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	17	4	940	741	0.022	17	17	0.1	0.0	15.620	
				5	381	95	950	752	0.507	377	384	1.7	1.9	16.498	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	4	0.97	561	442	0.009	4	4	0.0	0.0	4.403	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	141	35	-	-	-	141	141	0.0	0.1	0.808	
				2	4	0.97	-	-	-	4	4	0.0	0.0	0.423	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	17	4	-	-	-	17	17	0.0	0.0	0.884	
				5	382	95	-	-	-	381	385	0.1	0.1	0.819	
4 - Scotter Road (S)	Entry	1	1	1	415	104	1521	1108	0.375	418	420	1.6	1.6	16.326	
				2	82	21	1521	1106	0.075	82	85	0.3	0.4	16.357	
				3	39	10	1521	1106	0.036	39	39	0.1	0.2	16.398	
				4	3	0.81	825	598	0.005	3	3	0.0	0.0	17.740	
				5	316	79	1521	1107	0.286	316	310	1.2	1.2	16.184	
5 - A18 Doncaster Road (W)	Entry	1	1	1	92	23	1100	958	0.096	91	91	0.1	0.2	6.269	
				2	311	78	1100	958	0.325	311	307	0.6	0.6	6.293	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	589	147	1100	958	0.614	591	592	4.1	4.1	25.159	
				4	227	57	1100	959	0.236	225	225	1.4	1.7	25.333	
				5	1	0.27	281	244	0.004	1	1	0.0	0.0	25.917	

08:45 - 09:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns
1 - Scotter Road (N)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	14	4	1315	792	0.018	14	16	0.1	0.1	10.570	
				3	120	30	1322	809	0.149	121	121	0.8	0.3	10.518	
				4	201	50	1322	810	0.248	201	204	1.3	0.4	10.747	
				5	59	15	1322	806	0.074	60	61	0.4	0.2	10.569	
2 - Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	8	2	793	492	0.017	8	8	0.0	0.0	9.595	
				4	49	12	950	599	0.082	49	49	0.2	0.1	10.080	
				5	150	38	950	598	0.251	152	153	0.6	0.3	10.247	
			2	1	19	5	945	589	0.033	19	19	0.0	0.0	6.260	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	19	5	-	-	-	19	19	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	8	2	-	-	-	8	8	0.0	0.0	0.000	
				4	49	12	-	-	-	49	49	0.0	0.0	0.002	
				5	150	38	-	-	-	150	151	0.0	0.0	0.001	
3 - A18 Kingsway	Entry	1	1	1	112	28	950	783	0.143	114	119	0.8	0.3	11.418	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	15	4	920	756	0.020	15	14	0.0	0.0	12.060	
				5	310	78	950	784	0.396	312	321	1.9	0.8	11.376	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	4	0.99	596	487	0.008	4	4	0.0	0.0	4.376	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	112	28	-	-	-	112	117	0.1	0.0	0.165	
				2	4	0.99	-	-	-	4	4	0.0	0.0	0.118	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	15	4	-	-	-	15	14	0.0	0.0	0.237	
				5	310	77	-	-	-	310	317	0.1	0.0	0.163	
4 - Scotter Road (S)	Entry	1	1	1	345	86	1521	1174	0.294	344	351	1.6	0.7	8.549	
				2	67	17	1521	1179	0.057	67	70	0.4	0.1	8.408	
				3	31	8	1521	1176	0.026	30	31	0.2	0.1	8.303	
				4	3	0.69	728	556	0.005	3	3	0.0	0.0	7.360	
				5	245	61	1521	1176	0.208	245	250	1.2	0.4	8.313	
5 - A18 Doncaster Road (W)	Entry	1	1	1	72	18	1100	983	0.073	72	72	0.2	0.1	6.046	
				2	253	63	1100	984	0.257	254	256	0.6	0.3	5.652	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	483	121	1100	983	0.491	487	498	4.1	1.3	13.681	
				4	178	45	1100	984	0.181	180	189	1.7	0.5	13.492	
				5	0.51	0.13	176	156	0.003	0.45	0.68	0.0	0.0	13.379	

09:00 - 09:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsi l s
1 - Scotter Road (N)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	13	3	1280	862	0.015	13	13	0.1	0.0	6.976	
				3	97	24	1322	892	0.109	97	99	0.3	0.1	6.635	
				4	164	41	1322	895	0.184	164	171	0.4	0.4	6.777	
				5	47	12	1322	889	0.052	47	50	0.2	0.1	6.733	
2 - Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	7	2	748	510	0.013	7	6	0.0	0.0	7.664	
				4	43	11	950	653	0.065	42	44	0.1	0.1	7.684	
				5	115	29	950	657	0.175	115	124	0.3	0.2	7.866	
			2	1	15	4	935	640	0.024	15	16	0.0	0.0	5.722	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	15	4	-	-	-	15	16	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	7	2	-	-	-	7	6	0.0	0.0	0.000	
				4	43	11	-	-	-	43	43	0.0	0.0	0.000	
				5	115	29	-	-	-	115	123	0.0	0.0	0.000	
3 - A18 Kingsway	Entry	1	1	1	92	23	950	814	0.113	92	99	0.3	0.2	8.466	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	12	3	894	762	0.016	12	11	0.0	0.0	7.871	
				5	272	68	950	815	0.334	270	269	0.8	0.7	8.218	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	3	0.85	581	492	0.007	4	3	0.0	0.0	4.112	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	92	23	-	-	-	92	98	0.0	0.0	0.002	
				2	3	0.85	-	-	-	3	3	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	12	3	-	-	-	12	11	0.0	0.0	0.000	
				5	272	68	-	-	-	272	268	0.0	0.0	0.001	
4 - Scotter Road (S)	Entry	1	1	1	282	70	1521	1239	0.227	282	288	0.7	0.4	5.762	
				2	59	15	1521	1234	0.047	58	59	0.1	0.1	5.845	
				3	25	6	1521	1236	0.021	25	26	0.1	0.0	5.442	
				4	3	0.72	720	576	0.005	3	2	0.0	0.0	6.173	
				5	198	49	1521	1237	0.160	198	207	0.4	0.3	5.814	
5 - A18 Doncaster Road (W)	Entry	1	1	1	57	14	1100	1004	0.057	57	60	0.1	0.1	4.808	
				2	201	50	1100	1004	0.200	202	209	0.3	0.2	4.884	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	412	103	1100	1004	0.411	409	411	1.3	1.0	8.518	
				4	155	39	1100	1004	0.154	154	153	0.5	0.4	8.597	
				5	0.77	0.19	170	154	0.005	0.70	0.64	0.0	0.0	9.139	

2027 | Base + Committed | PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - Doncaster Road (E) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Info	Simulation	A1 - [Lane Simulation]	This run uses Simulation mode. For detailed information on this mode, please see the User Guide.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Berkeley Roundabout	Standard Roundabout		1, 2, 3, 4, 5	44.15	E

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	44.15	E

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2027	Base + Committed	PM	ONE HOUR	16:45	18:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Scotter Road (N)		ONE HOUR	✓	543	100.000
2 - Doncaster Road (E)		ONE HOUR	✓	400	100.000
3 - A18 Kingsway		ONE HOUR	✓	543	100.000
4 - Scotter Road (S)		ONE HOUR	✓	618	100.000
5 - A18 Doncaster Road (W)		ONE HOUR	✓	1183	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
		1 - Scotter Road (N)	2 - Doncaster Road (E)	3 - A18 Kingsway	4 - Scotter Road (S)	5 - A18 Doncaster Road (W)
From	1 - Scotter Road (N)	3	8	135	336	61
	2 - Doncaster Road (E)	31	1	7	100	261
	3 - A18 Kingsway	92	3	0	30	418
	4 - Scotter Road (S)	219	68	29	2	300
	5 - A18 Doncaster Road (W)	108	220	480	367	8

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Junction	PCU factor for a cyclist	PCU factor for a cyclist in controlling flow
1	0.20	0.80

Heavy Vehicle %

		To				
		1 - Scotter Road (N)	2 - Doncaster Road (E)	3 - A18 Kingsway	4 - Scotter Road (S)	5 - A18 Doncaster Road (W)
From	1 - Scotter Road (N)	0	0	0	0	0
	2 - Doncaster Road (E)	0	0	0	0	0
	3 - A18 Kingsway	0	0	0	0	0
	4 - Scotter Road (S)	0	0	0	0	0
	5 - A18 Doncaster Road (W)	0	0	0	0	0

Cyclist %

		To	
		1 - Scotter Road (N)	2 - Doncaste Road (E)
From	1 - Scotter Road (N)	0	0
	2 - Doncaster Road (E)	0	0
	3 - A18 Kingsway	0	0
	4 - Scotter Road (S)	0	0
	5 - A18 Doncaster Road (W)	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Scotter Road (N)	0.89	48.92	8.0	E	497	746
2 - Doncaster Road (E)	0.91	75.29	10.0	F	366	550
3 - A18 Kingsway	0.94	71.00	12.8	F	501	752
4 - Scotter Road (S)	0.66	10.83	2.1	B	568	853
5 - A18 Doncaster Road (W)	0.66	36.55	14.0	E	1090	1635

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Scotter Road (N)	405	101	892	867	0.468	407	405	342	0.0	0.8	7.639	A
2 - Doncaster Road (E)	304	76	1072	646	0.471	303	300	227	0.0	1.0	10.496	B
3 - A18 Kingsway	410	102	879	731	0.561	411	405	496	0.0	1.3	11.134	B
4 - Scotter Road (S)	469	117	664	1168	0.402	471	469	626	0.0	0.6	5.050	A
5 - A18 Doncaster Road (W)	893	223	341	2052	0.435	893	886	794	0.0	2.0	7.829	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Scotter Road (N)	490	123	1068	799	0.614	489	493	414	0.8	1.7	11.602	B
2 - Doncaster Road (E)	358	89	1285	585	0.611	357	361	273	1.0	1.7	16.301	C
3 - A18 Kingsway	491	123	1055	688	0.714	487	489	587	1.3	2.7	17.759	C
4 - Scotter Road (S)	563	141	786	1108	0.508	562	564	757	0.6	1.1	6.539	A
5 - A18 Doncaster Road (W)	1075	269	410	2049	0.525	1072	1063	938	2.0	3.8	11.670	B

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Scotter Road (N)	604	151	1284	676	0.893	586	580	499	1.7	6.9	31.244	D
2 - Doncaster Road (E)	439	110	1537	488	0.900	430	427	334	1.7	6.8	43.424	E
3 - A18 Kingsway	602	150	1265	643	0.935	582	577	701	2.7	8.8	41.907	E
4 - Scotter Road (S)	680	170	939	1027	0.663	681	684	908	1.1	1.9	9.849	A
5 - A18 Doncaster Road (W)	1309	327	493	1987	0.659	1291	1279	1128	3.8	12.0	27.047	D

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Scotter Road (N)	592	148	1289	677	0.874	593	597	496	6.9	8.0	48.917	E
2 - Doncaster Road (E)	441	110	1554	484	0.912	434	435	329	6.8	10.0	75.287	F
3 - A18 Kingsway	604	151	1272	644	0.938	590	588	716	8.8	12.8	70.995	F
4 - Scotter Road (S)	678	170	955	1033	0.657	676	686	907	1.9	2.1	10.826	B
5 - A18 Doncaster Road (W)	1305	326	489	1985	0.657	1297	1298	1143	12.0	14.0	36.552	E

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Scotter Road (N)	485	121	1066	792	0.613	492	519	412	8.0	1.6	24.499	C
2 - Doncaster Road (E)	359	90	1289	585	0.614	374	395	270	10.0	2.1	42.987	E
3 - A18 Kingsway	489	122	1069	679	0.720	501	529	594	12.8	3.3	41.790	E
4 - Scotter Road (S)	555	139	814	1076	0.516	557	567	756	2.1	1.0	7.699	A
5 - A18 Doncaster Road (W)	1064	266	407	2011	0.529	1071	1113	965	14.0	3.6	19.491	C

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Scotter Road (N)	408	102	888	884	0.462	408	417	340	1.6	0.8	8.392	A
2 - Doncaster Road (E)	297	74	1071	656	0.452	298	312	225	2.1	0.9	12.985	B
3 - A18 Kingsway	412	103	878	748	0.551	411	424	491	3.3	1.3	12.983	B
4 - Scotter Road (S)	465	116	663	1188	0.391	465	473	626	1.0	0.7	5.478	A
5 - A18 Doncaster Road (W)	895	224	335	2077	0.431	892	905	793	3.6	2.1	8.569	A

Lane Results

Lane Level notation: Lane Level 1 is always closest to the junction.

Lanes: Main Results for each time segment

16:45 - 17:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Scotter Road (N)	Entry	1	1	1, 2, 3, 4, 5	405	876	0.463	407	405	0.0	0.8	7.639	A
	Exit	1	1		342			342	339	0.0	0.0	0.000	A
2 - Doncaster Road (E)	Entry	1	1	3, 4, 5	281	602	0.467	280	276	0.0	1.0	10.857	B
			2	1, 2	23	602	0.038	23	24	0.0	0.0	6.099	A
		2	1	(1, 2, 3, 4, 5)	304			304	304	0.0	0.0	0.013	A
	Exit	1	1		227			227	225	0.0	0.0	0.000	A
3 - A18 Kingsway	Entry	1	1	1, 4, 5	407	730	0.558	409	403	0.0	1.3	11.095	B
			2	2, 3	2	730	0.003	2	2	0.0	0.0	4.949	A
		2	1	(1, 2, 3, 4, 5)	410			410	410	0.0	0.0	0.064	A
	Exit	1	1		496			496	487	0.0	0.0	0.000	A
4 - Scotter Road (S)	Entry	1	1	1, 2, 3, 4, 5	469	1174	0.400	471	469	0.0	0.6	5.050	A
	Exit	1	1		626			626	624	0.0	0.0	0.000	A
5 - A18 Doncaster Road (W)	Entry	1	1	1, 2	245	1032	0.238	245	245	0.0	0.3	4.570	A
			2	3, 4, 5	648	1032	0.628	648	641	0.0	1.7	9.068	A
	Exit	1	1		794			794	790	0.0	0.0	0.000	A

17:00 - 17:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Scotter Road (N)	Entry	1	1	1, 2, 3, 4, 5	490	788	0.623	489	493	0.8	1.7	11.602	B
	Exit	1	1		414			414	411	0.0	0.0	0.000	A
2 - Doncaster Road (E)	Entry	1	1	3, 4, 5	329	533	0.618	328	332	1.0	1.6	16.914	C
			2	1, 2	29	533	0.055	29	29	0.0	0.1	7.187	A
		2	1	(1, 2, 3, 4, 5)	358			358	364	0.0	0.0	0.165	A
	Exit	1	1		273			273	271	0.0	0.0	0.000	A
3 - A18 Kingsway	Entry	1	1	1, 4, 5	488	686	0.711	485	486	1.3	2.6	17.067	C
			2	2, 3	3	686	0.004	3	3	0.0	0.0	4.962	A
		2	1	(1, 2, 3, 4, 5)	491			490	494	0.0	0.2	0.718	A
	Exit	1	1		587			587	584	0.0	0.0	0.000	A
4 - Scotter Road (S)	Entry	1	1	1, 2, 3, 4, 5	563	1111	0.507	562	564	0.6	1.1	6.539	A
	Exit	1	1		757			757	757	0.0	0.0	0.000	A
5 - A18 Doncaster Road (W)	Entry	1	1	1, 2	296	1018	0.291	296	294	0.3	0.4	4.927	A
			2	3, 4, 5	779	1018	0.765	776	769	1.7	3.4	14.228	B
	Exit	1	1		938			938	947	0.0	0.0	0.000	A

17:15 - 17:30

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Scotter Road (N)	Entry	1	1	1, 2, 3, 4, 5	604	679	0.889	586	580	1.7	6.9	31.244	D
	Exit	1	1		499			499	499	0.0	0.0	0.000	A
2 - Doncaster Road (E)	Entry	1	1	3, 4, 5	398	451	0.883	396	392	1.6	4.8	37.027	E
			2	1, 2	34	451	0.076	34	35	0.1	0.1	8.432	A
		2	1	(1, 2, 3, 4, 5)	439			432	440	0.0	1.8	8.135	A
	Exit	1	1		334			334	333	0.0	0.0	0.000	A
3 - A18 Kingsway	Entry	1	1	1, 4, 5	589	634	0.929	579	574	2.6	5.9	31.106	D
			2	2, 3	3	634	0.005	3	3	0.0	0.0	5.715	A
		2	1	(1, 2, 3, 4, 5)	602			592	591	0.2	3.0	10.574	B
	Exit	1	1		701			701	698	0.0	0.0	0.000	A
4 - Scotter Road (S)	Entry	1	1	1, 2, 3, 4, 5	680	1031	0.660	681	684	1.1	1.9	9.849	A
	Exit	1	1		908			908	892	0.0	0.0	0.000	A
5 - A18 Doncaster Road (W)	Entry	1	1	1, 2	366	1001	0.365	365	364	0.4	0.6	5.627	A
			2	3, 4, 5	943	1001	0.942	926	915	3.4	11.4	35.311	E
	Exit	1	1		1128			1128	1126	0.0	0.0	0.000	A

17:30 - 17:45

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Scotter Road (N)	Entry	1	1	1, 2, 3, 4, 5	592	677	0.875	593	597	6.9	8.0	48.917	E
	Exit	1	1		496			496	499	0.0	0.0	0.000	A
2 - Doncaster Road (E)	Entry	1	1	3, 4, 5	399	445	0.897	399	399	4.8	5.7	50.634	F
			2	1, 2	35	445	0.079	35	36	0.1	0.1	9.012	A
		2	1	(1, 2, 3, 4, 5)	441			434	438	1.8	4.2	27.661	D
	Exit	1	1		329			329	332	0.0	0.0	0.000	A
3 - A18 Kingsway	Entry	1	1	1, 4, 5	590	632	0.933	586	585	5.9	6.6	39.715	E
			2	2, 3	3	632	0.006	3	3	0.0	0.0	6.301	A
		2	1	(1, 2, 3, 4, 5)	604			593	591	3.0	6.2	31.221	D
	Exit	1	1		716			716	714	0.0	0.0	0.000	A
4 - Scotter Road (S)	Entry	1	1	1, 2, 3, 4, 5	678	1022	0.664	676	686	1.9	2.1	10.826	B
	Exit	1	1		907			907	914	0.0	0.0	0.000	A
5 - A18 Doncaster Road (W)	Entry	1	1	1, 2	363	1002	0.362	362	363	0.6	0.7	5.646	A
			2	3, 4, 5	942	1002	0.940	935	935	11.4	13.4	48.449	E
	Exit	1	1		1143			1143	1145	0.0	0.0	0.000	A

17:45 - 18:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Scotter Road (N)	Entry	1	1	1, 2, 3, 4, 5	485	789	0.615	492	519	8.0	1.6	24.499	C
	Exit	1	1		412			412	421	0.0	0.0	0.000	A
2 - Doncaster Road (E)	Entry	1	1	3, 4, 5	337	531	0.635	345	365	5.7	1.9	33.074	D
			2	1, 2	29	531	0.055	29	30	0.1	0.1	7.997	A
		2	1	(1, 2, 3, 4, 5)	359			366	380	4.2	0.1	13.506	B
	Exit	1	1		270			270	275	0.0	0.0	0.000	A
3 - A18 Kingsway	Entry	1	1	1, 4, 5	493	683	0.722	499	526	6.6	2.8	27.800	D
			2	2, 3	3	683	0.004	3	3	0.0	0.0	5.199	A
		2	1	(1, 2, 3, 4, 5)	489			496	514	6.2	0.5	15.235	C
	Exit	1	1		594			594	621	0.0	0.0	0.000	A
4 - Scotter Road (S)	Entry	1	1	1, 2, 3, 4, 5	555	1096	0.506	557	567	2.1	1.0	7.699	A
	Exit	1	1		756			756	798	0.0	0.0	0.000	A
5 - A18 Doncaster Road (W)	Entry	1	1	1, 2	295	1019	0.290	296	299	0.7	0.4	5.106	A
			2	3, 4, 5	769	1019	0.755	775	814	13.4	3.3	25.038	D
	Exit	1	1		965			965	1009	0.0	0.0	0.000	A

18:00 - 18:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Scotter Road (N)	Entry	1	1	1, 2, 3, 4, 5	408	878	0.465	408	417	1.6	0.8	8.392	A
	Exit	1	1		340			340	347	0.0	0.0	0.000	A
2 - Doncaster Road (E)	Entry	1	1	3, 4, 5	273	602	0.454	274	287	1.9	0.8	13.422	B
			2	1, 2	24	602	0.039	23	25	0.1	0.1	6.359	A
		2	1	(1, 2, 3, 4, 5)	297			297	307	0.1	0.0	0.216	A
	Exit	1	1		225			225	228	0.0	0.0	0.000	A
3 - A18 Kingsway	Entry	1	1	1, 4, 5	410	731	0.561	409	422	2.8	1.3	12.630	B
			2	2, 3	2	731	0.003	2	2	0.0	0.0	4.943	A
		2	1	(1, 2, 3, 4, 5)	412			412	417	0.5	0.0	0.530	A
	Exit	1	1		491			491	500	0.0	0.0	0.000	A
4 - Scotter Road (S)	Entry	1	1	1, 2, 3, 4, 5	465	1175	0.396	465	473	1.0	0.7	5.478	A
	Exit	1	1		626			626	642	0.0	0.0	0.000	A
5 - A18 Doncaster Road (W)	Entry	1	1	1, 2	246	1033	0.238	246	249	0.4	0.3	4.656	A
			2	3, 4, 5	648	1033	0.628	646	656	3.3	1.8	10.069	B
	Exit	1	1		793			793	815	0.0	0.0	0.000	A

Lane movements: Main Results for each time segment

16:45 - 17:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns
1 - Scotter Road (N)	Entry	1	1	1	2	0.58	593	396	0.006	2	2	0.0	0.0	7.728	
				2	6	1	1013	674	0.009	6	6	0.0	0.0	7.975	
				3	102	25	1322	876	0.116	102	100	0.0	0.2	7.704	
				4	249	62	1322	875	0.284	250	250	0.0	0.5	7.609	
				5	46	12	1322	877	0.053	47	47	0.0	0.1	7.616	
2 - Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	6	1	726	460	0.013	6	6	0.0	0.0	11.080	
				4	77	19	950	602	0.128	76	74	0.0	0.3	10.858	
				5	198	49	950	602	0.329	197	197	0.0	0.7	10.850	
			2	1	22	6	948	601	0.037	22	23	0.0	0.0	6.037	
				2	0.87	0.22	172	112	0.008	0.82	0.77	0.0	0.0	7.918	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	22	6	-	-	-	22	23	0.0	0.0	0.013	
				2	0.87	0.22	-	-	-	0.87	0.79	0.0	0.0	0.055	
				3	6	1	-	-	-	6	6	0.0	0.0	0.000	
				4	77	19	-	-	-	77	75	0.0	0.0	0.013	
				5	198	49	-	-	-	198	199	0.0	0.0	0.013	
3 - A18 Kingsway	Entry	1	1	1	70	17	950	729	0.095	69	69	0.0	0.2	11.188	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	23	6	948	729	0.031	23	22	0.0	0.1	11.044	
				5	315	79	950	730	0.432	317	312	0.0	1.0	11.078	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	2	0.58	381	293	0.008	2	2	0.0	0.0	4.949	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	70	17	-	-	-	70	70	0.0	0.0	0.064	
				2	2	0.58	-	-	-	2	2	0.0	0.0	0.068	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	23	6	-	-	-	23	22	0.0	0.0	0.053	
				5	315	79	-	-	-	315	316	0.0	0.0	0.065	
4 - Scotter Road (S)	Entry	1	1	1	166	42	1521	1175	0.142	167	165	0.0	0.2	5.048	
				2	53	13	1521	1174	0.046	53	51	0.0	0.1	5.095	
				3	22	5	1518	1175	0.018	22	22	0.0	0.0	5.051	
				4	1	0.30	486	375	0.003	1	2	0.0	0.0	5.826	
				5	227	57	1521	1175	0.193	227	228	0.0	0.3	5.035	
5 - A18 Doncaster Road (W)	Entry	1	1	1	81	20	1100	1032	0.079	81	80	0.0	0.1	4.566	
				2	164	41	1100	1032	0.159	164	165	0.0	0.2	4.572	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	366	91	1100	1032	0.354	366	359	0.0	0.9	9.075	
				4	276	69	1100	1032	0.268	276	276	0.0	0.8	9.069	
				5	6	1	853	801	0.007	6	6	0.0	0.0	8.535	

17:00 - 17:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns
1 - Scotter Road (N)	Entry	1	1	1	3	0.68	657	399	0.007	3	3	0.0	0.0	11.589	
				2	8	2	1126	683	0.012	8	7	0.0	0.0	11.325	
				3	122	30	1322	787	0.155	122	122	0.2	0.4	11.558	
				4	303	76	1322	788	0.385	302	306	0.5	1.1	11.649	
				5	55	14	1322	789	0.069	54	55	0.1	0.2	11.477	
2 - Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	7	2	774	439	0.015	7	7	0.0	0.0	17.879	
				4	91	23	950	533	0.170	90	90	0.3	0.4	16.817	
				5	232	58	950	532	0.435	231	235	0.7	1.2	16.923	
			2	1	28	7	950	535	0.053	28	28	0.0	0.1	7.179	
				2	1	0.32	226	129	0.010	1	1	0.0	0.0	7.402	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	28	7	-	-	-	28	28	0.0	0.0	0.113	
				2	1	0.32	-	-	-	1	1	0.0	0.0	0.000	
				3	7	2	-	-	-	7	7	0.0	0.0	0.115	
				4	91	23	-	-	-	91	90	0.0	0.0	0.171	
				5	231	58	-	-	-	232	237	0.0	0.0	0.171	
3 - A18 Kingsway	Entry	1	1	1	85	21	950	686	0.124	85	83	0.2	0.4	16.937	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	26	6	948	686	0.038	26	27	0.1	0.1	16.577	
				5	377	94	950	686	0.549	374	376	1.0	2.0	17.131	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	3	0.64	459	334	0.008	3	3	0.0	0.0	4.962	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	85	21	-	-	-	85	84	0.0	0.0	0.703	
				2	3	0.64	-	-	-	3	3	0.0	0.0	0.520	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	26	6	-	-	-	26	27	0.0	0.0	0.623	
				5	378	94	-	-	-	377	380	0.0	0.1	0.730	
4 - Scotter Road (S)	Entry	1	1	1	202	50	1521	1111	0.182	201	200	0.2	0.4	6.553	
				2	62	15	1521	1112	0.056	62	63	0.1	0.1	6.500	
				3	26	6	1521	1111	0.023	25	26	0.0	0.0	6.487	
				4	2	0.54	581	429	0.005	2	2	0.0	0.0	6.215	
				5	272	68	1521	1111	0.245	271	274	0.3	0.5	6.545	
5 - A18 Doncaster Road (W)	Entry	1	1	1	97	24	1100	1019	0.096	97	97	0.1	0.1	4.923	
				2	199	50	1100	1018	0.195	199	197	0.2	0.3	4.928	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	434	109	1100	1018	0.426	433	430	0.9	1.9	14.178	
				4	337	84	1100	1018	0.331	336	332	0.8	1.4	14.292	
				5	7	2	901	835	0.009	7	7	0.0	0.0	14.273	

17:15 - 17:30

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns
1 - Scotter Road (N)	Entry	1	1	1	4	0.91	683	360	0.010	3	3	0.0	0.0	33.770	
				2	9	2	1160	607	0.015	9	9	0.0	0.1	30.690	
				3	150	38	1322	681	0.221	146	145	0.4	1.7	31.270	
				4	374	93	1322	680	0.550	363	358	1.1	4.3	31.351	
				5	67	17	1322	678	0.099	65	65	0.2	0.8	30.560	
2 - Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	7	2	804	390	0.018	7	7	0.0	0.1	37.850	
				4	110	28	950	451	0.245	110	107	0.4	1.3	37.170	
				5	280	70	950	451	0.622	279	278	1.2	3.4	36.950	
			2	1	33	8	950	450	0.074	33	34	0.1	0.1	8.407	
				2	1	0.26	207	102	0.010	0.89	0.97	0.0	0.0	9.290	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	34	8	-	-	-	33	35	0.0	0.1	7.039	
				2	1	0.27	-	-	-	1	1	0.0	0.0	6.073	
				3	7	2	-	-	-	7	8	0.0	0.0	7.441	
				4	112	28	-	-	-	110	110	0.0	0.5	8.641	
				5	285	71	-	-	-	280	287	0.0	1.2	8.099	
3 - A18 Kingsway	Entry	1	1	1	101	25	950	635	0.160	100	98	0.4	1.0	30.914	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	33	8	950	636	0.052	33	32	0.1	0.3	31.269	
				5	454	114	950	634	0.717	447	444	2.0	4.6	31.136	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	3	0.82	524	355	0.009	3	3	0.0	0.0	5.715	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	103	26	-	-	-	101	100	0.0	0.5	10.227	
				2	3	0.86	-	-	-	3	3	0.0	0.0	8.620	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	34	8	-	-	-	33	33	0.0	0.2	10.749	
				5	462	115	-	-	-	454	454	0.1	2.3	10.651	
4 - Scotter Road (S)	Entry	1	1	1	244	61	1521	1031	0.237	243	243	0.4	0.7	9.874	
				2	75	19	1521	1030	0.073	75	76	0.1	0.2	9.806	
				3	31	8	1518	1033	0.030	31	32	0.0	0.1	9.792	
				4	2	0.61	682	469	0.005	2	2	0.0	0.0	8.841	
				5	328	82	1521	1030	0.318	329	330	0.5	0.9	9.854	
5 - A18 Doncaster Road (W)	Entry	1	1	1	120	30	1100	1001	0.120	120	120	0.1	0.2	5.661	
				2	246	61	1100	1002	0.246	245	244	0.3	0.4	5.611	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	527	132	1100	1001	0.526	517	513	1.9	6.4	35.379	
				4	408	102	1100	1002	0.407	400	393	1.4	4.8	35.256	
				5	9	2	967	882	0.010	9	9	0.0	0.1	33.836	

17:30 - 17:45

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns
1 - Scotter Road (N)	Entry	1	1	1	3	0.78	724	372	0.008	3	3	0.0	0.0	48.658	
				2	9	2	1155	591	0.015	9	9	0.1	0.1	49.075	
				3	146	36	1322	677	0.216	149	149	1.7	1.9	49.294	
				4	369	92	1322	677	0.545	366	369	4.3	5.1	48.798	
				5	65	16	1322	677	0.096	66	67	0.8	0.8	48.728	
2 - Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	8	2	809	382	0.020	8	8	0.1	0.1	50.913	
				4	107	27	950	445	0.240	106	108	1.3	1.5	50.447	
				5	285	71	950	446	0.639	285	283	3.4	4.1	50.698	
			2	1	34	8	950	445	0.075	33	34	0.1	0.1	9.034	
				2	1	0.36	269	126	0.011	1	1	0.0	0.0	8.400	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	34	9	-	-	-	34	34	0.1	0.3	25.717	
				2	1	0.36	-	-	-	1	1	0.0	0.0	30.108	
				3	8	2	-	-	-	8	8	0.0	0.1	29.441	
				4	108	27	-	-	-	107	109	0.5	1.0	27.182	
				5	290	72	-	-	-	285	286	1.2	2.8	28.017	
3 - A18 Kingsway	Entry	1	1	1	101	25	950	632	0.159	99	99	1.0	1.1	39.459	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	32	8	950	632	0.051	33	33	0.3	0.3	39.781	
				5	457	114	950	632	0.723	454	453	4.6	5.1	39.766	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	3	0.87	565	375	0.009	3	3	0.0	0.0	6.301	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	102	25	-	-	-	101	100	0.5	1.0	31.505	
				2	3	0.85	-	-	-	3	3	0.0	0.0	32.123	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	33	8	-	-	-	32	33	0.2	0.4	31.416	
				5	466	116	-	-	-	457	455	2.3	4.8	31.137	
4 - Scotter Road (S)	Entry	1	1	1	240	60	1521	1022	0.235	240	243	0.7	0.7	10.773	
				2	74	18	1521	1022	0.072	74	75	0.2	0.2	10.676	
				3	32	8	1521	1022	0.032	32	32	0.1	0.1	11.069	
				4	2	0.57	602	406	0.006	2	2	0.0	0.0	11.384	
				5	330	83	1521	1022	0.323	328	333	0.9	1.1	10.870	
5 - A18 Doncaster Road (W)	Entry	1	1	1	121	30	1100	1002	0.121	120	119	0.2	0.2	5.618	
				2	242	61	1100	1002	0.242	241	243	0.4	0.4	5.659	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	532	133	1100	1002	0.530	528	525	6.4	7.5	48.214	
				4	401	100	1100	1002	0.400	399	401	4.8	5.7	48.753	
				5	9	2	978	890	0.010	8	9	0.1	0.1	48.569	

17:45 - 18:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns
1 - Scotter Road (N)	Entry	1	1	1	3	0.64	668	383	0.007	3	3	0.0	0.0	25.636	
				2	7	2	1126	653	0.010	7	8	0.1	0.0	26.141	
				3	122	31	1322	787	0.155	125	130	1.9	0.4	24.379	
				4	299	75	1322	789	0.378	302	320	5.1	1.0	24.405	
				5	55	14	1322	790	0.070	56	58	0.8	0.2	25.016	
2 - Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	6	2	765	410	0.015	6	7	0.1	0.0	32.999	
				4	91	23	950	530	0.173	93	99	1.5	0.5	32.830	
				5	240	60	950	532	0.450	246	260	4.1	1.3	33.168	
			2	1	28	7	950	527	0.053	28	29	0.1	0.1	8.015	
				2	0.91	0.23	187	97	0.009	0.96	0.87	0.0	0.0	7.368	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	28	7	-	-	-	28	29	0.3	0.0	11.353	
				2	0.89	0.22	-	-	-	0.91	0.87	0.0	0.0	12.168	
				3	6	2	-	-	-	6	6	0.1	0.0	13.360	
				4	90	22	-	-	-	91	94	1.0	0.0	14.392	
				5	235	59	-	-	-	240	249	2.8	0.1	13.430	
3 - A18 Kingsway	Entry	1	1	1	84	21	950	683	0.123	85	89	1.1	0.5	27.979	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	27	7	950	679	0.040	28	29	0.3	0.1	27.445	
				5	382	96	950	683	0.560	386	408	5.1	2.2	27.785	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	3	0.71	500	351	0.008	3	3	0.0	0.0	5.199	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	82	21	-	-	-	84	87	1.0	0.1	15.003	
				2	3	0.70	-	-	-	3	3	0.0	0.0	11.834	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	27	7	-	-	-	27	28	0.4	0.0	14.940	
				5	377	94	-	-	-	382	396	4.8	0.4	15.332	
4 - Scotter Road (S)	Entry	1	1	1	195	49	1521	1094	0.179	197	201	0.7	0.3	7.669	
				2	62	16	1521	1094	0.057	63	63	0.2	0.1	7.696	
				3	26	7	1518	1086	0.024	26	27	0.1	0.1	7.773	
				4	1	0.37	495	344	0.004	2	2	0.0	0.0	6.518	
				5	269	67	1521	1095	0.246	270	275	1.1	0.5	7.722	
5 - A18 Doncaster Road (W)	Entry	1	1	1	99	25	1100	1019	0.098	100	99	0.2	0.1	5.032	
				2	196	49	1100	1018	0.192	197	200	0.4	0.2	5.142	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	432	108	1100	1019	0.424	437	457	7.5	1.8	25.019	
				4	330	83	1100	1019	0.324	331	349	5.7	1.5	25.032	
				5	7	2	909	841	0.008	7	8	0.1	0.0	26.490	

18:00 - 18:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Uns
1 - Scotter Road (N)	Entry	1	1	1	2	0.47	536	351	0.005	2	2	0.0	0.0	7.533	
				2	7	2	1029	673	0.010	7	6	0.0	0.0	8.549	
				3	102	26	1322	880	0.116	103	103	0.4	0.2	8.497	
				4	250	63	1322	880	0.285	250	257	1.0	0.5	8.334	
				5	47	12	1322	879	0.053	47	48	0.2	0.1	8.496	
2 - Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	5	1	707	440	0.011	5	5	0.0	0.0	12.949	
				4	75	19	950	602	0.124	75	78	0.5	0.2	13.422	
				5	194	48	950	602	0.322	195	203	1.3	0.6	13.434	
			2	1	23	6	948	599	0.038	23	24	0.1	0.1	6.375	
				2	0.68	0.17	169	103	0.007	0.73	0.74	0.0	0.0	5.854	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	23	6	-	-	-	23	24	0.0	0.0	0.157	
				2	0.68	0.17	-	-	-	0.68	0.74	0.0	0.0	0.093	
				3	5	1	-	-	-	5	5	0.0	0.0	0.134	
				4	75	19	-	-	-	75	77	0.0	0.0	0.243	
				5	194	48	-	-	-	194	200	0.1	0.0	0.216	
3 - A18 Kingsway	Entry	1	1	1	69	17	950	731	0.094	70	71	0.5	0.2	12.638	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	22	5	948	729	0.030	22	23	0.1	0.1	12.676	
				5	319	80	950	731	0.437	318	328	2.2	1.0	12.625	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	2	0.50	374	283	0.007	2	2	0.0	0.0	4.943	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	69	17	-	-	-	69	70	0.1	0.0	0.490	
				2	2	0.50	-	-	-	2	2	0.0	0.0	0.258	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	22	5	-	-	-	22	23	0.0	0.0	0.450	
				5	319	80	-	-	-	319	323	0.4	0.0	0.545	
4 - Scotter Road (S)	Entry	1	1	1	164	41	1521	1174	0.140	164	166	0.3	0.2	5.489	
				2	51	13	1521	1174	0.043	51	53	0.1	0.1	5.379	
				3	22	5	1518	1167	0.019	22	22	0.1	0.0	5.395	
				4	1	0.37	468	357	0.004	1	1	0.0	0.0	5.275	
				5	227	57	1521	1175	0.193	227	230	0.5	0.3	5.503	
5 - A18 Doncaster Road (W)	Entry	1	1	1	81	20	1100	1033	0.079	81	83	0.1	0.1	4.638	
				2	165	41	1100	1033	0.160	164	166	0.2	0.2	4.665	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	363	91	1100	1033	0.351	362	368	1.8	1.0	10.037	
				4	279	70	1100	1033	0.270	278	282	1.5	0.8	10.123	
				5	6	2	836	784	0.008	6	6	0.0	0.0	9.557	

2027 | Base + Committed (Burr Road Rdbt Impact) | AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - Doncaster Road (E) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Info	Simulation	A1 - [Lane Simulation]	This run uses Simulation mode. For detailed information on this mode, please see the User Guide.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Berkeley Roundabout	Standard Roundabout		1, 2, 3, 4, 5	7.69	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	7.69	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2027	Base + Committed (Burr Road Rdbt Impact)	AM	ONE HOUR	07:45	09:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Scotter Road (N)		ONE HOUR	✓	433	100.000
2 - Doncaster Road (E)		ONE HOUR	✓	244	100.000
3 - A18 Kingsway		ONE HOUR	✓	288	100.000
4 - Scotter Road (S)		ONE HOUR	✓	670	100.000
5 - A18 Doncaster Road (W)		ONE HOUR	✓	719	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
		1 - Scotter Road (N)	2 - Doncaster Road (E)	3 - A18 Kingsway	4 - Scotter Road (S)	5 - A18 Doncaster Road (W)
From	1 - Scotter Road (N)	0	17	130	220	66
	2 - Doncaster Road (E)	20	0	8	53	163
	3 - A18 Kingsway	127	4	0	15	142
	4 - Scotter Road (S)	380	77	34	3	176
	5 - A18 Doncaster Road (W)	80	276	282	80	1

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Junction	PCU factor for a cyclist	PCU factor for a cyclist in controlling flow
1	0.20	0.80

Heavy Vehicle %

		To				
		1 - Scotter Road (N)	2 - Doncaster Road (E)	3 - A18 Kingsway	4 - Scotter Road (S)	5 - A18 Doncaster Road (W)
From	1 - Scotter Road (N)	0	0	0	0	0
	2 - Doncaster Road (E)	0	0	0	0	0
	3 - A18 Kingsway	0	0	0	0	0
	4 - Scotter Road (S)	0	0	0	0	0
	5 - A18 Doncaster Road (W)	0	0	0	0	0

Cyclist %

		To	
		1 - Scotter Road (N)	2 - Doncaste Road (E)
From	1 - Scotter Road (N)	0	0
	2 - Doncaster Road (E)	0	0
	3 - A18 Kingsway	0	0
	4 - Scotter Road (S)	0	0
	5 - A18 Doncaster Road (W)	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Scotter Road (N)	0.53	8.37	1.1	A	392	588
2 - Doncaster Road (E)	0.38	9.00	0.6	A	225	337
3 - A18 Kingsway	0.39	7.48	0.6	A	259	388
4 - Scotter Road (S)	0.63	8.11	1.9	A	621	931
5 - A18 Doncaster Road (W)	0.41	6.55	1.2	A	665	998

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Scotter Road (N)	325	81	588	1037	0.313	324	323	460	0.0	0.5	5.003	A
2 - Doncaster Road (E)	181	45	630	788	0.230	182	184	282	0.0	0.3	6.061	A
3 - A18 Kingsway	208	52	449	852	0.244	209	215	363	0.0	0.3	5.529	A
4 - Scotter Road (S)	517	129	386	1303	0.397	515	501	271	0.0	0.7	4.412	A
5 - A18 Doncaster Road (W)	560	140	488	1987	0.282	560	540	413	0.0	0.7	4.777	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Scotter Road (N)	370	92	726	971	0.381	372	382	546	0.5	0.4	5.986	A
2 - Doncaster Road (E)	222	55	738	763	0.291	226	226	361	0.3	0.3	7.062	A
3 - A18 Kingsway	246	61	548	843	0.291	246	260	415	0.3	0.3	6.282	A
4 - Scotter Road (S)	596	149	457	1238	0.481	595	613	337	0.7	0.7	5.371	A
5 - A18 Doncaster Road (W)	696	174	577	1937	0.359	695	666	475	0.7	1.0	5.464	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Scotter Road (N)	481	120	815	901	0.534	482	476	672	0.4	1.1	8.313	A
2 - Doncaster Road (E)	269	67	885	738	0.365	270	275	411	0.3	0.6	8.136	A
3 - A18 Kingsway	312	78	669	793	0.394	312	319	486	0.3	0.6	7.333	A
4 - Scotter Road (S)	743	186	570	1180	0.630	740	741	410	0.7	1.9	8.109	A
5 - A18 Doncaster Road (W)	766	192	714	1928	0.397	773	784	597	1.0	1.1	6.069	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Scotter Road (N)	474	118	823	924	0.513	476	481	662	1.1	1.0	8.371	A
2 - Doncaster Road (E)	275	69	890	732	0.375	275	279	409	0.6	0.6	8.999	A
3 - A18 Kingsway	310	78	670	801	0.387	309	320	496	0.6	0.6	7.475	A
4 - Scotter Road (S)	738	185	575	1224	0.603	738	743	403	1.9	1.6	7.464	A
5 - A18 Doncaster Road (W)	780	195	701	1907	0.409	783	799	613	1.1	1.2	6.548	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Scotter Road (N)	381	95	663	993	0.383	378	390	556	1.0	0.7	6.370	A
2 - Doncaster Road (E)	222	56	707	763	0.291	222	227	334	0.6	0.4	7.236	A
3 - A18 Kingsway	259	65	535	827	0.313	260	266	393	0.6	0.4	6.733	A
4 - Scotter Road (S)	606	151	474	1288	0.470	601	613	321	1.6	1.2	5.531	A
5 - A18 Doncaster Road (W)	641	160	579	1996	0.321	640	643	495	1.2	1.1	5.419	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Scotter Road (N)	321	80	571	1016	0.316	321	334	470	0.7	0.4	5.398	A
2 - Doncaster Road (E)	181	45	615	803	0.225	180	189	277	0.4	0.3	6.692	A
3 - A18 Kingsway	217	54	451	870	0.249	215	221	344	0.4	0.4	5.966	A
4 - Scotter Road (S)	525	131	388	1324	0.396	522	514	278	1.2	0.7	4.427	A
5 - A18 Doncaster Road (W)	548	137	492	2023	0.271	549	557	418	1.1	0.6	4.981	A

Lane Results

Lane Level notation: Lane Level 1 is always closest to the junction.

Lanes: Main Results for each time segment

07:45 - 08:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Scotter Road (N)	Entry	1	1	1, 2, 3, 4, 5	325	1028	0.316	324	323	0.0	0.5	5.003	A
	Exit	1	1		460			460	456	0.0	0.0	0.000	A
2 - Doncaster Road (E)	Entry	1	1	3, 4, 5	168	745	0.226	169	169	0.0	0.3	6.139	A
			2	1, 2	13	745	0.017	13	16	0.0	0.0	5.214	A
		2	1	(1, 2, 3, 4, 5)	181			181	185	0.0	0.0	0.000	A
	Exit	1	1		282			282	276	0.0	0.0	0.000	A
3 - A18 Kingsway	Entry	1	1	1, 4, 5	204	838	0.243	205	211	0.0	0.3	5.528	A
			2	2, 3	4	838	0.005	4	3	0.0	0.0	5.605	A
		2	1	(1, 2, 3, 4, 5)	208			208	216	0.0	0.0	0.000	A
	Exit	1	1		363			363	342	0.0	0.0	0.000	A
4 - Scotter Road (S)	Entry	1	1	1, 2, 3, 4, 5	517	1319	0.392	515	501	0.0	0.7	4.412	A
	Exit	1	1		271			271	275	0.0	0.0	0.000	A
5 - A18 Doncaster Road (W)	Entry	1	1	1, 2	272	1002	0.271	273	268	0.0	0.2	4.713	A
			2	3, 4, 5	288	1002	0.288	287	272	0.0	0.5	4.840	A
	Exit	1	1		413			413	414	0.0	0.0	0.000	A

08:00 - 08:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Scotter Road (N)	Entry	1	1	1, 2, 3, 4, 5	370	959	0.385	372	382	0.5	0.4	5.986	A
	Exit	1	1		546			546	557	0.0	0.0	0.000	A
2 - Doncaster Road (E)	Entry	1	1	3, 4, 5	201	710	0.283	205	206	0.3	0.3	7.235	A
			2	1, 2	21	710	0.030	21	20	0.0	0.0	5.244	A
		2	1	(1, 2, 3, 4, 5)	222			222	226	0.0	0.0	0.000	A
	Exit	1	1		361			361	341	0.0	0.0	0.000	A
3 - A18 Kingsway	Entry	1	1	1, 4, 5	241	813	0.297	242	256	0.3	0.3	6.330	A
			2	2, 3	4	813	0.005	4	4	0.0	0.0	3.342	A
		2	1	(1, 2, 3, 4, 5)	246			246	260	0.0	0.0	0.000	A
	Exit	1	1		415			415	420	0.0	0.0	0.000	A
4 - Scotter Road (S)	Entry	1	1	1, 2, 3, 4, 5	596	1282	0.465	595	613	0.7	0.7	5.371	A
	Exit	1	1		337			337	334	0.0	0.0	0.000	A
5 - A18 Doncaster Road (W)	Entry	1	1	1, 2	354	985	0.360	353	329	0.2	0.6	5.444	A
			2	3, 4, 5	342	985	0.347	343	337	0.5	0.5	5.484	A
	Exit	1	1		475			475	495	0.0	0.0	0.000	A

08:15 - 08:30

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Scotter Road (N)	Entry	1	1	1, 2, 3, 4, 5	481	914	0.526	482	476	0.4	1.1	8.313	A
	Exit	1	1		672			672	671	0.0	0.0	0.000	A
2 - Doncaster Road (E)	Entry	1	1	3, 4, 5	245	662	0.370	246	251	0.3	0.5	8.379	A
			2	1, 2	24	662	0.037	24	24	0.0	0.1	5.610	A
		2	1	(1, 2, 3, 4, 5)	269			269	277	0.0	0.0	0.000	A
	Exit	1	1		411			411	413	0.0	0.0	0.000	A
3 - A18 Kingsway	Entry	1	1	1, 4, 5	308	783	0.393	307	314	0.3	0.6	7.384	A
			2	2, 3	5	783	0.006	4	5	0.0	0.0	4.297	A
		2	1	(1, 2, 3, 4, 5)	312			312	320	0.0	0.0	0.000	A
	Exit	1	1		486			486	501	0.0	0.0	0.000	A
4 - Scotter Road (S)	Entry	1	1	1, 2, 3, 4, 5	743	1223	0.607	740	741	0.7	1.9	8.109	A
	Exit	1	1		410			410	406	0.0	0.0	0.000	A
5 - A18 Doncaster Road (W)	Entry	1	1	1, 2	385	957	0.402	386	387	0.6	0.7	6.084	A
			2	3, 4, 5	382	957	0.399	387	398	0.5	0.3	6.054	A
	Exit	1	1		597			597	605	0.0	0.0	0.000	A

08:30 - 08:45

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Scotter Road (N)	Entry	1	1	1, 2, 3, 4, 5	474	911	0.520	476	481	1.1	1.0	8.371	A
	Exit	1	1		662			662	673	0.0	0.0	0.000	A
2 - Doncaster Road (E)	Entry	1	1	3, 4, 5	252	661	0.382	253	257	0.5	0.6	9.293	A
			2	1, 2	22	661	0.034	22	22	0.1	0.0	5.444	A
		2	1	(1, 2, 3, 4, 5)	275			275	279	0.0	0.0	0.006	A
	Exit	1	1		409			409	414	0.0	0.0	0.000	A
3 - A18 Kingsway	Entry	1	1	1, 4, 5	307	783	0.392	305	316	0.6	0.6	7.496	A
			2	2, 3	4	783	0.005	4	4	0.0	0.0	5.600	A
		2	1	(1, 2, 3, 4, 5)	310			310	320	0.0	0.0	0.000	A
	Exit	1	1		496			496	508	0.0	0.0	0.000	A
4 - Scotter Road (S)	Entry	1	1	1, 2, 3, 4, 5	738	1220	0.605	738	743	1.9	1.6	7.464	A
	Exit	1	1		403			403	413	0.0	0.0	0.000	A
5 - A18 Doncaster Road (W)	Entry	1	1	1, 2	384	960	0.400	389	394	0.7	0.5	6.493	A
			2	3, 4, 5	395	960	0.412	395	406	0.3	0.7	6.602	A
	Exit	1	1		613			613	614	0.0	0.0	0.000	A

08:45 - 09:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Scotter Road (N)	Entry	1	1	1, 2, 3, 4, 5	381	990	0.384	378	390	1.0	0.7	6.370	A
	Exit	1	1		556			556	563	0.0	0.0	0.000	A
2 - Doncaster Road (E)	Entry	1	1	3, 4, 5	204	720	0.283	202	207	0.6	0.4	7.411	A
			2	1, 2	18	720	0.025	19	20	0.0	0.0	5.428	A
		2	1	(1, 2, 3, 4, 5)	222			222	226	0.0	0.0	0.000	A
	Exit	1	1		334			334	328	0.0	0.0	0.000	A
3 - A18 Kingsway	Entry	1	1	1, 4, 5	256	816	0.314	257	263	0.6	0.4	6.765	A
			2	2, 3	2	816	0.003	2	3	0.0	0.0	4.022	A
		2	1	(1, 2, 3, 4, 5)	259			259	266	0.0	0.0	0.000	A
	Exit	1	1		393			393	411	0.0	0.0	0.000	A
4 - Scotter Road (S)	Entry	1	1	1, 2, 3, 4, 5	606	1274	0.475	601	613	1.6	1.2	5.531	A
	Exit	1	1		321			321	328	0.0	0.0	0.000	A
5 - A18 Doncaster Road (W)	Entry	1	1	1, 2	326	984	0.331	325	317	0.5	0.6	5.528	A
			2	3, 4, 5	315	984	0.320	315	326	0.7	0.5	5.312	A
	Exit	1	1		495			495	510	0.0	0.0	0.000	A

09:00 - 09:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Scotter Road (N)	Entry	1	1	1, 2, 3, 4, 5	321	1037	0.310	321	334	0.7	0.4	5.398	A
	Exit	1	1		470			470	465	0.0	0.0	0.000	A
2 - Doncaster Road (E)	Entry	1	1	3, 4, 5	166	750	0.221	165	173	0.4	0.3	6.858	A
			2	1, 2	15	750	0.020	15	16	0.0	0.0	4.919	A
		2	1	(1, 2, 3, 4, 5)	181			181	189	0.0	0.0	0.000	A
	Exit	1	1		277			277	280	0.0	0.0	0.000	A
3 - A18 Kingsway	Entry	1	1	1, 4, 5	211	837	0.253	210	217	0.4	0.4	5.992	A
			2	2, 3	5	837	0.006	5	4	0.0	0.0	4.601	A
		2	1	(1, 2, 3, 4, 5)	217			217	221	0.0	0.0	0.000	A
	Exit	1	1		344			344	352	0.0	0.0	0.000	A
4 - Scotter Road (S)	Entry	1	1	1, 2, 3, 4, 5	525	1318	0.398	522	514	1.2	0.7	4.427	A
	Exit	1	1		278			278	292	0.0	0.0	0.000	A
5 - A18 Doncaster Road (W)	Entry	1	1	1, 2	270	1002	0.269	270	271	0.6	0.3	4.896	A
			2	3, 4, 5	279	1002	0.278	279	286	0.5	0.3	5.062	A
	Exit	1	1		418			418	427	0.0	0.0	0.000	A

Lane movements: Main Results for each time segment

07:45 - 08:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsi l s
1 - Scotter Road (N)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	13	3	1301	1020	0.013	13	13	0.0	0.0	4.512	
				3	98	25	1322	1030	0.095	98	94	0.0	0.2	5.024	
				4	161	40	1322	1029	0.156	161	162	0.0	0.2	5.059	
				5	53	13	1322	1033	0.051	53	53	0.0	0.1	4.919	
2 - Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	8	2	799	629	0.013	8	7	0.0	0.0	6.283	
				4	40	10	950	744	0.054	40	41	0.0	0.0	6.042	
				5	120	30	950	744	0.162	120	120	0.0	0.2	6.164	
			2	1	13	3	935	736	0.018	13	16	0.0	0.0	5.214	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	13	3	-	-	-	13	16	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	8	2	-	-	-	8	7	0.0	0.0	0.000	
				4	40	10	-	-	-	40	42	0.0	0.0	0.000	
				5	120	30	-	-	-	120	121	0.0	0.0	0.000	
3 - A18 Kingsway	Entry	1	1	1	90	22	950	836	0.107	91	93	0.0	0.1	5.562	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	9	2	890	785	0.011	9	11	0.0	0.0	5.996	
				5	105	26	950	837	0.126	105	108	0.0	0.2	5.452	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	4	1	528	464	0.009	4	3	0.0	0.0	5.605	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	90	22	-	-	-	90	93	0.0	0.0	0.000	
				2	4	1	-	-	-	4	3	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	9	2	-	-	-	9	11	0.0	0.0	0.000	
				5	105	26	-	-	-	105	109	0.0	0.0	0.000	
4 - Scotter Road (S)	Entry	1	1	1	294	74	1521	1319	0.223	294	285	0.0	0.4	4.360	
				2	56	14	1521	1315	0.043	55	54	0.0	0.1	4.344	
				3	30	7	1521	1313	0.023	30	27	0.0	0.0	4.414	
				4	2	0.38	676	589	0.003	2	2	0.0	0.0	6.042	
				5	135	34	1521	1318	0.103	134	132	0.0	0.2	4.523	
5 - A18 Doncaster Road (W)	Entry	1	1	1	62	15	1100	1005	0.061	62	63	0.0	0.1	4.493	
				2	210	52	1100	1004	0.209	211	205	0.0	0.2	4.781	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	228	57	1100	1003	0.227	227	214	0.0	0.3	4.837	
				4	60	15	1100	1005	0.060	60	58	0.0	0.1	4.844	
				5	0.38	0.10	157	145	0.003	0.38	0.57	0.0	0.0	5.510	

08:00 - 08:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsi l s
1 - Scotter Road (N)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	12	3	1301	970	0.013	12	13	0.0	0.0	6.130	
				3	109	27	1322	964	0.113	110	121	0.2	0.2	6.012	
				4	192	48	1322	960	0.200	193	190	0.2	0.2	5.960	
				5	56	14	1322	966	0.058	57	56	0.1	0.0	5.981	
2 - Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	7	2	784	594	0.011	7	7	0.0	0.0	7.101	
				4	53	13	950	711	0.075	55	51	0.0	0.0	7.210	
				5	141	35	950	711	0.199	143	148	0.2	0.2	7.251	
			2	1	21	5	950	713	0.030	21	20	0.0	0.0	5.244	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	21	5	-	-	-	21	20	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	7	2	-	-	-	7	7	0.0	0.0	0.000	
				4	53	13	-	-	-	53	51	0.0	0.0	0.000	
				5	141	35	-	-	-	141	148	0.0	0.0	0.000	
3 - A18 Kingsway	Entry	1	1	1	110	28	950	814	0.136	111	114	0.1	0.1	6.287	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	12	3	920	788	0.015	12	14	0.0	0.0	6.214	
				5	119	30	950	813	0.146	119	129	0.2	0.2	6.381	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	4	1	603	518	0.008	4	4	0.0	0.0	3.342	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	110	28	-	-	-	110	114	0.0	0.0	0.000	
				2	4	1	-	-	-	4	4	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	12	3	-	-	-	12	14	0.0	0.0	0.000	
				5	119	30	-	-	-	119	129	0.0	0.0	0.000	
4 - Scotter Road (S)	Entry	1	1	1	332	83	1521	1282	0.259	332	347	0.4	0.4	5.383	
				2	74	19	1521	1282	0.058	74	71	0.1	0.1	5.418	
				3	32	8	1521	1286	0.025	31	31	0.0	0.1	5.010	
				4	4	0.90	772	651	0.006	4	3	0.0	0.0	5.901	
				5	154	39	1521	1278	0.121	155	161	0.2	0.1	5.386	
5 - A18 Doncaster Road (W)	Entry	1	1	1	83	21	1100	985	0.084	82	77	0.1	0.1	5.374	
				2	271	68	1100	984	0.276	270	252	0.2	0.4	5.465	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	266	67	1100	984	0.271	268	260	0.3	0.3	5.526	
				4	75	19	1100	985	0.076	74	76	0.1	0.2	5.334	
				5	0.95	0.24	210	188	0.005	1	0.76	0.0	0.0	6.203	

08:15 - 08:30

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsi l s
1 - Scotter Road (N)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	21	5	1301	903	0.023	21	20	0.0	0.0	9.261	
				3	139	35	1322	913	0.153	140	145	0.2	0.3	8.580	
				4	251	63	1322	913	0.275	250	239	0.2	0.6	8.131	
				5	70	17	1322	918	0.076	70	71	0.0	0.2	8.112	
2 - Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	8	2	860	600	0.013	8	9	0.0	0.0	7.320	
				4	58	14	950	664	0.087	58	60	0.0	0.2	8.601	
				5	180	45	950	662	0.271	180	182	0.2	0.3	8.354	
			2	1	24	6	950	661	0.037	24	24	0.0	0.1	5.610	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	24	6	-	-	-	24	24	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	8	2	-	-	-	8	9	0.0	0.0	0.000	
				4	58	14	-	-	-	58	61	0.0	0.0	0.000	
				5	180	45	-	-	-	180	183	0.0	0.0	0.000	
3 - A18 Kingsway	Entry	1	1	1	136	34	950	783	0.173	136	141	0.1	0.2	7.357	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	17	4	935	771	0.022	17	17	0.0	0.0	7.398	
				5	155	39	950	782	0.198	154	156	0.2	0.3	7.407	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	5	1	709	584	0.008	4	5	0.0	0.0	4.297	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	136	34	-	-	-	136	142	0.0	0.0	0.000	
				2	5	1	-	-	-	5	5	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	17	4	-	-	-	17	17	0.0	0.0	0.000	
				5	155	39	-	-	-	155	156	0.0	0.0	0.000	
4 - Scotter Road (S)	Entry	1	1	1	425	106	1521	1221	0.348	423	418	0.4	1.1	8.049	
				2	90	22	1521	1217	0.074	89	88	0.1	0.2	8.213	
				3	35	9	1521	1222	0.029	35	37	0.1	0.1	8.683	
				4	3	0.76	724	587	0.005	3	3	0.0	0.0	5.909	
				5	190	48	1521	1221	0.156	190	194	0.1	0.5	8.116	
5 - A18 Doncaster Road (W)	Entry	1	1	1	90	23	1100	957	0.094	90	88	0.1	0.2	6.014	
				2	295	74	1100	957	0.308	296	299	0.4	0.5	6.104	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	298	75	1100	957	0.312	303	310	0.3	0.3	6.057	
				4	82	20	1100	958	0.086	82	87	0.2	0.1	6.060	
				5	2	0.38	210	182	0.008	2	0.89	0.0	0.0	4.593	

08:30 - 08:45

Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsi l s
1 - Scotter Road (N)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	21	5	1301	900	0.023	21	19	0.0	0.0	8.688	
				3	141	35	1322	913	0.155	143	147	0.3	0.2	8.339	
				4	234	59	1322	912	0.257	234	241	0.6	0.6	8.321	
				5	77	19	1322	910	0.085	78	74	0.2	0.2	8.520	
2 - Doncaster Road (E)	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	9	2	844	582	0.015	9	9	0.0	0.0	8.429	
				4	59	15	950	660	0.089	58	61	0.2	0.1	9.078	
				5	185	46	950	661	0.280	186	187	0.3	0.5	9.405	
			2	1	22	6	935	648	0.034	22	22	0.1	0.0	5.444	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	22	6	-	-	-	22	22	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	9	2	-	-	-	9	9	0.0	0.0	0.000	
				4	59	15	-	-	-	59	60	0.0	0.0	0.010	
				5	185	46	-	-	-	185	188	0.0	0.0	0.005	
3 - A18 Kingsway	Entry	1	1	1	137	34	950	781	0.175	136	141	0.2	0.3	7.401	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	21	5	950	782	0.026	20	19	0.0	0.0	7.851	
				5	149	37	950	781	0.191	148	156	0.3	0.3	7.539	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	4	0.90	513	424	0.009	4	4	0.0	0.0	5.600	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
		2	1	1	137	34	-	-	-	137	141	0.0	0.0	0.001	
				2	4	0.90	-	-	-	4	4	0.0	0.0	0.000	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	21	5	-	-	-	21	19	0.0	0.0	0.000	
				5	149	37	-	-	-	149	156	0.0	0.0	0.000	
4 - Scotter Road (S)	Entry	1	1	1	413	103	1521	1221	0.339	414	421	1.1	0.9	7.436	
				2	86	22	1521	1222	0.070	85	86	0.2	0.2	7.222	
				3	37	9	1521	1222	0.030	37	36	0.1	0.1	8.095	
				4	3	0.67	845	673	0.004	3	4	0.0	0.0	7.892	
				5	199	50	1521	1224	0.163	200	196	0.5	0.4	7.507	
5 - A18 Doncaster Road (W)	Entry	1	1	1	89	22	1100	960	0.092	90	89	0.2	0.1	6.512	
				2	296	74	1100	960	0.308	299	305	0.5	0.4	6.487	
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				5	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
				3	306	77	1100	960	0.319	307	316	0.3	0.5	6.640	
				4	88	22	1100	961	0.092	87	89	0.1	0.2	6.474	
				5	0.95	0.24	227	197	0.005	0.95	0.89	0.0	0.0	6.102	