

Molesworth Street, Rochdale

Highways Technical Note

Response to Highways Comments from Rochdale Borough Council

Planning Application Reference: 25/00312/FUL

July 2025

AMA Project Number: 53024/SD/AMM

INTRODUCTION

This Highways Technical Note (HTN) has been prepared by Andrew Moseley Associates (AMA) in response to highways comments received from Rochdale Borough Council (RBC) in relation to the Transport Assessment (TA) and Travel Plan (TP) submitted for the proposed erection of a McDonald's drive thru restaurant at Molesworth Street, Rochdale.

RBC AND APPLICANT'S RESPONSES

For ease of reference, this Note provides responses to each comment in the same order as the RBC Consultation Response, a copy is attached at [Appendix A](#).

RBC COMMENT 1 – JUNCTION CAPACITY

The Transport Assessment shows that in future years this junction is over capacity significantly with the development. This is not a situation which the highways service is willing to accept.

AMA RESPONSE 1

The Water Street / Molesworth Street Junction model has been updated to reflect the following:

- ▶ Change in trip distribution methodology as per comments received from Transport for Greater Manchester. The trip distribution has been recalculated using the 2024 traffic surveys (i.e. the existing proportional split at each surveyed junction expressed as a percentage); and
- ▶ Validation against the 2024 queue length survey.

The queue data which the model has been validated against is presented in full at [Appendix B](#). The results are shown in [Table 1](#) whilst the full modelling output is attached at [Appendix C](#).

Table 1: Water Street / A671 Molesworth Street T-junction

Arms	AM Peak		PM Peak		SAT Peak	
	RFC	Queue	RFC	Queue	RFC	Queue
2024 Base						
Water Street (W)	0.65	1.8	1.03	14.5	0.73	2.5
Molesworth Street (S)	0.56	0.1	0.67	2.0	0.55	1.2
2025 'Uplifted' Base						
Water Street (W)	0.66	1.8	1.04	15.3	0.73	2.5
Molesworth Street (S)	0.56	1.3	0.67	2.0	0.55	1.2
2030 Future						
Water Street (W)	0.72	2.4	1.16	29.2	0.81	3.6
Molesworth Street (S)	0.61	1.6	0.73	2.8	0.60	1.5
2030 Future + Development Traffic						
Water Street (W)	0.83	4.2	1.43	63.9	1.03	14.8
Molesworth Street (S)	0.57	1.3	0.85	2.0	0.53	1.1

As can be seen, the model demonstrates the junction is currently operating over capacity in the PM peak hour with an RFC of 1.04 and a queue of 15.3 vehicles.

It should be noted that once the RFC value increases above 1.00, the formula within the TRL software results in the queues increasing exponentially within the model and the predicted queues in the future year scenarios are therefore unrealistic.

The instability of flows through over-capacity approach arms results is an inherent difficulty in calibrating modelled outputs to observed conditions and for that reason the modelling results are not considered wholly representative of the junctions performance in the future.

The proposed development is anticipated to generate just 36 additional (new) trips to the network in the PM peak hour, with only 18 of these trips passing through the junction. This equates to one 'new' movement through the junction every 2 minutes which is of negligible change.

Whilst the model demonstrates the Water Street arm currently exceeds its theoretical capacity in the PM peak hour, it is inevitable that, on arterial roads, delays will occur on side roads at priority junctions during network peak hours.

However, at the majority of these locations, queues quickly disperse after the peak period. The modelling shows a delay of up to 3 minutes in the PM peak hour which is not considered significant in the context of the wider road network, especially when delay is limited outside of peak network times.

In addition to the points made above, AMA engaged with RBC Highways on 03/07/2025 via a Teams Call to discuss the comments raised, including the junction capacity of Water Street / Molesworth Street and Molesworth Street / Entwisle Road Crossroads. During this meeting it was agreed that AMA review the Molesworth Street / Entwisle Road Crossroads modelling to determine whether any optimisation can be achieved to alleviate queueing on Molesworth Street (south), in turn allowing the Water Street / Molesworth Street junction to operate more efficiently. This work is ongoing and will be provided separately to this HTN.

In terms of the operation of the drive-thru lane, it has been designed to accommodate 7 vehicles from the customer order displays, and a total of 17 vehicles from entering the drive-thru lane to the collection booth (not including the two grill bays). As demonstrated in the TA, the average surveyed queues of three similar McDonald's restaurants were interrogated to understand the potential minimum and maximum queues of the proposed site. This data is summarised in **Table 2**. This includes all vehicles waiting in the drive-thru lane back from the collection booth.

Table 2: Drive Thru Queue - Average

	Friday PM Peak	Saturday Peak
Min Q	0	0
Max Q	7	9
Average	4	4

The proposed drive-thru lane has the capacity to accommodate approximately double the maximum recorded vehicles and is clearly more than suitable to meet anticipated demand during peak times. At times where demand may exceed the capacity of the drive thru lane (i.e. more than 17 vehicles), the internal site has been designed with a one-way loop system to ensure that any queueing can be accommodated within the site without impacting upon the free flow of traffic along Water Street.

RBC COMMENT 2 – TRIP GENERATION

In addition to this the highways service have concerns about the Trip Generation Figures. McDonalds is not a typical Take Away Restaurant. The sites are very popular, and it is easy to observe how much more popular they are than their competitors at established locations in Rochdale. In addition to this recent years have shown a change in how people access McDonalds with many people opting for delivery services which generates even more vehicle movements than a family coming to eat in house. We do not believe this has been properly considered in the Trip Generation calculations and the 'worst case scenario' is in fact an optimistically low figure.

AMA RESPONSE 2

McDonald's introduced McDelivery through partnerships with Uber Eats in 2017. McDonald's began using Just Eat for UK deliveries in January 2020. Just Eat are McDonald's second exclusive delivery partner alongside Uber Eats.

As noted in the TA, a comparison between the average trip rates of three similar existing McDonald's restaurants and TRICS was undertaken. This comparison exercise found that the TRICS trip rates were higher than the existing McDonald's restaurant surveys, and, therefore, to ensure a robust assessment, the TRICS trip rates were adopted as the trip generation methodology used in the TA.

As shown in the TRICS output, all selected surveys were for McDonald's restaurants between the years of 2017 and 2021. The surveys therefore account for trips made by delivery drivers.

Furthermore, delivery drivers can collect several online orders at once, thus making just one two-way trip to the restaurant at any one point in time. The use of McDelivery reduces the overall number of in person visits made, eliminating the need for customers to drive to the restaurant. As more customers utilise McDelivery, the overall demand for parking spaces decreases which potentially frees up spaces for other customers.

Notwithstanding the above, given the location of the site on the edge of the town centre and within proximity of Rochdale Interchange, there are practical and convenient opportunities for journeys to be made on foot, by cycle or via public transport.

RBC COMMENT 3 – CAPACITY MODELLING

The proximity and importance of the junctions on the Transport Network means they should not be assessed individually but modelled as a whole to see how the failure of one junction impacts upon the wider network. We have major concerns about this aspect of the application and object upon Traffic Impact causing a severe issue on the wider network.

AMA RESPONSE 3

Without an existing strategic model, AMA do not consider the request for microsimulation modelling justifiable given the size of the development proposed and the limited number of new trips generated. It should also be noted that TfGM did not raise any concerns regarding the modelling of the Entwisle Road crossroads, commenting “the increase in traffic flows at this junction is not significant and therefore unlikely to have a noticeable impact on the operation of the junction – especially given it is running under SCOOT control.”

However, notwithstanding TfGM’s comment and as previously mentioned, AMA are liaising with RBC Highways to optimise the Molesworth Street / Entwisle Road Crossroads. This work is ongoing and will be provided separately to this HTN.

RBC COMMENT 4 – PARKING

The level of parking on site is significantly below local standards. Given there is very little parking elsewhere in the proximity this is not acceptable. In the event that drivers ignore waiting restrictions and ‘fly parking’ on restrictions whilst picking up deliveries, this threatens the safety and function of the local road network in the vicinity.

AMA RESPONSE 4

Maximum parking standards are set out in the Rochdale Core Strategy which was adopted in October 2016. The maximum standards for Fast Food Drive Thrus are as follows:

- ▶ 1 space per 8.5 m² GFA
- ▶ Disabled provision for 12 to 200 spaces - 3 bays or 6% of total capacity (whichever is the greater)
- ▶ Cycle provision - 1 space per 140 m² PFA (min 2 spaces)
- ▶ Powered two-wheeler provision - 1 space per 280 m² PFA (min 2 spaces)

The Council’s maximum car parking standard for the proposed restaurant and drive thru is 24 standard spaces and 3 disabled spaces. This is a total of 27 spaces based on a public GFA of 205.9m².

A breakdown of the public floor area is provided below for reference:

- ▶ Dining area: 99.3 m²
- ▶ Toilet Lobby: 5.8 m²
- ▶ Male WC: 6.4 m²
- ▶ Female WC: 9.4 m²
- ▶ Accessible WC: 3.5 m²
- ▶ Entrance Lobby: 3.2 m²
- ▶ Patio 78.3 m²

The proposed site will provide a total of 35 parking spaces which includes two accessible spaces and two electric vehicle charging spaces (of which one space is accessible). A further 3 motorcycle spaces will be provided as well as 6 short stay cycle parking spaces. Staff cycle parking is provided within the building itself. It is not considered this level of car parking is significantly below standards, especially when taking into account the sites sustainable town centre location, and the standards set out in the Core Strategy are ‘Maximum’ numbers only, not the minimum required provision.

It is within McDonald's interest to ensure the operational requirements of the restaurant can be met and a suitable level of car parking is provided for customers. It is not within McDonald's interest to turn away customers who wish to eat inside the restaurant. However, an appropriate balance needs to be struck as overproviding for car parking will offset the sustainable location of the site where walking, cycling and public transport are all practical and accessible modes of travel.

To further evidence the proposed level of parking will be sufficient to accommodate the vehicles associated with the proposed site, a parking accumulation exercise has been undertaken using the TRICS outputs detailed in the Transport Assessment. These are reattached at [Appendix D](#) for ease of reference. The results of this exercise for both a Weekday and a Saturday is summarised below in [Table 3](#) and [4](#). This is based on 442m² GIA which is in line with the selected TRICS parameters.

Table 3: Weekday Parking Accumulation

Total	Arrivals	Departures	Parking Accumulation
06:00-07:00	32	29	3
07:00-08:00	50	43	10
08:00-09:00	60	56	13
09:00-10:00	64	65	13
10:00-11:00	70	68	15
11:00-12:00	69	66	18
12:00-13:00	99	94	22
13:00-14:00	85	91	17
14:00-15:00	68	68	16
15:00-16:00	82	80	19
16:00-17:00	88	91	16
17:00-18:00	96	96	15
18:00-19:00	96	101	10
19:00-20:00	83	85	8
20:00-21:00	72	77	3
21:00-22:00	60	61	1
22:00-23:00	65	64	2
23:00-24:00	34	40	-4

Table 4: Saturday Parking Accumulation

Total	Arrivals	Departures	Parking Accumulation
07:00-08:00	84	80	4
08:00-09:00	84	80	8
09:00-10:00	99	99	8
10:00-11:00	121	108	21
11:00-12:00	72	80	14
12:00-13:00	89	83	20
13:00-14:00	119	112	26
14:00-15:00	115	116	25
15:00-16:00	103	109	20
16:00-17:00	87	92	15
17:00-18:00	105	99	20
18:00-19:00	105	109	16
19:00-20:00	103	103	16
20:00-21:00	83	88	12
21:00-22:00	68	69	10
22:00-23:00	56	52	14
23:00-24:00	34	37	11

The parking accumulation assessment demonstrates the proposed level of parking is more than sufficient to accommodate the parking demand associated with the restaurant.

RBC COMMENT 5 – VISIBILITY AND TRAFFIC REGULATION ORDER

The proposed site access cannot achieve the required visibility without removal of parking bays existing on Water Street. These bays are in regular use by customers of local businesses and visitors of the town centre. The idea to relocate the bays to within the existing Traffic Regulation Order (TRO) is no acceptable. This TRO is to protect the function of the junction and the safety of network users.

AMA RESPONSE 5

As part of the proposals, the existing on street parking bays will be removed. Removing these bays ensures visibility at the proposed site access can be achieved.

AMA have looked at options to relocate the parking bays in a standard 2 x 5, 2 x 6, 2 x 5m formation that would require parallel parking to enter / exit the middle bay, however, whilst the minimum dimensions are met, the tracking shows the manoeuvre is difficult and when taking into account the volume of traffic along this road in the PM peak hour, it is not considered suitable, hence why it is proposed to remove the bays.

However, discussions with RBC Highways regarding this point and potential alternative solutions are on going.

RBC COMMENT 6 – MITIGATION AND IMPROVEMENTS

No changes to the existing highways network have been suggested to mitigate for the increased traffic volume, road safety, safe operation of the highway network concerns.

No changes to the existing highways network have been suggested to accommodate for pedestrians.

Bell mouth junctions should be reinstated with footways. Safe methods of crossing both Water Street and John Street would need to be introduced. The site is within walking distance of the Town Centre and surrounding residential areas. Molesworth Street and Water Street are heavily trafficked not a popular walking route and as such the pedestrian infrastructure would require significant upgrades. The footways feature several pinch points, many vehicles access crossing points with no kerbline and a lack of tactile paving. When considering the pedestrian trip generation, it is likely that routes from across Rochdale Town Centre would have to be upgraded, this site sits at the eastern boundary of the Town Centre and much of the existing footfall is more centrally located to the west.

AMA RESPONSE 6

Any redundant access points which served the former site should be reinstated accordingly.

The extent of pedestrian improvements will be confirmed once the modelling work is complete.

RBC COMMENT 7 – SERVICING

Servicing and deliveries to this site will take directly from the car park. This will place HGVs in direct conflict with private vehicles and pedestrians. Swept path analysis showing how deliveries are intended to take place shows the deliveries cannot take place without overrunning some of parking bays. This is a safety concern particularly given the lack of parking provided. We would expect servicing to take place from Water Street across the footway which will cause an obstruction to the vehicles trying to access Water Street. This is unacceptable.

AMA RESPONSE 7

Servicing will take place within the site via an 11.105m fixed cab rigid as demonstrated on AMA Drawings 53024-ATR003-2.4 and 3.4 appended to the TA. These drawings are reattached at [Appendix E](#) for reference.

The swept path analysis demonstrates that a delivery vehicle can enter, manoeuvre around and exit the site in a forward gear.

A representative from Martin Brower (MB), McDonald's dedicated servicing and delivery partner, will visit the site prior to the restaurant trading and assess the designated delivery area to determine whether any special arrangements are required, however, none are envisaged at this stage as servicing is a simple manoeuvre. Should any arise, these will be communicated to the delivery transport team.

McDonald's allocate a minimum of two staff to assist with deliveries. These staff have completed the approved McDonald's Health and Safety training. Restaurant staff are on site to ensure the space required for delivery vehicle manoeuvring is coned off and clear of any obstructions, pedestrians or customer vehicles. Once on the tarmac, they wheel the cages to the restaurant.

At the proposed site, 6 parking spaces are required to be coned off whilst the service vehicle accesses the site, and 7 are required to be coned off whilst the service vehicle egresses the site.

The vehicle is usually parked for between 15 minutes and 30 minutes within the 2-hour delivery slot. The duration of the stay depends upon the range and quantity of products to be delivered.

Deliveries would be scheduled to arrive at quiet trading periods and outside the peak hours of the local highway network. Deliveries during lunchtime (12:00 – 14:00) hours are avoided to minimise any delays in deliveries. When a delivery occurs, staff unload the delivery cages and store the food in a quick and efficient manner.

The arrangements described above follow a 'tried and tested' methodology used successfully across the UK and there are no reasons to suggest why it could not be successfully undertaken in this location.

A Servicing and Delivery Management Plan can be prepared at the request of the Council and each McDonald's is equipped with a Delivery Information Document.

CONCLUSION

This Highways Technical Note provides responses to the comments received from RBC along with additional information where appropriate. As agreed with RBC Highways, further modelling of the Molesworth Street / Entwisle Road Crossroads is being undertaken to determine whether any optimisation can be achieved. The results will be submitted in due course.

APPENDICES

Appendix A Rochdale Borough Council Consultation Response

Appendix B Queue Length Data

Appendix C Modelling Output

Appendix D TRICS Output

Appendix E Swept Path Analysis

Appendix A
Rochdale Borough Council Consultation
Response



Highways and Engineering Service

Economy and Environment

Consultation Response on behalf of Head of Highways and Engineering

Application: 25-00312-FUL

Date Received: 24 April 2025

Date of Response: 20 May 2025

PROPOSAL: Development of a drive-thru restaurant (Use Class E / Sui Generis) with associated access, servicing, car parking, hard and soft landscaping, substation, engineering works and other associated works

CONSULTATION REPORT:

The application is located directly adjacent to the Rochdale town centre ring road. The main access to the development is just 55metres away from a priority junction to the A671, a key road within Rochdale Town Centre with traffic flow of approximately 15,000 vehicles per day. Due to the Fast/Hot Food nature of the restaurant, we would argue the business cannot rely upon sustainable transport alone and no allowance should be made for this.

Water Street serves a number of small businesses but most importantly it serves as the main access and egress to the Town Centre Bus Interchange and Water Street's continued function is critical to public transport in the borough.

The junction of Water Street and John Street can be busy at times and contends with with large vehicles and Buses trying to enter and exit the road through queuing traffic. The Transport Assessment shows that in future years this junction is over capacity significantly with the development. This is not a situation which the highways service is willing to accept. In addition to this the highways service have concerns about the Trip Generation Figures. McDonalds is not a typical Take Away Restaurant. The sites are very popular, and it is easy to observe how much more popular they are than their competitors at established locations in Rochdale. In addition to this recent years have shown a change in how people access McDonalds with many people opting for delivery services which generates even more vehicle movements than a family coming to eat in house. We do not believe this has been properly considered in the Trip Generation calculations and the 'worst case scenario' is in fact an optimistically low figure.

The Water Street/Molesworth Street junction is a short distance from both Robinson Street and Smith Street/Entwistle Road in addition junctions with Robinson Street and Baillie Street sit just beyond and

the junction of St Marys Gate not much further to the North and Milnrow Road to the South. Many of these junctions along the ring road are essential to vehicle movements and the safe operation of the road network around the Town Centre. Queues commencing at Water Street have the potential to not only block access and egress of public transport from Water Street but to block other major junctions for all movements. The proximity and importance of the junctions on the Transport Network means they should not be assessed individually but modelled as a whole to see how the failure of one junction impacts upon the wider network. We have major concerns about this aspect of the application and object upon Traffic Impact causing a severe issue on the wider network.

The level of parking on site is significantly below local standards. Given there is very little parking elsewhere in the proximity this is not acceptable. In the event that drivers ignore waiting restrictions and 'fly parking' on restrictions whilst picking up deliveries, this threatens the safety and function of the local road network in the vicinity.

The proposed site access cannot achieve the required visibility without removal of parking bays existing on Water Street. These bays are in regular use by customers of local businesses and visitors of the town centre.. The idea to relocate the bays to within the existing Traffic Regulation Order (TRO) is not acceptable. This TRO is to protect the function of the junction and the safety of network users.

No changes to the existing highways network have been suggested to mitigate for the increased traffic volume, road safety, safe operation of the highway network concerns.

No changes to the existing highways network have been suggested to accommodate for pedestrians. Bell mouth junctions should be reinstated with footways. Safe methods of crossing both Water Street and John Street would need to be introduced.

The site is within walking distance of the Town Centre and surrounding residential areas. Molesworth Street and Water Street are heavily trafficked not a popular walking route and as such the pedestrian infrastructure would require significant upgrades. The footways feature several pinch points, many vehicles access crossing points with no kerblines and a lack of tactile paving. When considering the pedestrian trip generation, it is likely that routes from across Rochdale Town Centre would have to be upgraded, this site sits at the eastern boundary of the Town Centre and much of the existing footfall is more centrally located to the west.

No new highways are proposed as part of this proposal.

No PROW will be obstructed by this proposal.

Servicing and deliveries to this site will take directly from the car park. This will place HGVs in direct conflict with private vehicles and pedestrians. Swept path analysis showing how deliveries are intended to take place shows the deliveries cannot take place without overrunning some of parking bays. This is a safety concern particularly given the lack of parking provided. We would expect servicing to take place from Water Street across the footway which will cause an obstruction to the vehicles trying to access Water Street. This is unacceptable.

AMENDMENTS TO CONSULTATION RESPONSE:

No amendments to report

OFFICER RECOMMENDATION:

We recommend the refusal of this application.

The proposals attract significant traffic which will see the junction of Water Street and John Street operating beyond capacity. This is a critical point on the network which would see impacts knock onto junctions in the proximity and hindering vehicle movements on the ring road.

Inadequate provision for pedestrians has been made on in the local proximity. Water Street needs significant improvement in terms of infrastructure and crossings on both Water Street and John Street in close proximity to the junction would also be required.

Inadequate parking provision has been provided which will see vehicles parked on the highways adjacent even for a short period whilst collecting orders will significantly impact upon the function of the junction. This has not been considered in the Transport Assessment.

Loss of parking proposed for surrounding businesses is unacceptable to amend TROs.

Without amendment to the TROs the visibility splay at the junction cannot be achieved this is unacceptable for the intensification of use and a road safety issue.

The site cannot be safely serviced by delivery vehicles. The proposed service plan sees delivery vehicles directly in conflict with customers and private vehicles which is a safety risk. In reality the service vehicles will struggle to enter the Car Park which is too small to accommodate them. Servicing will take place from the Highway causing an issue with safety and function of the junction.

HIGHWAYS SIGN OFF

John Gillighan 20/05/2025

Appendix B
Queue Length Data

Rochdale
Queue Length Survey

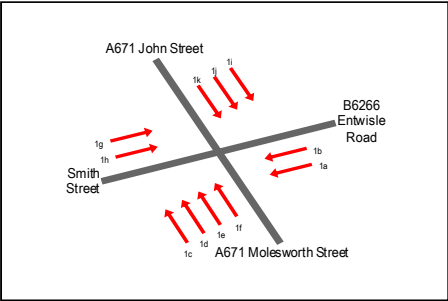
Site 1 of 3
B6266 Entwisle Road
A671 Molesworth Street
Smith Street
A671 John Street

Lat/Long
lat 53.617909° lon -2.151439°

Date
Friday 28 June 2024

Weather
Cloudy
Temp: 11°C

0700 - 1000 (Friday AM Peak)



TIME	1a	1b	1c	1d	1e	1f	1g	1h	1i	1j	1k
0700 - 0705	2	0	0	6	3	2	1	2	10	4	1
0705 - 0710	2	1	0	3	4	2	1	2	12	6	3
0710 - 0715	3	2	0	5	3	4	0	2	10	5	0
0715 - 0720	6	1	0	4	3	2	1	0	9	4	1
0720 - 0725	4	2	0	3	7	3	1	1	11	6	0
0725 - 0730	4	1	0	9	8	4	1	1	15	5	1
0730 - 0735	2	3	0	3	5	5	1	2	12	14	1
0735 - 0740	3	1	0	8	7	5	0	1	13	7	0
0740 - 0745	7	2	0	6	12	3	1	1	12	7	3
0745 - 0750	7	4	0	10	8	4	1	2	15	8	1
0750 - 0755	7	1	0	7	11	3	1	5	14	9	2
0755 - 0800	15	4	0	7	12	3	1	5	16	10	2
Hourly Average	5.17	1.83	0.00	5.92	6.92	3.33	0.83	2.00	12.42	7.08	1.25
0800 - 0805	10	1	0	8	5	4	0	2	16	6	2
0805 - 0810	6	1	0	10	5	7	0	4	14	7	3
0810 - 0815	15	3	0	10	12	4	1	2	16	7	3
0815 - 0820	9	5	0	6	6	7	1	4	15	9	3
0820 - 0825	4	1	0	9	9	4	1	3	14	8	2
0825 - 0830	11	2	0	11	5	5	0	3	16	8	2
0830 - 0835	8	1	0	7	11	4	1	4	16	10	2
0835 - 0840	7	2	0	9	6	6	1	4	16	7	2
0840 - 0845	9	2	0	9	9	7	1	6	13	7	3
0845 - 0850	10	4	0	6	4	7	0	3	14	8	0
0850 - 0855	8	4	0	6	6	7	1	2	15	10	1
0855 - 0900	8	2	0	11	9	7	1	2	16	13	0
Hourly Average	8.75	2.33	0.00	8.50	7.25	5.75	0.67	3.25	15.08	8.33	1.92
0900 - 0905	8	6	0	8	9	7	0	5	14	6	3
0905 - 0910	7	3	0	9	14	7	0	2	12	7	2
0910 - 0915	10	3	0	9	4	7	1	2	13	7	1
0915 - 0920	8	4	0	11	3	7	1	3	11	9	1
0920 - 0925	8	3	0	11	6	7	1	3	14	9	1
0925 - 0930	6	3	0	10	11	7	1	4	16	6	1
0930 - 0935	5	2	0	6	12	6	0	2	14	6	1
0935 - 0940	5	2	0	6	10	5	1	2	16	7	0
0940 - 0945	5	4	0	8	8	5	1	1	15	8	1
0945 - 0950	16	8	0	7	5	5	1	4	15	5	1
0950 - 0955	6	4	0	11	9	7	0	2	9	6	3
0955 - 1000	6	6	0	9	4	7	1	2	13	6	1
Hourly Average	7.50	4.00	0.00	8.92	7.92	6.42	0.67	2.67	13.50	6.83	1.33
Session Total	7.14	2.72	0.00	7.78	7.36	5.17	0.72	2.64	13.67	7.42	1.50

Date
Friday 28 June 2024

Weather
Cloudy
Temp: 16°C

1600 - 1900 (Friday PM Peak)

TIME	1a	1b	1c	1d	1e	1f	1g	1h	1i	1j	1k
1600 - 1605	3	6	0	12	7	6	1	6	16	15	0
1605 - 1610	4	4	0	12	10	7	1	6	15	14	0
1610 - 1615	9	7	0	9	11	7	1	7	16	14	1
1615 - 1620	8	3	0	9	10	6	0	6	15	11	2
1620 - 1625	11	5	0	10	11	7	1	7	16	14	1
1625 - 1630	10	6	0	9	10	6	1	8	16	16	1
1630 - 1635	8	5	0	12	11	7	1	4	15	13	1
1635 - 1640	9	5	0	7	13	7	1	6	16	14	1
1640 - 1645	8	2	0	12	13	6	1	5	16	15	0
1645 - 1650	5	5	0	13	12	7	1	9	15	13	1
1650 - 1655	5	4	0	10	16	7	1	13	16	11	2
1655 - 1700	5	6	0	10	10	7	1	12	16	13	2
Hourly Average	7.08	4.83	0.00	10.42	11.17	6.67	0.92	7.50	15.67	13.58	1.00
1700 - 1705	6	6	0	4	12	6	1	10	15	14	2
1705 - 1710	15	7	0	9	13	7	1	7	16	13	1
1710 - 1715	11	3	0	7	11	7	1	6	14	9	1
1715 - 1720	10	5	0	5	13	7	0	4	16	12	0
1720 - 1725	5	3	0	6	13	7	1	3	16	14	1
1725 - 1730	12	5	0	7	7	6	1	3	16	12	0
1730 - 1735	5	2	0	7	11	7	0	5	12	6	2
1735 - 1740	7	5	0	7	11	6	1	2	14	9	2
1740 - 1745	8	4	0	10	12	7	1	6	16	12	0
1745 - 1750	6	4	0	8	10	7	1	4	15	11	2
1750 - 1755	7	3	0	8	11	6	1	2	14	5	0
1755 - 1800	7	3	0	8	12	7	1	8	16	11	1
Hourly Average	8.25	4.17	0.00	7.17	11.33	6.67	0.83	5.08	15.00	10.67	1.00
1800 - 1805	5	2	0	8	12	7	1	6	12	8	3
1805 - 1810	7	4	0	6	12	7	1	8	15	9	0
1810 - 1815	8	3	0	6	13	4	1	8	16	14	2
1815 - 1820	11	2	0	7	13	7	1	5	16	11	2
1820 - 1825	11	2	0	9	12	7	0	4	14	7	1
1825 - 1830	12	2	0	7	7	7	1	13	13	6	1
1830 - 1835	11	5	0	7	13	6	1	3	14	9	1
1835 - 1840	5	4	0	8	12	7	1	11	11	7	1
1840 - 1845	9	4	0	6	11	6	1	2	10	9	2
1845 - 1850	8	4	0	3	11	7	0	2	12	9	1
1850 - 1855	4	4	0	8	12	7	1	0	14	8	1
1855 - 1900	4	2	0	7	7	5	1	1	10	6	1
Hourly Average	7.92	3.17	0.00	6.83	11.25	6.42	0.83	3.42	13.08	8.58	1.33
Session Total	7.75	4.06	0.00	8.14	11.25	6.58	0.86	5.33	14.58	10.94	1.11

Date
Saturday 29 June 2024

Weather
Cloudy
Temp: 16°C

1100 - 1300 (Saturday 2H Session)

TIME	1a	1b	1c	1d	1e	1f	1g	1h	1i	1j	1k
1100 - 1105	7	4	0	11	14	5	1	2	16	9	1
1105 - 1110	4	6	0	8	4	5	1	7	14	4	1
1110 - 1115	8	4	0	11	9	7	1	6	13	6	1
1115 - 1120	6	4	0	11	9	6	1	4	16	6	0
1120 - 1125	11	4	0	12	7	7	1	5	15	11	0
1125 - 1130	5	3	0	10	8	7	1	4	16	14	0
1130 - 1135	10	9	0	9	9	7	0	4	15	8	1
1135 - 1140	8	4	0	10	5	4	1	1	7	5	1
1140 - 1145	10	5	0	11	12	7	1	5	13	5	3
1145 - 1150	10	3	0	12	12	7	1	5	16	9	0
1150 - 1155	5	4	0	11	6	7	1	3	12	10	2
1155 - 1200	4	4	0	14	9	7	1	3	14	7	1
Hourly Average	7.33	4.50	0.00	10.83	8.67	6.33	0.92	4.08	13.92	7.83	0.92
1200 - 1205	10	3	0	13	5	7	0	4	16	8	1
1205 - 1210	6	5	0	9	6	7	1	7	15	11	1
1210 - 1215	12	6	0	9	5	7	1	10	16	8	1
1215 - 1220	2	6	0	8	10	7	1	4	16	11	0
1220 - 1225	8	6	0	7	3	7	1	4	16	11	2
1225 - 1230	5	5	0	13	16	7	1	8	13	8	2
1230 - 1235	6	5	0	9	7	7	1	2	16	11	3
1235 - 1240	8	6	0	6	11	3	1	2	15	9	1
1240 - 1245	6	9	0	9	12	6	1	12	11	7	3
1245 - 1250	9	2	0	7	4	6	1	6	16	11	3
1250 - 1255	9	11	0	7	11	6	0	3	16	8	2
1255 - 1300	9	6	0	12	14	7	1	4	14	9	1
Hourly Average	7.50	5.83	0.00	9.08	8.67	6.42	0.83	5.50	15.00	9.33	1.67
Session Total	7.42	5.17	0.00	9.96	8.67	6.38	0.88	4.79	14.46	8.58	1.29

Rochdale
Queue Length Survey

Site 2 of 3
A671 Molesworth Street (South)
Water Street
A671 Molesworth Street (North)

Lat/Long
lat 53.617102° lon -2.150697°

Date
Friday 28 June 2024

Weather
Cloudy
Temp: 11°C

0700 - 1000 (Friday AM Peak)

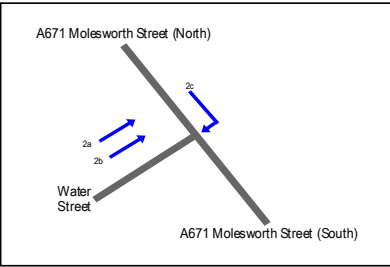
TIME	2a	2b	2c
0700 - 0705	1	1	0
0705 - 0710	2	0	0
0710 - 0715	1	0	0
0715 - 0720	1	0	4
0720 - 0725	0	0	2
0725 - 0730	2	0	2
0730 - 0735	1	0	2
0735 - 0740	1	0	5
0740 - 0745	2	0	2
0745 - 0750	1	0	4
0750 - 0755	2	0	3
0755 - 0800	5	0	1
Hourly Average	1.58	0.08	2.08
0800 - 0805	2	0	3
0805 - 0810	3	0	4
0810 - 0815	3	0	2
0815 - 0820	3	0	3
0820 - 0825	2	0	3
0825 - 0830	4	0	5
0830 - 0835	3	0	2
0835 - 0840	4	0	4
0840 - 0845	3	0	3
0845 - 0850	2	2	3
0850 - 0855	6	0	2
0855 - 0900	6	0	3
Hourly Average	3.42	0.17	3.08
0900 - 0905	3	0	7
0905 - 0910	7	1	3
0910 - 0915	4	1	1
0915 - 0920	4	1	5
0920 - 0925	2	0	3
0925 - 0930	4	2	4
0930 - 0935	3	0	4
0935 - 0940	3	1	1
0940 - 0945	1	1	1
0945 - 0950	2	0	5
0950 - 0955	2	1	2
0955 - 1000	3	1	4
Hourly Average	3.17	0.75	3.33
Session Total	2.72	0.33	2.83

Date
Friday 28 June 2024

Weather
Cloudy
Temp: 16°C

1600 - 1900 (Friday PM Peak)

TIME	2a	2b	2c
1600 - 1605	22	1	4
1605 - 1610	21	1	3
1610 - 1615	22	0	3
1615 - 1620	21	0	5
1620 - 1625	15	0	4
1625 - 1630	17	0	5
1630 - 1635	13	1	7
1635 - 1640	7	1	5
1640 - 1645	15	0	4
1645 - 1650	13	1	8
1650 - 1655	6	0	5
1655 - 1700	7	0	3
Hourly Average	14.92	0.42	4.67
1700 - 1705	5	0	3
1705 - 1710	8	1	3
1710 - 1715	14	1	6
1715 - 1720	18	1	3
1720 - 1725	15	2	3
1725 - 1730	5	0	7
1730 - 1735	11	1	5
1735 - 1740	9	1	3
1740 - 1745	5	0	3
1745 - 1750	6	0	4
1750 - 1755	4	1	2
1755 - 1800	7	1	4
Hourly Average	8.92	0.75	3.83
1800 - 1805	4	0	6
1805 - 1810	16	0	4
1810 - 1815	17	0	6
1815 - 1820	4	1	5
1820 - 1825	8	1	4
1825 - 1830	4	0	3
1830 - 1835	6	0	6
1835 - 1840	12	1	5
1840 - 1845	9	0	3
1845 - 1850	4	0	5
1850 - 1855	4	0	2
1855 - 1900	2	0	5
Hourly Average	7.50	0.25	4.50
Session Total	10.44	0.47	4.33



Date
Saturday 29 June 2024

Weather
Cloudy
Temp: 16°C

1100 - 1300 (Saturday 2H Session)

TIME	2a	2b	2c
1100 - 1105	2	1	3
1105 - 1110	3	1	3
1110 - 1115	3	0	2
1115 - 1120	7	0	2
1120 - 1125	5	0	8
1125 - 1130	6	1	2
1130 - 1135	5	0	4
1135 - 1140	3	1	2
1140 - 1145	3	1	5
1145 - 1150	5	1	2
1150 - 1155	4	1	6
1155 - 1200	7	0	6
Hourly Average	4.42	0.58	3.75
1200 - 1205	3	2	4
1205 - 1210	4	2	5
1210 - 1215	3	1	3
1215 - 1220	4	0	2
1220 - 1225	4	1	2
1225 - 1230	13	0	8
1230 - 1235	3	0	5
1235 - 1240	5	0	4
1240 - 1245	3	1	3
1245 - 1250	3	0	4
1250 - 1255	6	0	2
1255 - 1300	10	0	6
Hourly Average	5.08	0.58	4.00
Session Total	4.75	0.58	3.88

Rochdale
Queue Length Survey

Site 3 of 3
Water Street (North)
Water Street Car Park Access
Water Street (South)

Lat/Long
lat 53.616723° lon -2.151220°

Date
Friday 28 June 2024

Weather
Cloudy
Temp: 11°C

0700 - 1000 (Friday AM Peak)

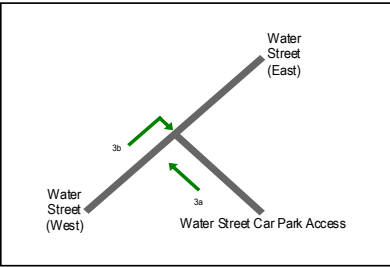
TIME	3a	3b
0700 - 0705	0	0
0705 - 0710	0	0
0710 - 0715	0	0
0715 - 0720	0	0
0720 - 0725	0	0
0725 - 0730	0	0
0730 - 0735	0	0
0735 - 0740	0	0
0740 - 0745	0	0
0745 - 0750	0	0
0750 - 0755	0	0
0755 - 0800	0	0
Hourly Average	0.00	0.00
0800 - 0805	0	0
0805 - 0810	0	0
0810 - 0815	0	0
0815 - 0820	0	0
0820 - 0825	0	0
0825 - 0830	0	0
0830 - 0835	0	0
0835 - 0840	0	0
0840 - 0845	0	0
0845 - 0850	0	0
0850 - 0855	0	0
0855 - 0900	0	0
Hourly Average	0.00	0.00
0900 - 0905	0	0
0905 - 0910	0	0
0910 - 0915	0	0
0915 - 0920	0	0
0920 - 0925	0	0
0925 - 0930	0	0
0930 - 0935	0	0
0935 - 0940	0	0
0940 - 0945	0	0
0945 - 0950	0	0
0950 - 0955	0	0
0955 - 1000	0	0
Hourly Average	0.00	0.00
Session Total	0.00	0.00

Date
Friday 28 June 2024

Weather
Cloudy
Temp: 16°C

1600 - 1900 (Friday PM Peak)

TIME	3a	3b
1600 - 1605	0	0
1605 - 1610	0	0
1610 - 1615	0	0
1615 - 1620	0	0
1620 - 1625	0	0
1625 - 1630	0	0
1630 - 1635	0	0
1635 - 1640	0	0
1640 - 1645	0	0
1645 - 1650	0	0
1650 - 1655	0	0
1655 - 1700	0	0
Hourly Average	0.00	0.00
1700 - 1705	0	0
1705 - 1710	0	0
1710 - 1715	0	0
1715 - 1720	0	0
1720 - 1725	0	0
1725 - 1730	1	1
1730 - 1735	0	0
1735 - 1740	0	0
1740 - 1745	0	0
1745 - 1750	0	0
1750 - 1755	1	0
1755 - 1800	0	0
Hourly Average	0.17	0.08
1800 - 1805	0	0
1805 - 1810	0	0
1810 - 1815	0	0
1815 - 1820	0	0
1820 - 1825	0	0
1825 - 1830	0	0
1830 - 1835	0	0
1835 - 1840	0	0
1840 - 1845	0	0
1845 - 1850	0	0
1850 - 1855	0	0
1855 - 1900	0	1
Hourly Average	0.00	0.08
Session Total	0.06	0.06



Date
Saturday 29 June 2024

Weather
Cloudy
Temp: 16°C

1100 - 1300 (Saturday 2H Session)

TIME	3a	3b
1100 - 1105	0	0
1105 - 1110	0	0
1110 - 1115	0	0
1115 - 1120	0	0
1120 - 1125	0	0
1125 - 1130	0	1
1130 - 1135	0	0
1135 - 1140	0	0
1140 - 1145	0	0
1145 - 1150	0	0
1150 - 1155	0	0
1155 - 1200	0	0
Hourly Average	0.00	0.08
1200 - 1205	0	0
1205 - 1210	0	0
1210 - 1215	0	0
1215 - 1220	0	0
1220 - 1225	0	0
1225 - 1230	0	0
1230 - 1235	0	0
1235 - 1240	0	0
1240 - 1245	0	0
1245 - 1250	0	0
1250 - 1255	0	0
1255 - 1300	0	0
Hourly Average	0.00	0.00
Session Total	0.00	0.04

Appendix C
Modelling Output

Junctions 9															
PICADY 9 - Priority Intersection Module															
Version: 9.5.1.7462 © Copyright TRL Limited, 2019															
For sales and distribution information, program advice and maintenance, contact TRL: +44 (0)1344 379777 software@trl.co.uk www.trlsoftware.co.uk															
The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution															

Filename: Water Street - Molesworth Street T-Junction SD Edits.j9

Path: C:\AMA\AMA\AMA - McDonald's\004 - West\53024 - Molesworth Street, Rochdale\D Models and Drawings\PICADY

Report generation date: 09/06/2025 16:05:04

»2024 Base, AM
 »2024 Base, PM
 »2024 Base, SAT
 »2025 Base, AM
 »2025 Base, PM
 »2025 Base, SAT
 »2030 Base , AM
 »2030 Base, PM
 »2030 Base, SAT
 »2030 Base + Dev, AM
 »2030 Base + Dev, PM
 »2030 Base + Dev, SAT

Summary of junction performance

	AM					PM					SAT				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	2024 Base														
Stream B-C	D1	1.8	29.36	0.65	D	D2	14.5	170.31	1.03	F	D3	2.5	38.82	0.73	E
Stream B-A		0.1	22.54	0.05	C		0.2	41.08	0.15	E		0.1	26.80	0.10	D
Stream C-AB		1.3	16.04	0.56	C		2.0	22.37	0.67	C		1.2	16.07	0.55	C
	2025 Base														
Stream B-C	D4	1.8	30.16	0.66	D	D5	15.3	178.63	1.04	F	D6	2.5	39.79	0.73	E
Stream B-A		0.1	22.85	0.05	C		0.2	42.43	0.15	E		0.1	27.26	0.10	D
Stream C-AB		1.3	16.20	0.56	C		2.0	22.82	0.67	C		1.2	16.25	0.55	C
	2030 Base														
Stream B-C	D7	2.4	37.86	0.72	E	D8	29.2	309.86	1.16	F	D9	3.6	54.88	0.81	F
Stream B-A		0.1	26.89	0.07	D		0.3	61.72	0.22	F		0.1	33.13	0.12	D
Stream C-AB		1.6	18.54	0.61	C		2.8	27.19	0.73	D		1.5	18.42	0.60	C
	2030 Base + Dev														
Stream B-C	D10	4.2	59.28	0.83	F	D11	63.9	676.31	1.43	F	D12	14.8	172.83	1.03	F
Stream B-A		0.2	28.39	0.18	D		0.9	74.48	0.48	F		0.5	38.31	0.35	E
Stream C-AB		1.3	16.91	0.57	C		2.0	23.25	0.67	C		1.1	15.88	0.53	C

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.

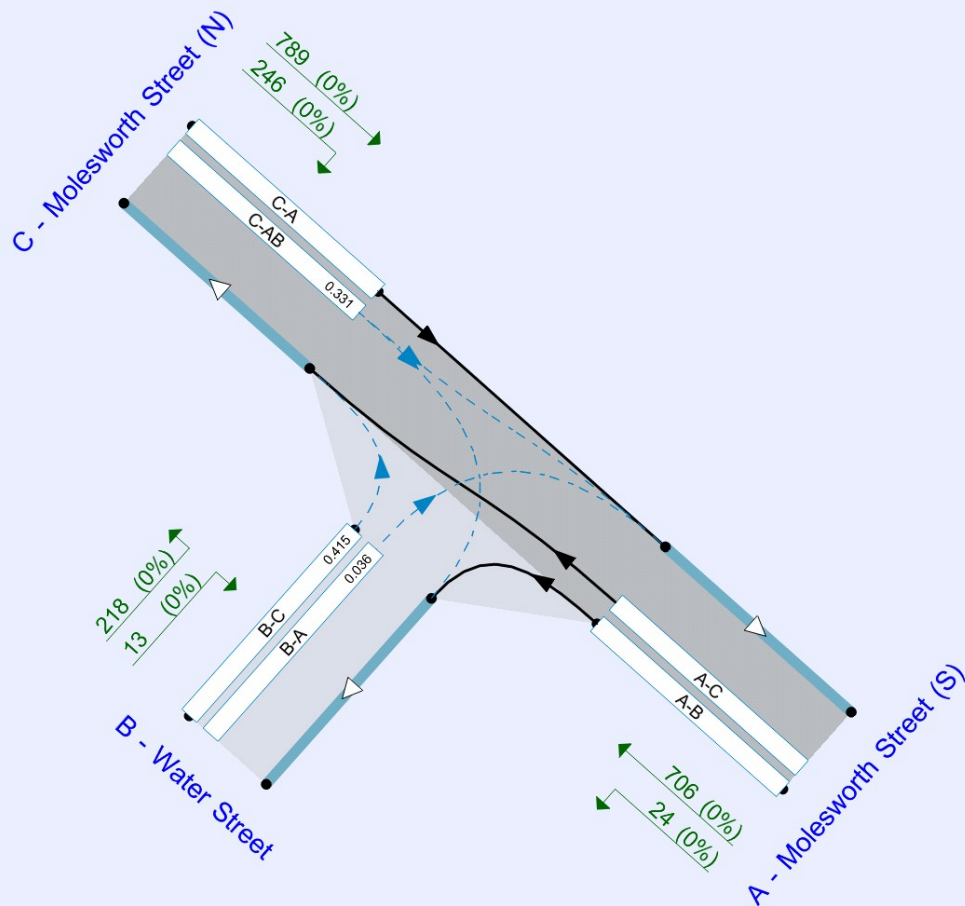
File summary

File Description

Title	
Location	
Site number	
Date	08/08/2024
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	AzureAD\Modellinglaptop
Description	

Units

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



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

The junction diagram reflects the last run of Junctions.

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75				0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2024 Base	AM	ONE HOUR	08:15	09:45	15	✓
D2	2024 Base	PM	ONE HOUR	15:45	17:15	15	✓
D3	2024 Base	SAT	ONE HOUR	11:30	13:00	15	✓
D4	2025 Base	AM	ONE HOUR	08:15	09:45	15	✓
D5	2025 Base	PM	ONE HOUR	15:45	17:15	15	✓
D6	2025 Base	SAT	ONE HOUR	11:30	13:00	15	✓
D7	2030 Base	AM	ONE HOUR	08:15	09:45	15	✓
D8	2030 Base	PM	ONE HOUR	15:45	17:15	15	✓
D9	2030 Base	SAT	ONE HOUR	11:30	13:00	15	✓
D10	2030 Base + Dev	AM	ONE HOUR	08:15	09:45	15	✓
D11	2030 Base + Dev	PM	ONE HOUR	15:45	17:15	15	✓
D12	2030 Base + Dev	SAT	ONE HOUR	11:30	13:00	15	✓

Analysis Set Details

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

2024 Base, AM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		5.54	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Molesworth Street (S)		Major
B	Water Street		Minor
C	Molesworth Street (N)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width for right turn (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - Molesworth Street (N)	6.90	✓	2.50	✓	3.30	95.0	✓	10.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane Width (Left) (m)	Lane Width (Right) (m)	Visibility to left (m)	Visibility to right (m)
B - Water Street	Two lanes	3.00	3.00	37	41

Slope / Intercept / Capacity

Stream Intercept Adjustments

Stream intercept adjustment	Use adjustment	Reason	Direct intercept adjustment (PCU/hr)
B-A	✓		0
B-C	✓	To replicate observed queueing	-120

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	538	0.089	0.225	0.142	0.322
B-C	650	0.096	0.242	-	-
C-B	704	0.262	0.262	-	-

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

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

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2024 Base	AM	ONE HOUR	08:15	09:45	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Molesworth Street (S)		ONE HOUR	✓	683	100.000
B - Water Street		ONE HOUR	✓	214	100.000
C - Molesworth Street (N)		ONE HOUR	✓	975	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - Molesworth Street (S)	B - Water Street	C - Molesworth Street (N)
	From			
	A - Molesworth Street (S)	0	33	650
	B - Water Street	8	0	206
	C - Molesworth Street (N)	717	258	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - Molesworth Street (S)	B - Water Street	C - Molesworth Street (N)
	From			
	A - Molesworth Street (S)	0	0	0
	B - Water Street	0	0	0
	C - Molesworth Street (N)	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.65	29.36	1.8	D	189	284
B-A	0.05	22.54	0.1	C	7	11
C-AB	0.56	16.04	1.3	C	237	356
C-A					657	986
A-B					30	45
A-C					596	895

Main Results for each time segment

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	155	39	407	0.381	153	0.0	0.6	14.038	B
B-A	6	2	287	0.021	6	0.0	0.0	12.826	B
C-AB	194	49	569	0.341	192	0.0	0.5	9.492	A
C-A	540	135			540				
A-B	25	6			25				
A-C	489	122			489				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	185	46	383	0.484	184	0.6	0.9	18.007	C
B-A	7	2	237	0.030	7	0.0	0.0	15.660	C
C-AB	232	58	543	0.427	231	0.5	0.7	11.493	B
C-A	645	161			645				
A-B	30	7			30				
A-C	584	146			584				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	227	57	348	0.651	224	0.9	1.7	28.083	D
B-A	9	2	169	0.052	9	0.0	0.1	22.425	C
C-AB	285	71	510	0.560	283	0.7	1.2	15.781	C
C-A	788	197			788				
A-B	36	9			36				
A-C	716	179			716				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	227	57	348	0.651	227	1.7	1.8	29.361	D
B-A	9	2	169	0.052	9	0.1	0.1	22.539	C
C-AB	285	71	510	0.560	285	1.2	1.3	16.041	C
C-A	788	197			788				
A-B	36	9			36				
A-C	716	179			716				

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	185	46	383	0.484	188	1.8	1.0	18.839	C
B-A	7	2	236	0.030	7	0.1	0.0	15.744	C
C-AB	232	58	543	0.427	234	1.3	0.8	11.707	B
C-A	645	161			645				
A-B	30	7			30				
A-C	584	146			584				

09:30 - 09:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	155	39	407	0.381	156	1.0	0.6	14.457	B
B-A	6	2	286	0.021	6	0.0	0.0	12.885	B
C-AB	194	49	569	0.341	195	0.8	0.5	9.643	A
C-A	540	135			540				
A-B	25	6			25				
A-C	489	122			489				

2024 Base, PM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		24.38	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2024 Base	PM	ONE HOUR	15:45	17:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Molesworth Street (S)		ONE HOUR	✓	831	100.000
B - Water Street		ONE HOUR	✓	295	100.000
C - Molesworth Street (N)		ONE HOUR	✓	1122	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - Molesworth Street (S)	B - Water Street	C - Molesworth Street (N)
From	A - Molesworth Street (S)	0	30	801
	B - Water Street	14	0	281
	C - Molesworth Street (N)	841	281	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - Molesworth Street (S)	B - Water Street	C - Molesworth Street (N)
From	A - Molesworth Street (S)	0	0	0
	B - Water Street	0	0	0
	C - Molesworth Street (N)	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	1.03	170.31	14.5	F	258	387
B-A	0.15	41.08	0.2	E	13	19
C-AB	0.67	22.37	2.0	C	262	392
C-A					768	1152
A-B					28	41
A-C					735	1103

Main Results for each time segment

15:45 - 16:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	212	53	378	0.560	207	0.0	1.2	20.542	C
B-A	11	3	242	0.044	10	0.0	0.0	15.513	C
C-AB	212	53	540	0.392	209	0.0	0.6	10.784	B
C-A	633	158			633				
A-B	23	6			23				
A-C	603	151			603				

16:00 - 16:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	253	63	347	0.728	248	1.2	2.4	34.813	D
B-A	13	3	184	0.068	12	0.0	0.1	20.974	C
C-AB	253	63	509	0.497	252	0.6	1.0	13.908	B
C-A	756	189			756				
A-B	27	7			27				
A-C	720	180			720				

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	309	77	301	1.026	280	2.4	9.8	103.824	F
B-A	15	4	104	0.148	15	0.1	0.2	40.234	E
C-AB	320	80	480	0.666	316	1.0	1.9	21.484	C
C-A	915	229			915				
A-B	33	8			33				
A-C	882	220			882				

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	309	77	301	1.028	291	9.8	14.5	170.312	F
B-A	15	4	103	0.150	15	0.2	0.2	41.078	E
C-AB	320	80	480	0.666	320	1.9	2.0	22.372	C
C-A	915	229			915				
A-B	33	8			33				
A-C	882	220			882				

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	253	63	347	0.729	298	14.5	3.3	90.533	F
B-A	13	3	182	0.069	13	0.2	0.1	21.303	C
C-AB	253	63	509	0.497	257	2.0	1.0	14.478	B
C-A	756	189			756				
A-B	27	7			27				
A-C	720	180			720				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	212	53	377	0.561	219	3.3	1.3	23.732	C
B-A	11	3	241	0.044	11	0.1	0.0	15.641	C
C-AB	212	53	540	0.392	213	1.0	0.7	11.047	B
C-A	633	158			633				
A-B	23	6			23				
A-C	603	151			603				

2024 Base, SAT

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		6.40	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2024 Base	SAT	ONE HOUR	11:30	13:00	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Molesworth Street (S)		ONE HOUR	✓	730	100.000
B - Water Street		ONE HOUR	✓	231	100.000
C - Molesworth Street (N)		ONE HOUR	✓	1035	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - Molesworth Street (S)	B - Water Street	C - Molesworth Street (N)
From	A - Molesworth Street (S)	0	24	706
	B - Water Street	13	0	218
	C - Molesworth Street (N)	789	246	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - Molesworth Street (S)	B - Water Street	C - Molesworth Street (N)
From	A - Molesworth Street (S)	0	0	0
	B - Water Street	0	0	0
	C - Molesworth Street (N)	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.73	38.82	2.5	E	200	300
B-A	0.10	26.80	0.1	D	12	18
C-AB	0.55	16.07	1.2	C	226	339
C-A					724	1085
A-B					22	33
A-C					648	972

Main Results for each time segment

11:30 - 11:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	164	41	396	0.415	161	0.0	0.7	15.183	C
B-A	10	2	273	0.036	10	0.0	0.0	13.671	B
C-AB	185	46	560	0.331	183	0.0	0.5	9.504	A
C-A	594	148			594				
A-B	18	5			18				
A-C	532	133			532				

11:45 - 12:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	196	49	369	0.531	194	0.7	1.1	20.408	C
B-A	12	3	221	0.053	12	0.0	0.1	17.212	C
C-AB	221	55	532	0.416	220	0.5	0.7	11.506	B
C-A	709	177			709				
A-B	22	5			22				
A-C	635	159			635				

12:00 - 12:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	240	60	331	0.725	235	1.1	2.3	35.795	E
B-A	14	4	149	0.096	14	0.1	0.1	26.612	D
C-AB	272	68	496	0.549	270	0.7	1.2	15.823	C
C-A	868	217			868				
A-B	26	7			26				
A-C	777	194			777				

12:15 - 12:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	240	60	331	0.726	239	2.3	2.5	38.820	E
B-A	14	4	149	0.096	14	0.1	0.1	26.803	D
C-AB	272	68	496	0.549	272	1.2	1.2	16.074	C
C-A	868	217			868				
A-B	26	7			26				
A-C	777	194			777				

12:30 - 12:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	196	49	369	0.531	201	2.5	1.2	22.032	C
B-A	12	3	220	0.053	12	0.1	0.1	17.332	C
C-AB	221	55	532	0.416	223	1.2	0.7	11.710	B
C-A	709	177			709				
A-B	22	5			22				
A-C	635	159			635				

12:45 - 13:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	164	41	396	0.415	166	1.2	0.7	15.785	C
B-A	10	2	272	0.036	10	0.1	0.0	13.742	B
C-AB	185	46	560	0.331	186	0.7	0.5	9.648	A
C-A	594	148			594				
A-B	18	5			18				
A-C	532	133			532				

2025 Base, AM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		5.66	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2025 Base	AM	ONE HOUR	08:15	09:45	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Molesworth Street (S)		ONE HOUR	✓	687	100.000
B - Water Street		ONE HOUR	✓	216	100.000
C - Molesworth Street (N)		ONE HOUR	✓	981	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - Molesworth Street (S)	B - Water Street	C - Molesworth Street (N)
From	A - Molesworth Street (S)	0	33	654
	B - Water Street	8	0	208
	C - Molesworth Street (N)	722	259	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - Molesworth Street (S)	B - Water Street	C - Molesworth Street (N)
From	A - Molesworth Street (S)	0	0	0
	B - Water Street	0	0	0
	C - Molesworth Street (N)	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.66	30.16	1.8	D	191	286
B-A	0.05	22.85	0.1	C	7	11
C-AB	0.56	16.20	1.3	C	238	357
C-A					662	993
A-B					30	45
A-C					600	900

Main Results for each time segment

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	157	39	406	0.386	154	0.0	0.6	14.156	B
B-A	6	2	285	0.021	6	0.0	0.0	12.893	B
C-AB	195	49	569	0.343	193	0.0	0.5	9.531	A
C-A	544	136			544				
A-B	25	6			25				
A-C	492	123			492				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	187	47	382	0.490	186	0.6	0.9	18.243	C
B-A	7	2	235	0.031	7	0.0	0.0	15.780	C
C-AB	233	58	542	0.429	232	0.5	0.7	11.558	B
C-A	649	162			649				
A-B	30	7			30				
A-C	588	147			588				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	229	57	347	0.659	226	0.9	1.8	28.755	D
B-A	9	2	167	0.053	9	0.0	0.1	22.722	C
C-AB	287	72	509	0.564	285	0.7	1.2	15.926	C
C-A	793	198			793				
A-B	36	9			36				
A-C	720	180			720				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	229	57	347	0.659	229	1.8	1.8	30.160	D
B-A	9	2	166	0.053	9	0.1	0.1	22.847	C
C-AB	287	72	509	0.564	287	1.2	1.3	16.199	C
C-A	793	198			793				
A-B	36	9			36				
A-C	720	180			720				

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	187	47	382	0.490	190	1.8	1.0	19.139	C
B-A	7	2	234	0.031	7	0.1	0.0	15.866	C
C-AB	233	58	542	0.429	235	1.3	0.8	11.778	B
C-A	649	162			649				
A-B	30	7			30				
A-C	588	147			588				

09:30 - 09:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	157	39	406	0.386	158	1.0	0.6	14.596	B
B-A	6	2	284	0.021	6	0.0	0.0	12.953	B
C-AB	195	49	569	0.343	196	0.8	0.5	9.684	A
C-A	544	136			544				
A-B	25	6			25				
A-C	492	123			492				

2025 Base, PM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		25.44	D

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2025 Base	PM	ONE HOUR	15:45	17:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Molesworth Street (S)		ONE HOUR	✓	836	100.000
B - Water Street		ONE HOUR	✓	296	100.000
C - Molesworth Street (N)		ONE HOUR	✓	1129	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - Molesworth Street (S)	B - Water Street	C - Molesworth Street (N)
From	A - Molesworth Street (S)	0	30	806
	B - Water Street	14	0	282
	C - Molesworth Street (N)	846	283	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - Molesworth Street (S)	B - Water Street	C - Molesworth Street (N)
From	A - Molesworth Street (S)	0	0	0
	B - Water Street	0	0	0
	C - Molesworth Street (N)	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	1.04	178.63	15.3	F	259	388
B-A	0.15	42.43	0.2	E	13	19
C-AB	0.67	22.82	2.0	C	264	396
C-A					772	1158
A-B					28	41
A-C					740	1109

Main Results for each time segment

15:45 - 16:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	212	53	377	0.564	207	0.0	1.2	20.727	C
B-A	11	3	240	0.044	10	0.0	0.0	15.639	C
C-AB	213	53	539	0.395	211	0.0	0.6	10.868	B
C-A	637	159			637				
A-B	23	6			23				
A-C	607	152			607				

16:00 - 16:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	254	63	346	0.733	249	1.2	2.4	35.427	E
B-A	13	3	182	0.069	12	0.0	0.1	21.252	C
C-AB	255	64	508	0.502	253	0.6	1.0	14.064	B
C-A	760	190			760				
A-B	27	7			27				
A-C	725	181			725				

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	310	78	300	1.035	279	2.4	10.2	107.341	F
B-A	15	4	101	0.152	15	0.1	0.2	41.499	E
C-AB	324	81	481	0.673	320	1.0	2.0	21.860	C
C-A	920	230			920				
A-B	33	8			33				
A-C	887	222			887				

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	310	78	299	1.037	290	10.2	15.3	178.630	F
B-A	15	4	100	0.154	15	0.2	0.2	42.429	E
C-AB	324	81	481	0.673	323	2.0	2.0	22.817	C
C-A	920	230			920				
A-B	33	8			33				
A-C	887	222			887				

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	254	63	345	0.734	301	15.3	3.4	98.302	F
B-A	13	3	180	0.070	13	0.2	0.1	21.604	C
C-AB	255	64	508	0.502	259	2.0	1.0	14.672	B
C-A	760	190			760				
A-B	27	7			27				
A-C	725	181			725				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	212	53	376	0.564	220	3.4	1.4	24.138	C
B-A	11	3	239	0.044	11	0.1	0.0	15.770	C
C-AB	213	53	539	0.395	215	1.0	0.7	11.137	B
C-A	637	159			637				
A-B	23	6			23				
A-C	607	152			607				

2025 Base, SAT

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		6.52	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2025 Base	SAT	ONE HOUR	11:30	13:00	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Molesworth Street (S)		ONE HOUR	✓	735	100.000
B - Water Street		ONE HOUR	✓	232	100.000
C - Molesworth Street (N)		ONE HOUR	✓	1041	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - Molesworth Street (S)	B - Water Street	C - Molesworth Street (N)
From	A - Molesworth Street (S)	0	25	710
	B - Water Street	13	0	219
	C - Molesworth Street (N)	794	247	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - Molesworth Street (S)	B - Water Street	C - Molesworth Street (N)
From	A - Molesworth Street (S)	0	0	0
	B - Water Street	0	0	0
	C - Molesworth Street (N)	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.73	39.79	2.5	E	201	301
B-A	0.10	27.26	0.1	D	12	18
C-AB	0.55	16.25	1.2	C	227	341
C-A					728	1092
A-B					23	34
A-C					652	977

Main Results for each time segment

11:30 - 11:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	165	41	395	0.417	162	0.0	0.7	15.280	C
B-A	10	2	271	0.036	10	0.0	0.0	13.751	B
C-AB	186	46	559	0.333	184	0.0	0.5	9.546	A
C-A	598	149			598				
A-B	19	5			19				
A-C	535	134			535				

11:45 - 12:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	197	49	368	0.535	195	0.7	1.1	20.621	C
B-A	12	3	219	0.053	12	0.0	0.1	17.363	C
C-AB	222	56	531	0.418	221	0.5	0.7	11.584	B
C-A	714	178			714				
A-B	22	6			22				
A-C	638	160			638				

12:00 - 12:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	241	60	330	0.731	236	1.1	2.4	36.540	E
B-A	14	4	147	0.097	14	0.1	0.1	27.058	D
C-AB	273	68	494	0.553	271	0.7	1.2	15.990	C
C-A	873	218			873				
A-B	28	7			28				
A-C	782	195			782				

12:15 - 12:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	241	60	330	0.732	241	2.4	2.5	39.790	E
B-A	14	4	146	0.098	14	0.1	0.1	27.261	D
C-AB	273	68	494	0.553	273	1.2	1.2	16.252	C
C-A	873	218			873				
A-B	28	7			28				
A-C	782	195			782				

12:30 - 12:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	197	49	368	0.535	202	2.5	1.2	22.339	C
B-A	12	3	218	0.054	12	0.1	0.1	17.486	C
C-AB	222	56	531	0.418	224	1.2	0.7	11.795	B
C-A	714	178			714				
A-B	22	6			22				
A-C	638	160			638				

12:45 - 13:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	165	41	395	0.417	167	1.2	0.7	15.902	C
B-A	10	2	270	0.036	10	0.1	0.0	13.825	B
C-AB	186	46	559	0.333	187	0.7	0.5	9.692	A
C-A	598	149			598				
A-B	19	5			19				
A-C	535	134			535				

2030 Base , AM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		6.86	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D7	2030 Base	AM	ONE HOUR	08:15	09:45	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Molesworth Street (S)		ONE HOUR	✓	728	100.000
B - Water Street		ONE HOUR	✓	229	100.000
C - Molesworth Street (N)		ONE HOUR	✓	1040	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - Molesworth Street (S)	B - Water Street	C - Molesworth Street (N)
From	A - Molesworth Street (S)	0	35	693
	B - Water Street	9	0	220
	C - Molesworth Street (N)	765	275	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - Molesworth Street (S)	B - Water Street	C - Molesworth Street (N)
From	A - Molesworth Street (S)	0	0	0
	B - Water Street	0	0	0
	C - Molesworth Street (N)	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.72	37.86	2.4	E	202	303
B-A	0.07	26.89	0.1	D	8	12
C-AB	0.61	18.54	1.6	C	254	381
C-A					701	1051
A-B					32	48
A-C					636	954

Main Results for each time segment

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	166	41	399	0.416	163	0.0	0.7	15.109	C
B-A	7	2	270	0.025	7	0.0	0.0	13.676	B
C-AB	207	52	561	0.369	205	0.0	0.6	10.054	B
C-A	576	144			576				
A-B	26	7			26				
A-C	522	130			522				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	198	49	372	0.531	196	0.7	1.1	20.232	C
B-A	8	2	217	0.037	8	0.0	0.0	17.224	C
C-AB	247	62	533	0.464	246	0.6	0.8	12.506	B
C-A	688	172			688				
A-B	31	8			31				
A-C	623	156			623				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	242	61	336	0.722	237	1.1	2.3	35.024	E
B-A	10	2	145	0.069	10	0.0	0.1	26.671	D
C-AB	307	77	500	0.613	304	0.8	1.5	18.080	C
C-A	838	210			838				
A-B	39	10			39				
A-C	763	191			763				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	242	61	335	0.722	242	2.3	2.4	37.855	E
B-A	10	2	144	0.069	10	0.1	0.1	26.892	D
C-AB	307	77	500	0.613	306	1.5	1.6	18.536	C
C-A	838	210			838				
A-B	39	10			39				
A-C	763	191			763				

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	198	49	372	0.531	203	2.4	1.2	21.787	C
B-A	8	2	216	0.038	8	0.1	0.0	17.360	C
C-AB	247	62	533	0.464	250	1.6	0.9	12.841	B
C-A	688	172			688				
A-B	31	8			31				
A-C	623	156			623				

09:30 - 09:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	166	41	398	0.416	167	1.2	0.7	15.703	C
B-A	7	2	269	0.025	7	0.0	0.0	13.752	B
C-AB	207	52	561	0.369	208	0.9	0.6	10.249	B
C-A	576	144			576				
A-B	26	7			26				
A-C	522	130			522				

2030 Base, PM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		42.56	E

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D8	2030 Base	PM	ONE HOUR	15:45	17:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Molesworth Street (S)		ONE HOUR	✓	884	100.000
B - Water Street		ONE HOUR	✓	313	100.000
C - Molesworth Street (N)		ONE HOUR	✓	1193	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - Molesworth Street (S)	B - Water Street	C - Molesworth Street (N)
From	A - Molesworth Street (S)	0	32	852
	B - Water Street	15	0	298
	C - Molesworth Street (N)	894	299	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - Molesworth Street (S)	B - Water Street	C - Molesworth Street (N)
From	A - Molesworth Street (S)	0	0	0
	B - Water Street	0	0	0
	C - Molesworth Street (N)	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	1.16	309.86	29.2	F	273	410
B-A	0.22	61.72	0.3	F	14	21
C-AB	0.73	27.19	2.8	D	285	428
C-A					809	1214
A-B					29	44
A-C					782	1173

Main Results for each time segment

15:45 - 16:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	224	56	368	0.610	218	0.0	1.5	23.335	C
B-A	11	3	223	0.051	11	0.0	0.1	16.937	C
C-AB	225	56	530	0.425	222	0.0	0.7	11.597	B
C-A	673	168			673				
A-B	24	6			24				
A-C	641	160			641				

16:00 - 16:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	268	67	334	0.801	261	1.5	3.3	44.878	E
B-A	13	3	161	0.084	13	0.1	0.1	24.288	C
C-AB	270	67	498	0.542	268	0.7	1.1	15.561	C
C-A	803	201			803				
A-B	29	7			29				
A-C	766	191			766				

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	328	82	283	1.160	273	3.3	17.0	161.557	F
B-A	17	4	76	0.216	16	0.1	0.3	58.861	F
C-AB	362	90	493	0.733	356	1.1	2.6	25.310	D
C-A	952	238			952				
A-B	35	9			35				
A-C	938	235			938				

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	328	82	282	1.164	279	17.0	29.2	309.862	F
B-A	17	4	75	0.221	16	0.3	0.3	61.716	F
C-AB	362	90	493	0.733	361	2.6	2.8	27.188	D
C-A	952	238			952				
A-B	35	9			35				
A-C	938	235			938				

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	268	67	334	0.802	323	29.2	15.4	253.290	F
B-A	13	3	159	0.085	14	0.3	0.1	24.985	C
C-AB	270	67	498	0.542	276	2.8	1.2	16.667	C
C-A	803	201			803				
A-B	29	7			29				
A-C	766	191			766				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	224	56	367	0.611	279	15.4	1.7	59.660	F
B-A	11	3	222	0.051	11	0.1	0.1	17.124	C
C-AB	225	56	530	0.425	227	1.2	0.8	11.960	B
C-A	673	168			673				
A-B	24	6			24				
A-C	641	160			641				

2030 Base, SAT

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		8.49	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D9	2030 Base	SAT	ONE HOUR	11:30	13:00	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Molesworth Street (S)		ONE HOUR	✓	776	100.000
B - Water Street		ONE HOUR	✓	246	100.000
C - Molesworth Street (N)		ONE HOUR	✓	1100	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - Molesworth Street (S)	B - Water Street	C - Molesworth Street (N)
From	A - Molesworth Street (S)	0	26	750
	B - Water Street	14	0	232
	C - Molesworth Street (N)	839	261	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - Molesworth Street (S)	B - Water Street	C - Molesworth Street (N)
From	A - Molesworth Street (S)	0	0	0
	B - Water Street	0	0	0
	C - Molesworth Street (N)	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.81	54.88	3.6	F	213	319
B-A	0.12	33.13	0.1	D	13	19
C-AB	0.60	18.42	1.5	C	241	361
C-A					769	1153
A-B					24	36
A-C					688	1032

Main Results for each time segment

11:30 - 11:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	175	44	387	0.451	171	0.0	0.8	16.455	C
B-A	11	3	256	0.041	10	0.0	0.0	14.633	B
C-AB	197	49	551	0.357	194	0.0	0.5	10.030	B
C-A	632	158			632				
A-B	20	5			20				
A-C	565	141			565				

11:45 - 12:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	209	52	359	0.582	206	0.8	1.3	23.329	C
B-A	13	3	201	0.063	12	0.0	0.1	19.106	C
C-AB	235	59	522	0.450	234	0.5	0.8	12.459	B
C-A	754	189			754				
A-B	23	6			23				
A-C	674	169			674				

12:00 - 12:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	255	64	317	0.806	248	1.3	3.3	47.191	E
B-A	15	4	125	0.123	15	0.1	0.1	32.745	D
C-AB	291	73	486	0.598	288	0.8	1.4	17.990	C
C-A	921	230			921				
A-B	29	7			29				
A-C	826	206			826				

12:15 - 12:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	255	64	317	0.806	254	3.3	3.6	54.880	F
B-A	15	4	124	0.124	15	0.1	0.1	33.135	D
C-AB	291	73	486	0.598	290	1.4	1.5	18.415	C
C-A	921	230			921				
A-B	29	7			29				
A-C	826	206			826				

12:30 - 12:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	209	52	358	0.582	217	3.6	1.5	26.832	D
B-A	13	3	200	0.063	13	0.1	0.1	19.301	C
C-AB	235	59	522	0.450	237	1.5	0.8	12.768	B
C-A	754	189			754				
A-B	23	6			23				
A-C	674	169			674				

12:45 - 13:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	175	44	387	0.451	177	1.5	0.8	17.342	C
B-A	11	3	255	0.041	11	0.1	0.0	14.727	B
C-AB	197	49	551	0.357	198	0.8	0.6	10.214	B
C-A	632	158			632				
A-B	20	5			20				
A-C	565	141			565				

2030 Base + Dev, AM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		9.85	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D10	2030 Base + Dev	AM	ONE HOUR	08:15	09:45	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Molesworth Street (S)		ONE HOUR	✓	728	100.000
B - Water Street		ONE HOUR	✓	273	100.000
C - Molesworth Street (N)		ONE HOUR	✓	1003	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - Molesworth Street (S)	B - Water Street	C - Molesworth Street (N)
From	A - Molesworth Street (S)	0	48	680
	B - Water Street	26	0	247
	C - Molesworth Street (N)	746	257	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - Molesworth Street (S)	B - Water Street	C - Molesworth Street (N)
From	A - Molesworth Street (S)	0	0	0
	B - Water Street	0	0	0
	C - Molesworth Street (N)	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.83	59.28	4.2	F	227	340
B-A	0.18	28.39	0.2	D	24	36
C-AB	0.57	16.91	1.3	C	236	355
C-A					684	1026
A-B					44	66
A-C					624	936

Main Results for each time segment

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	186	46	395	0.470	183	0.0	0.9	16.663	C
B-A	20	5	278	0.071	19	0.0	0.1	13.923	B
C-AB	193	48	561	0.345	191	0.0	0.5	9.698	A
C-A	562	140			562				
A-B	36	9			36				
A-C	512	128			512				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	222	56	368	0.604	220	0.9	1.4	23.917	C
B-A	23	6	226	0.103	23	0.1	0.1	17.714	C
C-AB	231	58	533	0.434	230	0.5	0.7	11.857	B
C-A	671	168			671				
A-B	43	11			43				
A-C	611	153			611				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	272	68	328	0.830	263	1.4	3.7	49.740	E
B-A	29	7	156	0.183	28	0.1	0.2	28.070	D
C-AB	285	71	497	0.573	283	0.7	1.3	16.602	C
C-A	820	205			820				
A-B	53	13			53				
A-C	749	187			749				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	272	68	327	0.831	270	3.7	4.2	59.280	F
B-A	29	7	155	0.184	29	0.2	0.2	28.393	D
C-AB	285	71	497	0.573	285	1.3	1.3	16.915	C
C-A	820	205			820				
A-B	53	13			53				
A-C	749	187			749				

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	222	56	368	0.604	232	4.2	1.6	28.271	D
B-A	23	6	225	0.104	24	0.2	0.1	17.904	C
C-AB	231	58	533	0.434	233	1.3	0.8	12.102	B
C-A	671	168			671				
A-B	43	11			43				
A-C	611	153			611				

09:30 - 09:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	186	46	395	0.471	189	1.6	0.9	17.671	C
B-A	20	5	277	0.071	20	0.1	0.1	14.026	B
C-AB	193	48	561	0.345	194	0.8	0.5	9.861	A
C-A	562	140			562				
A-B	36	9			36				
A-C	512	128			512				

2030 Base + Dev, PM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		100.25	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D11	2030 Base + Dev	PM	ONE HOUR	15:45	17:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Molesworth Street (S)		ONE HOUR	✓	884	100.000
B - Water Street		ONE HOUR	✓	383	100.000
C - Molesworth Street (N)		ONE HOUR	✓	1141	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
From		A - Molesworth Street (S)	B - Water Street	C - Molesworth Street (N)
	A - Molesworth Street (S)	0	51	833
	B - Water Street	40	0	343
	C - Molesworth Street (N)	868	273	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
From		A - Molesworth Street (S)	B - Water Street	C - Molesworth Street (N)
	A - Molesworth Street (S)	0	0	0
	B - Water Street	0	0	0
	C - Molesworth Street (N)	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	1.43	676.31	63.9	F	315	472
B-A	0.48	74.48	0.9	F	37	55
C-AB	0.67	23.25	2.0	C	254	382
C-A					793	1189
A-B					47	70
A-C					764	1147

Main Results for each time segment

15:45 - 16:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	258	65	362	0.713	249	0.0	2.2	29.941	D
B-A	30	8	234	0.128	30	0.0	0.1	17.519	C
C-AB	206	51	530	0.388	203	0.0	0.6	10.938	B
C-A	653	163			653				
A-B	38	10			38				
A-C	627	157			627				

16:00 - 16:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	308	77	326	0.945	290	2.2	6.7	76.045	F
B-A	36	9	175	0.206	36	0.1	0.3	25.787	D
C-AB	246	61	497	0.495	244	0.6	1.0	14.199	B
C-A	780	195			780				
A-B	46	11			46				
A-C	749	187			749				

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	378	94	266	1.421	263	6.7	35.3	314.286	F
B-A	44	11	93	0.475	42	0.3	0.8	68.197	F
C-AB	312	78	466	0.669	308	1.0	1.9	22.267	C
C-A	944	236			944				
A-B	56	14			56				
A-C	917	229			917				

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	378	94	264	1.433	263	35.3	63.9	641.180	F
B-A	44	11	92	0.481	44	0.8	0.9	74.477	F
C-AB	312	78	466	0.669	312	1.9	2.0	23.252	C
C-A	944	236			944				
A-B	56	14			56				
A-C	917	229			917				

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	308	77	325	0.950	320	63.9	61.1	676.310	F
B-A	36	9	173	0.208	38	0.9	0.3	27.146	D
C-AB	246	61	497	0.495	250	2.0	1.0	14.810	B
C-A	780	195			780				
A-B	46	11			46				
A-C	749	187			749				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	258	65	362	0.714	356	61.1	36.6	497.648	F
B-A	30	8	233	0.129	31	0.3	0.2	17.813	C
C-AB	206	51	530	0.388	207	1.0	0.6	11.203	B
C-A	653	163			653				
A-B	38	10			38				
A-C	627	157			627				

2030 Base + Dev, SAT

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		25.27	D

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D12	2030 Base + Dev	SAT	ONE HOUR	11:30	13:00	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Molesworth Street (S)		ONE HOUR	✓	777	100.000
B - Water Street		ONE HOUR	✓	327	100.000
C - Molesworth Street (N)		ONE HOUR	✓	1038	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - Molesworth Street (S)	B - Water Street	C - Molesworth Street (N)
From	A - Molesworth Street (S)	0	49	728
	B - Water Street	45	0	282
	C - Molesworth Street (N)	807	231	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - Molesworth Street (S)	B - Water Street	C - Molesworth Street (N)
From	A - Molesworth Street (S)	0	0	0
	B - Water Street	0	0	0
	C - Molesworth Street (N)	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	1.03	172.83	14.8	F	259	388
B-A	0.35	38.31	0.5	E	41	62
C-AB	0.53	15.88	1.1	C	212	318
C-A					740	1110
A-B					45	67
A-C					668	1002

Main Results for each time segment

11:30 - 11:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	212	53	381	0.557	208	0.0	1.2	20.217	C
B-A	34	8	269	0.126	33	0.0	0.1	15.219	C
C-AB	174	43	551	0.316	172	0.0	0.5	9.459	A
C-A	608	152			608				
A-B	37	9			37				
A-C	548	137			548				

11:45 - 12:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	254	63	350	0.725	249	1.2	2.3	34.181	D
B-A	40	10	216	0.187	40	0.1	0.2	20.392	C
C-AB	208	52	521	0.398	207	0.5	0.6	11.427	B
C-A	725	181			725				
A-B	44	11			44				
A-C	654	164			654				

12:00 - 12:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	310	78	302	1.029	280	2.3	9.9	104.344	F
B-A	50	12	144	0.344	48	0.2	0.5	37.326	E
C-AB	255	64	482	0.530	253	0.6	1.1	15.657	C
C-A	888	222			888				
A-B	54	13			54				
A-C	802	200			802				

12:15 - 12:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	310	78	301	1.032	291	9.9	14.8	172.833	F
B-A	50	12	143	0.346	49	0.5	0.5	38.308	E
C-AB	255	64	482	0.530	255	1.1	1.1	15.881	C
C-A	888	222			888				
A-B	54	13			54				
A-C	802	200			802				

12:30 - 12:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	254	63	349	0.726	300	14.8	3.2	90.847	F
B-A	40	10	215	0.188	42	0.5	0.2	20.823	C
C-AB	208	52	521	0.398	209	1.1	0.7	11.609	B
C-A	725	181			725				
A-B	44	11			44				
A-C	654	164			654				

12:45 - 13:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	212	53	381	0.557	220	3.2	1.3	23.288	C
B-A	34	8	268	0.126	34	0.2	0.1	15.407	C
C-AB	174	43	551	0.316	175	0.7	0.5	9.591	A
C-A	608	152			608				
A-B	37	9			37				
A-C	548	137			548				

Appendix D
TRICS Output

Calculation Reference: AUDIT-710001-240409-0456

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 06 - HOTEL, FOOD & DRINK
Category : D - FAST FOOD - DRIVE THROUGH

TOTAL VEHICLES

Selected regions and areas:

03	SOUTH WEST	
	TB TORBAY	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	KS KIRKLEES	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Gross floor area
Actual Range: 420 to 447 (units: sqm)
Range Selected by User: 182 to 800 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/16 to 25/05/23

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Saturday 2 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count 2 days
Directional ATC Count 0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaken using machines.

Selected Locations:

Town Centre 1
Suburban Area (PPS6 Out of Centre) 1

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Retail Zone 1
Built-Up Zone 1

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Inclusion of Servicing Vehicles Counts:

Servicing vehicles Included X days - Selected
Servicing vehicles Excluded 2 days - Selected

Secondary Filtering selection:Use Class:

Not Known 2 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order (England) 2020 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 500m Range:

All Surveys Included

Population within 1 mile:

20,001 to 25,000 2 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Secondary Filtering selection (Cont.):

<u>Population within 5 miles:</u>	
125,001 to 250,000	1 days
250,001 to 500,000	1 days

This data displays the number of selected surveys within stated 5-mile radii of population.

<u>Car ownership within 5 miles:</u>	
0.6 to 1.0	1 days
1.1 to 1.5	1 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

<u>Travel Plan:</u>	
No	2 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

<u>PTAL Rating:</u>	
No PTAL Present	2 days

This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1	KS-06-D-01	MCDONALD'S	KIRKLEES
	NORTHGATE HECKMONDWIKE		
	Town Centre Built-Up Zone		
	Total Gross floor area:	420 sqm	
	Survey date: SATURDAY	20/05/17	Survey Type: MANUAL
2	TB-06-D-01	MCDONALD'S	TORBAY
	HELE ROAD TORQUAY		
	Suburban Area (PPS6 Out of Centre) Retail Zone		
	Total Gross floor area:	447 sqm	
	Survey date: SATURDAY	30/03/19	Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

TRIP RATE for Land Use 06 - HOTEL, FOOD & DRINK/D - FAST FOOD - DRIVE THROUGH

TOTAL VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	1	447	19.016	1	447	18.121	1	447	37.137
08:00 - 09:00	1	447	22.371	1	447	22.371	1	447	44.742
09:00 - 10:00	1	447	27.293	1	447	24.385	1	447	51.678
10:00 - 11:00	2	434	16.378	2	434	17.993	2	434	34.371
11:00 - 12:00	2	434	20.069	2	434	18.685	2	434	38.754
12:00 - 13:00	2	434	26.874	2	434	25.375	2	434	52.249
13:00 - 14:00	2	434	25.952	2	434	26.298	2	434	52.250
14:00 - 15:00	2	434	23.414	2	434	24.567	2	434	47.981
15:00 - 16:00	2	434	19.723	2	434	20.877	2	434	40.600
16:00 - 17:00	2	434	23.645	2	434	22.376	2	434	46.021
17:00 - 18:00	2	434	23.760	2	434	24.683	2	434	48.443
18:00 - 19:00	2	434	23.299	2	434	23.299	2	434	46.598
19:00 - 20:00	2	434	18.800	2	434	19.839	2	434	38.639
20:00 - 21:00	2	434	15.340	2	434	15.686	2	434	31.026
21:00 - 22:00	2	434	12.687	2	434	11.765	2	434	24.452
22:00 - 23:00	2	434	7.612	2	434	8.304	2	434	15.916
23:00 - 24:00	2	434	6.459	2	434	6.113	2	434	12.572
Total Rates:			332.692			330.737			663.429

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.

The survey data, graphs and all associated supporting information, contained within the TRICS Database are published by TRICS Consortium Limited ("the Company") and the Company claims copyright and database rights in this published work. The Company authorises those who possess a current TRICS licence to access the TRICS Database and copy the data contained within the TRICS Database for the licence holders' use only. Any resulting copy must retain all copyrights and other proprietary notices, and any disclaimer contained thereon.

The Company accepts no responsibility for loss which may arise from reliance on data contained in the TRICS Database. [No warranty of any kind, express or implied, is made as to the data contained in the TRICS Database.]

Parameter summary

Trip rate parameter range selected:420 - 447 (units: sqm)

Survey date date range:01/01/16 - 25/05/23

Number of weekdays (Monday-Friday):0

Number of Saturdays:2

Number of Sundays:0

Surveys automatically removed from selection:0

Surveys manually removed from selection:0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

Calculation Reference: AUDIT-710001-240409-0409

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 06 - HOTEL, FOOD & DRINK
Category : D - FAST FOOD - DRIVE THROUGH
TOTAL VEHICLES

Selected regions and areas:

04	EAST ANGLIA	
	CA CAMBRIDGESHIRE	1 days
05	EAST MIDLANDS	
	LN LINCOLNSHIRE	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	BY BARNSLEY	1 days
08	NORTH WEST	
	MS MERSEYSIDE	1 days
09	NORTH	
	TV TEES VALLEY	1 days
11	SCOTLAND	
	AD ABERDEEN CITY	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Gross floor area
Actual Range: 400 to 472 (units: sqm)
Range Selected by User: 182 to 800 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/16 to 25/05/23

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Tuesday 3 days
Friday 3 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count 6 days
Directional ATC Count 0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaken using machines.

Selected Locations:

Edge of Town Centre 4
Suburban Area (PPS6 Out of Centre) 2

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Industrial Zone 1
Residential Zone 1
Retail Zone 1
Built-Up Zone 2
No Sub Category 1

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Inclusion of Servicing Vehicles Counts:

Servicing vehicles Included 2 days - Selected
Servicing vehicles Excluded 8 days - Selected

Secondary Filtering selection:Use Class:

Not Known 6 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order (England) 2020 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 500m Range:

All Surveys Included

Secondary Filtering selection (Cont.):

Population within 1 mile:

15,001 to 20,000	2 days
20,001 to 25,000	1 days
25,001 to 50,000	2 days
50,001 to 100,000	1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

75,001 to 100,000	1 days
125,001 to 250,000	4 days
250,001 to 500,000	1 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	5 days
1.1 to 1.5	1 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

No	6 days
----	--------

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	6 days
-----------------	--------

This data displays the number of selected surveys with PTAL Ratings.

Covid-19 Restrictions	Yes	At least one survey within the selected data set was undertaken at a time of Covid-19 restrictions
-----------------------	-----	--

LIST OF SITES relevant to selection parameters

1	AD-06-D-01	MCDONALD'S	ABERDEEN CITY
	BEDFORD ROAD		
	ABERDEEN		
	KITTYBREWSTER RET. PK		
	Edge of Town Centre		
	Retail Zone		
	Total Gross floor area:	472 sqm	
	Survey date: TUESDAY	19/11/19	Survey Type: MANUAL
2	BY-06-D-02	MCDONALD'S	BARNSELY
	UPPER NEW STREET		
	BARNSELY		
	Edge of Town Centre		
	Built-Up Zone		
	Total Gross floor area:	415 sqm	
	Survey date: TUESDAY	08/09/20	Survey Type: MANUAL
3	CA-06-D-02	MCDONALD'S	CAMBRIDGESHIRE
	NEWMARKET ROAD		
	CAMBRIDGE		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Gross floor area:	435 sqm	
	Survey date: TUESDAY	19/09/17	Survey Type: MANUAL
4	LN-06-D-01	MCDONALD'S	LINCOLNSHIRE
	RUSTON WAY		
	LINCOLN		
	Edge of Town Centre		
	Built-Up Zone		
	Total Gross floor area:	435 sqm	
	Survey date: FRIDAY	28/06/19	Survey Type: MANUAL
5	MS-06-D-01	MCDONALD'S	MERSEYSIDE
	SAINT HELENS LINKWAY		
	SAINT HELENS		
	Suburban Area (PPS6 Out of Centre)		
	No Sub Category		
	Total Gross floor area:	463 sqm	
	Survey date: FRIDAY	16/04/21	Survey Type: MANUAL
6	TV-06-D-01	MCDONALD'S	TEES VALLEY
	BURN ROAD		
	HARTLEPOOL		
	Edge of Town Centre		
	Industrial Zone		
	Total Gross floor area:	400 sqm	
	Survey date: FRIDAY	04/09/20	Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
IW-06-D-01	Not McDonalds
NS-06-D-01	Not McDonalds
WM-06-D-04	Not McDonalds
WO-06-D-01	Not McDonalds

TRIP RATE for Land Use 06 - HOTEL, FOOD & DRINK/D - FAST FOOD - DRIVE THROUGH

TOTAL VEHICLES**Calculation factor: 100 sqm****BOLD print indicates peak (busiest) period**

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00	4	438	7.314	4	438	6.571	4	438	13.885
07:00 - 08:00	5	437	11.259	5	437	9.794	5	437	21.053
08:00 - 09:00	5	437	13.547	5	437	12.723	5	437	26.270
09:00 - 10:00	5	437	14.554	5	437	14.645	5	437	29.199
10:00 - 11:00	6	437	15.878	6	437	15.496	6	437	31.374
11:00 - 12:00	6	437	15.573	6	437	14.924	6	437	30.497
12:00 - 13:00	6	437	22.366	6	437	21.336	6	437	43.702
13:00 - 14:00	6	437	19.275	6	437	20.496	6	437	39.771
14:00 - 15:00	6	437	15.305	6	437	15.458	6	437	30.763
15:00 - 16:00	6	437	18.588	6	437	18.015	6	437	36.603
16:00 - 17:00	6	437	19.847	6	437	20.534	6	437	40.381
17:00 - 18:00	6	437	21.679	6	437	21.756	6	437	43.435
18:00 - 19:00	6	437	21.718	6	437	22.939	6	437	44.657
19:00 - 20:00	6	437	18.779	6	437	19.198	6	437	37.977
20:00 - 21:00	6	437	16.183	6	437	17.405	6	437	33.588
21:00 - 22:00	6	437	13.550	6	437	13.817	6	437	27.367
22:00 - 23:00	4	428	14.594	4	428	14.478	4	428	29.072
23:00 - 24:00	4	428	7.647	4	428	8.990	4	428	16.637
Total Rates:			287.656			288.575			576.231

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

The survey data, graphs and all associated supporting information, contained within the TRICS Database are published by TRICS Consortium Limited ("the Company") and the Company claims copyright and database rights in this published work. The Company authorises those who possess a current TRICS licence to access the TRICS Database and copy the data contained within the TRICS Database for the licence holders' use only. Any resulting copy must retain all copyrights and other proprietary notices, and any disclaimer contained thereon.

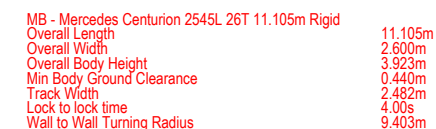
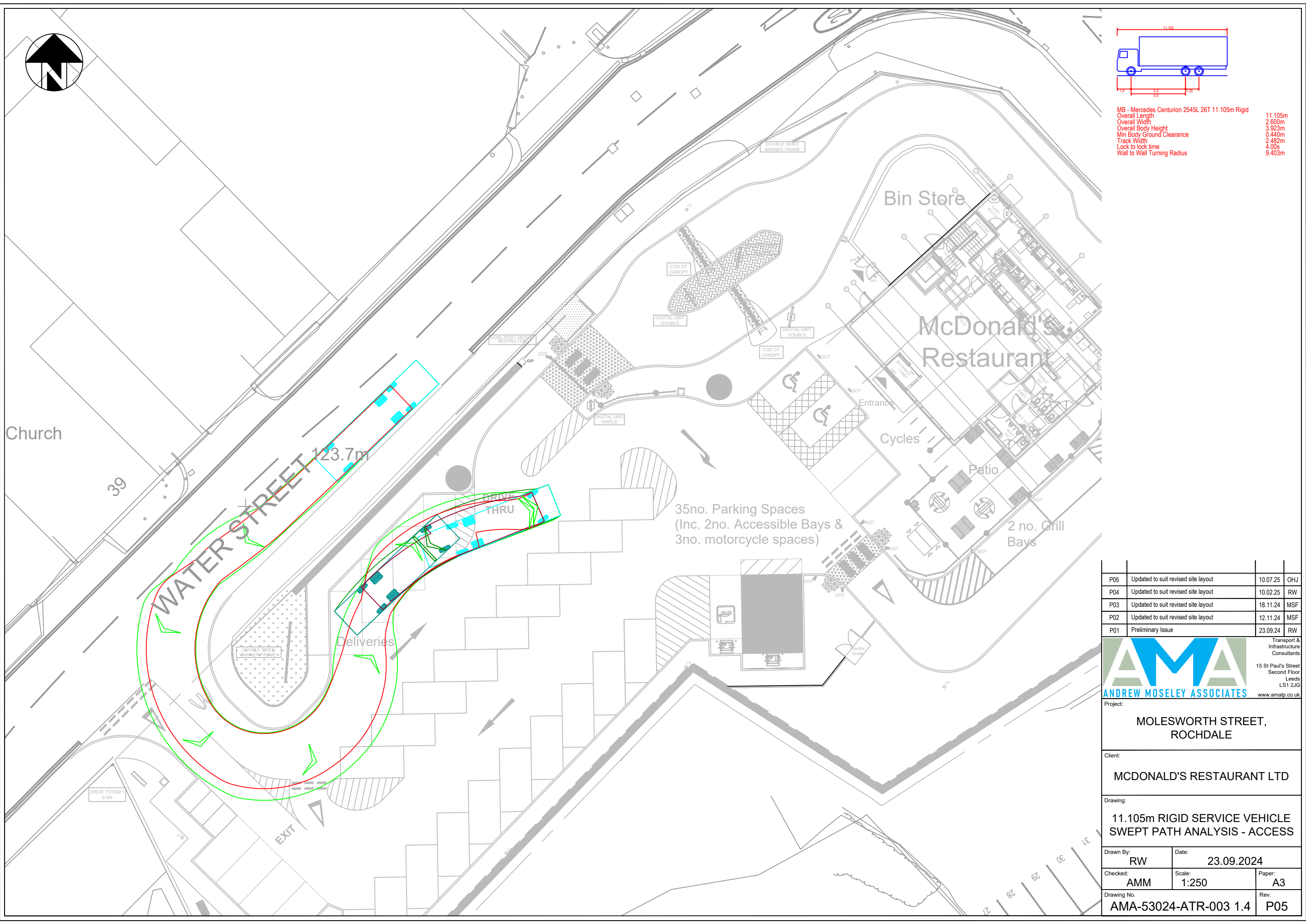
The Company accepts no responsibility for loss which may arise from reliance on data contained in the TRICS Database. [No warranty of any kind, express or implied, is made as to the data contained in the TRICS Database.]

Parameter summary

Trip rate parameter range selected: 400 - 472 (units: sqm)
 Survey date range: 01/01/16 - 25/05/23
 Number of weekdays (Monday-Friday): 6
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys automatically removed from selection: 0
 Surveys manually removed from selection: 4

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

Appendix E
Swept Path Analysis



P05	Updated to suit revised site layout	10.07.25	OK
P04	Updated to suit revised site layout	10.02.25	Revised
P03	Updated to suit revised site layout	18.11.24	Minor
P02	Updated to suit revised site layout	12.11.24	Minor
P01	Preliminary Issue	23.09.24	Minor



Project:

MOLESWORTH STREET,
ROCHDALE

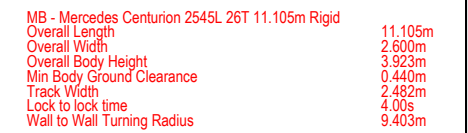
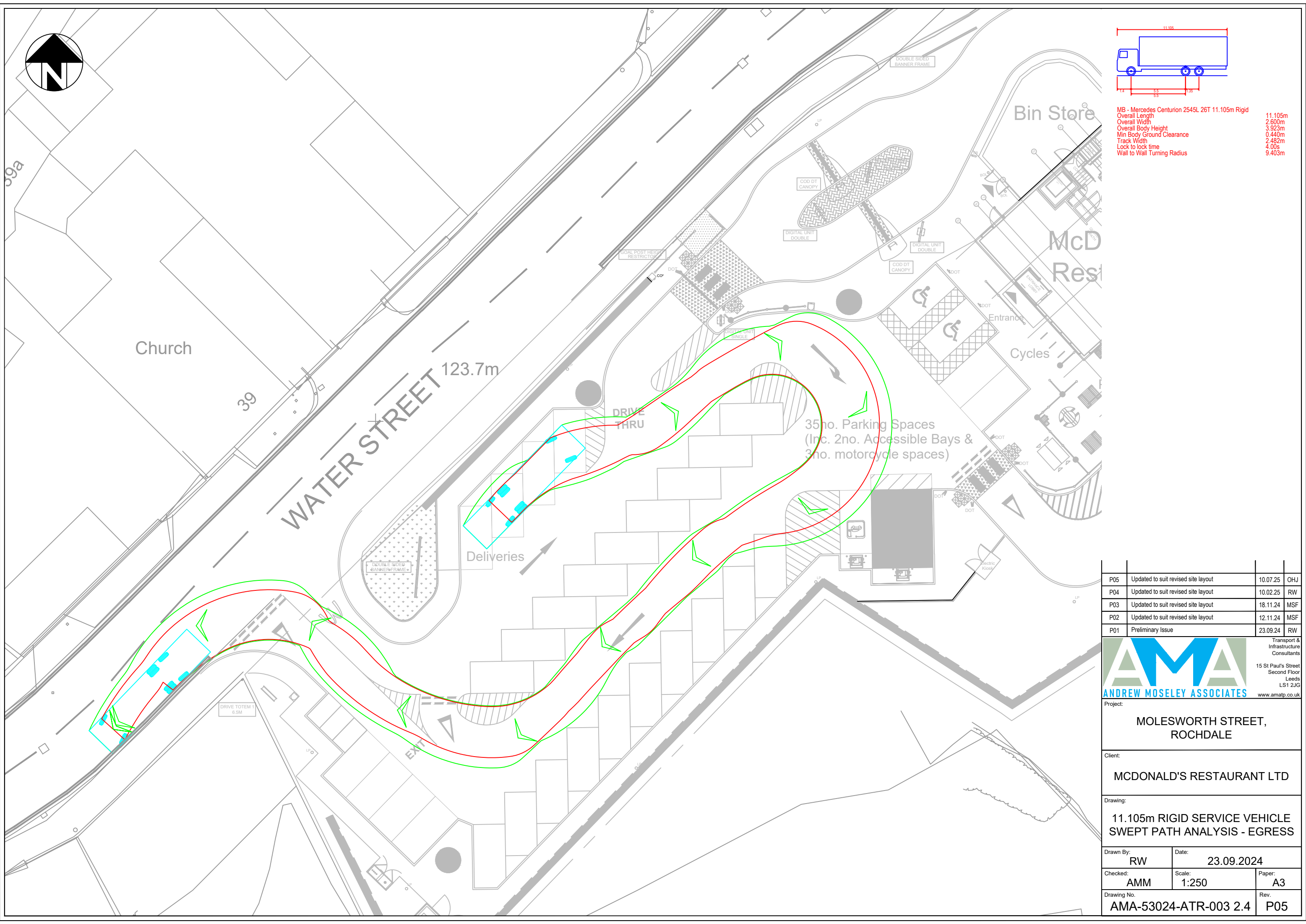
Client:

MCDONALD'S RESTAURANT LTD

Drawing:

11.105m RIGID SERVICE VEHICLE
SWEPT PATH ANALYSIS - ACCESS

Drawn By: RW	Date: 23.09.2024	
Checked: AMM	Scale: 1:250	Paper: A3
Drawing No. AMA-53024-ATR-003 1.4		Rev. P05



P05	Updated to suit revised site layout	10.07.25	OHJ
P04	Updated to suit revised site layout	10.02.25	RW
P03	Updated to suit revised site layout	18.11.24	MSF
P02	Updated to suit revised site layout	12.11.24	MSF
P01	Preliminary Issue	23.09.24	RW



ANDREW MOSELEY ASSOCIATES

Transport &
Infrastructure
Consultants

15 St Paul's Street
Second Floor
Leeds
LS1 2JG

www.amatp.co.uk

Project: MOLESWORTH STREET, ROCHDALE			
Client: MCDONALD'S RESTAURANT LTD			
Drawing: 11.105m RIGID SERVICE VEHICLE SWEEP PATH ANALYSIS - EGRESS			
Drawn By: RW	Date: 23.09.2024		
Checked: AMM	Scale: 1:250	Paper: A3	
Drawing No. AMA-53024-ATR-003 2.4		Rev. P05	