

APPENDIX 1

PARAMETERS PLAN AND ILLUSTRATIVE MASTERPLAN

KEY

Built Form Parameters

Includes incidental open spaces, drainage areas, internal roads, pedestrian/cycle links.

Built Form
Maximum Height - 9.5m

Built Form
Maximum Height - 11.5m

Built Form
Maximum Height - 13.5m

Built Form
Maximum Height - 17.0m

Employment
Approximate Location

Primary Schools
Approximate Location

Secondary Schools
Approximate Location

Local Centre
Approximate Location

Neighbourhood Centre
Approximate Location

Potential Pavilion
Associated with adjacent playing pitches
Maximum building height 6m

Buildings to be Demolished

Proposed building heights are in relation to the proposed ground levels $\pm 0.75m$ (refer to proposed levels plan).

Access & Movement Strategy

Vehicular Site Access
(refer to detailed plans)

Primary Street Corridor
Illustrative alignment, includes realigned A453

Public Rights of Way (PRoW)
Retained PRoW alignments within site. Routes to be upgraded in-line with sidewalk walking and cycling strategy

Public Rights of Way (PRoW)
PRoW route to be closed/diverted in-line with sidewalk walking and cycling strategy

Pedestrian & Cycle Routes
Proposed illustrative alignments

Existing A453
Retained within site

Pedestrian & Cycle Connections

Landscape Parameters

Retained Tree & Hedgerow Planting
Except to allow for Access & Movement Parameter

Landscape Buffer Planting
Woodland, scrub and grassland corridor, including pedestrian and cycle routes where shown.

Open Space/Green Corridors
Except to allow for Access & Movement Parameter, includes:

1. Proposed landscaping
2. Open Space Typologies (allotments etc.)
3. Drainage Areas
4. Pedestrian/Cycle Links
5. Play Spaces
6. Services & Utilities
7. Sport Facilities & Pavilion Buildings
8. Biodiversity Enhancements

Landscape Corridors
Must be provided between letters.

A-B - Minimum 45m wide public open space corridor. Linear alignment.

C-D - Minimum 25m wide public open space corridor.

E-F - Minimum 35m wide public open space corridor. Linear alignment.

G-H - Minimum 50m wide public open space corridor. Protecting existing woodland

I-J - Minimum 15m wide public open space - Linear alignment.

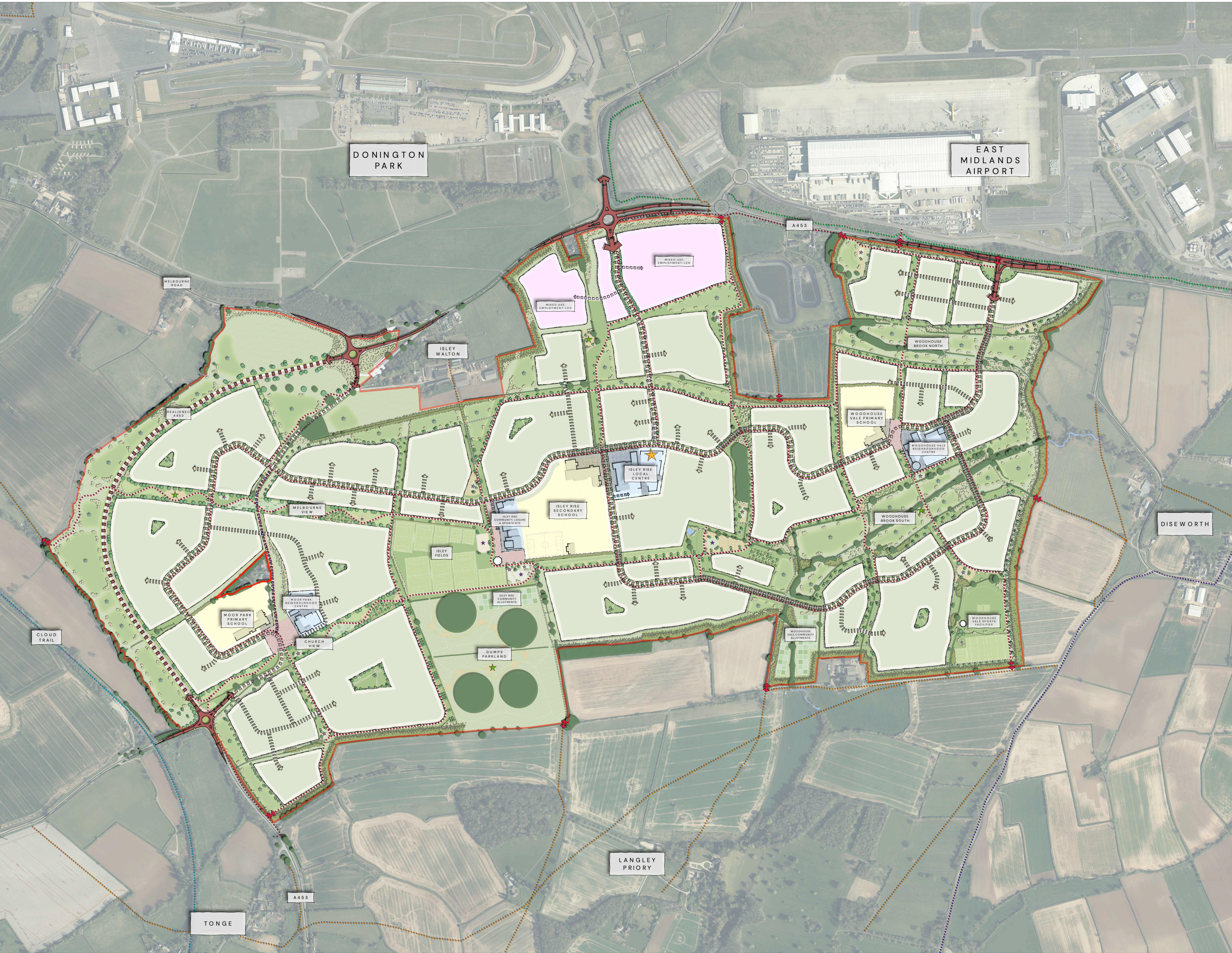
Built Form Flexibility
Area of flexibility to accommodate specified landscape corridor width and built form

Outdoor Sports Pitches
Approximate location

0 100 250 m

Isley Woodhouse, Land South of East Midlands Airport, North West Leicestershire - Parameter Plan

I Drawn by: JF / WJB | Approved by: JF | Date: 13/03/25 | Scale: 1:5,000 @ A1 | DRG: P18_1419_DE_032 Sheet No: 01 Rev: Q | Client: Caesarea & Harworth Group |



KEY

- SITE BOUNDARY**
313.39Ha
- OPEN SPACE**
- RESIDENTIAL DEVELOPMENT**
- SCHOOL SITES**
Two Primary School Sites and One Secondary School Site
- MIXED-USE**
One Central Local Centre & Two Neighbourhood Centres, Potential Leisure, Sport & Community Facilities
- MIXED-USE EMPLOYMENT-LED**
- PUBLIC REALM SPACE**
Adjacent to School Sites and Mixed-use Areas
- SITE ACCESS**
- RE-ALIGNED A453**
- PRIMARY STREET**
Including segregated pedestrian / cycle routes.
- STREETS**
Illustrative access points into development parcels
- SUSTAINABLE TRANSPORT LINK**
Opportunity for a bus only / cycle link along the existing A453 alignment
- PEDESTRIAN / CYCLE CONNECTIONS**
Connections into the site at the site boundary
- COMBINED CYCLE/PEDESTRIAN ROUTES**
Includes existing & re-aligned public rights of way within the site boundary
- PEDESTRIAN ROUTES**
Includes existing & re-aligned public rights of way within the site boundary
- Public Rights of Way**
Footpaths - Orange
- Sustrans Routes**
On Road - Purple
Vehicle Free (Cloud Trail) - Orange
- Airport Trail**
Permissive route. Illustrative upgrade in-line with LCVF
- TRANSPORT HUB**
Including Bus Interchange
- RETAINED TREES & HEDGEROWS**
- ILLUSTRATIVE LANDSCAPE STRATEGY**
- EXISTING WATER BODIES**
Including Watercourses
- ALLOTMENTS**
- DRAINAGE BASINS**
- PLAYING PITCHES**
- NEAP / MUGA / SKATE PARK**
- LEAP**
- LAP**
- NATURAL PLAY**

0 100 250 m

APPENDIX 2

TECHNICAL NOTE E DEVELOPMENT SCHEDULE (ADC2570-RP-E-V4)

ISLEY WOODHOUSE

TECHNICAL NOTE E
DEVELOPMENT SCHEDULE

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project number: ADC2570			report reference: ADC2570-RP-E
version	date	author	comments
3	08/10/2021	David Cummins	issued to TWG
4	11/10/2021	David Cummins	Parameters Plan removed

Introduction

1. This report is one of a suite of reports being compiled to support the Isley Woodhouse development proposal. It records the development schedule, to provide a record to return to. Attached in **Appendix A** is the red line plan, showing the location of the site.

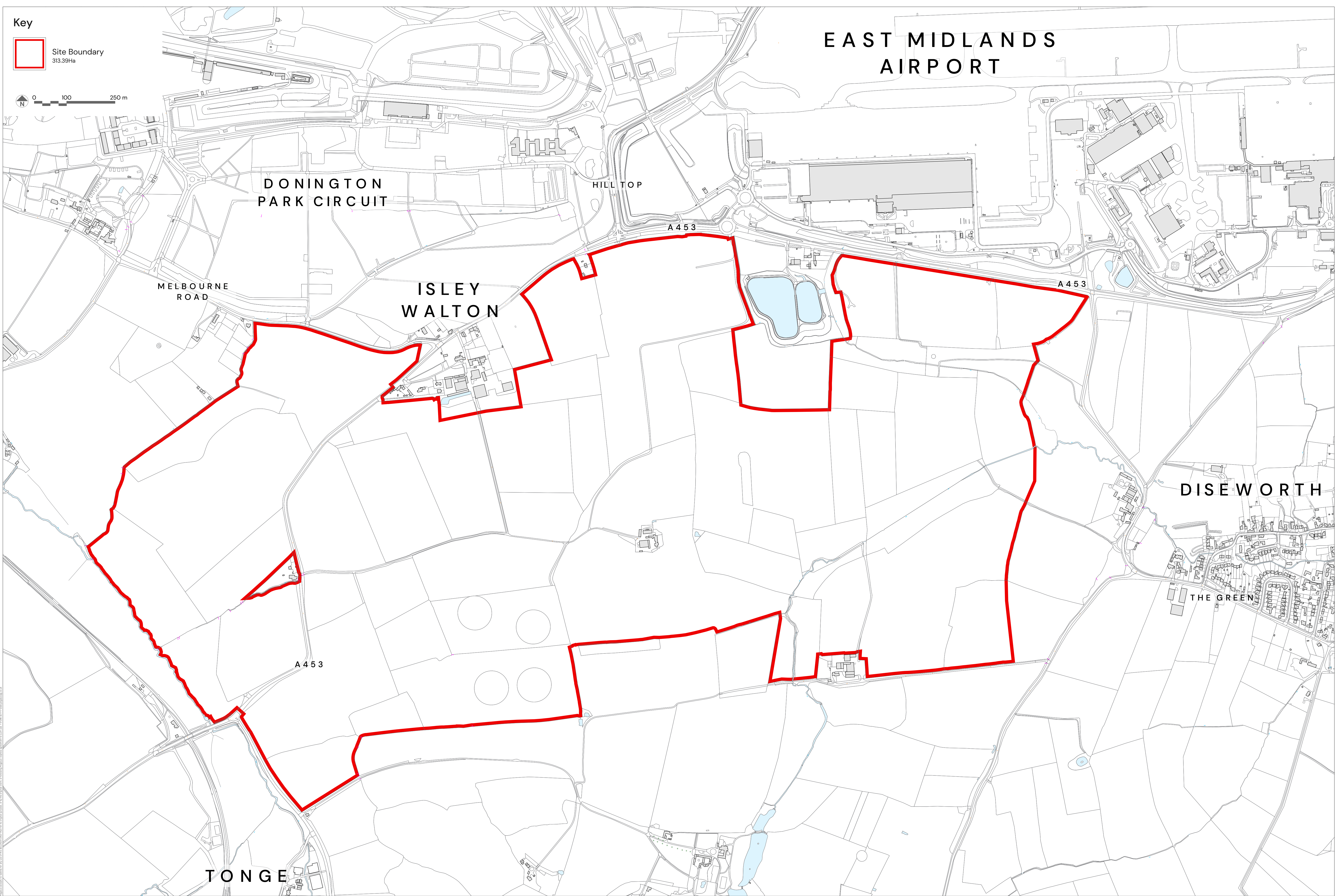
Development Schedule

2. The development schedule, along with use classes and floor areas, for use in assessing transport demands, is shown in the table below.

		sqm	sqft
residential			
dwellings	4,250	N/A	N/A
education			
new secondary school - pupils	900		
primary school #1 - pupils	420		
primary school #2 - pupils	420		
primary school #3 - pupils	420		
large local centre			
convenience store		3,000	32,292
mixed use units: Class E, retail, take-away, cafe		50 – 200	
total		8,000	86,111
day nursery		600	6,458
pub		450	4,844
doctors' surgery		280	3,014
Use Class F2 space (community hall etc)		200	2,153
small neighbourhood centre #1			
small convenience store		900	9,688
mixed use units: Class E, retail, take-away, cafe		50 – 200	
total		1,100	11,840
day nursery		600	6,458
small neighbourhood centre #2			
small convenience stores		900	9,688
mixed use units: Class E, retail, take-away, café		50 – 200	
total		1,100	11840
day nursery		600	6458
employment area			
non-retail units (Class E)		930	10,000
B2/B8 employment		22,994	247,500
energy			
battery storage	1 acre/0.4ha		

APPENDIX A

LOCATION PLAN



Isley Woodhouse, Land South of East Midlands Airport, North West Leicestershire – Site Location Plan

APPENDIX 3

TECHNICAL NOTE B TRAFFIC GENERATION (ADC2570-RP-B-V7)



TECHNICAL NOTE B

TRAFFIC GENERATION

ISLEY WOODHOUSE, LEICESTERSHIRE

DOCUMENT CONTROL

project number: ADC2570 report reference: ADC2570-RP-B				
version	date	author	reviewer	comments
1		Mark Higgins	David Cummins	internal draft
2	10/12/2021	Mark Higgins	David Cummins	first issue to TWG
3	30/03/2022	Mark Higgins	David Cummins	revised following NH feedback
4	27/01/2023	Tim Cooke	David Cummins	revised to address comments
5	09/05/2023	Tim Cooke	David Cummins	revised following LCC discussions
6	28/02/2024	Tim Cooke	David Cummins	note on primary school and day nursery internalisation
7	21/03/2024	Tim Cooke	David Cummins	revised to include agreed position

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APPENDICES

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Appendix F	TRICS assessment – food store
Appendix G	TRICS assessment – day nursery

1.0 INTRODUCTION

- 1.1 ADC Infrastructure prepared this Technical Note on behalf of Cuvette Strategic Land and Harworth Group. It forecasts the traffic generation of a proposed new settlement at Isley Woodhouse in Leicestershire. The aim is to provide figures to feed into a run of the East Midlands Freeport Model 2019.
- 1.2 This Technical Note has been updated to reflect feedback from Leicestershire County Council (LCC) and National Highways on the trip rates and internalisation methodology put forward in the previous iteration of this note, as well as subsequent correspondence and meetings.

Development concept

- 1.3 The development concept is for an inherently sustainable new settlement, consisting of up to 4,250 dwellings with a commitment to net-zero carbon at the core of the proposals. The location of the site has been selected to place it close to existing and proposed employment sites including East Midlands Gateway SRFI, East Midlands Airport, Castle Donnington Distribution Centre, and planned development around the airport as part of the Freeport, HS2, and Ratcliffe on Soar power station.
- 1.4 Additional land-uses within the development have been identified to support the sustainability of the new settlement, including education, employment, retail, and leisure.
- 1.5 The movement strategy for the new settlement is a fundamental part of the net-zero carbon development objectives, and hence a key aspect of the movement strategy will be the design of appropriate pedestrian and cycle infrastructure to cater for journeys within the site and to the significant existing and planned employment centres identified above. New cycle routes and supporting infrastructure will be provided to ensure continuous safe links to local attractions.
- 1.6 A further key aspect of the movement strategy will be the public transport strategy, which will ensure all residents are within walking distance of a regular bus service. Significant work is already being undertaken on the bus services within the area, as part of East Midlands Gateway SRFI and other local employment sites. The bus strategy will link with that work to enable journeys to work by bus for the new residents of Isley Woodhouse.

Traffic generation methodology

- 1.7 The development will be assessed using LCC's East Midlands Freeport Model 2019 which is an enhanced version of its parent model the Pan-Regional Transport Model 2019 (PRTM). A key input to the model assessments is the forecast traffic generation for the proposed development.
- 1.8 The traditional methodology for calculating the traffic generation of a new development has been to use survey data of existing developments with similar characteristics (land-use, scale, population density, etc.), often from the TRICS database, and apply the resulting trip rates to the proposed development. This approach, known as predict and provide, is backward looking, and assumes past patterns will continue unchanged into the future. It ignores changing travel patterns over time, which even before the Covid-19 pandemic were showing that trip making by car has reduced. The predict and provide methodology also fails to acknowledge that the trip rates could be influenced by the design of the development. While that may be a valid worst case for a small development, the scale of Isley Woodhouse is such that these effects should not be ignored, otherwise it will result in capital expenditure on highway improvements instead of internal facilities and sustainable transport provision.

- 1.9 TRICS recognises this and recommends a change in process. It has published a guidance note on Decide and Provide¹, advocating a change in approach to one that is vision-led rather than forecast-led. It is based upon an understanding of how trip rates are changing over time, and how the design of a settlement would influence the demand to travel. The methodology proposes *“deciding on a preferred future and providing a development path best suited to achieving it”*.
- 1.10 Despite that, the Decide and Provide methodology is in its infancy, and following discussions with the highway authorities this Technical Note uses the traditional methodology to determine the traffic generation of the proposed development. It is, therefore, a robust worst case, which can be influenced by the specific provisions of the development and initiatives that seek to reduce trip making.
- 1.11 Two traditional methods are followed. Firstly, a single comparable site, Cambourne, a new settlement in Cambridgeshire, is examined to reveal its trip making characteristics. It is found to be applicable to Isley Woodhouse. Nevertheless, as it is a single site, an alternative more complex method is also followed, where the trip making of elements of Isley Woodhouse are examined and are then grouped together to understand the proposed new settlement as a whole.

¹ Guidance Note on the Practical Implementation of the Decide and Provide Approach, TRICS Consortium Limited, February 2021

2.0 CAMBOURNE

2.1 Cambourne is a new settlement in Cambridgeshire, which is shown below (**Figure 1**).

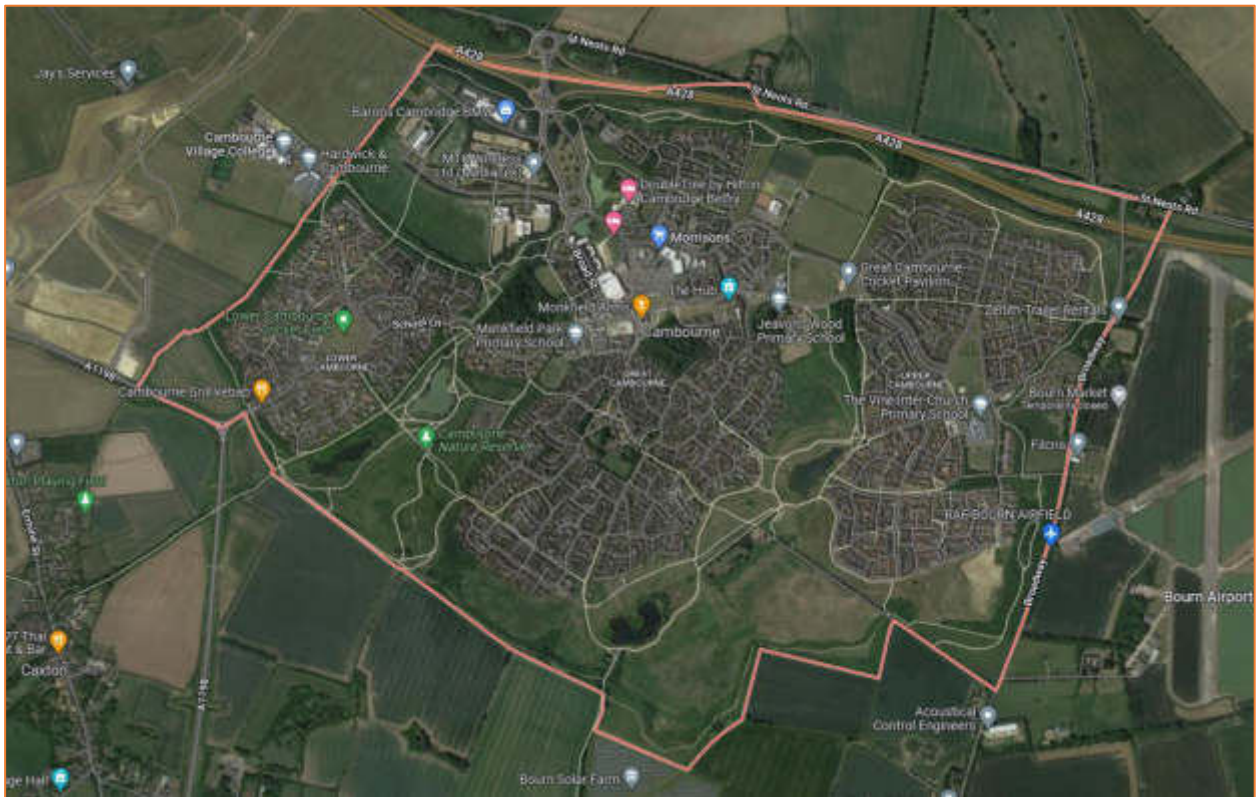


Figure 1: aerial view of Cambourne²

2.2 Cambourne has the following characteristics:

- 4,240 houses(Isley Woodhouse would have 4,250)
- divided into three areas: Lower Cambourne to the west, Great Cambourne in the centre, Upper Cambourne to the east
- four primary schools: Hardwick & Cambourne Community Primary School, Monkfield Park Primary School, Jeavons Wood Primary School, The Vine Inter-Church Primary School
- one secondary school: Cambourne Village College
- an employment area: Cambourne Business Park, which includes a car dealership, South Cambridgeshire District Council, and various other office and employment occupiers
- a neighbourhood centre in Lower Cambourne that includes a Co-operative foodstore
- a neighbourhood centre in Upper Cambourne that includes a Co-operative foodstore
- a larger central retail park that includes Morrisons, and its petrol filling station, Just for Pets, Home Bargains, British Heart Foundation Home Store, and adjacent smaller scale retail uses on High Street including takeaways, saloons, etc
- fire station, police station, community centre (The Hub, where the Parish Council are located), church, Cambourne Preschool, library, child and family centre, Monkfield Arms pub, Cambourne Fitness and Sports Centre, Double Tree by Hilton hotel, Holiday Inn Express, etc.

2.3 Cambourne is a substantial and multi-use new settlement. It was originally three villages, with planning consent for the new development granted in 1994. The first new houses were completed by 1998, and the development has continued ever since.

- 2.4 The TRICS Consortium undertook a survey of Cambourne on Thursday 7 June 2018. There were 4,240 houses occupied, along with most of the other uses mentioned above. Full details can be found on the TRICS website (site reference CA-17-A-01/01), and a Technical Report of the surveys is also available³.
- 2.5 The surveys counted traffic movements using ANPR cameras, to allow internal, external, and through movements to be separately identified. The traffic generation for Cambourne, excluding through traffic, is shown in the table below.

time	arrive	depart	total
07:00-08:00	309	849	1158
08:00-09:00	486	1089	1575
09:00-10:00	537	875	1412
10:00-11:00	506	447	953
11:00-12:00	447	617	1064
12:00-13:00	576	648	1224
13:00-14:00	523	738	1261
14:00-15:00	556	417	973
15:00-16:00	918	879	1797
16:00-17:00	1149	894	2043
17:00-18:00	1536	994	2530
18:00-19:00	1322	812	2134
19:00-20:00	789	541	1330
20:00-21:00	532	385	917
total	10186	10185	20371

- 2.6 Hence, 1,575 and 2,530 two-way traffic movements were generated in the morning and evening peak hours, respectively.
- 2.7 There are many similarities between Cambourne and Isley Woodhouse, including the number of dwellings, education provisions, three character areas, with their neighbourhood centres, and community uses.
- 2.8 There are also some differences. Cambourne is more rural than Isley Woodhouse and has a significant business park with office use. Isley Woodhouse is proposed to provide jobs to the surrounding off-site employment destinations such as East Midlands Gateway, the airport, Freeport developments, Ratcliffe on Soar Power Station redevelopment, East Midlands Distribution centre, etc. In general terms, many of those jobs are warehousing and industrial jobs rather than the office and science park type jobs in Cambourne, at Cambridge and in the surrounding area. All these factors would suggest a greater amount of traffic use at Cambourne than at Isley Woodhouse.
- 2.9 Overall, the traffic generation for Cambourne would be a robust forecast of the traffic generation for Isley Woodhouse.

³ Cambourne Village TRICS Survey – Technical Note, TRICS Consortium Limited, May 2020

3.0 RESIDENTIAL, EMPLOYMENT AND EDUCATION TRIP RATES

Introduction

- 3.1 Cambourne is very similar to Isley Woodhouse. Nevertheless, it is a single site and there are no other counts of settlements in TRICS. Hence a second forecasting methodology is followed, whereby the individual elements are examined, for which there are lots of surveys, to forecast their traffic generation. Those forecasts are then combined, making allowance for linked trips and internalisation. This is a more complex methodology, subject to errors at each step. Furthermore, making each element robust, can lead to an overly robust and hence unrealistic forecast.

Residential trip rates

- 3.2 Although the proposed development will have a mix of uses, the residential element of 4,250 dwellings will be by far the greatest generator of traffic movements. Therefore, ensuring that the residential trip rates are appropriate is key.
- 3.3 TRICS 7.8.3 was interrogated with the following selection process:
- select category 03 - Residential, A – Houses privately owned
 - deselect regions outside England including Greater London
 - deselect weekend surveys
 - deselect town centre and edge of town centre location types
 - a lower limit of 50 houses was applied, which removed a number of outlier and misrepresentative figures from sites with only small numbers of houses
 - sites surveyed during the COVID pandemic have been deselected
 - 39 sites resulted and they were ranked by total trip rate, as shown below.

Rank order for: **No of Dwellings**
Calculated on: **TOTALS**
Time Range: **08:00-09:00**
Time Range: 17:00-18:00

Median Values
Arrivals 0.089
Departures 0.402
Totals 0.491

Mean Values
Arrivals 0.126
Departures 0.355
Totals 0.481

Total: **39**
85th Percentile = no. **7**
15th Percentile = no. **33**

ES-03-A-05 Tot: 0.626
KC-03-A-08 Tot: 0.327

Rank	Site Ref	Description	Town/City	DWELLS	Day	Date	Arrivals	Departures	Totals	Parking Spaces Per Dwelling
1	NF-03-A-06	MIXED HOUSES	GREAT YARMOUTH	275	Monday	23/09/19	0.207	0.553	0.760	2.13
2	KC-03-A-03	MIXED HOUSES & FLATS	ASHFORD	51	Thursday	14/07/16	0.157	0.588	0.745	2.16
3	NY-03-A-10	HOUSES AND FLATS	RIPON	71	Tuesday	17/09/13	0.183	0.521	0.704	0.83
4	NF-03-A-16	MIXED HOUSES & FLATS	WYMONDHAM	138	Tuesday	20/10/15	0.210	0.449	0.659	2.01
5	NF-03-A-07	MIXED HOUSES & FLATS	WYMONDHAM	297	Friday	20/09/19	0.175	0.455	0.630	3.37
6	ES-03-A-03	MIXED HOUSES & FLATS	POLEGATE	212	Monday	11/07/16	0.165	0.462	0.627	1.68
7	ES-03-A-05	MIXED HOUSES & FLATS	NEAR EASTBOURNE	99	Wednesday	05/06/19	0.131	0.495	0.626	1.99
8	KC-03-A-07	MIXED HOUSES	HERNE BAY	288	Wednesday	27/09/17	0.240	0.385	0.625	3.09
9	DV-03-A-03	TERRACED & SEMI DETA	HONITON	70	Monday	28/09/15	0.086	0.529	0.615	1.66
10	HC-03-A-23	HOUSES & FLATS	LIPHOOK	62	Tuesday	19/11/19	0.113	0.500	0.613	2.19
11	KC-03-A-04	SEMI-DETACHED & TERF	AYLESFORD	110	Friday	22/09/17	0.127	0.473	0.600	1.77
12	WS-03-A-11	MIXED HOUSES	WEST HORSHAM	918	Tuesday	02/04/19	0.147	0.451	0.598	2.06
13	CA-03-A-06	MIXED HOUSES	NEAR CAMBRIDGE	207	Friday	22/06/18	0.184	0.401	0.585	3.75
14	LE-03-A-02	DETACHED & OTHERS	IBSTOCK	85	Thursday	28/06/18	0.212	0.353	0.565	4.27
15	DH-03-A-03	SEMI-DETACHED & TERF	DURHAM	57	Friday	19/10/18	0.211	0.333	0.544	3.33
16	SF-03-A-07	MIXED HOUSES	IPSWICH	73	Thursday	09/05/19	0.082	0.438	0.520	2.32
17	IW-03-A-01	DETACHED HOUSES	NEAR COWES	72	Tuesday	25/06/19	0.153	0.361	0.514	3.82

vehicle trip rate per 100sqm	arrive	depart	two-way
AM peak hour	0.536	0.284	0.820
PM peak hour	0.173	0.453	0.626

Secondary school trip rates

- 3.9 Education provision has been discussed with LCC, the local education authority, and the provisions within the development proposal reflect their advice.
- 3.10 The nearest secondary school to the proposed development site is Castle Donnington College, located approximately 3.5km from the centre of Isley Woodhouse. The surrounding area is therefore well catered for in terms of secondary education.
- 3.11 However, a development totalling 4,250 dwellings has the potential to place significant demands on the local education system and therefore a new secondary school will be provided of sufficient size to cater for the residents of the proposed dwellings.
- 3.12 TRICS 7.8.3 was interrogated with the following selection process:
- select category 04 - Education, B – secondary
 - deselect regions outside England including Greater London
 - deselect weekend surveys
 - deselect town centre and edge of town centre location types.
 - deselect 500,00 or more within a 5-mile radius
- 3.13 That selection process returned 23 surveys and the full TRICS data is in **Appendix C**. Average trip rates have been extracted as summarised in the table below.

vehicle trip rate per pupil	arrive	depart	two-way
AM peak hour	0.144	0.108	0.252
PM peak hour	0.022	0.029	0.051

Primary school trip rates

- 3.14 The nearest primary schools to the proposed development site are approximately 1.5km away from the proposed development site in Breedon on the Hill to the southwest and Diseworth to the east of the site. Castle Donnington, which is approximately 2.5km to the north of Isley Woodhouse, also has two primary schools. Melbourne, which is approximately 3km to the west, has one primary school.
- 3.15 The surrounding area is therefore well catered for in terms of primary education. Nonetheless, a development totalling 4,250 dwellings has the potential to place significant demands on the local education system and, based on consultation with the local education authority, three new primary schools will be provided of sufficient size to cater for the residents of the proposed dwellings. They are not expected to cater for pupils living outside of Isley Woodhouse.
- 3.16 TRICS 7.8.3 was interrogated with the following selection process:
- select category 04 - Education, A – Primary
 - deselect regions outside England including Greater London
 - deselect weekend surveys
 - deselect town centre and edge of town centre location types.
 - deselect 500,00 or more within a 5-mile radius

- 3.17 That selection process returned 20 surveys and the full TRICS data is in **Appendix D**. Average trip rates have been extracted as summarised in the table below.

vehicle trip rate per pupil	arrive	depart	two-way
AM peak hour	0.322	0.262	0.584
PM peak hour	0.022	0.041	0.063

- 3.18 National Highways and LCC have raised concerns that these trips rates may be too high and requested further justification for the trip rates.

- 3.19 A separate TRICS search was therefore undertaken using multi-modal surveys only and the outputs are provided in **Appendix D**. This assessment returned a two-way vehicle trip rate of 0.599 in the morning peak hour and 0.044 during the evening peak hour. These trip rates are directly comparable to those identified in the table above and this suggests that a high proportion of primary school trips are made by car.

- 3.20 To confirm this, the TRICS outputs were cross checked against data from the National Travel Survey (NTS0613). The NTS confirms that walking is the primary mode of travel to primary schools at 48% on average but is closely followed by trips made by car at 45%. This leads to the relatively high vehicle trip rates. A summary of the recent data from the NTS is provided in the table below.

mode	2017	2018	2019	average
walk	49%	49%	46%	48%
cycle	1%	2%	1%	1%
car	44%	45%	47%	45%
bus	5%	3%	5%	4%
rail	0%	0%	0%	0%
other	1%	1%	1%	1%

- 3.21 It is therefore concluded that the calculated trip rates for the primary school are reasonable.

4.0 OTHER LAND USE TRIP RATES

Introduction

- 4.1 Isley Woodhouse will include a large local centre, and two smaller neighbourhood centres. The large local centre would have a floor area of up to 8,000sqm, plus a convenience foodstore of up to 3,000sqm, plus a day nursery, pub, doctors' surgery, and community uses. Each of these uses will generate traffic at different rates, and they will also be different in terms of whether they pull in traffic from outside the development. Hence, they are examined separately.
- 4.2 The two smaller neighbourhood centres would be located internally to the east and west of the centre of the site. They each would have floor space up to 1,100sqm, plus a convenience foodstore of up to 900sqm. Each would have a day nursery. These centres would be designed and delivered to serve residents and employees of the proposed development and are therefore examined separately because of the internalisation of their trips.

Local centre trip rates

- 4.3 The trips that would be associated with the proposed local centres have been collectively examined as part of the 'local shops' category within TRICS 7.8.3, which was interrogated with the following selection process:
- select category 01 - Retail, I – Shopping centre – local shops
 - deselect regions outside England including Greater London
 - deselect weekend surveys
 - select only neighbourhood centre location type.
- 4.4 Nine samples were returned under this criterion and the full TRICS data is in **Appendix E**. The average trip rates have been extracted and are summarised in the table below.

vehicle trip rate per 100sqm	arrive	depart	two-way
AM peak hour	4.074	3.519	7.593
PM peak hour	4.103	4.786	8.889

Foodstore

- 4.5 The development proposals include a 3,000sqm food convenience store at the large local centre. The forecast trips that would be associated with the store were examined within TRICS 7.8.3, which was interrogated with the following selection process:
- select category 06 – Retail, A – Food superstore
 - sites ranging from 1,500-6,000 sqm selected
 - deselect regions outside England including Greater London
 - deselect weekend surveys.
- 4.6 Six samples were returned under this criterion and the full TRICS data is in **Appendix F**. The average trip rates have been extracted and are summarised in the table below.

vehicle trip rate per 100sqm	arrive	depart	two-way
AM peak hour	3.053	2.528	5.581
PM peak hour	4.461	4.653	9.114

Day nursery

- 4.7 The development proposals include three 600sqm day nurseries.
- 4.8 The forecast trips that would be associated with the day nurseries were determined using TRICS 7.8.3, which was interrogated with the following selection process:
- select category 04 – Education, D – Nursery
 - deselect regions outside England including Greater London
 - deselect weekend surveys
 - deselect town centre and edge of town centre location types.
- 4.9 Nine samples were returned under this criterion and the full TRICS data is in **Appendix G**. The average trip rates have been extracted and are summarised in the table below.

vehicle trip rate per 100sqm	arrive	depart	two-way
AM peak hour	3.632	2.544	6.176
PM peak hour	1.803	2.676	4.479

Other uses

- 4.10 The development proposals include a pub, doctors' surgery, and Class F2 space (community hall, etc). These uses would generate a small number of only internal trips, and therefore trip rates have not been determined.

Summary

- 4.11 The trip rates for each of the uses described above is summarised in the following table along with the resulting traffic generation.

TRIP RATES			AM peak hour			PM peak hour		
			arrive	depart	two-way	arrive	depart	two-way
C3 residential	per dwelling		0.126	0.355	0.481	0.326	0.147	0.473
employment area	per 100 sqm		0.536	0.284	0.820	0.173	0.453	0.626
secondary school	per pupil		0.144	0.108	0.252	0.022	0.029	0.051
primary schools	per pupil		0.322	0.262	0.584	0.022	0.041	0.063
day nurseries	per 100 sqm		3.632	2.544	6.176	1.803	2.676	4.479
large local centre - local centre uses	per 100 sqm		4.074	3.519	7.593	4.103	4.786	8.889
large local centre - foodstore	per 100 sqm		3.053	2.528	5.581	4.461	4.653	9.114
neighbourhood centres - local centre uses	per 100 sqm		4.074	3.519	7.593	4.103	4.786	8.889
TRAFFIC GENERATION			AM peak hour			PM peak hour		
			arrive	depart	two-way	arrive	depart	two-way
C3 residential	4250 dwellings		536	1509	2045	1386	625	2011
employment area	23924 sqm		128	68	196	41	108	149
secondary school	900 pupils		130	97	227	20	26	46
primary schools (x3)	1260 pupils		406	330	736	28	52	80
day nurseries (x3)	1800 sqm		65	46	111	32	48	80
large local centre - local centre uses	8000 sqm		326	282	608	328	383	711
large local centre - food store	3000 sqm		92	76	168	134	140	274
neighbourhood centres - local centre uses	4000 sqm		163	141	304	164	191	355
total			1846	2549	4395	2133	1573	3706

5.0 INTERNALISATION

Introduction

- 5.1 For a mixed-use development, it is appropriate to consider trips between uses. These are trips that will remain within the development and not route on the external road network, such as home-school-home, or trips that are already taking place, such as home-school-work externally. This effect is known as internalisation and is a key benefit of sustainable development and locating interdependent uses within the same settlement.
- 5.2 An earlier version of this Technical Note received comments from LCC and National Highways, in particular about the internalisation rates, and hence greater evidence has been sought and new rates are proposed in this revised Technical Note.
- 5.3 Generally, there is a lack of information about internalisation rates, and figures have historically been based on experience. For example, a neighbourhood convenience store is unlikely to attract journeys from a significant distance when there are many competing alternatives that could be visited. The TRICS Consortium Limited recognised this problem and sought to address it in their report on surveys at Cambourne. That evidence is drawn upon below.

Internalisation of residential trips

- 5.4 The trip rates for each development use come from sites without internalisation. That is, residents travel off-site to go to their workplace. Co-locating mixed uses on the same site is sustainable because it allows local journeys that do not need to route on the external road network. For example, an Isley Woodhouse resident that works at an employment unit in Isley Woodhouse will mean one less residential journey, and also one less employment journey, on the external road network. School journeys by car will also benefit from this effect.
- 5.5 In the previous iteration of this Technical Note an internalisation rate was applied to the residential trip rates, which was identified as being the equivalent of the reduction in employment and school trips (primary, day nursery, secondary). However, LCC raised concerns about applying further reductions to the residential trip rates (table at paragraph 3.4). Hence, for the sake of a robust assessment, no further reduction has been applied to the residential trips.

Internalisation of employment trips

- 5.6 Co-locating employment and residential uses on the same site will lead to some linked trips between the two uses – residents of Isley Woodhouse that also work there. Based on typical employment densities⁴, the employment uses could result in around 387 employees. Having initially proposed an internalisation rate of 50%, National Highways suggested a rate of 10%, meaning 39 employees would come from the 4,250 houses, with their 7,650 potential employees. That is considered to be low, and therefore 20% is proposed.

Internalisation of secondary school trips

- 5.7 The secondary school will open at around 600 dwellings. It will have a larger catchment than the primary schools, although like the primary schools it is being provided to cater for the new residents and will need to be open long before the whole development is occupied, by which time traffic patterns will have settled.

⁴ Homes and Communities Agency, Employment Density Guide, 3rd Edition, November 2015

- 5.8 As with primary schools, there is little evidence of trip making to schools and the numbers of pupils who come from out of the catchment. Most journeys (by all modes) are under two miles (**Figure 2**) and therefore derived from their catchment, although it is recognised that car travel dominates the longer journey distances.

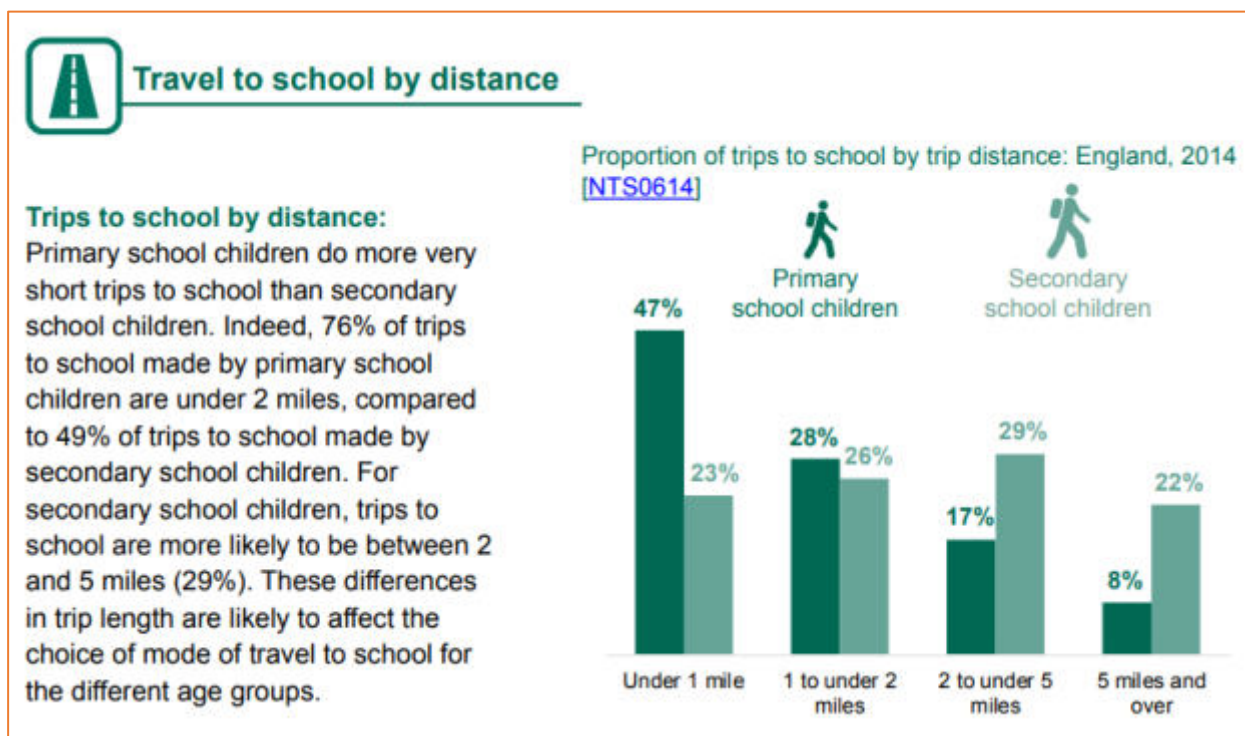


Figure 2: extract from the DfT's Travel to School factsheet⁵

- 5.9 There is some evidence of school catchments on the Good Schools Guide website⁶. **Figure 3** shows the catchment for Castle Donington College and shows in colour where pupils come from.
- 5.10 The red and yellow colours are focussed on Castle Donington and Kegworth. They also cover some of the smaller surrounding villages such as Lockington, Breedon on the Hill, and Long Whatton, although those places have a smaller population. Pupils are not drawn for more distant locations with a significant population such as Melbourne, Shepshed, or Sawley.
- 5.11 The 2011 School Travel Survey provides pupil mode share for Castle Donington College, as shown in the table below. To give a further example of a stand-alone settlement in Leicestershire, the table also shows the figures for Shepshed High School.

	walk	cycle	car	bus	train	other	headcount of pupils (excluding boarders)
Castle Donington Community College	252	16	23	178	0	0	470
	53.7%	3.4%	4.9%	38.0%	0%	0%	100%
Shepshed High School	385	29	62	28	0	0	505
	76.4%	5.8%	12.3%	5.6%	0%	0%	100%

- 5.12 These figures show car journeys being only 4.9% and 12.3% of the total. Moreover, these figures include pupils taken to school by car by parents who then drive on to destinations elsewhere,

⁵ National Travel Survey 2014: Travel to School, DfT

⁶

such as work. Thus, they are journeys already taking place and included in the residential trip rates. Therefore, the 4.9% and 12.3% figures are an overestimate of the number of journeys by car purely created by the school use.

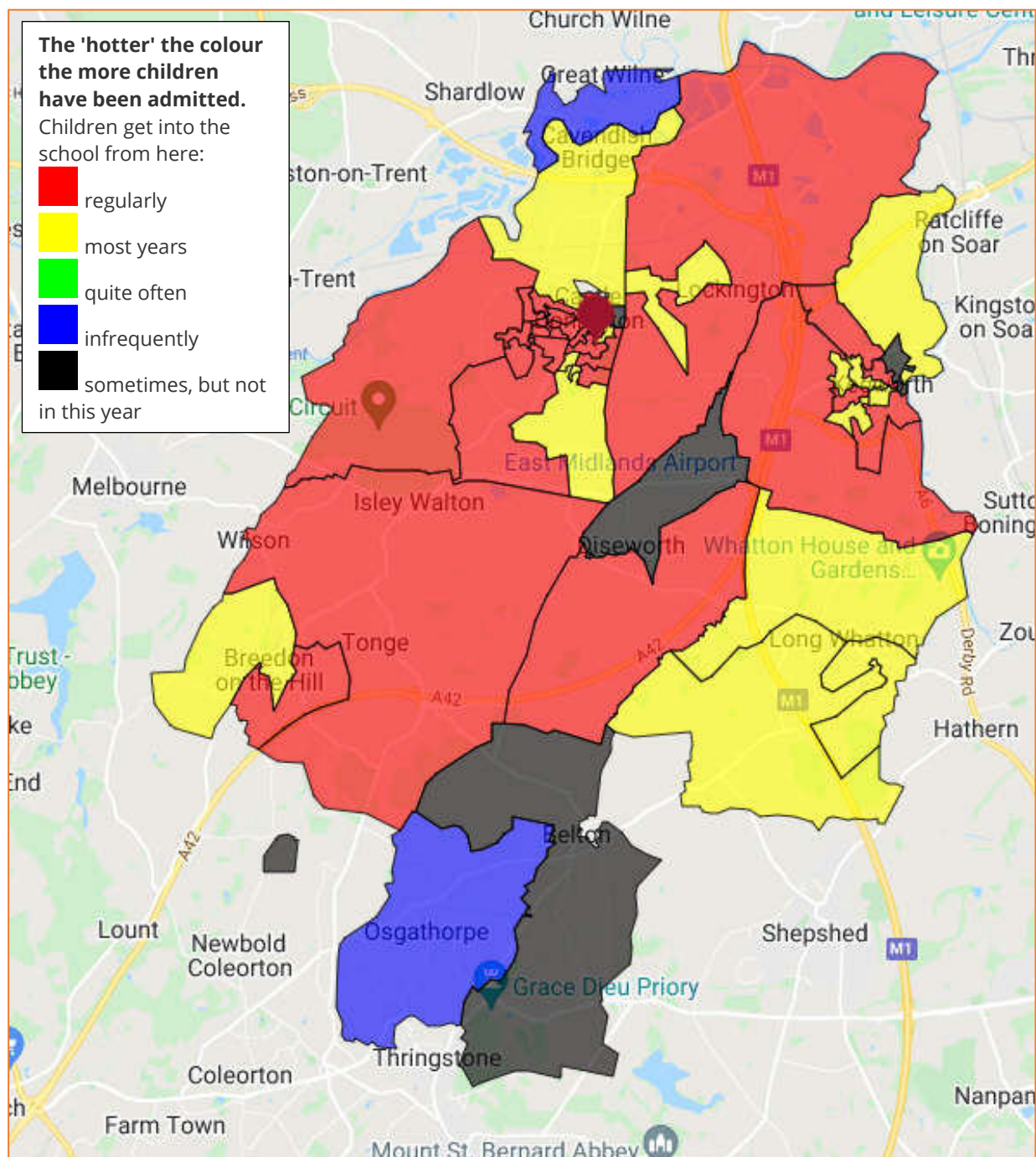


Figure 3: 2014 catchment of Castle Donington College

- 5.13 Given the above, a 50% internalization rate for secondary education is considered to be robust and has been adopted for use in this Technical Note.

Internalisation of primary school and day nursery trips

- 5.14 The applicant has engaged with the local education authority to understand the demand for primary education. The need for three schools arises because of the demand for school places created by the new residents of Isley Woodhouse. There are already primary schools in Breedon

on the Hill, Diseworth, Melbourne, and Castle Donington, including the new Foxbridge Primary School on the western side of Castle Donington.

- 5.15 Primary school trips tend to be local, as primary schools are smaller and more numerous than secondary schools. That is evidenced by the most recent Travel to School factsheet (**Figure 2**), which shows shorter journey lengths for primary school pupils with 75% of trips being under 2 miles.
- 5.16 In addition, the National Travel Survey says around 96% of pupils are accompanied on their journeys to school by parents or guardians. Despite the relatively short journey lengths, parents often drop off a child en-route to work or other destinations by car. These driven journeys are already accounted for in the traffic generation of other uses, for example the residents trips, or the work trips.
- 5.17 Where longer journeys occur, it can be because a school is chosen close to a place of work, in which case the journey is already taking place, although faith schools and feeder schools also influence the pattern of movements.
- 5.18 At Isley Woodhouse there would be a phased opening of the primary schools, with the first open at approximately 300 dwellings. That first primary school would take pupils across the development until the second primary school were needed, and then the third. Given that this Technical Note is examining the amount of traffic created once the development is complete, by that time all three proposed primary schools will be open and traffic movements will have settled such that most pupils from Isley Woodhouse will attend one of the Isley Woodhouse primary schools. One of the schools may perform better than another, and therefore competition for places and parental choice is more likely to be between the three on-site schools rather than with external primary schools. For that reason, a 90% internalisation rate was proposed and is considered to be an appropriate percentage.
- 5.19 In terms of day nurseries, again they tend to be small units that result in local journeys. Indeed, Government guidance now requires all new primary schools to include pre-school provision for children age 3+. Therefore, it was also considered that the 90% internalisation factor for primary school pupils would be appropriate for the day nurseries.
- 5.20 However, in discussions with LCC they have requested that a 50% internalisation rate should be applied to both the primary school and nursery school trips to account for parental choice and competition resulting in the schools taking pupils from outside of the Isley Woodhouse development and the school catchment areas.
- 5.21 Following further discussions and evidence exchange with LCC and National Highways a compromise position of a 75% internalisation rate was agreed. That rate would result in the following number of external traffic movements.

traffic generation	AM peak hour			PM peak hour		
	arrive	depart	2way	arrive	depart	2way
internal (75%)	353	282	635	45	75	120
external (25%)	118	94	212	15	25	40
total	471	376	847	60	100	160

Internalisation of retail trips

- 5.22 The development proposals include a 3,000sqm food convenience store at the large local centre, which would attract some external trips. To determine how many, reference has been made to the Cambourne surveys. Within its central retail park, Cambourne includes a Morrisons store. The TRICS surveys show the trips to the store in half-hour segments, depending on whether the journey was made by a Cambourne resident (Live), an employee who works at Cambourne (Work), or a Cambourne resident that also works at Cambourne (Work Live). Importantly, it also shows trips that are from external origins and destinations (Visitor). The results are shown in **Figure 4**.

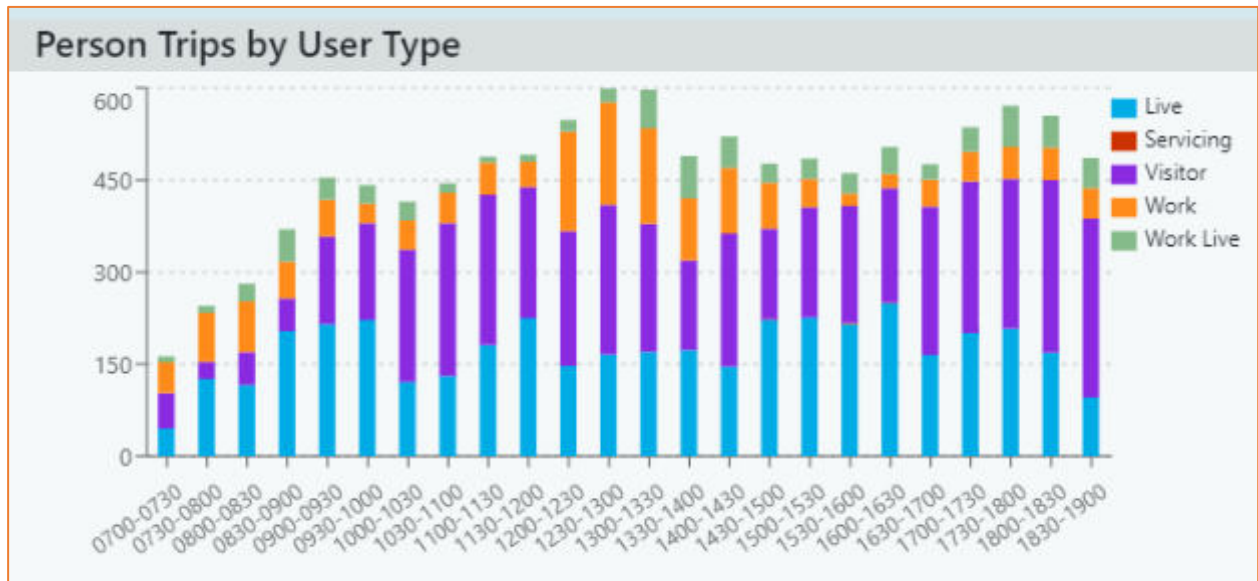


Figure 4: person trips by user type to Cambourne's Morrisons

- 5.23 TRICS gives the division of trip type as shown in the table below. In the morning peak hour, just 21% of the car and lgv trips were Visitors, suggesting an internalisation rate of 79%. In the evening peak hour 49% of the car and lgv trips were Visitors, suggesting an internalisation rate of 51%.

Cars/Lgvs	AM peak hour				PM peak hour			
	0800-0830	0830-0900	total	%	1700-1730	1730-1800	total	%
Live	77	125	202	47%	123	118	241	34%
Servicing	0	0	0	0%	0	0	0	0%
Visitor	50	40	90	21%	173	174	347	49%
Work	55	40	95	22%	29	31	60	9%
Work Live	18	29	47	11%	21	35	56	8%
total	200	234	434	100%	346	358	704	100%

- 5.24 LCC have undertaken their own review of the Cambourne data and have commented as follows: *"Following a review of this it is our view that other trip types could reasonably be considered to be external, non-linked trips (for example 'work' trips identified). From review of the [Cambourne TRICS report](#) it suggests that the toggle for selecting the 'Origin of Trip' selects whether the trips are internal or external to the village. It would therefore be difficult to justify a deviation from the guidance outlined within the TRICS report and we would therefore reiterate the request for a 65% internalisation rate in the AM peak and 38% internalisation in the PM peak for the Local Centre Foodstore (3,000sqm) vehicle trip rates".*

5.25 The Cambourne report in TRICS suggests that the external trip figures stated in LCC's review include trips from the other trip types and these would be linked trips. Hence, the use of the external trip percentages will underestimate the linked trip percentage and hence internalisation.

5.26 However, for expediency and to allow matters to progress, the 65% and 38% internal trip figures have been adopted.

Internalisation of the local centre trips

5.27 The development proposal includes two neighbourhood centres, and a large local centre. Trip making characteristics will be different for each.

5.28 The neighbourhood centres will include small scale retail uses such as a small convenience store, cafes, take-aways, and small retail units such as an off-licence or butcher. These uses will not attract traffic from sources external to the development and hence a 100% internalisation rate was proposed.

5.29 However, whilst LCC agreed that the majority of trips to these uses will originate from within Isley Woodhouse, they consider that some trips would be external to the development as the local centres would offer facilities not available in the surrounding villages. LCC therefore requested a 90% internalisation rate for the small local centres to account for this. This proposed internalisation rate has been adopted in the trip generation assessments.

5.30 The large local centre is different. It would have a pub, doctor's surgery, and community uses such as a community hall and hence could attract trips external to the Isley Woodhouse development. It was initially proposed that the internalisation rates from the local food store, as detailed above, would be applied to the trips to the large local centre. This would provide a robust assessment as the food store will attract a greater proportion of external trips than the proposed uses at the large local centre.

5.31 However, LCC have instead requested a 50% internalisation rate in order to be robust in the absence of end user information and to be consistent with other assessments in Leicestershire. For expediency and to move matters on, a 50% internalisation rate has therefore been adopted in the trip generation assessments.

Summary

5.32 A summary of the internalisation rates and associated internal trips is provided in the following table.

INTERNAL TRIPS	Internalisation rate		AM peak hour			PM peak hour		
	AM	PM	arrive	depart	two-way	arrive	depart	two-way
C3 residential	0%	0%	0	0	0	0	0	0
employment area	20%	20%	26	14	40	8	22	30
secondary school	50%	50%	65	49	114	10	13	23
primary schools (x3)	75%	75%	305	248	553	21	39	60
day nurseries (x3)	75%	75%	49	35	84	24	36	60
large local centre - local centre uses	50%	50%	163	141	304	164	192	356
large local centre - food store	65%	38%	60	49	109	51	53	104
neighbourhood centres - local centre uses	90%	90%	147	127	274	148	172	320
total			815	663	1478	426	527	953

6.0 EXTERNAL TRAFFIC

Total traffic generation before internalisation

- 6.1 The table at paragraph 4.11 shows that Isley Woodhouse would generate 4,395 and 3,706 two-way traffic movements in a morning and evening peak hour, respectively.

Internalisation

- 6.2 Section 5 described internalisation of trip making. The summary table showed that 1,478 and 953 two-way trips would be internal to the development. This equates to a total internalisation percentage of 33.6% in the morning peak hour and 25.7% in the evening peak hour.

External traffic

- 6.3 Subtracting the internalised trips from the total results in the external trips, summarised in the table below. Isley Woodhouse will generate 2,917 and 2,753 two-way external trips during the peak hours

EXTERNAL TRIPS			AM peak hour			PM peak hour		
			arrive	depart	two-way	arrive	depart	two-way
C3 residential			536	1509	2045	1386	625	2011
employment area			102	54	156	33	86	119
secondary school			65	48	113	10	13	23
primary schools (x3)			101	82	183	7	13	20
day nurseries (x3)			16	11	27	8	12	20
large local centre - local centre uses			163	141	304	164	191	355
large local centre - food store			32	27	59	83	87	170
neighbourhood centres - local centre uses			16	14	30	16	19	35
total			1031	1886	2917	1707	1046	2753

- 6.4 These figures are shown in the table below, along with the figures for Cambourne. Also shown are the figures for Langley, a large development on the northeastern edge of Birmingham⁷, and figures for New Lubbesthorpe. The figures demonstrate the level of robustness in the Isley Woodhouse calculations.

two-way external traffic generation	AM peak hour	PM peak hour
Isley Woodhouse (4,250 dwellings)	2,917	2,753
Cambourne (4,240 dwellings)	1,575	2,530
Langley (6,000 dwellings)	1,687	1,783
New Lubbesthorpe (4,250 dwellings) TA	2,360	2,283
New Lubbesthorpe (4,250 dwellings) LLITM	1,991	2,163

Vehicle types

- 6.5 For the purposes of the strategic modelling, assumptions are required about different vehicle types. The only land-use that is likely to generate a material number of HGV trips would be the employment zone. It is assumed that up to 10% of the traffic generated by this part of the development could be HGVs.

7.0 SUMMARY AND CONCLUSIONS

- 7.1 This Technical Note estimates the amount of traffic that would be generated by Isley Woodhouse, a proposed new settlement of 4,250 houses and other uses. It is a revision to an earlier version following feedback from LCC and National Highways.
- 7.2 TRICS, a database of traffic counts at developments, contains a count at one settlement, Cambourne in Cambridgeshire, which has 4,240 houses. There are many other similarities between the two settlements, and reasons why Cambourne is a robust comparison site, likely to generate more traffic than Isley Woodhouse.
- 7.3 A second more complex way of estimating Isley Woodhouse's traffic generation has also been followed, with traffic estimates made for each of its many uses. Co-locating uses side by side creates a sustainable settlement where, for example, a pupil who lives in the development will also attend the school within the development, negating the need to travel on the external highway network. Therefore, internalisation rates for the various uses were proposed. Following discussions about the trip rates and internalisation factors with LCC and National Highways, the amount of external traffic has been adjusted. It results in an estimate that is considerably in excess of the actual figures recorded at Cambourne.
- 7.4 Nevertheless, it is proposed that the very robust estimates in this report are used for the strategic traffic modelling, whereafter a feedback loop may allow further refinement of the traffic forecasts.

APPENDIX A

TRICS ASSESSMENT - RESIDENTIAL

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
 Category : A - HOUSES PRIVATELY OWNED

TOTAL VEHICLESSelected regions and areas:

02	SOUTH EAST	
	ES	EAST SUSSEX 3 days
	EX	ESSEX 1 days
	HC	HAMPSHIRE 1 days
	HF	HERTFORDSHIRE 1 days
	IW	ISLE OF WIGHT 1 days
	KC	KENT 5 days
	SC	SURREY 3 days
	WS	WEST SUSSEX 7 days
03	SOUTH WEST	
	DV	DEVON 2 days
04	EAST ANGLIA	
	CA	CAMBRIDGESHIRE 1 days
	NF	NORFOLK 11 days
	SF	SUFFOLK 2 days
05	EAST MIDLANDS	
	DS	DERBYSHIRE 1 days
	LE	LEICESTERSHIRE 1 days
06	WEST MIDLANDS	
	SH	SHROPSHIRE 1 days
	ST	STAFFORDSHIRE 1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	NE	NORTH EAST LINCOLNSHIRE 1 days
	NY	NORTH YORKSHIRE 2 days
	SY	SOUTH YORKSHIRE 1 days
09	NORTH	
	DH	DURHAM 3 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: No of Dwellings
 Actual Range: 50 to 1882 (units:)
 Range Selected by User: 50 to 4334 (units:)

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/13 to 23/09/21

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:

Monday	8 days
Tuesday	12 days
Wednesday	13 days
Thursday	11 days
Friday	5 days

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

Selected survey types:

Manual count	44 days
Directional ATC Count	5 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:

Suburban Area (PPS6 Out of Centre)	9
Edge of Town	31
Neighbourhood Centre (PPS6 Local Centre)	8
Free Standing (PPS6 Out of Town)	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:

Residential Zone	37
Village	8
Out of Town	2
No Sub Category	2

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.

Secondary Filtering selection:

Use Class:

C3	49 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 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:

1,000 or Less	1 days
1,001 to 5,000	11 days
5,001 to 10,000	13 days
10,001 to 15,000	14 days
15,001 to 20,000	5 days
20,001 to 25,000	4 days
25,001 to 50,000	1 days

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

Population within 5 miles:

5,001 to 25,000	8 days
25,001 to 50,000	8 days
50,001 to 75,000	7 days
75,001 to 100,000	11 days
100,001 to 125,000	1 days
125,001 to 250,000	12 days
250,001 to 500,000	2 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	10 days
1.1 to 1.5	34 days
1.6 to 2.0	5 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:

Yes	21 days
No	28 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	48 days
2 Poor	1 days

LIST OF SITES relevant to selection parameters

1	CA-03-A-06	MIXED HOUSES	CAMBRIDGESHIRE
	CRAFT'S WAY		
	NEAR CAMBRIDGE		
	BAR HILL		
	Neighbourhood Centre (PPS6 Local Centre)		
	Village		
	Total No of Dwellings:	207	
	Survey date: FRIDAY	22/06/18	Survey Type: MANUAL
2	DH-03-A-01	SEMI DETACHED	DURHAM
	GREENFIELDS ROAD		
	BISHOP AUCKLAND		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total No of Dwellings:	50	
	Survey date: TUESDAY	28/03/17	Survey Type: MANUAL
3	DH-03-A-02	MIXED HOUSES	DURHAM
	LEAZES LANE		
	BISHOP AUCKLAND		
	ST HELEN AUCKLAND		
	Neighbourhood Centre (PPS6 Local Centre)		
	Residential Zone		
	Total No of Dwellings:	125	
	Survey date: MONDAY	27/03/17	Survey Type: MANUAL
4	DH-03-A-03	SEMI-DETACHED & TERRACED	DURHAM
	PILGRIMS WAY		
	DURHAM		
	Edge of Town		
	Residential Zone		
	Total No of Dwellings:	57	
	Survey date: FRIDAY	19/10/18	Survey Type: MANUAL
5	DS-03-A-02	MIXED HOUSES	DERBYSHIRE
	RADBOURNE LANE		
	DERBY		
	Edge of Town		
	Residential Zone		
	Total No of Dwellings:	371	
	Survey date: TUESDAY	10/07/18	Survey Type: MANUAL
6	DV-03-A-02	HOUSES & BUNGALOWS	DEVON
	MILLHEAD ROAD		
	HONITON		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total No of Dwellings:	116	
	Survey date: FRIDAY	25/09/15	Survey Type: MANUAL
7	DV-03-A-03	TERRACED & SEMI DETACHED	DEVON
	LOWER BRAND LANE		
	HONITON		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total No of Dwellings:	70	
	Survey date: MONDAY	28/09/15	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

8	ES-03-A-03 SHEPHAM LANE POLEGATE	MIXED HOUSES & FLATS	EAST SUSSEX
	Edge of Town Residential Zone Total No of Dwellings: 212 Survey date: MONDAY 11/07/16		Survey Type: MANUAL
9	ES-03-A-04 NEW LYDD ROAD CAMBER	MIXED HOUSES & FLATS	EAST SUSSEX
	Edge of Town Residential Zone Total No of Dwellings: 134 Survey date: FRIDAY 15/07/16		Survey Type: MANUAL
10	ES-03-A-05 RATTLE ROAD NEAR EASTBOURNE STONE CROSS	MIXED HOUSES & FLATS	EAST SUSSEX
	Edge of Town Residential Zone Total No of Dwellings: 99 Survey date: WEDNESDAY 05/06/19		Survey Type: MANUAL
11	EX-03-A-02 MANOR ROAD CHIGWELL GRANGE HILL	DETACHED & SEMI-DETACHED	ESSEX
	Edge of Town Residential Zone Total No of Dwellings: 97 Survey date: MONDAY 27/11/17		Survey Type: MANUAL
12	HC-03-A-23 CANADA WAY LIPHOOK	HOUSES & FLATS	HAMPSHIRE
	Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings: 62 Survey date: TUESDAY 19/11/19		Survey Type: MANUAL
13	HF-03-A-03 HARE STREET ROAD BUNTINGFORD	MIXED HOUSES	HERTFORDSHIRE
	Edge of Town Residential Zone Total No of Dwellings: 160 Survey date: MONDAY 08/07/19		Survey Type: MANUAL
14	IW-03-A-01 MEDHAM FARM LANE NEAR COWES MEDHAM	DETACHED HOUSES	ISLE OF WIGHT
	Free Standing (PPS6 Out of Town) Out of Town Total No of Dwellings: 72 Survey date: TUESDAY 25/06/19		Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

15	KC-03-A-03	MIXED HOUSES & FLATS	KENT
	HYTHE ROAD		
	ASHFORD		
	WILLESBOROUGH		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total No of Dwellings:		51
	Survey date: THURSDAY		14/07/16
			Survey Type: MANUAL
16	KC-03-A-04	SEMI-DETACHED & TERRACED	KENT
	KILN BARN ROAD		
	AYLESFORD		
	DITTON		
	Edge of Town		
	Residential Zone		
	Total No of Dwellings:		110
	Survey date: FRIDAY		22/09/17
			Survey Type: MANUAL
17	KC-03-A-06	MIXED HOUSES & FLATS	KENT
	MARGATE ROAD		
	HERNE BAY		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total No of Dwellings:		363
	Survey date: WEDNESDAY		27/09/17
			Survey Type: MANUAL
18	KC-03-A-07	MIXED HOUSES	KENT
	RECVLVER ROAD		
	HERNE BAY		
	Edge of Town		
	Residential Zone		
	Total No of Dwellings:		288
	Survey date: WEDNESDAY		27/09/17
			Survey Type: MANUAL
19	KC-03-A-08	MIXED HOUSES	KENT
	MAIDSTONE ROAD		
	CHARING		
	Neighbourhood Centre (PPS6 Local Centre)		
	Village		
	Total No of Dwellings:		159
	Survey date: TUESDAY		22/05/18
			Survey Type: MANUAL
20	LE-03-A-02	DETACHED & OTHERS	LEICESTERSHIRE
	MELBOURNE ROAD		
	IBSTOCK		
	Neighbourhood Centre (PPS6 Local Centre)		
	Village		
	Total No of Dwellings:		85
	Survey date: THURSDAY		28/06/18
			Survey Type: MANUAL
21	NE-03-A-02	SEMI DETACHED & DETACHED	NORTH EAST LINCOLNSHIRE
	HANOVER WALK		
	SCUNTHORPE		
	Edge of Town		
	No Sub Category		
	Total No of Dwellings:		432
	Survey date: MONDAY		12/05/14
			Survey Type: MANUAL
22	NF-03-A-16	MIXED HOUSES & FLATS	NORFOLK
	NORWICH COMMON		
	WYMONDHAM		
	Edge of Town		
	Residential Zone		
	Total No of Dwellings:		138
	Survey date: TUESDAY		20/10/15
			Survey Type: DIRECTIONAL ATC COUNT
23	NF-03-A-21	MIXED HOUSES & FLATS	NORFOLK
	SIR ALFRED MUNNINGS RD		
	NEAR NORWICH		
	COSTESSEY		
	Neighbourhood Centre (PPS6 Local Centre)		
	Village		
	Total No of Dwellings:		1882
	Survey date: TUESDAY		13/10/20
			Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

24	NF-03-A-22	MIXED HOUSES & FLATS	NORFOLK
	ROUND HOUSE WAY		
	NORWICH		
	CRINGLEFORD		
	Edge of Town		
	Residential Zone		
	Total No of Dwellings:	984	
	Survey date: TUESDAY	13/10/20	Survey Type: MANUAL
25	NF-03-A-23	MIXED HOUSES & FLATS	NORFOLK
	SILFIELD ROAD		
	WYMONDHAM		
	Edge of Town		
	Out of Town		
	Total No of Dwellings:	514	
	Survey date: WEDNESDAY	22/09/21	Survey Type: MANUAL
26	NF-03-A-24	MIXED HOUSES & FLATS	NORFOLK
	HUNSTANTON ROAD		
	HUNSTANTON		
	Edge of Town		
	Residential Zone		
	Total No of Dwellings:	127	
	Survey date: WEDNESDAY	22/09/21	Survey Type: DIRECTIONAL ATC COUNT
27	NF-03-A-25	MIXED HOUSES & FLATS	NORFOLK
	WOODFARM LANE		
	GORLESTON-ON-SEA		
	Edge of Town		
	Residential Zone		
	Total No of Dwellings:	55	
	Survey date: TUESDAY	21/09/21	Survey Type: MANUAL
28	NF-03-A-26	MIXED HOUSES	NORFOLK
	HEATH DRIVE		
	HOLT		
	Edge of Town		
	Residential Zone		
	Total No of Dwellings:	91	
	Survey date: WEDNESDAY	22/09/21	Survey Type: DIRECTIONAL ATC COUNT
29	NF-03-A-27	MIXED HOUSES & FLATS	NORFOLK
	YARMOUTH ROAD		
	NEAR NORWICH		
	BLOFIELD		
	Neighbourhood Centre (PPS6 Local Centre)		
	Village		
	Total No of Dwellings:	93	
	Survey date: THURSDAY	16/09/21	Survey Type: MANUAL
30	NF-03-A-28	MIXED HOUSES	NORFOLK
	NORTH WALSHAM ROAD		
	NORTH WALSHAM		
	Edge of Town		
	Residential Zone		
	Total No of Dwellings:	100	
	Survey date: WEDNESDAY	22/09/21	Survey Type: DIRECTIONAL ATC COUNT
31	NF-03-A-29	MIXED HOUSES	NORFOLK
	BEAUFORT WAY		
	GREAT YARMOUTH		
	BRADWELL		
	Edge of Town		
	Residential Zone		
	Total No of Dwellings:	486	
	Survey date: WEDNESDAY	22/09/21	Survey Type: DIRECTIONAL ATC COUNT

LIST OF SITES relevant to selection parameters (Cont.)

32	NF-03-A-30	MIXED HOUSES	NORFOLK
	BRANDON ROAD SWAFFHAM		
	Edge of Town Residential Zone Total No of Dwellings:	266	
	Survey date: THURSDAY	23/09/21	Survey Type: MANUAL
33	NY-03-A-09	MIXED HOUSING	NORTH YORKSHIRE
	GRAMMAR SCHOOL LANE NORTHALLERTON		
	Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings:	52	
	Survey date: MONDAY	16/09/13	Survey Type: MANUAL
34	NY-03-A-10	HOUSES AND FLATS	NORTH YORKSHIRE
	BOROUGHBRIDGE ROAD RIPON		
	Edge of Town No Sub Category Total No of Dwellings:	71	
	Survey date: TUESDAY	17/09/13	Survey Type: MANUAL
35	SC-03-A-04	DETACHED & TERRACED	SURREY
	HIGH ROAD BYFLEET		
	Edge of Town Residential Zone Total No of Dwellings:	71	
	Survey date: THURSDAY	23/01/14	Survey Type: MANUAL
36	SC-03-A-05	MIXED HOUSES	SURREY
	REIGATE ROAD HORLEY		
	Edge of Town Residential Zone Total No of Dwellings:	207	
	Survey date: MONDAY	01/04/19	Survey Type: MANUAL
37	SC-03-A-06	MIXED HOUSES & FLATS	SURREY
	AMLETS LANE CRANLEIGH		
	Neighbourhood Centre (PPS6 Local Centre) Village Total No of Dwellings:	116	
	Survey date: THURSDAY	08/10/20	Survey Type: MANUAL
38	SF-03-A-09	MIXED HOUSES & FLATS	SUFFOLK
	FOXHALL ROAD IPSWICH		
	Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings:	179	
	Survey date: THURSDAY	24/06/21	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

39	SF-03-A-10	TERRACED & SEMI-DETACHED	SUFFOLK
	LOVETOFTS DRIVE		
	IPSWICH		
	WHITEHOUSE		
	Edge of Town		
	Residential Zone		
	Total No of Dwellings:	149	
	Survey date: TUESDAY	22/06/21	Survey Type: MANUAL
40	SH-03-A-05	SEMI-DETACHED/TERRACED	SHROPSHIRE
	SANDCROFT		
	TELFORD		
	SUTTON HILL		
	Edge of Town		
	Residential Zone		
	Total No of Dwellings:	54	
	Survey date: THURSDAY	24/10/13	Survey Type: MANUAL
41	ST-03-A-07	DETACHED & SEMI-DETACHED	STAFFORDSHIRE
	BEACONSIDE		
	STAFFORD		
	MARSTON GATE		
	Edge of Town		
	Residential Zone		
	Total No of Dwellings:	248	
	Survey date: WEDNESDAY	22/11/17	Survey Type: MANUAL
42	SY-03-A-01	SEMI DETACHED HOUSES	SOUTH YORKSHIRE
	A19 BENTLEY ROAD		
	DONCASTER		
	BENTLEY RISE		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total No of Dwellings:	54	
	Survey date: WEDNESDAY	18/09/13	Survey Type: MANUAL
43	WS-03-A-04	MIXED HOUSES	WEST SUSSEX
	HILLS FARM LANE		
	HORSHAM		
	BROADBRIDGE HEATH		
	Edge of Town		
	Residential Zone		
	Total No of Dwellings:	151	
	Survey date: THURSDAY	11/12/14	Survey Type: MANUAL
44	WS-03-A-07	BUNGALOWS	WEST SUSSEX
	EMMS LANE		
	NEAR HORSHAM		
	BROOKS GREEN		
	Neighbourhood Centre (PPS6 Local Centre)		
	Village		
	Total No of Dwellings:	57	
	Survey date: THURSDAY	19/10/17	Survey Type: MANUAL
45	WS-03-A-08	MIXED HOUSES	WEST SUSSEX
	ROUNDSTONE LANE		
	ANGMERING		
	Edge of Town		
	Residential Zone		
	Total No of Dwellings:	180	
	Survey date: THURSDAY	19/04/18	Survey Type: MANUAL
46	WS-03-A-10	MIXED HOUSES	WEST SUSSEX
	TODDINGTON LANE		
	LITTLEHAMPTON		
	WICK		
	Edge of Town		
	Residential Zone		
	Total No of Dwellings:	79	
	Survey date: WEDNESDAY	07/11/18	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

47	WS-03-A-11	MIXED HOUSES	WEST SUSSEX
	ELLIS ROAD		
	WEST HORSHAM		
	S BROADBRIDGE HEATH		
	Edge of Town		
	Residential Zone		
	Total No of Dwellings:	918	
	Survey date: TUESDAY	02/04/19	Survey Type: MANUAL
48	WS-03-A-12	MIXED HOUSES	WEST SUSSEX
	MADGWICK LANE		
	CHICHESTER		
	WESTHAMPNETT		
	Edge of Town		
	Village		
	Total No of Dwellings:	152	
	Survey date: WEDNESDAY	16/06/21	Survey Type: MANUAL
49	WS-03-A-13	MIXED HOUSES & FLATS	WEST SUSSEX
	LITTLEHAMPTON ROAD		
	WORTHING		
	WEST DURRINGTON		
	Edge of Town		
	Residential Zone		
	Total No of Dwellings:	197	
	Survey date: WEDNESDAY	23/06/21	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.

ADC Infrastructure Limited The Lace Market Nottingham

Licence No: 855401

RANK ORDER for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

TOTAL VEHICLESRanking Type: **TOTALS** Time Range: 08:00-09:0015th Percentile = No. **42** KC-03-A-08 Tot: 0.32785th Percentile = No. **8** ES-03-A-05 Tot: 0.626Median Values

Arrivals: 0.105

Departures: 0.383

Totals: 0.488

Mean Values

Arrivals: 0.138

Departures: 0.344

Totals: 0.482

Rank	Site-Ref	Description	Town/City	Area	DWELLS	Day	Date	Trip Rate (Sorted by Totals)			Park Spaces Per Dwelling
								Arrivals	Departures	Totals	
1	NF-03-A-25	MIXED HOUSES &	GORLESTON-ON-SEA	NORFOLK	55	Tue	21/09/21	0.382	0.564	0.946	2.31
2	KC-03-A-03	MIXED HOUSES &	ASHFORD	KENT	51	Thu	14/07/16	0.157	0.588	0.745	2.16
3	WS-03-A-13	MIXED HOUSES &	WORTHING	WEST SUSSEX	197	Wed	23/06/21	0.254	0.477	0.731	1.96
4	NY-03-A-10	HOUSES AND FLA	RIPON	NORTH YORKSHIRE	71	Tue	17/09/13	0.183	0.521	0.704	0.83
5	NF-03-A-29	MIXED HOUSES	GREAT YARMOUTH	NORFOLK	486	Wed	22/09/21	0.193	0.473	0.666	2.15
6	NF-03-A-16	MIXED HOUSES &	WYMONDHAM	NORFOLK	138	Tue	20/10/15	0.210	0.449	0.659	2.01
7	ES-03-A-03	MIXED HOUSES &	POLEGATE	EAST SUSSEX	212	Mon	11/07/16	0.165	0.462	0.627	1.68
8	ES-03-A-05	MIXED HOUSES &	NEAR EASTBOURNE	EAST SUSSEX	99	Wed	05/06/19	0.131	0.495	0.626	1.99
9	KC-03-A-07	MIXED HOUSES	HERNE BAY	KENT	288	Wed	27/09/17	0.240	0.385	0.625	3.09
10	DV-03-A-03	TERRACED & SEM	HONITON	DEVON	70	Mon	28/09/15	0.086	0.529	0.615	1.66
11	HC-03-A-23	HOUSES & FLATS	LIPHOOK	HAMPSHIRE	62	Tue	19/11/19	0.113	0.500	0.613	2.19
12	NF-03-A-23	MIXED HOUSES &	WYMONDHAM	NORFOLK	514	Wed	22/09/21	0.183	0.422	0.605	2.48
13	KC-03-A-04	SEMI-DETACHED	AYLESFORD	KENT	110	Fri	22/09/17	0.127	0.473	0.600	1.77
14	WS-03-A-11	MIXED HOUSES	WEST HORSHAM	WEST SUSSEX	918	Tue	02/04/19	0.147	0.451	0.598	2.06
15	CA-03-A-06	MIXED HOUSES	NEAR CAMBRIDGE	CAMBRIDGESHIRE	207	Fri	22/06/18	0.184	0.401	0.585	3.75
16	NF-03-A-26	MIXED HOUSES	HOLT	NORFOLK	91	Wed	22/09/21	0.220	0.352	0.572	2.55
17	LE-03-A-02	DETACHED & OTH	IBSTOCK	LEICESTERSHIRE	85	Thu	28/06/18	0.212	0.353	0.565	4.27
18	DH-03-A-03	SEMI-DETACHED	DURHAM	DURHAM	57	Fri	19/10/18	0.211	0.333	0.544	3.33
19	IW-03-A-01	DETACHED HOUSE	NEAR COWES	ISLE OF WIGHT	72	Tue	25/06/19	0.153	0.361	0.514	3.82
20	SC-03-A-06	MIXED HOUSES &	CRANLEIGH	SURREY	116	Thu	08/10/20	0.207	0.302	0.509	2.19
21	SH-03-A-05	SEMI-DETACHED/	TELFORD	SHROPSHIRE	54	Thu	24/10/13	0.130	0.370	0.500	1.17
22	NF-03-A-28	MIXED HOUSES	NORTH WALSHAM	NORFOLK	100	Wed	22/09/21	0.120	0.380	0.500	2.33
23	SC-03-A-04	DETACHED & TER	BYFLEET	SURREY	71	Thu	23/01/14	0.141	0.352	0.493	2.49
24	DS-03-A-02	MIXED HOUSES	DERBY	DERBYSHIRE	371	Tue	10/07/18	0.089	0.402	0.491	2.92
25	ST-03-A-07	DETACHED & SEM	STAFFORD	STAFFORDSHIRE	248	Wed	22/11/17	0.105	0.383	0.488	3.55
26	KC-03-A-06	MIXED HOUSES &	HERNE BAY	KENT	363	Wed	27/09/17	0.091	0.386	0.477	2.17
27	WS-03-A-08	MIXED HOUSES	ANGMERING	WEST SUSSEX	180	Thu	19/04/18	0.106	0.367	0.473	2.93
28	SC-03-A-05	MIXED HOUSES	HORLEY	SURREY	207	Mon	01/04/19	0.092	0.362	0.454	3.14
29	SF-03-A-09	MIXED HOUSES &	IPSWICH	SUFFOLK	179	Thu	24/06/21	0.123	0.324	0.447	2.23
30	SY-03-A-01	SEMI DETACHED	DONCASTER	SOUTH YORKSHIRE	54	Wed	18/09/13	0.056	0.389	0.445	1.13
31	NF-03-A-22	MIXED HOUSES &	NORWICH	NORFOLK	984	Tue	13/10/20	0.176	0.267	0.443	2.35
32	HF-03-A-03	MIXED HOUSES	BUNTINGFORD	HERTFORDSHIRE	160	Mon	08/07/19	0.119	0.319	0.438	3.95
33	NF-03-A-21	MIXED HOUSES &	NEAR NORWICH	NORFOLK	1882	Tue	13/10/20	0.128	0.296	0.424	1.43
34	NE-03-A-02	SEMI DETACHED	SCUNTHORPE	NORTH EAST LINCOLNS	432	Mon	12/05/14	0.067	0.354	0.421	1.00
35	WS-03-A-04	MIXED HOUSES	HORSHAM	WEST SUSSEX	151	Thu	11/12/14	0.139	0.278	0.417	2.28
36	SF-03-A-10	TERRACED & SEM	IPSWICH	SUFFOLK	149	Tue	22/06/21	0.101	0.295	0.396	2.21
37	NF-03-A-24	MIXED HOUSES &	HUNSTANTON	NORFOLK	127	Wed	22/09/21	0.126	0.260	0.386	2.37
38	NY-03-A-09	MIXED HOUSING	NORTHALLERTON	NORTH YORKSHIRE	52	Mon	16/09/13	0.173	0.212	0.385	2.60
39	NF-03-A-27	MIXED HOUSES &	NEAR NORWICH	NORFOLK	93	Thu	16/09/21	0.129	0.247	0.376	2.67
40	DV-03-A-02	HOUSES & BUNGA	HONITON	DEVON	116	Fri	25/09/15	0.103	0.241	0.344	2.25
41	WS-03-A-10	MIXED HOUSES	LITTLEHAMPTON	WEST SUSSEX	79	Wed	07/11/18	0.089	0.241	0.330	2.41
42	KC-03-A-08	MIXED HOUSES	CHARING	KENT	159	Tue	22/05/18	0.113	0.214	0.327	3.02

ADC Infrastructure Limited The Lace Market Nottingham

Licence No: 855401

Rank	Site-Ref	Description	Town/City	Area	DWELLS	Day	Date	Trip Rate (Sorted by Totals)			Park Spaces Per Dwelling
								Arrivals	Departures	Totals	
43	WS-03-A-07	BUNGALOWS	NEAR HORSHAM	WEST SUSSEX	57	Thu	19/10/17	0.140	0.140	0.280	1.89
44	WS-03-A-12	MIXED HOUSES	CHICHESTER	WEST SUSSEX	152	Wed	16/06/21	0.079	0.184	0.263	0.86
45	EX-03-A-02	DETACHED & SEM	CHIGWELL	ESSEX	97	Mon	27/11/17	0.103	0.155	0.258	0.87
46	NF-03-A-30	MIXED HOUSES	SWAFFHAM	NORFOLK	266	Thu	23/09/21	0.075	0.158	0.233	2.99
47	ES-03-A-04	MIXED HOUSES &	CAMBER	EAST SUSSEX	134	Fri	15/07/16	0.052	0.134	0.186	1.91
48	DH-03-A-01	SEMI DETACHED	BISHOP AUCKLAND	DURHAM	50	Tue	28/03/17	0.020	0.140	0.160	1.74
49	DH-03-A-02	MIXED HOUSES	BISHOP AUCKLAND	DURHAM	125	Mon	27/03/17	0.032	0.104	0.136	0.99

This section displays actual (not average) trip rates for each of the survey days in the selected set, and ranks them in order of relative trip rate intensity, for a given time period (or peak period irrespective of time) selected by the user. The count type and direction are both displayed just above the table, along with the rows within the table representing the 85th and 15th percentile trip rate figures (highlighted in bold within the table itself).

The table itself displays details of each individual survey, alongside arrivals, departures and totals trip rates, sorted by whichever of the three directional options has been chosen by the user. As with the preceeding trip rate calculation results table, the trip rates shown are per the calculation factor (e.g. per 100m2 GFA, per employee, per hectare, etc). Note that if the peak period option has been selected (as opposed to a specific chosen time period), the peak period for each individual survey day in the table is also displayed.

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
 Category : A - HOUSES PRIVATELY OWNED

TOTAL VEHICLESSelected regions and areas:

02 SOUTH EAST	
ES EAST SUSSEX	3 days
EX ESSEX	1 days
HC HAMPSHIRE	1 days
HF HERTFORDSHIRE	1 days
IW ISLE OF WIGHT	1 days
KC KENT	5 days
SC SURREY	3 days
WS WEST SUSSEX	7 days
03 SOUTH WEST	
DV DEVON	2 days
04 EAST ANGLIA	
CA CAMBRIDGESHIRE	1 days
NF NORFOLK	11 days
SF SUFFOLK	2 days
05 EAST MIDLANDS	
DS DERBYSHIRE	1 days
LE LEICESTERSHIRE	1 days
06 WEST MIDLANDS	
SH SHROPSHIRE	1 days
ST STAFFORDSHIRE	1 days
07 YORKSHIRE & NORTH LINCOLNSHIRE	
NE NORTH EAST LINCOLNSHIRE	1 days
NY NORTH YORKSHIRE	2 days
SY SOUTH YORKSHIRE	1 days
09 NORTH	
DH DURHAM	3 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: No of Dwellings
 Actual Range: 50 to 1882 (units:)
 Range Selected by User: 50 to 4334 (units:)

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/13 to 23/09/21

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:

Monday	8 days
Tuesday	12 days
Wednesday	13 days
Thursday	11 days
Friday	5 days

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

Selected survey types:

Manual count	44 days
Directional ATC Count	5 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding

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:

Residential Zone	37
Village	8
Out of Town	2
No Sub Category	2

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.

Secondary Filtering selection:

Use Class:

C3	49 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 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:

1,000 or Less	1 days
1,001 to 5,000	11 days
5,001 to 10,000	13 days
10,001 to 15,000	14 days
15,001 to 20,000	5 days
20,001 to 25,000	4 days
25,001 to 50,000	1 days

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

Population within 5 miles:

5,001 to 25,000	8 days
25,001 to 50,000	8 days
50,001 to 75,000	7 days
75,001 to 100,000	11 days
100,001 to 125,000	1 days
125,001 to 250,000	12 days
250,001 to 500,000	2 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	10 days
1.1 to 1.5	34 days
1.6 to 2.0	5 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:

Yes	21 days
No	28 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	48 days
2 Poor	1 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	CA-03-A-06	MIXED HOUSES	CAMBRIDGESHIRE
	CRAFT'S WAY		
	NEAR CAMBRIDGE		
	BAR HILL		
	Neighbourhood Centre (PPS6 Local Centre)		
	Village		
	Total No of Dwellings:	207	
	Survey date: FRIDAY	22/06/18	Survey Type: MANUAL
2	DH-03-A-01	SEMI DETACHED	DURHAM
	GREENFIELDS ROAD		
	BISHOP AUCKLAND		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total No of Dwellings:	50	
	Survey date: TUESDAY	28/03/17	Survey Type: MANUAL
3	DH-03-A-02	MIXED HOUSES	DURHAM
	LEAZES LANE		
	BISHOP AUCKLAND		
	ST HELEN AUCKLAND		
	Neighbourhood Centre (PPS6 Local Centre)		
	Residential Zone		
	Total No of Dwellings:	125	
	Survey date: MONDAY	27/03/17	Survey Type: MANUAL
4	DH-03-A-03	SEMI-DETACHED & TERRACED	DURHAM
	PILGRIMS WAY		
	DURHAM		
	Edge of Town		
	Residential Zone		
	Total No of Dwellings:	57	
	Survey date: FRIDAY	19/10/18	Survey Type: MANUAL
5	DS-03-A-02	MIXED HOUSES	DERBYSHIRE
	RADBOURNE LANE		
	DERBY		
	Edge of Town		
	Residential Zone		
	Total No of Dwellings:	371	
	Survey date: TUESDAY	10/07/18	Survey Type: MANUAL
6	DV-03-A-02	HOUSES & BUNGALOWS	DEVON
	MILLHEAD ROAD		
	HONITON		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total No of Dwellings:	116	
	Survey date: FRIDAY	25/09/15	Survey Type: MANUAL
7	DV-03-A-03	TERRACED & SEMI DETACHED	DEVON
	LOWER BRAND LANE		
	HONITON		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total No of Dwellings:	70	
	Survey date: MONDAY	28/09/15	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

8	ES-03-A-03 SHEPHAM LANE POLEGATE	MIXED HOUSES & FLATS	EAST SUSSEX
	Edge of Town Residential Zone Total No of Dwellings: 212 Survey date: MONDAY 11/07/16		Survey Type: MANUAL
9	ES-03-A-04 NEW LYDD ROAD CAMBER	MIXED HOUSES & FLATS	EAST SUSSEX
	Edge of Town Residential Zone Total No of Dwellings: 134 Survey date: FRIDAY 15/07/16		Survey Type: MANUAL
10	ES-03-A-05 RATTLE ROAD NEAR EASTBOURNE STONE CROSS	MIXED HOUSES & FLATS	EAST SUSSEX
	Edge of Town Residential Zone Total No of Dwellings: 99 Survey date: WEDNESDAY 05/06/19		Survey Type: MANUAL
11	EX-03-A-02 MANOR ROAD CHIGWELL GRANGE HILL	DETACHED & SEMI-DETACHED	ESSEX
	Edge of Town Residential Zone Total No of Dwellings: 97 Survey date: MONDAY 27/11/17		Survey Type: MANUAL
12	HC-03-A-23 CANADA WAY LIPHOOK	HOUSES & FLATS	HAMPSHIRE
	Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings: 62 Survey date: TUESDAY 19/11/19		Survey Type: MANUAL
13	HF-03-A-03 HARE STREET ROAD BUNTINGFORD	MIXED HOUSES	HERTFORDSHIRE
	Edge of Town Residential Zone Total No of Dwellings: 160 Survey date: MONDAY 08/07/19		Survey Type: MANUAL
14	IW-03-A-01 MEDHAM FARM LANE NEAR COWES MEDHAM	DETACHED HOUSES	ISLE OF WIGHT
	Free Standing (PPS6 Out of Town) Out of Town Total No of Dwellings: 72 Survey date: TUESDAY 25/06/19		Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

15	KC-03-A-03	MIXED HOUSES & FLATS	KENT
	HYTHE ROAD ASHFORD WILLESBOROUGH Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings: 51 Survey date: THURSDAY 14/07/16 Survey Type: MANUAL		
16	KC-03-A-04	SEMI-DETACHED & TERRACED	KENT
	KILN BARN ROAD AYLESFORD DITTON Edge of Town Residential Zone Total No of Dwellings: 110 Survey date: FRIDAY 22/09/17 Survey Type: MANUAL		
17	KC-03-A-06	MIXED HOUSES & FLATS	KENT
	MARGATE ROAD HERNE BAY Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings: 363 Survey date: WEDNESDAY 27/09/17 Survey Type: MANUAL		
18	KC-03-A-07	MIXED HOUSES	KENT
	RECVLVER ROAD HERNE BAY Edge of Town Residential Zone Total No of Dwellings: 288 Survey date: WEDNESDAY 27/09/17 Survey Type: MANUAL		
19	KC-03-A-08	MIXED HOUSES	KENT
	MAIDSTONE ROAD CHARING Neighbourhood Centre (PPS6 Local Centre) Village Total No of Dwellings: 159 Survey date: TUESDAY 22/05/18 Survey Type: MANUAL		
20	LE-03-A-02	DETACHED & OTHERS	LEICESTERSHIRE
	MELBOURNE ROAD IBSTOCK Neighbourhood Centre (PPS6 Local Centre) Village Total No of Dwellings: 85 Survey date: THURSDAY 28/06/18 Survey Type: MANUAL		
21	NE-03-A-02	SEMI DETACHED & DETACHED	NORTH EAST LINCOLNSHIRE
	HANOVER WALK SCUNTHORPE Edge of Town No Sub Category Total No of Dwellings: 432 Survey date: MONDAY 12/05/14 Survey Type: MANUAL		
22	NF-03-A-16	MIXED HOUSES & FLATS	NORFOLK
	NORWICH COMMON WYMONDHAM Edge of Town Residential Zone Total No of Dwellings: 138 Survey date: TUESDAY 20/10/15 Survey Type: DIRECTIONAL ATC COUNT		
23	NF-03-A-21	MIXED HOUSES & FLATS	NORFOLK
	SIR ALFRED MUNNINGS RD NEAR NORWICH COSTESSEY Neighbourhood Centre (PPS6 Local Centre) Village Total No of Dwellings: 1882 Survey date: TUESDAY 13/10/20 Survey Type: MANUAL		

LIST OF SITES relevant to selection parameters (Cont.)

24	NF-03-A-22	MIXED HOUSES & FLATS	NORFOLK
	ROUND HOUSE WAY		
	NORWICH		
	CRINGLEFORD		
	Edge of Town		
	Residential Zone		
	Total No of Dwellings:	984	
	Survey date: TUESDAY	13/10/20	Survey Type: MANUAL
25	NF-03-A-23	MIXED HOUSES & FLATS	NORFOLK
	SILFIELD ROAD		
	WYMONDHAM		
	Edge of Town		
	Out of Town		
	Total No of Dwellings:	514	
	Survey date: WEDNESDAY	22/09/21	Survey Type: MANUAL
26	NF-03-A-24	MIXED HOUSES & FLATS	NORFOLK
	HUNSTANTON ROAD		
	HUNSTANTON		
	Edge of Town		
	Residential Zone		
	Total No of Dwellings:	127	
	Survey date: WEDNESDAY	22/09/21	Survey Type: DIRECTIONAL ATC COUNT
27	NF-03-A-25	MIXED HOUSES & FLATS	NORFOLK
	WOODFARM LANE		
	GORLESTON-ON-SEA		
	Edge of Town		
	Residential Zone		
	Total No of Dwellings:	55	
	Survey date: TUESDAY	21/09/21	Survey Type: MANUAL
28	NF-03-A-26	MIXED HOUSES	NORFOLK
	HEATH DRIVE		
	HOLT		
	Edge of Town		
	Residential Zone		
	Total No of Dwellings:	91	
	Survey date: WEDNESDAY	22/09/21	Survey Type: DIRECTIONAL ATC COUNT
29	NF-03-A-27	MIXED HOUSES & FLATS	NORFOLK
	YARMOUTH ROAD		
	NEAR NORWICH		
	BLOFIELD		
	Neighbourhood Centre (PPS6 Local Centre)		
	Village		
	Total No of Dwellings:	93	
	Survey date: THURSDAY	16/09/21	Survey Type: MANUAL
30	NF-03-A-28	MIXED HOUSES	NORFOLK
	NORTH WALSHAM ROAD		
	NORTH WALSHAM		
	Edge of Town		
	Residential Zone		
	Total No of Dwellings:	100	
	Survey date: WEDNESDAY	22/09/21	Survey Type: DIRECTIONAL ATC COUNT
31	NF-03-A-29	MIXED HOUSES	NORFOLK
	BEAUFORT WAY		
	GREAT YARMOUTH		
	BRADWELL		
	Edge of Town		
	Residential Zone		
	Total No of Dwellings:	486	
	Survey date: WEDNESDAY	22/09/21	Survey Type: DIRECTIONAL ATC COUNT

LIST OF SITES relevant to selection parameters (Cont.)

32	NF-03-A-30	MIXED HOUSES	NORFOLK
	BRANDON ROAD SWAFFHAM		
	Edge of Town Residential Zone Total No of Dwellings:	266	
	Survey date: THURSDAY	23/09/21	Survey Type: MANUAL
33	NY-03-A-09	MIXED HOUSING	NORTH YORKSHIRE
	GRAMMAR SCHOOL LANE NORTHALLERTON		
	Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings:	52	
	Survey date: MONDAY	16/09/13	Survey Type: MANUAL
34	NY-03-A-10	HOUSES AND FLATS	NORTH YORKSHIRE
	BOROUGHBRIDGE ROAD RIPON		
	Edge of Town No Sub Category Total No of Dwellings:	71	
	Survey date: TUESDAY	17/09/13	Survey Type: MANUAL
35	SC-03-A-04	DETACHED & TERRACED	SURREY
	HIGH ROAD BYFLEET		
	Edge of Town Residential Zone Total No of Dwellings:	71	
	Survey date: THURSDAY	23/01/14	Survey Type: MANUAL
36	SC-03-A-05	MIXED HOUSES	SURREY
	REIGATE ROAD HORLEY		
	Edge of Town Residential Zone Total No of Dwellings:	207	
	Survey date: MONDAY	01/04/19	Survey Type: MANUAL
37	SC-03-A-06	MIXED HOUSES & FLATS	SURREY
	AMLETS LANE CRANLEIGH		
	Neighbourhood Centre (PPS6 Local Centre) Village Total No of Dwellings:	116	
	Survey date: THURSDAY	08/10/20	Survey Type: MANUAL
38	SF-03-A-09	MIXED HOUSES & FLATS	SUFFOLK
	FOXHALL ROAD IPSWICH		
	Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings:	179	
	Survey date: THURSDAY	24/06/21	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

39	SF-03-A-10	TERRACED & SEMI-DETACHED	SUFFOLK
	LOVETOFTS DRIVE		
	IPSWICH		
	WHITEHOUSE		
	Edge of Town		
	Residential Zone		
	Total No of Dwellings:	149	
	Survey date: TUESDAY	22/06/21	Survey Type: MANUAL
40	SH-03-A-05	SEMI-DETACHED/TERRACED	SHROPSHIRE
	SANDCROFT		
	TELFORD		
	SUTTON HILL		
	Edge of Town		
	Residential Zone		
	Total No of Dwellings:	54	
	Survey date: THURSDAY	24/10/13	Survey Type: MANUAL
41	ST-03-A-07	DETACHED & SEMI-DETACHED	STAFFORDSHIRE
	BEACONSIDE		
	STAFFORD		
	MARSTON GATE		
	Edge of Town		
	Residential Zone		
	Total No of Dwellings:	248	
	Survey date: WEDNESDAY	22/11/17	Survey Type: MANUAL
42	SY-03-A-01	SEMI DETACHED HOUSES	SOUTH YORKSHIRE
	A19 BENTLEY ROAD		
	DONCASTER		
	BENTLEY RISE		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total No of Dwellings:	54	
	Survey date: WEDNESDAY	18/09/13	Survey Type: MANUAL
43	WS-03-A-04	MIXED HOUSES	WEST SUSSEX
	HILLS FARM LANE		
	HORSHAM		
	BROADBRIDGE HEATH		
	Edge of Town		
	Residential Zone		
	Total No of Dwellings:	151	
	Survey date: THURSDAY	11/12/14	Survey Type: MANUAL
44	WS-03-A-07	BUNGALOWS	WEST SUSSEX
	EMMS LANE		
	NEAR HORSHAM		
	BROOKS GREEN		
	Neighbourhood Centre (PPS6 Local Centre)		
	Village		
	Total No of Dwellings:	57	
	Survey date: THURSDAY	19/10/17	Survey Type: MANUAL
45	WS-03-A-08	MIXED HOUSES	WEST SUSSEX
	ROUNDSTONE LANE		
	ANGMERING		
	Edge of Town		
	Residential Zone		
	Total No of Dwellings:	180	
	Survey date: THURSDAY	19/04/18	Survey Type: MANUAL
46	WS-03-A-10	MIXED HOUSES	WEST SUSSEX
	TODDINGTON LANE		
	LITTLEHAMPTON		
	WICK		
	Edge of Town		
	Residential Zone		
	Total No of Dwellings:	79	
	Survey date: WEDNESDAY	07/11/18	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

47	WS-03-A-11	MIXED HOUSES	WEST SUSSEX
	ELLIS ROAD		
	WEST HORSHAM		
	S BROADBRIDGE HEATH		
	Edge of Town		
	Residential Zone		
	Total No of Dwellings:	918	
	Survey date: TUESDAY	02/04/19	Survey Type: MANUAL
48	WS-03-A-12	MIXED HOUSES	WEST SUSSEX
	MADGWICK LANE		
	CHICHESTER		
	WESTHAMPNETT		
	Edge of Town		
	Village		
	Total No of Dwellings:	152	
	Survey date: WEDNESDAY	16/06/21	Survey Type: MANUAL
49	WS-03-A-13	MIXED HOUSES & FLATS	WEST SUSSEX
	LITTLEHAMPTON ROAD		
	WORTHING		
	WEST DURRINGTON		
	Edge of Town		
	Residential Zone		
	Total No of Dwellings:	197	
	Survey date: WEDNESDAY	23/06/21	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.

ADC Infrastructure Limited The Lace Market Nottingham

Licence No: 855401

RANK ORDER for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

TOTAL VEHICLES

Ranking Type: **TOTALS** Time Range: 17:00-18:00

15th Percentile = No. **42** SY-03-A-01 Tot: 0.334

85th Percentile = No. **8** KC-03-A-07 Tot: 0.593

Median Values

Arrivals: 0.371

Departures: 0.100

Totals: 0.471

Mean Values

Arrivals: 0.318

Departures: 0.152

Totals: 0.470

Rank	Site-Ref	Description	Town/City	Area	DWELLS	Day	Date	Trip Rate (Sorted by Totals)			Park Spaces Per Dwelling
								Arrivals	Departures	Totals	
1	KC-03-A-03	MIXED HOUSES &	ASHFORD	KENT	51	Thu	14/07/16	0.569	0.314	0.883	2.16
2	NF-03-A-16	MIXED HOUSES &	WYMONDHAM	NORFOLK	138	Tue	20/10/15	0.435	0.275	0.710	2.01
3	NF-03-A-25	MIXED HOUSES &	GORLESTON-ON-SEA	NORFOLK	55	Tue	21/09/21	0.455	0.236	0.691	2.31
4	SF-03-A-09	MIXED HOUSES &	IPSWICH	SUFFOLK	179	Thu	24/06/21	0.380	0.274	0.654	2.23
5	ES-03-A-03	MIXED HOUSES &	POLEGATE	EAST SUSSEX	212	Mon	11/07/16	0.434	0.217	0.651	1.68
6	HC-03-A-23	HOUSES & FLATS	LIPHOOK	HAMPSHIRE	62	Tue	19/11/19	0.532	0.097	0.629	2.19
7	DV-03-A-02	HOUSES & BUNGA	HONITON	DEVON	116	Fri	25/09/15	0.388	0.233	0.621	2.25
8	KC-03-A-07	MIXED HOUSES	HERNE BAY	KENT	288	Wed	27/09/17	0.444	0.149	0.593	3.09
9	NF-03-A-23	MIXED HOUSES &	WYMONDHAM	NORFOLK	514	Wed	22/09/21	0.393	0.198	0.591	2.48
10	IW-03-A-01	DETACHED HOUSE	NEAR COWES	ISLE OF WIGHT	72	Tue	25/06/19	0.403	0.181	0.584	3.82
11	WS-03-A-11	MIXED HOUSES	WEST HORSHAM	WEST SUSSEX	918	Tue	02/04/19	0.415	0.168	0.583	2.06
12	NY-03-A-10	HOUSES AND FLA	RIPON	NORTH YORKSHIRE	71	Tue	17/09/13	0.479	0.099	0.578	0.83
13	KC-03-A-06	MIXED HOUSES &	HERNE BAY	KENT	363	Wed	27/09/17	0.380	0.198	0.578	2.17
14	NF-03-A-24	MIXED HOUSES &	HUNSTANTON	NORFOLK	127	Wed	22/09/21	0.331	0.244	0.575	2.37
15	NF-03-A-29	MIXED HOUSES	GREAT YARMOUTH	NORFOLK	486	Wed	22/09/21	0.368	0.204	0.572	2.15
16	NF-03-A-28	MIXED HOUSES	NORTH WALSHAM	NORFOLK	100	Wed	22/09/21	0.400	0.170	0.570	2.33
17	NF-03-A-27	MIXED HOUSES &	NEAR NORWICH	NORFOLK	93	Thu	16/09/21	0.344	0.204	0.548	2.67
18	LE-03-A-02	DETACHED & OTH	IBSTOCK	LEICESTERSHIRE	85	Thu	28/06/18	0.329	0.212	0.541	4.27
19	WS-03-A-13	MIXED HOUSES &	WORTHING	WEST SUSSEX	197	Wed	23/06/21	0.305	0.213	0.518	1.96
20	ES-03-A-05	MIXED HOUSES &	NEAR EASTBOURNE	EAST SUSSEX	99	Wed	05/06/19	0.384	0.131	0.515	1.99
21	DS-03-A-02	MIXED HOUSES	DERBY	DERBYSHIRE	371	Tue	10/07/18	0.407	0.084	0.491	2.92
22	CA-03-A-06	MIXED HOUSES	NEAR CAMBRIDGE	CAMBRIDGESHIRE	207	Fri	22/06/18	0.348	0.140	0.488	3.75
23	WS-03-A-08	MIXED HOUSES	ANGMERING	WEST SUSSEX	180	Thu	19/04/18	0.278	0.206	0.484	2.93
24	SC-03-A-05	MIXED HOUSES	HORLEY	SURREY	207	Mon	01/04/19	0.377	0.097	0.474	3.14
25	DV-03-A-03	TERRACED & SEM	HONITON	DEVON	70	Mon	28/09/15	0.371	0.100	0.471	1.66
26	SC-03-A-04	DETACHED & TER	BYFLEET	SURREY	71	Thu	23/01/14	0.366	0.099	0.465	2.49
27	SF-03-A-10	TERRACED & SEM	IPSWICH	SUFFOLK	149	Tue	22/06/21	0.295	0.168	0.463	2.21
28	NY-03-A-09	MIXED HOUSING	NORTHALLERTON	NORTH YORKSHIRE	52	Mon	16/09/13	0.269	0.192	0.461	2.60
29	HF-03-A-03	MIXED HOUSES	BUNTINGFORD	HERTFORDSHIRE	160	Mon	08/07/19	0.287	0.169	0.456	3.95
30	ST-03-A-07	DETACHED & SEM	STAFFORD	STAFFORDSHIRE	248	Wed	22/11/17	0.319	0.125	0.444	3.55
31	NF-03-A-21	MIXED HOUSES &	NEAR NORWICH	NORFOLK	1882	Tue	13/10/20	0.284	0.140	0.424	1.43
32	NE-03-A-02	SEMI DETACHED	SCUNTHORPE	NORTH EAST LINCOLNS	432	Mon	12/05/14	0.257	0.162	0.419	1.00
33	WS-03-A-10	MIXED HOUSES	LITTLEHAMPTON	WEST SUSSEX	79	Wed	07/11/18	0.266	0.152	0.418	2.41
34	NF-03-A-22	MIXED HOUSES &	NORWICH	NORFOLK	984	Tue	13/10/20	0.279	0.137	0.416	2.35
35	DH-03-A-03	SEMI-DETACHED	DURHAM	DURHAM	57	Fri	19/10/18	0.193	0.211	0.404	3.33
36	NF-03-A-30	MIXED HOUSES	SWAFFHAM	NORFOLK	266	Thu	23/09/21	0.271	0.120	0.391	2.99
37	SC-03-A-06	MIXED HOUSES &	CRANLEIGH	SURREY	116	Thu	08/10/20	0.216	0.164	0.380	2.19
38	WS-03-A-04	MIXED HOUSES	HORSHAM	WEST SUSSEX	151	Thu	11/12/14	0.252	0.119	0.371	2.28
39	SH-03-A-05	SEMI-DETACHED/	TELFORD	SHROPSHIRE	54	Thu	24/10/13	0.241	0.130	0.371	1.17
40	NF-03-A-26	MIXED HOUSES	HOLT	NORFOLK	91	Wed	22/09/21	0.253	0.110	0.363	2.55
41	KC-03-A-04	SEMI-DETACHED	AYLESFORD	KENT	110	Fri	22/09/17	0.273	0.064	0.337	1.77
42	SY-03-A-01	SEMI DETACHED	DONCASTER	SOUTH YORKSHIRE	54	Wed	18/09/13	0.278	0.056	0.334	1.13

Rank	Site-Ref	Description	Town/City	Area	DWELLS	Day	Date	Trip Rate (Sorted by Totals)			Park Spaces Per Dwelling
								Arrivals	Departures	Totals	
43	WS-03-A-12	MIXED HOUSES	CHICHESTER	WEST SUSSEX	152	Wed	16/06/21	0.204	0.118	0.322	0.86
44	KC-03-A-08	MIXED HOUSES	CHARING	KENT	159	Tue	22/05/18	0.220	0.088	0.308	3.02
45	ES-03-A-04	MIXED HOUSES &	CAMBER	EAST SUSSEX	134	Fri	15/07/16	0.157	0.112	0.269	1.91
46	DH-03-A-01	SEMI DETACHED	BISHOP AUCKLAND	DURHAM	50	Tue	28/03/17	0.220	0.020	0.240	1.74
47	EX-03-A-02	DETACHED & SEM	CHIGWELL	ESSEX	97	Mon	27/11/17	0.103	0.062	0.165	0.87
48	WS-03-A-07	BUNGALOWS	NEAR HORSHAM	WEST SUSSEX	57	Thu	19/10/17	0.088	0.070	0.158	1.89
49	DH-03-A-02	MIXED HOUSES	BISHOP AUCKLAND	DURHAM	125	Mon	27/03/17	0.064	0.016	0.080	0.99

This section displays actual (not average) trip rates for each of the survey days in the selected set, and ranks them in order of relative trip rate intensity, for a given time period (or peak period irrespective of time) selected by the user. The count type and direction are both displayed just above the table, along with the rows within the table representing the 85th and 15th percentile trip rate figures (highlighted in bold within the table itself).

The table itself displays details of each individual survey, alongside arrivals, departures and totals trip rates, sorted by whichever of the three directional options has been chosen by the user. As with the preceeding trip rate calculation results table, the trip rates shown are per the calculation factor (e.g. per 100m2 GFA, per employee, per hectare, etc). Note that if the peak period option has been selected (as opposed to a specific chosen time period), the peak period for each individual survey day in the table is also displayed.

APPENDIX B

TRICS ASSESSMENT - EMPLOYMENT

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
 Category : D - INDUSTRIAL ESTATE

TOTAL VEHICLESSelected regions and areas:

02	SOUTH EAST	
	ES EAST SUSSEX	2 days
	EX ESSEX	3 days
03	SOUTH WEST	
	BR BRISTOL CITY	2 days
	DC DORSET	1 days
	DV DEVON	1 days
	SM SOMERSET	1 days
	WL WILTSHIRE	1 days
04	EAST ANGLIA	
	CA CAMBRIDGESHIRE	1 days
	SF SUFFOLK	1 days
05	EAST MIDLANDS	
	DS DERBYSHIRE	1 days
	LN LINCOLNSHIRE	1 days
	NR NORTHAMPTONSHIRE	2 days
06	WEST MIDLANDS	
	HE HEREFORDSHIRE	1 days
	WK WARWICKSHIRE	2 days
	WO WORCESTERSHIRE	2 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	NY NORTH YORKSHIRE	1 days
	WY WEST YORKSHIRE	5 days
08	NORTH WEST	
	GM GREATER MANCHESTER	1 days
	LC LANCASHIRE	3 days
09	NORTH	
	TW TYNE & WEAR	2 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: 2758 to 70000 (units: sqm)
 Range Selected by User: 2000 to 80000 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/13 to 21/10/20

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:

Monday	5 days
Tuesday	7 days
Wednesday	4 days
Thursday	8 days
Friday	10 days

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

Selected survey types:

Manual count	34 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:

Suburban Area (PPS6 Out of Centre)	12
Edge of Town	20
Free Standing (PPS6 Out of Town)	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	18
Commercial Zone	1
Development Zone	1
Residential Zone	5
Out of Town	3
No Sub Category	6

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.

Secondary Filtering selection:Use Class:

Not Known	34 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Filter by Site Operations Breakdown:

All Surveys Included

Population within 500m Range:

All Surveys Included

Secondary Filtering selection (Cont.):Population within 1 mile:

1,000 or Less	1 days
1,001 to 5,000	1 days
5,001 to 10,000	6 days
10,001 to 15,000	6 days
15,001 to 20,000	5 days
20,001 to 25,000	3 days
25,001 to 50,000	11 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:

5,001 to 25,000	1 days
25,001 to 50,000	2 days
50,001 to 75,000	3 days
75,001 to 100,000	2 days
100,001 to 125,000	1 days
125,001 to 250,000	17 days
250,001 to 500,000	6 days
500,001 or More	2 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	16 days
1.1 to 1.5	16 days
1.6 to 2.0	2 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	34 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	34 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	BR-02-D-04	INDUSTRIAL ESTATE	BRISTOL CITY
	CROFTS END ROAD		
	BRISTOL		
	SPEEDWELL		
	Suburban Area (PPS6 Out of Centre)		
	Industrial Zone		
	Total Gross floor area:	18018 sqm	
	Survey date: FRIDAY	29/11/13	Survey Type: MANUAL
2	BR-02-D-05	INDUSTRIAL ESTATE	BRISTOL CITY
	NOVERS HILL		
	BRISTOL		
	BEDMINSTER		
	Suburban Area (PPS6 Out of Centre)		
	Industrial Zone		
	Total Gross floor area:	18128 sqm	
	Survey date: FRIDAY	29/11/13	Survey Type: MANUAL
3	CA-02-D-04	INDUSTRIAL ESTATE	CAMBRIDGESHIRE
	LINCOLN ROAD		
	PETERBOROUGH		
	Suburban Area (PPS6 Out of Centre)		
	No Sub Category		
	Total Gross floor area:	4133 sqm	
	Survey date: TUESDAY	02/12/14	Survey Type: MANUAL
4	DC-02-D-20	INDUSTRIAL ESTATE	DORSET
	OLD BARN FARM ROAD		
	NEAR BOURNEMOUTH		
	THREE LEGGED CROSS		
	Free Standing (PPS6 Out of Town)		
	Out of Town		
	Total Gross floor area:	70000 sqm	
	Survey date: MONDAY	24/03/14	Survey Type: MANUAL
5	DS-02-D-02	INDUSTRIAL ESTATE	DERBYSHIRE
	SHAFTESBURY STREET		
	DERBY		
	ROSE HILL		
	Suburban Area (PPS6 Out of Centre)		
	No Sub Category		
	Total Gross floor area:	5686 sqm	
	Survey date: WEDNESDAY	25/09/19	Survey Type: MANUAL
6	DV-02-D-07	INDUSTRIAL ESTATE	DEVON
	BITTERN ROAD		
	EXETER		
	SOWTON IND. ESTATE		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	3600 sqm	
	Survey date: MONDAY	03/07/17	Survey Type: MANUAL
7	ES-02-D-06	INDUSTRIAL ESTATE	EAST SUSSEX
	COURTLANDS ROAD		
	EASTBOURNE		
	Edge of Town		
	Residential Zone		
	Total Gross floor area:	7525 sqm	
	Survey date: MONDAY	21/10/13	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

8	ES-02-D-07	INDUSTRIAL ESTATE	EAST SUSSEX
	HUGHES ROAD BRIGHTON		
	Suburban Area (PPS6 Out of Centre) Industrial Zone		
	Total Gross floor area:	6625 sqm	
	Survey date: THURSDAY	16/10/14	Survey Type: MANUAL
9	EX-02-D-03	INDUSTRIAL ESTATE	ESSEX
	WYNCOLLS ROAD COLCHESTER SEVERALLS INDUSTRIAL PK Edge of Town Industrial Zone		
	Total Gross floor area:	4876 sqm	
	Survey date: FRIDAY	18/05/18	Survey Type: MANUAL
10	EX-02-D-04	INDUSTRIAL ESTATE	ESSEX
	PASTURE ROAD WITHAM		
	Edge of Town Industrial Zone		
	Total Gross floor area:	37130 sqm	
	Survey date: THURSDAY	10/05/18	Survey Type: MANUAL
11	EX-02-D-05	INDUSTRIAL ESTATE	ESSEX
	HECKWORTH CLOSE COLCHESTER SEVERALLS INDUSTRIAL PK Edge of Town Industrial Zone		
	Total Gross floor area:	7280 sqm	
	Survey date: FRIDAY	18/05/18	Survey Type: MANUAL
12	GM-02-D-07	BUSINESS PARK	GREATER MANCHESTER
	VULCAN STREET OLDHAM		
	Suburban Area (PPS6 Out of Centre) Residential Zone		
	Total Gross floor area:	4400 sqm	
	Survey date: THURSDAY	22/10/15	Survey Type: MANUAL
13	HE-02-D-02	BUSINESS PARK	HEREFORDSHIRE
	BURCOTT ROAD HEREFORD		
	Suburban Area (PPS6 Out of Centre) Industrial Zone		
	Total Gross floor area:	5214 sqm	
	Survey date: TUESDAY	22/10/13	Survey Type: MANUAL
14	LC-02-D-06	INDUSTRIAL ESTATE	LANCASHIRE
	SMALLSHAW LANE BURNLEY		
	Suburban Area (PPS6 Out of Centre) Industrial Zone		
	Total Gross floor area:	7383 sqm	
	Survey date: THURSDAY	29/09/16	Survey Type: MANUAL
15	LC-02-D-07	INDUSTRIAL ESTATE	LANCASHIRE
	CHAIN CAUL WAY PRESTON ASHTON-ON-RIBBLE Edge of Town Industrial Zone		
	Total Gross floor area:	4700 sqm	
	Survey date: FRIDAY	17/11/17	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

16	LC-02-D-08	INDUSTRIAL ESTATE	LANCASHIRE
	NOOK LANE		
	BAMBER BRIDGE		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	4000 sqm	
	Survey date: TUESDAY	06/11/18	Survey Type: MANUAL
17	LN-02-D-03	INDUSTRIAL ESTATE	LINCOLNSHIRE
	DEACON ROAD		
	LINCOLN		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	11265 sqm	
	Survey date: FRIDAY	28/06/19	Survey Type: MANUAL
18	NR-02-D-01	INDUSTRIAL ESTATE	NORTHAMPTONSHIRE
	ROBINSON WAY		
	KETTERING		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	12900 sqm	
	Survey date: THURSDAY	23/10/14	Survey Type: MANUAL
19	NR-02-D-02	INDUSTRIAL ESTATE	NORTHAMPTONSHIRE
	CORNHILL CLOSE		
	NORTHAMPTON		
	LODGE FARM IND. ESTATE		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	12670 sqm	
	Survey date: WEDNESDAY	21/10/20	Survey Type: MANUAL
20	NY-02-D-02	INDUSTRIAL ESTATE	NORTH YORKSHIRE
	RACECOURSE ROAD		
	RICHMOND		
	Edge of Town		
	Out of Town		
	Total Gross floor area:	35183 sqm	
	Survey date: TUESDAY	12/03/19	Survey Type: MANUAL
21	SF-02-D-03	INDUSTRIAL ESTATE	SUFFOLK
	LANDSEER ROAD		
	IPSWICH		
	Suburban Area (PPS6 Out of Centre)		
	No Sub Category		
	Total Gross floor area:	3550 sqm	
	Survey date: THURSDAY	17/09/20	Survey Type: MANUAL
22	SM-02-D-01	INDUSTRIAL ESTATE	SOMERSET
	A359		
	YEOVIL		
	SPARKFORD		
	Free Standing (PPS6 Out of Town)		
	Out of Town		
	Total Gross floor area:	12000 sqm	
	Survey date: WEDNESDAY	03/04/19	Survey Type: MANUAL
23	TW-02-D-07	INDUSTRIAL ESTATE	TYNE & WEAR
	SWALWELL BANK		
	GATESHEAD		
	WHICKHAM		
	Edge of Town		
	Residential Zone		
	Total Gross floor area:	6800 sqm	
	Survey date: FRIDAY	04/10/13	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

24	TW-02-D-08	INDUSTRIAL ESTATE		TYNE & WEAR
		NORTH HYLTON ROAD		
		SUNDERLAND		
		SOUTHWICK		
		Suburban Area (PPS6 Out of Centre)		
		Development Zone		
		Total Gross floor area:	8310 sqm	
		Survey date: TUESDAY	04/04/17	Survey Type: MANUAL
25	WK-02-D-03	INDUSTRIAL ESTATE		WARWICKSHIRE
		EASTBORO WAY		
		NUNEATON		
		Edge of Town		
		Industrial Zone		
		Total Gross floor area:	20860 sqm	
		Survey date: THURSDAY	26/09/19	Survey Type: MANUAL
26	WK-02-D-04	INDUSTRIAL ESTATE		WARWICKSHIRE
		ABELES WAY		
		ATHERSTONE		
		Edge of Town		
		No Sub Category		
		Total Gross floor area:	17500 sqm	
		Survey date: FRIDAY	27/09/19	Survey Type: MANUAL
27	WL-02-D-02	INDUSTRIAL ESTATE		WILTSHIRE
		HEADLANDS GROVE		
		SWINDON		
		Suburban Area (PPS6 Out of Centre)		
		Residential Zone		
		Total Gross floor area:	10000 sqm	
		Survey date: TUESDAY	20/09/16	Survey Type: MANUAL
28	WO-02-D-01	INDUSTRIAL ESTATE		WORCESTERSHIRE
		SANDY LANE		
		STOURPORT-ON-SEVERN		
		Edge of Town		
		Commercial Zone		
		Total Gross floor area:	2758 sqm	
		Survey date: FRIDAY	23/05/14	Survey Type: MANUAL
29	WO-02-D-02	INDUSTRIAL ESTATE		WORCESTERSHIRE
		WEIR LANE		
		WORCESTER		
		Edge of Town		
		Residential Zone		
		Total Gross floor area:	9500 sqm	
		Survey date: MONDAY	14/11/16	Survey Type: MANUAL
30	WY-02-D-03	INDUSTRIAL ESTATE		WEST YORKSHIRE
		ARMLEY ROAD		
		LEEDS		
		Suburban Area (PPS6 Out of Centre)		
		Industrial Zone		
		Total Gross floor area:	24980 sqm	
		Survey date: FRIDAY	20/09/13	Survey Type: MANUAL
31	WY-02-D-04	INDUSTRIAL ESTATE		WEST YORKSHIRE
		LAW STREET		
		CLECKHEATON		
		Edge of Town		
		Industrial Zone		
		Total Gross floor area:	23226 sqm	
		Survey date: THURSDAY	15/09/16	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

32	WY-02-D-06	INDUSTRIAL ESTATE (PART)	WEST YORKSHIRE
	PIONEER WAY		
	CASTLEFORD		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	4328 sqm	
	Survey date: TUESDAY	23/05/17	Survey Type: MANUAL
33	WY-02-D-07	INDUSTRIAL ESTATE	WEST YORKSHIRE
	THUNDERHEAD RIDGE RD		
	CASTLEFORD		
	GLASSHOUGHTON		
	Edge of Town		
	No Sub Category		
	Total Gross floor area:	3191 sqm	
	Survey date: MONDAY	15/05/17	Survey Type: MANUAL
34	WY-02-D-08	INDUSTRIAL ESTATE	WEST YORKSHIRE
	MILL LANE		
	HALIFAX		
	Edge of Town		
	No Sub Category		
	Total Gross floor area:	11305 sqm	
	Survey date: WEDNESDAY	17/10/18	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.

ADC Infrastructure Limited The Lace Market Nottingham

Licence No: 855401

RANK ORDER for Land Use 02 - EMPLOYMENT/D - INDUSTRIAL ESTATE
TOTAL VEHICLES

Ranking Type: **TOTALS** Time Range: 08:00-09:00
15th Percentile = No. **29** TW-02-D-08 Tot: 0.253
85th Percentile = No. **6** CA-02-D-04 Tot: 1.306

Median Values		Mean Values	
Arrivals:	0.512	Arrivals:	0.536
Departures:	0.208	Departures:	0.284
Totals:	0.720	Totals:	0.821

Rank	Site-Ref	Description	Town/City	Area	GFA	Day	Date	Trip Rate (Sorted by Totals)		
								Arrivals	Departures	Totals
1	WY-02-D-07	INDUSTRIAL EST	CASTLEFORD	WEST YORKSHIRE	3191	Mon	15/05/17	1.912	1.410	3.322
2	LC-02-D-08	INDUSTRIAL EST	BAMBER BRIDGE	LANCASHIRE	4000	Tue	06/11/18	1.200	0.450	1.650
3	DV-02-D-07	INDUSTRIAL EST	EXETER	DEVON	3600	Mon	03/07/17	0.833	0.806	1.639
4	ES-02-D-07	INDUSTRIAL EST	BRIGHTON	EAST SUSSEX	6625	Thu	16/10/14	0.996	0.558	1.554
5	LC-02-D-07	INDUSTRIAL EST	PRESTON	LANCASHIRE	4700	Fri	17/11/17	1.000	0.468	1.468
6	CA-02-D-04	INDUSTRIAL EST	PETERBOROUGH	CAMBRIDGESHIRE	4133	Tue	02/12/14	0.798	0.508	1.306
7	NY-02-D-02	INDUSTRIAL EST	RICHMOND	NORTH YORKSHIRE	35183	Tue	12/03/19	0.875	0.404	1.279
8	NR-02-D-01	INDUSTRIAL EST	KETTERING	NORTHAMPTONSHIRE	12900	Thu	23/10/14	0.612	0.558	1.170
9	ES-02-D-06	INDUSTRIAL EST	EASTBOURNE	EAST SUSSEX	7525	Mon	21/10/13	0.944	0.186	1.130
10	SF-02-D-03	INDUSTRIAL EST	IPSWICH	SUFFOLK	3550	Thu	17/09/20	0.563	0.563	1.126
11	EX-02-D-05	INDUSTRIAL EST	COLCHESTER	ESSEX	7280	Fri	18/05/18	0.618	0.495	1.113
12	EX-02-D-04	INDUSTRIAL EST	WITHAM	ESSEX	37130	Thu	10/05/18	0.795	0.170	0.965
13	WK-02-D-04	INDUSTRIAL EST	ATHERSTONE	WARWICKSHIRE	17500	Fri	27/09/19	0.657	0.217	0.874
14	HE-02-D-02	BUSINESS PARK	HEREFORD	HEREFORDSHIRE	5214	Tue	22/10/13	0.479	0.326	0.805
15	LN-02-D-03	INDUSTRIAL EST	LINCOLN	LINCOLNSHIRE	11265	Fri	28/06/19	0.444	0.320	0.764
16	TW-02-D-07	INDUSTRIAL EST	GATESHEAD	TYNE & WEAR	6800	Fri	04/10/13	0.456	0.265	0.721
17	WL-02-D-02	INDUSTRIAL EST	SWINDON	WILTSHIRE	10000	Tue	20/09/16	0.520	0.200	0.720
18	WK-02-D-03	INDUSTRIAL EST	NUNEATON	WARWICKSHIRE	20860	Thu	26/09/19	0.503	0.216	0.719
19	WO-02-D-01	INDUSTRIAL EST	STOURPORT-ON-SEVERN	WORCESTERSHIRE	2758	Fri	23/05/14	0.254	0.363	0.617
20	DS-02-D-02	INDUSTRIAL EST	DERBY	DERBYSHIRE	5686	Wed	25/09/19	0.475	0.106	0.581
21	WO-02-D-02	INDUSTRIAL EST	WORCESTER	WORCESTERSHIRE	9500	Mon	14/11/16	0.358	0.137	0.495
22	WY-02-D-06	INDUSTRIAL EST	CASTLEFORD	WEST YORKSHIRE	4328	Tue	23/05/17	0.347	0.116	0.463
23	DC-02-D-20	INDUSTRIAL EST	NEAR BOURNEMOUTH	DORSET	70000	Mon	24/03/14	0.333	0.089	0.422
24	WY-02-D-03	INDUSTRIAL EST	LEEDS	WEST YORKSHIRE	24980	Fri	20/09/13	0.280	0.128	0.408
25	WY-02-D-08	INDUSTRIAL EST	HALIFAX	WEST YORKSHIRE	11305	Wed	17/10/18	0.248	0.133	0.381
26	LC-02-D-06	INDUSTRIAL EST	BURNLEY	LANCASHIRE	7383	Thu	29/09/16	0.339	0.027	0.366
27	GM-02-D-07	BUSINESS PARK	OLDHAM	GREATER MANCHESTER	4400	Thu	22/10/15	0.273	0.091	0.364
28	BR-02-D-05	INDUSTRIAL EST	BRISTOL	BRISTOL CITY	18128	Fri	29/11/13	0.215	0.143	0.358
29	TW-02-D-08	INDUSTRIAL EST	SUNDERLAND	TYNE & WEAR	8310	Tue	04/04/17	0.193	0.060	0.253
30	SM-02-D-01	INDUSTRIAL EST	YEOVIL	SOMERSET	12000	Wed	03/04/19	0.217	0.017	0.234
31	BR-02-D-04	INDUSTRIAL EST	BRISTOL	BRISTOL CITY	18018	Fri	29/11/13	0.222	0.000	0.222
32	EX-02-D-03	INDUSTRIAL EST	COLCHESTER	ESSEX	4876	Fri	18/05/18	0.103	0.082	0.185
33	NR-02-D-02	INDUSTRIAL EST	NORTHAMPTON	NORTHAMPTONSHIRE	12670	Wed	21/10/20	0.134	0.047	0.181
34	WY-02-D-04	INDUSTRIAL EST	CLECKHEATON	WEST YORKSHIRE	23226	Thu	15/09/16	0.043	0.013	0.056

This section displays actual (not average) trip rates for each of the survey days in the selected set, and ranks them in order of relative trip rate intensity, for a given time period (or peak period irrespective of time) selected by the user. The count type and direction are both displayed just above the table, along with the rows within the table representing the 85th and 15th percentile trip rate figures (highlighted in bold within the table itself).

The table itself displays details of each individual survey, alongside arrivals, departures and totals trip rates, sorted by whichever of the three directional options has been chosen by the user. As with the preceeding trip rate calculation results table, the trip rates shown are per the calculation factor (e.g. per 100m2 GFA, per employee, per hectare, etc). Note that if the peak period option has been selected (as opposed to a specific chosen time period), the peak period for each individual survey day in the table is also displayed.

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
 Category : D - INDUSTRIAL ESTATE

TOTAL VEHICLESSelected regions and areas:

02 SOUTH EAST		
ES	EAST SUSSEX	2 days
EX	ESSEX	3 days
03 SOUTH WEST		
BR	BRISTOL CITY	2 days
DC	DORSET	1 days
DV	DEVON	1 days
SM	SOMERSET	1 days
WL	WILTSHIRE	1 days
04 EAST ANGLIA		
CA	CAMBRIDGESHIRE	1 days
SF	SUFFOLK	1 days
05 EAST MIDLANDS		
DS	DERBYSHIRE	1 days
LN	LINCOLNSHIRE	1 days
NR	NORTHAMPTONSHIRE	2 days
06 WEST MIDLANDS		
HE	HEREFORDSHIRE	1 days
WK	WARWICKSHIRE	2 days
WO	WORCESTERSHIRE	2 days
07 YORKSHIRE & NORTH LINCOLNSHIRE		
NY	NORTH YORKSHIRE	1 days
WY	WEST YORKSHIRE	5 days
08 NORTH WEST		
GM	GREATER MANCHESTER	1 days
LC	LANCASHIRE	3 days
09 NORTH		
TW	TYNE & WEAR	2 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: 2758 to 70000 (units: sqm)
 Range Selected by User: 2000 to 80000 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/13 to 21/10/20

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:

Monday	5 days
Tuesday	7 days
Wednesday	4 days
Thursday	8 days
Friday	10 days

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

Selected survey types:

Manual count	34 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:

Suburban Area (PPS6 Out of Centre)

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	18
Commercial Zone	1
Development Zone	1
Residential Zone	5
Out of Town	3
No Sub Category	6

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.

Secondary Filtering selection:

Use Class:

Not Known	34 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Filter by Site Operations Breakdown:

All Surveys Included

Population within 500m Range:

All Surveys Included

Population within 1 mile:

1,000 or Less	1 days
1,001 to 5,000	1 days
5,001 to 10,000	6 days
10,001 to 15,000	6 days
15,001 to 20,000	5 days
20,001 to 25,000	3 days
25,001 to 50,000	11 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:

5,001 to 25,000	1 days
25,001 to 50,000	2 days
50,001 to 75,000	3 days
75,001 to 100,000	2 days
100,001 to 125,000	1 days
125,001 to 250,000	17 days
250,001 to 500,000	6 days
500,001 or More	2 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	16 days
1.1 to 1.5	16 days
1.6 to 2.0	2 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	34 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	34 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

LIST OF SITES relevant to selection parameters

1	BR-02-D-04	INDUSTRIAL ESTATE	BRISTOL CITY
	CROFTS END ROAD		
	BRISTOL		
	SPEEDWELL		
	Suburban Area (PPS6 Out of Centre)		
	Industrial Zone		
	Total Gross floor area:	18018 sqm	
	Survey date: FRIDAY	29/11/13	Survey Type: MANUAL
2	BR-02-D-05	INDUSTRIAL ESTATE	BRISTOL CITY
	NOVERS HILL		
	BRISTOL		
	BEDMINSTER		
	Suburban Area (PPS6 Out of Centre)		
	Industrial Zone		
	Total Gross floor area:	18128 sqm	
	Survey date: FRIDAY	29/11/13	Survey Type: MANUAL
3	CA-02-D-04	INDUSTRIAL ESTATE	CAMBRIDGESHIRE
	LINCOLN ROAD		
	PETERBOROUGH		
	Suburban Area (PPS6 Out of Centre)		
	No Sub Category		
	Total Gross floor area:	4133 sqm	
	Survey date: TUESDAY	02/12/14	Survey Type: MANUAL
4	DC-02-D-20	INDUSTRIAL ESTATE	DORSET
	OLD BARN FARM ROAD		
	NEAR BOURNEMOUTH		
	THREE LEGGED CROSS		
	Free Standing (PPS6 Out of Town)		
	Out of Town		
	Total Gross floor area:	70000 sqm	
	Survey date: MONDAY	24/03/14	Survey Type: MANUAL
5	DS-02-D-02	INDUSTRIAL ESTATE	DERBYSHIRE
	SHAFTESBURY STREET		
	DERBY		
	ROSE HILL		
	Suburban Area (PPS6 Out of Centre)		
	No Sub Category		
	Total Gross floor area:	5686 sqm	
	Survey date: WEDNESDAY	25/09/19	Survey Type: MANUAL
6	DV-02-D-07	INDUSTRIAL ESTATE	DEVON
	BITTERN ROAD		
	EXETER		
	SOWTON IND. ESTATE		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	3600 sqm	
	Survey date: MONDAY	03/07/17	Survey Type: MANUAL
7	ES-02-D-06	INDUSTRIAL ESTATE	EAST SUSSEX
	COURTLANDS ROAD		
	EASTBOURNE		
	Edge of Town		
	Residential Zone		
	Total Gross floor area:	7525 sqm	
	Survey date: MONDAY	21/10/13	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

8	ES-02-D-07	INDUSTRIAL ESTATE	EAST SUSSEX
	HUGHES ROAD BRIGHTON		
	Suburban Area (PPS6 Out of Centre) Industrial Zone		
	Total Gross floor area:	6625 sqm	
	Survey date: THURSDAY	16/10/14	Survey Type: MANUAL
9	EX-02-D-03	INDUSTRIAL ESTATE	ESSEX
	WYNCOLLS ROAD COLCHESTER SEVERALLS INDUSTRIAL PK Edge of Town Industrial Zone		
	Total Gross floor area:	4876 sqm	
	Survey date: FRIDAY	18/05/18	Survey Type: MANUAL
10	EX-02-D-04	INDUSTRIAL ESTATE	ESSEX
	PASTURE ROAD WITHAM		
	Edge of Town Industrial Zone		
	Total Gross floor area:	37130 sqm	
	Survey date: THURSDAY	10/05/18	Survey Type: MANUAL
11	EX-02-D-05	INDUSTRIAL ESTATE	ESSEX
	HECKWORTH CLOSE COLCHESTER SEVERALLS INDUSTRIAL PK Edge of Town Industrial Zone		
	Total Gross floor area:	7280 sqm	
	Survey date: FRIDAY	18/05/18	Survey Type: MANUAL
12	GM-02-D-07	BUSINESS PARK	GREATER MANCHESTER
	VULCAN STREET OLDHAM		
	Suburban Area (PPS6 Out of Centre) Residential Zone		
	Total Gross floor area:	4400 sqm	
	Survey date: THURSDAY	22/10/15	Survey Type: MANUAL
13	HE-02-D-02	BUSINESS PARK	HEREFORDSHIRE
	BURCOTT ROAD HEREFORD		
	Suburban Area (PPS6 Out of Centre) Industrial Zone		
	Total Gross floor area:	5214 sqm	
	Survey date: TUESDAY	22/10/13	Survey Type: MANUAL
14	LC-02-D-06	INDUSTRIAL ESTATE	LANCASHIRE
	SMALLSHAW LANE BURNLEY		
	Suburban Area (PPS6 Out of Centre) Industrial Zone		
	Total Gross floor area:	7383 sqm	
	Survey date: THURSDAY	29/09/16	Survey Type: MANUAL
15	LC-02-D-07	INDUSTRIAL ESTATE	LANCASHIRE
	CHAIN CAUL WAY PRESTON ASHTON-ON-RIBBLE Edge of Town Industrial Zone		
	Total Gross floor area:	4700 sqm	
	Survey date: FRIDAY	17/11/17	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

16	LC-02-D-08	INDUSTRIAL ESTATE	LANCASHIRE
	NOOK LANE		
	BAMBER BRIDGE		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	4000 sqm	
	Survey date: TUESDAY	06/11/18	Survey Type: MANUAL
17	LN-02-D-03	INDUSTRIAL ESTATE	LINCOLNSHIRE
	DEACON ROAD		
	LINCOLN		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	11265 sqm	
	Survey date: FRIDAY	28/06/19	Survey Type: MANUAL
18	NR-02-D-01	INDUSTRIAL ESTATE	NORTHAMPTONSHIRE
	ROBINSON WAY		
	KETTERING		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	12900 sqm	
	Survey date: THURSDAY	23/10/14	Survey Type: MANUAL
19	NR-02-D-02	INDUSTRIAL ESTATE	NORTHAMPTONSHIRE
	CORNHILL CLOSE		
	NORTHAMPTON		
	LODGE FARM IND. ESTATE		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	12670 sqm	
	Survey date: WEDNESDAY	21/10/20	Survey Type: MANUAL
20	NY-02-D-02	INDUSTRIAL ESTATE	NORTH YORKSHIRE
	RACECOURSE ROAD		
	RICHMOND		
	Edge of Town		
	Out of Town		
	Total Gross floor area:	35183 sqm	
	Survey date: TUESDAY	12/03/19	Survey Type: MANUAL
21	SF-02-D-03	INDUSTRIAL ESTATE	SUFFOLK
	LANDSEER ROAD		
	IPSWICH		
	Suburban Area (PPS6 Out of Centre)		
	No Sub Category		
	Total Gross floor area:	3550 sqm	
	Survey date: THURSDAY	17/09/20	Survey Type: MANUAL
22	SM-02-D-01	INDUSTRIAL ESTATE	SOMERSET
	A359		
	YEOVIL		
	SPARKFORD		
	Free Standing (PPS6 Out of Town)		
	Out of Town		
	Total Gross floor area:	12000 sqm	
	Survey date: WEDNESDAY	03/04/19	Survey Type: MANUAL
23	TW-02-D-07	INDUSTRIAL ESTATE	TYNE & WEAR
	SWALWELL BANK		
	GATESHEAD		
	WHICKHAM		
	Edge of Town		
	Residential Zone		
	Total Gross floor area:	6800 sqm	
	Survey date: FRIDAY	04/10/13	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

24	TW-02-D-08	INDUSTRIAL ESTATE		TYNE & WEAR
	NORTH HYLTON ROAD SUNDERLAND SOUTHWICK Suburban Area (PPS6 Out of Centre) Development Zone Total Gross floor area: 8310 sqm Survey date: TUESDAY 04/04/17			Survey Type: MANUAL
25	WK-02-D-03	INDUSTRIAL ESTATE		WARWICKSHIRE
	EASTBORO WAY NUNEATON Edge of Town Industrial Zone Total Gross floor area: 20860 sqm Survey date: THURSDAY 26/09/19			Survey Type: MANUAL
26	WK-02-D-04	INDUSTRIAL ESTATE		WARWICKSHIRE
	ABELES WAY ATHERSTONE Edge of Town No Sub Category Total Gross floor area: 17500 sqm Survey date: FRIDAY 27/09/19			Survey Type: MANUAL
27	WL-02-D-02	INDUSTRIAL ESTATE		WILTSHIRE
	HEADLANDS GROVE SWINDON Suburban Area (PPS6 Out of Centre) Residential Zone Total Gross floor area: 10000 sqm Survey date: TUESDAY 20/09/16			Survey Type: MANUAL
28	WO-02-D-01	INDUSTRIAL ESTATE		WORCESTERSHIRE
	SANDY LANE STOURPORT-ON-SEVERN Edge of Town Commercial Zone Total Gross floor area: 2758 sqm Survey date: FRIDAY 23/05/14			Survey Type: MANUAL
29	WO-02-D-02	INDUSTRIAL ESTATE		WORCESTERSHIRE
	WEIR LANE WORCESTER Edge of Town Residential Zone Total Gross floor area: 9500 sqm Survey date: MONDAY 14/11/16			Survey Type: MANUAL
30	WY-02-D-03	INDUSTRIAL ESTATE		WEST YORKSHIRE
	ARMLEY ROAD LEEDS Suburban Area (PPS6 Out of Centre) Industrial Zone Total Gross floor area: 24980 sqm Survey date: FRIDAY 20/09/13			Survey Type: MANUAL
31	WY-02-D-04	INDUSTRIAL ESTATE		WEST YORKSHIRE
	LAW STREET CLECKHEATON Edge of Town Industrial Zone Total Gross floor area: 23226 sqm Survey date: THURSDAY 15/09/16			Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

32	WY-02-D-06	INDUSTRIAL ESTATE (PART)	WEST YORKSHIRE
	PIONEER WAY CASTLEFORD		
	Edge of Town Industrial Zone		
	Total Gross floor area:	4328 sqm	
	Survey date: TUESDAY	23/05/17	Survey Type: MANUAL
33	WY-02-D-07	INDUSTRIAL ESTATE	WEST YORKSHIRE
	THUNDERHEAD RIDGE RD CASTLEFORD		
	GLASSHOUGHTON		
	Edge of Town No Sub Category		
	Total Gross floor area:	3191 sqm	
	Survey date: MONDAY	15/05/17	Survey Type: MANUAL
34	WY-02-D-08	INDUSTRIAL ESTATE	WEST YORKSHIRE
	MILL LANE HALIFAX		
	Edge of Town No Sub Category		
	Total Gross floor area:	11305 sqm	
	Survey date: WEDNESDAY	17/10/18	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.

ADC Infrastructure Limited The Lace Market Nottingham

Licence No: 855401

RANK ORDER for Land Use 02 - EMPLOYMENT/D - INDUSTRIAL ESTATE
TOTAL VEHICLES

Ranking Type: **TOTALS** Time Range: 17:00-18:00
15th Percentile = No. **29** TW-02-D-08 Tot: 0.192
85th Percentile = No. **6** NY-02-D-02 Tot: 1.166

Median Values		Mean Values	
Arrivals:	0.079	Arrivals:	0.173
Departures:	0.459	Departures:	0.453
Totals:	0.537	Totals:	0.626

Rank	Site-Ref	Description	Town/City	Area	GFA	Day	Date	Trip Rate (Sorted by Totals)		
								Arrivals	Departures	Totals
1	WY-02-D-08	INDUSTRIAL EST	HALIFAX	WEST YORKSHIRE	11305	Wed	17/10/18	0.593	0.885	1.478
2	WY-02-D-07	INDUSTRIAL EST	CASTLEFORD	WEST YORKSHIRE	3191	Mon	15/05/17	0.501	0.940	1.441
3	EX-02-D-03	INDUSTRIAL EST	COLCHESTER	ESSEX	4876	Fri	18/05/18	0.410	0.902	1.312
4	LC-02-D-08	INDUSTRIAL EST	BAMBER BRIDGE	LANCASHIRE	4000	Tue	06/11/18	0.425	0.825	1.250
5	DV-02-D-07	INDUSTRIAL EST	EXETER	DEVON	3600	Mon	03/07/17	0.333	0.917	1.250
6	NY-02-D-02	INDUSTRIAL EST	RICHMOND	NORTH YORKSHIRE	35183	Tue	12/03/19	0.310	0.856	1.166
7	SF-02-D-03	INDUSTRIAL EST	IPSWICH	SUFFOLK	3550	Thu	17/09/20	0.366	0.732	1.098
8	ES-02-D-06	INDUSTRIAL EST	EASTBOURNE	EAST SUSSEX	7525	Mon	21/10/13	0.186	0.811	0.997
9	CA-02-D-04	INDUSTRIAL EST	PETERBOROUGH	CAMBRIDGESHIRE	4133	Tue	02/12/14	0.387	0.605	0.992
10	WK-02-D-03	INDUSTRIAL EST	NUNEATON	WARWICKSHIRE	20860	Thu	26/09/19	0.264	0.633	0.897
11	EX-02-D-04	INDUSTRIAL EST	WITHAM	ESSEX	37130	Thu	10/05/18	0.135	0.668	0.803
12	EX-02-D-05	INDUSTRIAL EST	COLCHESTER	ESSEX	7280	Fri	18/05/18	0.330	0.357	0.687
13	HE-02-D-02	BUSINESS PARK	HEREFORD	HEREFORDSHIRE	5214	Tue	22/10/13	0.192	0.479	0.671
14	WK-02-D-04	INDUSTRIAL EST	ATHERSTONE	WARWICKSHIRE	17500	Fri	27/09/19	0.091	0.531	0.622
15	TW-02-D-07	INDUSTRIAL EST	GATESHEAD	TYNE & WEAR	6800	Fri	04/10/13	0.176	0.441	0.617
16	DS-02-D-02	INDUSTRIAL EST	DERBY	DERBYSHIRE	5686	Wed	25/09/19	0.193	0.387	0.580
17	LC-02-D-06	INDUSTRIAL EST	BURNLEY	LANCASHIRE	7383	Thu	29/09/16	0.041	0.528	0.569
18	WO-02-D-02	INDUSTRIAL EST	WORCESTER	WORCESTERSHIRE	9500	Mon	14/11/16	0.116	0.389	0.505
19	LC-02-D-07	INDUSTRIAL EST	PRESTON	LANCASHIRE	4700	Fri	17/11/17	0.064	0.426	0.490
20	WL-02-D-02	INDUSTRIAL EST	SWINDON	WILTSHIRE	10000	Tue	20/09/16	0.150	0.330	0.480
21	DC-02-D-20	INDUSTRIAL EST	NEAR BOURNEMOUTH	DORSET	70000	Mon	24/03/14	0.047	0.421	0.468
22	BR-02-D-04	INDUSTRIAL EST	BRISTOL	BRISTOL CITY	18018	Fri	29/11/13	0.089	0.339	0.428
23	LN-02-D-03	INDUSTRIAL EST	LINCOLN	LINCOLNSHIRE	11265	Fri	28/06/19	0.080	0.320	0.400
24	ES-02-D-07	INDUSTRIAL EST	BRIGHTON	EAST SUSSEX	6625	Thu	16/10/14	0.106	0.287	0.393
25	WY-02-D-03	INDUSTRIAL EST	LEEDS	WEST YORKSHIRE	24980	Fri	20/09/13	0.096	0.292	0.388
26	NR-02-D-01	INDUSTRIAL EST	KETTERING	NORTHAMPTONSHIRE	12900	Thu	23/10/14	0.016	0.233	0.249
27	WY-02-D-06	INDUSTRIAL EST	CASTLEFORD	WEST YORKSHIRE	4328	Tue	23/05/17	0.000	0.231	0.231
28	SM-02-D-01	INDUSTRIAL EST	YEOVIL	SOMERSET	12000	Wed	03/04/19	0.025	0.200	0.225
29	TW-02-D-08	INDUSTRIAL EST	SUNDERLAND	TYNE & WEAR	8310	Tue	04/04/17	0.060	0.132	0.192
30	NR-02-D-02	INDUSTRIAL EST	NORTHAMPTON	NORTHAMPTONSHIRE	12670	Wed	21/10/20	0.032	0.126	0.158
31	BR-02-D-05	INDUSTRIAL EST	BRISTOL	BRISTOL CITY	18128	Fri	29/11/13	0.006	0.077	0.083
32	WO-02-D-01	INDUSTRIAL EST	STOURPORT-ON-SEVERN	WORCESTERSHIRE	2758	Fri	23/05/14	0.036	0.036	0.072
33	WY-02-D-04	INDUSTRIAL EST	CLECKHEATON	WEST YORKSHIRE	23226	Thu	15/09/16	0.013	0.047	0.060
34	GM-02-D-07	BUSINESS PARK	OLDHAM	GREATER MANCHESTER	4400	Thu	22/10/15	0.000	0.023	0.023

This section displays actual (not average) trip rates for each of the survey days in the selected set, and ranks them in order of relative trip rate intensity, for a given time period (or peak period irrespective of time) selected by the user. The count type and direction are both displayed just above the table, along with the rows within the table representing the 85th and 15th percentile trip rate figures (highlighted in bold within the table itself).

The table itself displays details of each individual survey, alongside arrivals, departures and totals trip rates, sorted by whichever of the three directional options has been chosen by the user. As with the preceeding trip rate calculation results table, the trip rates shown are per the calculation factor (e.g. per 100m2 GFA, per employee, per hectare, etc). Note that if the peak period option has been selected (as opposed to a specific chosen time period), the peak period for each individual survey day in the table is also displayed.

APPENDIX C

TRICS ASSESSMENT – SECONDARY SCHOOL

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 04 - EDUCATION
 Category : B - SECONDARY

TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST	
	ES EAST SUSSEX	1 days
	HC HAMPSHIRE	1 days
03	SOUTH WEST	
	BR BRISTOL CITY	1 days
	DV DEVON	2 days
	WL WILTSHIRE	1 days
04	EAST ANGLIA	
	NF NORFOLK	1 days
	SF SUFFOLK	1 days
05	EAST MIDLANDS	
	LN LINCOLNSHIRE	1 days
	NT NOTTINGHAMSHIRE	1 days
06	WEST MIDLANDS	
	WK WARWICKSHIRE	1 days
	WM WEST MIDLANDS	3 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	NE NORTH EAST LINCOLNSHIRE	1 days
	NY NORTH YORKSHIRE	1 days
08	NORTH WEST	
	GM GREATER MANCHESTER	2 days
	LC LANCASHIRE	1 days
09	NORTH	
	TV TEES VALLEY	1 days
	TW TYNE & WEAR	3 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: Number of pupils
 Actual Range: 247 to 1847 (units:)
 Range Selected by User: 247 to 1913 (units:)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/13 to 08/11/19

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:

Monday	5 days
Tuesday	4 days
Wednesday	5 days
Thursday	3 days
Friday	6 days

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

Selected survey types:

Manual count	23 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:

Suburban Area (PPS6 Out of Centre)	11
Edge of Town	11
Neighbourhood Centre (PPS6 Local 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:

Residential Zone	19
Village	1
No Sub Category	3

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.

Secondary Filtering selection:

Use Class:

F1(a)	23 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 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:

1,001 to 5,000	1 days
5,001 to 10,000	3 days
10,001 to 15,000	2 days
15,001 to 20,000	2 days
20,001 to 25,000	5 days
25,001 to 50,000	10 days

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

Population within 5 miles:

25,001 to 50,000	3 days
50,001 to 75,000	2 days
75,001 to 100,000	1 days
125,001 to 250,000	6 days
250,001 to 500,000	11 days

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

Car ownership within 5 miles:

0.5 or Less	2 days
0.6 to 1.0	11 days
1.1 to 1.5	10 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:

Yes	2 days
No	21 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	23 days

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

LIST OF SITES relevant to selection parameters

1	BR-04-B-01	SECONDARY SCHOOL	BRISTOL CITY
	ST FRANCIS ROAD		
	NEAR BRISTOL		
	KEYNSHAM		
	Edge of Town		
	Residential Zone		
	Total Number of pupils:	435	
	Survey date: MONDAY	21/09/15	Survey Type: MANUAL
2	DV-04-B-03	SECONDARY ACADEMY	DEVON
	CRICKETFIELD ROAD		
	TORQUAY		
	Suburban Area (PPS6 Out of Centre)		
	No Sub Category		
	Total Number of pupils:	1309	
	Survey date: MONDAY	01/04/19	Survey Type: MANUAL
3	DV-04-B-04	SECONDARY ACADEMY	DEVON
	EARL RICHARD' SRD SOUTH		
	EXETER		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of pupils:	835	
	Survey date: TUESDAY	02/04/19	Survey Type: MANUAL
4	ES-04-B-01	SECONDARY SCHOOL	EAST SUSSEX
	NEVILL AVENUE		
	BRIGHTON		
	HOVE		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of pupils:	1596	
	Survey date: WEDNESDAY	27/09/17	Survey Type: MANUAL
5	GM-04-B-02	SECONDARY SCHOOL	GREATER MANCHESTER
	FALINGE ROAD		
	ROCHDALE		
	SHAWCLOUGH		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of pupils:	1350	
	Survey date: WEDNESDAY	21/10/15	Survey Type: MANUAL
6	GM-04-B-03	SECONDARY SCHOOL	GREATER MANCHESTER
	MATTHEW MOSS LANE		
	ROCHDALE		
	MARLAND		
	Edge of Town		
	Residential Zone		
	Total Number of pupils:	780	
	Survey date: FRIDAY	23/09/16	Survey Type: MANUAL
7	HC-04-B-08	SECONDARY SCHOOL	HAMPSHIRE
	MINSTEAD AVENUE		
	SOUTHAMPTON		
	Edge of Town		
	Residential Zone		
	Total Number of pupils:	565	
	Survey date: TUESDAY	24/11/15	Survey Type: MANUAL
8	LC-04-B-02	SECONDARY ACADEMY	LANCASHIRE
	TODD LANE NORTH		
	LOSTOCK HALL		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of pupils:	560	
	Survey date: TUESDAY	06/11/18	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

9	LN-04-B-02	SECONDARY SCHOOL	LINCOLNSHIRE
	RISEHOLME ROAD		
	LINCOLN		
	ERMINE		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of pupils:	852	
	Survey date: WEDNESDAY	04/10/17	Survey Type: MANUAL
10	NE-04-B-01	SECONDARY SCHOOL	NORTH EAST LINCOLNSHIRE
	FOXHILLS ROAD		
	SCUNTHORPE		
	Edge of Town		
	Residential Zone		
	Total Number of pupils:	520	
	Survey date: MONDAY	19/05/14	Survey Type: MANUAL
11	NF-04-B-01	SECONDARY ACADEMY	NORFOLK
	SAINT CLEMENTS HILL		
	NORWICH		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of pupils:	481	
	Survey date: FRIDAY	08/11/19	Survey Type: MANUAL
12	NT-04-B-01	SECONDARY SCHOOL	NOTTINGHAMSHIRE
	THE BANKS		
	NEAR NOTTINGHAM		
	BINGHAM		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of pupils:	1561	
	Survey date: THURSDAY	23/03/17	Survey Type: MANUAL
13	NY-04-B-03	GIRLS' HIGH SCHOOL	NORTH YORKSHIRE
	GARGRAVE ROAD		
	SKIPTON		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of pupils:	800	
	Survey date: FRIDAY	08/03/19	Survey Type: MANUAL
14	SF-04-B-01	SECONDARY SCHOOL	SUFFOLK
	MAIN ROAD		
	IPSWICH		
	KESGRAVE		
	Edge of Town		
	Residential Zone		
	Total Number of pupils:	1847	
	Survey date: FRIDAY	18/09/15	Survey Type: MANUAL
15	TV-04-B-01	SECONDARY SCHOOL	TEES VALLEY
	COAST ROAD		
	MARSKE-BY-THE-SEA		
	Edge of Town		
	Residential Zone		
	Total Number of pupils:	767	
	Survey date: WEDNESDAY	24/10/18	Survey Type: MANUAL
16	TW-04-B-01	SECONDARY SCHOOL	TYNE & WEAR
	SALTWELL ROAD SOUTH		
	GATESHEAD		
	Suburban Area (PPS6 Out of Centre)		
	No Sub Category		
	Total Number of pupils:	1188	
	Survey date: THURSDAY	03/10/13	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

17	TW-04-B-02	SECONDARY SCHOOL	TYNE & WEAR
	SALTWELL ROAD SOUTH		
	GATESHEAD		
	LOW FELL		
	Edge of Town		
	Residential Zone		
	Total Number of pupils:	1087	
	Survey date: FRIDAY	13/11/15	Survey Type: MANUAL
18	TW-04-B-03	CATHOLIC HIGH SCHOOL	TYNE & WEAR
	GRETNA ROAD		
	NEWCASTLE UPON TYNE		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of pupils:	1178	
	Survey date: THURSDAY	18/10/18	Survey Type: MANUAL
19	WK-04-B-01	SECONDARY SCHOOL	WARWICKSHIRE
	BANBURY ROAD		
	KINETON		
	Neighbourhood Centre (PPS6 Local Centre)		
	Village		
	Total Number of pupils:	839	
	Survey date: WEDNESDAY	25/09/19	Survey Type: MANUAL
20	WL-04-B-01	SECONDARY SCHOOL	WILTSHIRE
	ST PAUL'S DRIVE		
	SWINDON		
	COVINGHAM		
	Edge of Town		
	No Sub Category		
	Total Number of pupils:	874	
	Survey date: FRIDAY	23/09/16	Survey Type: MANUAL
21	WM-04-B-04	SECONDARY SCHOOL	WEST MIDLANDS
	SHANNON ROAD		
	BIRMINGHAM		
	Edge of Town		
	Residential Zone		
	Total Number of pupils:	247	
	Survey date: MONDAY	09/11/15	Survey Type: MANUAL
22	WM-04-B-05	SECONDARY SCHOOL	WEST MIDLANDS
	JEREMY ROAD		
	WOLVERHAMPTON		
	GOLDTHORN PARK		
	Edge of Town		
	Residential Zone		
	Total Number of pupils:	800	
	Survey date: MONDAY	14/11/16	Survey Type: MANUAL
23	WM-04-B-06	SECONDARY SCHOOL	WEST MIDLANDS
	PARK ROAD WEST		
	STOURBRIDGE		
	WOLLASTON		
	Edge of Town		
	Residential Zone		
	Total Number of pupils:	840	
	Survey date: TUESDAY	21/11/17	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.

RANK ORDER for Land Use 04 - EDUCATION/B - SECONDARY

TOTAL VEHICLES

Ranking Type: **TOTALS** Time Range: 08:00-09:00
 15th Percentile = No. **20** NT-04-B-01 Tot: 0.093
 85th Percentile = No. **4** NY-04-B-03 Tot: 0.389

Median Values

Arrivals: 0.128
 Departures: 0.131
 Totals: 0.259

Mean Values

Arrivals: 0.144
 Departures: 0.108
 Totals: 0.251

Rank	Site-Ref	Description	Town/City	Area	PUPILS	Day	Date	Trip Rate (Sorted by Totals)		
								Arrivals	Departures	Totals
1	TW-04-B-02	SECONDARY SCHO	GATESHEAD	TYNE & WEAR	1087	Fri	13/11/15	0.300	0.261	0.561
2	HC-04-B-08	SECONDARY SCHO	SOUTHAMPTON	HAMPSHIRE	565	Tue	24/11/15	0.248	0.181	0.429
3	WM-04-B-05	SECONDARY SCHO	WOLVERHAMPTON	WEST MIDLANDS	800	Mon	14/11/16	0.215	0.182	0.397
4	NY-04-B-03	GIRLS' HIGH SC	SKIPTON	NORTH YORKSHIRE	800	Fri	08/03/19	0.204	0.185	0.389
5	TW-04-B-01	SECONDARY SCHO	GATESHEAD	TYNE & WEAR	1188	Thu	03/10/13	0.213	0.161	0.374
6	LC-04-B-02	SECONDARY ACAD	LOSTOCK HALL	LANCASHIRE	560	Tue	06/11/18	0.218	0.150	0.368
7	TW-04-B-03	CATHOLIC HIGH	NEWCASTLE UPON TYNE	TYNE & WEAR	1178	Thu	18/10/18	0.160	0.136	0.296
8	NF-04-B-01	SECONDARY ACAD	NORWICH	NORFOLK	481	Fri	08/11/19	0.168	0.116	0.284
9	WM-04-B-04	SECONDARY SCHO	BIRMINGHAM	WEST MIDLANDS	247	Mon	09/11/15	0.150	0.130	0.280
10	WL-04-B-01	SECONDARY SCHO	SWINDON	WILTSHIRE	874	Fri	23/09/16	0.158	0.114	0.272
11	LN-04-B-02	SECONDARY SCHO	LINCOLN	LINCOLNSHIRE	852	Wed	04/10/17	0.136	0.126	0.262
12	DV-04-B-04	SECONDARY ACAD	EXETER	DEVON	835	Tue	02/04/19	0.128	0.131	0.259
13	TV-04-B-01	SECONDARY SCHO	MARSKE-BY-THE-SEA	TEES VALLEY	767	Wed	24/10/18	0.120	0.119	0.239
14	WK-04-B-01	SECONDARY SCHO	KINETON	WARWICKSHIRE	839	Wed	25/09/19	0.131	0.089	0.220
15	BR-04-B-01	SECONDARY SCHO	NEAR BRISTOL	BRISTOL CITY	435	Mon	21/09/15	0.129	0.080	0.209
16	WM-04-B-06	SECONDARY SCHO	STOURBRIDGE	WEST MIDLANDS	840	Tue	21/11/17	0.115	0.067	0.182
17	NE-04-B-01	SECONDARY SCHO	SCUNTHORPE	NORTH EAST LINCOLNS	520	Mon	19/05/14	0.102	0.067	0.169
18	GM-04-B-03	SECONDARY SCHO	ROCHDALE	GREATER MANCHESTER	780	Fri	23/09/16	0.117	0.029	0.146
19	GM-04-B-02	SECONDARY SCHO	ROCHDALE	GREATER MANCHESTER	1350	Wed	21/10/15	0.083	0.059	0.142
20	NT-04-B-01	SECONDARY SCHO	NEAR NOTTINGHAM	NOTTINGHAMSHIRE	1561	Thu	23/03/17	0.063	0.030	0.093
21	ES-04-B-01	SECONDARY SCHO	BRIGHTON	EAST SUSSEX	1596	Wed	27/09/17	0.048	0.039	0.087
22	SF-04-B-01	SECONDARY SCHO	IPSWICH	SUFFOLK	1847	Fri	18/09/15	0.067	0.012	0.079
23	DV-04-B-03	SECONDARY ACAD	TORQUAY	DEVON	1309	Mon	01/04/19	0.030	0.013	0.043

This section displays actual (not average) trip rates for each of the survey days in the selected set, and ranks them in order of relative trip rate intensity, for a given time period (or peak period irrespective of time) selected by the user. The count type and direction are both displayed just above the table, along with the rows within the table representing the 85th and 15th percentile trip rate figures (highlighted in bold within the table itself).

The table itself displays details of each individual survey, alongside arrivals, departures and totals trip rates, sorted by whichever of the three directional options has been chosen by the user. As with the preceeding trip rate calculation results table, the trip rates shown are per the calculation factor (e.g. per 100m2 GFA, per employee, per hectare, etc). Note that if the peak period option has been selected (as opposed to a specific chosen time period), the peak period for each individual survey day in the table is also displayed.

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 04 - EDUCATION

Category : B - SECONDARY

TOTAL VEHICLES

Selected regions and areas:

02 SOUTH EAST		
ES	EAST SUSSEX	1 days
HC	HAMPSHIRE	1 days
03 SOUTH WEST		
BR	BRISTOL CITY	1 days
DV	DEVON	2 days
WL	WILTSHIRE	1 days
04 EAST ANGLIA		
NF	NORFOLK	1 days
SF	SUFFOLK	1 days
05 EAST MIDLANDS		
LN	LINCOLNSHIRE	1 days
NT	NOTTINGHAMSHIRE	1 days
06 WEST MIDLANDS		
WK	WARWICKSHIRE	1 days
WM	WEST MIDLANDS	3 days
07 YORKSHIRE & NORTH LINCOLNSHIRE		
NE	NORTH EAST LINCOLNSHIRE	1 days
NY	NORTH YORKSHIRE	1 days
08 NORTH WEST		
GM	GREATER MANCHESTER	2 days
LC	LANCASHIRE	1 days
09 NORTH		
TV	TEES VALLEY	1 days
TW	TYNE & WEAR	3 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: Number of pupils
 Actual Range: 247 to 1847 (units:)
 Range Selected by User: 247 to 1913 (units:)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/13 to 08/11/19

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:

Monday	5 days
Tuesday	4 days
Wednesday	5 days
Thursday	3 days
Friday	6 days

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

Selected survey types:

Manual count	23 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:

Suburban Area (PPS6 Out of Centre)	11
Edge of Town	11
Neighbourhood Centre (PPS6 Local 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:

Residential Zone	19
Village	1
No Sub Category	3

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.

Secondary Filtering selection:

Use Class:

F1(a)	23 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 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:

1,001 to 5,000	1 days
5,001 to 10,000	3 days
10,001 to 15,000	2 days
15,001 to 20,000	2 days
20,001 to 25,000	5 days
25,001 to 50,000	10 days

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

Population within 5 miles:

25,001 to 50,000	3 days
50,001 to 75,000	2 days
75,001 to 100,000	1 days
125,001 to 250,000	6 days
250,001 to 500,000	11 days

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

Car ownership within 5 miles:

0.5 or Less	2 days
0.6 to 1.0	11 days
1.1 to 1.5	10 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:

Yes	2 days
No	21 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	23 days

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

LIST OF SITES relevant to selection parameters

1	BR-04-B-01	SECONDARY SCHOOL	BRISTOL CITY
	ST FRANCIS ROAD		
	NEAR BRISTOL		
	KEYNSHAM		
	Edge of Town		
	Residential Zone		
	Total Number of pupils:	435	
	Survey date: MONDAY	21/09/15	Survey Type: MANUAL
2	DV-04-B-03	SECONDARY ACADEMY	DEVON
	CRICKETFIELD ROAD		
	TORQUAY		
	Suburban Area (PPS6 Out of Centre)		
	No Sub Category		
	Total Number of pupils:	1309	
	Survey date: MONDAY	01/04/19	Survey Type: MANUAL
3	DV-04-B-04	SECONDARY ACADEMY	DEVON
	EARL RICHARD' SRD SOUTH		
	EXETER		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of pupils:	835	
	Survey date: TUESDAY	02/04/19	Survey Type: MANUAL
4	ES-04-B-01	SECONDARY SCHOOL	EAST SUSSEX
	NEVILL AVENUE		
	BRIGHTON		
	HOVE		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of pupils:	1596	
	Survey date: WEDNESDAY	27/09/17	Survey Type: MANUAL
5	GM-04-B-02	SECONDARY SCHOOL	GREATER MANCHESTER
	FALINGE ROAD		
	ROCHDALE		
	SHAWCLOUGH		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of pupils:	1350	
	Survey date: WEDNESDAY	21/10/15	Survey Type: MANUAL
6	GM-04-B-03	SECONDARY SCHOOL	GREATER MANCHESTER
	MATTHEW MOSS LANE		
	ROCHDALE		
	MARLAND		
	Edge of Town		
	Residential Zone		
	Total Number of pupils:	780	
	Survey date: FRIDAY	23/09/16	Survey Type: MANUAL
7	HC-04-B-08	SECONDARY SCHOOL	HAMPSHIRE
	MINSTEAD AVENUE		
	SOUTHAMPTON		
	Edge of Town		
	Residential Zone		
	Total Number of pupils:	565	
	Survey date: TUESDAY	24/11/15	Survey Type: MANUAL
8	LC-04-B-02	SECONDARY ACADEMY	LANCASHIRE
	TODD LANE NORTH		
	LOSTOCK HALL		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of pupils:	560	
	Survey date: TUESDAY	06/11/18	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

9	LN-04-B-02	SECONDARY SCHOOL	LINCOLNSHIRE
	RISEHOLME ROAD		
	LINCOLN		
	ERMINE		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of pupils:	852	
	Survey date: WEDNESDAY	04/10/17	Survey Type: MANUAL
10	NE-04-B-01	SECONDARY SCHOOL	NORTH EAST LINCOLNSHIRE
	FOXHILLS ROAD		
	SCUNTHORPE		
	Edge of Town		
	Residential Zone		
	Total Number of pupils:	520	
	Survey date: MONDAY	19/05/14	Survey Type: MANUAL
11	NF-04-B-01	SECONDARY ACADEMY	NORFOLK
	SAINT CLEMENTS HILL		
	NORWICH		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of pupils:	481	
	Survey date: FRIDAY	08/11/19	Survey Type: MANUAL
12	NT-04-B-01	SECONDARY SCHOOL	NOTTINGHAMSHIRE
	THE BANKS		
	NEAR NOTTINGHAM		
	BINGHAM		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of pupils:	1561	
	Survey date: THURSDAY	23/03/17	Survey Type: MANUAL
13	NY-04-B-03	GIRLS' HIGH SCHOOL	NORTH YORKSHIRE
	GARGRAVE ROAD		
	SKIPTON		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of pupils:	800	
	Survey date: FRIDAY	08/03/19	Survey Type: MANUAL
14	SF-04-B-01	SECONDARY SCHOOL	SUFFOLK
	MAIN ROAD		
	IPSWICH		
	KESGRAVE		
	Edge of Town		
	Residential Zone		
	Total Number of pupils:	1847	
	Survey date: FRIDAY	18/09/15	Survey Type: MANUAL
15	TV-04-B-01	SECONDARY SCHOOL	TEES VALLEY
	COAST ROAD		
	MARSKE-BY-THE-SEA		
	Edge of Town		
	Residential Zone		
	Total Number of pupils:	767	
	Survey date: WEDNESDAY	24/10/18	Survey Type: MANUAL
16	TW-04-B-01	SECONDARY SCHOOL	TYNE & WEAR
	SALTWELL ROAD SOUTH		
	GATESHEAD		
	Suburban Area (PPS6 Out of Centre)		
	No Sub Category		
	Total Number of pupils:	1188	
	Survey date: THURSDAY	03/10/13	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

17	TW-04-B-02	SECONDARY SCHOOL	TYNE & WEAR
	SALTWELL ROAD SOUTH		
	GATESHEAD		
	LOW FELL		
	Edge of Town		
	Residential Zone		
	Total Number of pupils:	1087	
	Survey date: FRIDAY	13/11/15	Survey Type: MANUAL
18	TW-04-B-03	CATHOLIC HIGH SCHOOL	TYNE & WEAR
	GRETNA ROAD		
	NEWCASTLE UPON TYNE		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of pupils:	1178	
	Survey date: THURSDAY	18/10/18	Survey Type: MANUAL
19	WK-04-B-01	SECONDARY SCHOOL	WARWICKSHIRE
	BANBURY ROAD		
	KINETON		
	Neighbourhood Centre (PPS6 Local Centre)		
	Village		
	Total Number of pupils:	839	
	Survey date: WEDNESDAY	25/09/19	Survey Type: MANUAL
20	WL-04-B-01	SECONDARY SCHOOL	WILTSHIRE
	ST PAUL'S DRIVE		
	SWINDON		
	COVINGHAM		
	Edge of Town		
	No Sub Category		
	Total Number of pupils:	874	
	Survey date: FRIDAY	23/09/16	Survey Type: MANUAL
21	WM-04-B-04	SECONDARY SCHOOL	WEST MIDLANDS
	SHANNON ROAD		
	BIRMINGHAM		
	Edge of Town		
	Residential Zone		
	Total Number of pupils:	247	
	Survey date: MONDAY	09/11/15	Survey Type: MANUAL
22	WM-04-B-05	SECONDARY SCHOOL	WEST MIDLANDS
	JEREMY ROAD		
	WOLVERHAMPTON		
	GOLDTHORN PARK		
	Edge of Town		
	Residential Zone		
	Total Number of pupils:	800	
	Survey date: MONDAY	14/11/16	Survey Type: MANUAL
23	WM-04-B-06	SECONDARY SCHOOL	WEST MIDLANDS
	PARK ROAD WEST		
	STOURBRIDGE		
	WOLLASTON		
	Edge of Town		
	Residential Zone		
	Total Number of pupils:	840	
	Survey date: TUESDAY	21/11/17	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.

RANK ORDER for Land Use 04 - EDUCATION/B - SECONDARY

TOTAL VEHICLES

Ranking Type: **TOTALS** Time Range: 17:00-18:00
 15th Percentile = No. **20** TV-04-B-01 Tot: 0.025
 85th Percentile = No. **4** DV-04-B-03 Tot: 0.072

Median Values

Arrivals: 0.019
 Departures: 0.028
 Totals: 0.047

Mean Values

Arrivals: 0.022
 Departures: 0.029
 Totals: 0.051

Rank	Site-Ref	Description	Town/City	Area	PUPILS	Day	Date	Trip Rate (Sorted by Totals)		
								Arrivals	Departures	Totals
1	WL-04-B-01	SECONDARY SCHO	SWINDON	WILTSHIRE	874	Fri	23/09/16	0.054	0.089	0.143
2	LC-04-B-02	SECONDARY ACAD	LOSTOCK HALL	LANCASHIRE	560	Tue	06/11/18	0.052	0.037	0.089
3	HC-04-B-08	SECONDARY SCHO	SOUTHAMPTON	HAMPSHIRE	565	Tue	24/11/15	0.039	0.041	0.080
4	DV-04-B-03	SECONDARY ACAD	TORQUAY	DEVON	1309	Mon	01/04/19	0.040	0.032	0.072
5	DV-04-B-04	SECONDARY ACAD	EXETER	DEVON	835	Tue	02/04/19	0.042	0.026	0.068
6	NF-04-B-01	SECONDARY ACAD	NORWICH	NORFOLK	481	Fri	08/11/19	0.025	0.035	0.060
7	TW-04-B-01	SECONDARY SCHO	GATESHEAD	TYNE & WEAR	1188	Thu	03/10/13	0.029	0.029	0.058
8	SF-04-B-01	SECONDARY SCHO	IPSWICH	SUFFOLK	1847	Fri	18/09/15	0.024	0.032	0.056
9	WM-04-B-05	SECONDARY SCHO	WOLVERHAMPTON	WEST MIDLANDS	800	Mon	14/11/16	0.026	0.028	0.054
10	WM-04-B-04	SECONDARY SCHO	BIRMINGHAM	WEST MIDLANDS	247	Mon	09/11/15	0.000	0.053	0.053
11	GM-04-B-03	SECONDARY SCHO	ROCHDALE	GREATER MANCHESTER	780	Fri	23/09/16	0.028	0.022	0.050
12	ES-04-B-01	SECONDARY SCHO	BRIGHTON	EAST SUSSEX	1596	Wed	27/09/17	0.019	0.028	0.047
13	WK-04-B-01	SECONDARY SCHO	KINETON	WARWICKSHIRE	839	Wed	25/09/19	0.025	0.021	0.046
14	TW-04-B-03	CATHOLIC HIGH	NEWCASTLE UPON TYNE	TYNE & WEAR	1178	Thu	18/10/18	0.011	0.029	0.040
15	BR-04-B-01	SECONDARY SCHO	NEAR BRISTOL	BRISTOL CITY	435	Mon	21/09/15	0.009	0.030	0.039
16	NT-04-B-01	SECONDARY SCHO	NEAR NOTTINGHAM	NOTTINGHAMSHIRE	1561	Thu	23/03/17	0.008	0.029	0.037
17	NY-04-B-03	GIRLS' HIGH SC	SKIPTON	NORTH YORKSHIRE	800	Fri	08/03/19	0.020	0.016	0.036
18	WM-04-B-06	SECONDARY SCHO	STOURBRIDGE	WEST MIDLANDS	840	Tue	21/11/17	0.007	0.026	0.033
19	TW-04-B-02	SECONDARY SCHO	GATESHEAD	TYNE & WEAR	1087	Fri	13/11/15	0.011	0.015	0.026
20	TV-04-B-01	SECONDARY SCHO	MARSKE-BY-THE-SEA	TEES VALLEY	767	Wed	24/10/18	0.017	0.008	0.025
21	GM-04-B-02	SECONDARY SCHO	ROCHDALE	GREATER MANCHESTER	1350	Wed	21/10/15	0.004	0.019	0.023
22	NE-04-B-01	SECONDARY SCHO	SCUNTHORPE	NORTH EAST LINCOLNS	520	Mon	19/05/14	0.008	0.013	0.021
23	LN-04-B-02	SECONDARY SCHO	LINCOLN	LINCOLNSHIRE	852	Wed	04/10/17	0.006	0.007	0.013

This section displays actual (not average) trip rates for each of the survey days in the selected set, and ranks them in order of relative trip rate intensity, for a given time period (or peak period irrespective of time) selected by the user. The count type and direction are both displayed just above the table, along with the rows within the table representing the 85th and 15th percentile trip rate figures (highlighted in bold within the table itself).

The table itself displays details of each individual survey, alongside arrivals, departures and totals trip rates, sorted by whichever of the three directional options has been chosen by the user. As with the preceeding trip rate calculation results table, the trip rates shown are per the calculation factor (e.g. per 100m2 GFA, per employee, per hectare, etc). Note that if the peak period option has been selected (as opposed to a specific chosen time period), the peak period for each individual survey day in the table is also displayed.

APPENDIX D

TRICS ASSESSMENT – PRIMARY SCHOOL

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 04 - EDUCATION

Category : A - PRIMARY

TOTAL VEHICLESSelected regions and areas:

02	SOUTH EAST	
	BU BUCKINGHAMSHIRE	1 days
	EX ESSEX	1 days
	HC HAMPSHIRE	1 days
03	SOUTH WEST	
	BR BRISTOL CITY	1 days
	CW CORNWALL	1 days
	DV DEVON	1 days
	SM SOMERSET	1 days
	WL WILTSHIRE	2 days
04	EAST ANGLIA	
	SF SUFFOLK	1 days
05	EAST MIDLANDS	
	DS DERBYSHIRE	1 days
	LE LEICESTERSHIRE	1 days
	LN LINCOLNSHIRE	1 days
	NR NORTHAMPTONSHIRE	1 days
06	WEST MIDLANDS	
	WM WEST MIDLANDS	1 days
08	NORTH WEST	
	CH CHESHIRE	1 days
	GM GREATER MANCHESTER	1 days
	LC LANCASHIRE	1 days
09	NORTH	
	TW TYNE & WEAR	2 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: Number of pupils
 Actual Range: 79 to 550 (units:)
 Range Selected by User: 79 to 621 (units:)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/13 to 03/04/19

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:

Monday	3 days
Tuesday	6 days
Wednesday	5 days
Thursday	5 days
Friday	1 days

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

Selected survey types:

Manual count	20 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:

Suburban Area (PPS6 Out of Centre)	3
Edge of Town	7
Neighbourhood Centre (PPS6 Local Centre)	10

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:

Residential Zone	13
Village	6
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.

Secondary Filtering selection:

Use Class:

F1(a)	20 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 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:

1,000 or Less	1 days
1,001 to 5,000	4 days
5,001 to 10,000	4 days
10,001 to 15,000	1 days
15,001 to 20,000	4 days
20,001 to 25,000	2 days
25,001 to 50,000	3 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:

5,001 to 25,000	1 days
25,001 to 50,000	1 days
50,001 to 75,000	2 days
75,001 to 100,000	4 days
100,001 to 125,000	1 days
125,001 to 250,000	3 days
250,001 to 500,000	8 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	6 days
1.1 to 1.5	13 days
1.6 to 2.0	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:

Yes	4 days
No	16 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	20 days

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

LIST OF SITES relevant to selection parameters

1	BR-04-A-01	PRIMARY SCHOOL	BRISTOL CITY
	SCHOOL CLOSE		
	BRISTOL		
	WHITCHURCH		
	Edge of Town		
	Residential Zone		
	Total Number of pupils:	208	
	Survey date: TUESDAY	22/09/15	Survey Type: MANUAL
2	BU-04-A-01	PRIMARY SCHOOL	BUCKINGHAMSHIRE
	LOWER ROAD		
	NEAR AYLESBURY		
	STOKE MANDEVILLE		
	Neighbourhood Centre (PPS6 Local Centre)		
	Village		
	Total Number of pupils:	208	
	Survey date: WEDNESDAY	01/10/14	Survey Type: MANUAL
3	CH-04-A-01	PRIMARY SCHOOL	CHESHIRE
	WESTON GROVE		
	CHESTER		
	UPTON		
	Edge of Town		
	Residential Zone		
	Total Number of pupils:	219	
	Survey date: MONDAY	17/11/14	Survey Type: MANUAL
4	CW-04-A-03	PRIMARY ACADEMY	CORNWALL
	TREVERBYN RISE		
	PENRYN		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of pupils:	440	
	Survey date: THURSDAY	28/03/19	Survey Type: MANUAL
5	DS-04-A-01	PRIMARY SCHOOL	DERBYSHIRE
	VICARAGE ROAD		
	DERBY		
	MICKLEOVER		
	Edge of Town		
	Residential Zone		
	Total Number of pupils:	387	
	Survey date: THURSDAY	25/06/15	Survey Type: MANUAL
6	DV-04-A-04	PRIMARY SCHOOL	DEVON
	CHURCH LANE		
	CHERITON BISHOP		
	Neighbourhood Centre (PPS6 Local Centre)		
	Village		
	Total Number of pupils:	85	
	Survey date: WEDNESDAY	12/07/17	Survey Type: MANUAL
7	EX-04-A-01	PRIMARY SCHOOL	ESSEX
	THE STREET		
	NEAR CHELMSFORD		
	ROXWELL		
	Neighbourhood Centre (PPS6 Local Centre)		
	Village		
	Total Number of pupils:	79	
	Survey date: TUESDAY	05/11/13	Survey Type: MANUAL
8	GM-04-A-01	PRIMARY SCHOOL	GREATER MANCHESTER
	ROCH MILLS CRESCENT		
	ROCHDALE		
	Edge of Town		
	Residential Zone		
	Total Number of pupils:	457	
	Survey date: TUESDAY	20/10/15	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

9	HC-04-A-05	PRIMARY SCHOOL	HAMPSHIRE
	HAVANT ROAD HAYLING ISLAND		
	Edge of Town Residential Zone Total Number of pupils: 550 Survey date: MONDAY 30/11/15		Survey Type: MANUAL
10	LC-04-A-06	PRIMARY SCHOOL	LANCASHIRE
	SEVERN ROAD BLACKPOOL SOUTH SHORE Neighbourhood Centre (PPS6 Local Centre) Residential Zone Total Number of pupils: 449 Survey date: TUESDAY 27/09/16		Survey Type: MANUAL
11	LE-04-A-02	PRIMARY SCHOOL	LEICESTERSHIRE
	BEAUFORT WAY LEICESTER OADBYS Edge of Town Residential Zone Total Number of pupils: 380 Survey date: THURSDAY 30/10/14		Survey Type: MANUAL
12	LN-04-A-01	PRIMARY SCHOOL	LINCOLNSHIRE
	GONERBY HILL FOOT GRANTHAM Neighbourhood Centre (PPS6 Local Centre) Residential Zone Total Number of pupils: 312 Survey date: WEDNESDAY 12/06/13		Survey Type: MANUAL
13	NR-04-A-03	PRIMARY SCHOOL	NORTHAMPTONSHIRE
	BOOTH LANE NORTH NORTHAMPTON Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of pupils: 400 Survey date: THURSDAY 24/03/16		Survey Type: MANUAL
14	SF-04-A-03	PRIMARY SCHOOL	SUFFOLK
	ENSTONE ROAD LOWESTOFT KIRKLEY Neighbourhood Centre (PPS6 Local Centre) Residential Zone Total Number of pupils: 234 Survey date: WEDNESDAY 10/12/14		Survey Type: MANUAL
15	SM-04-A-01	PRIMARY SCHOOL	SOMERSET
	BRIDGWATER ROAD NEAR TAUNTON BATHPOOL Neighbourhood Centre (PPS6 Local Centre) Village Total Number of pupils: 407 Survey date: THURSDAY 27/09/18		Survey Type: MANUAL
16	TW-04-A-01	PRIMARY SCHOOL	TYNE & WEAR
	GLYNWOOD GARDENS GATESHEAD Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of pupils: 260 Survey date: MONDAY 07/10/13		Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

17	TW-04-A-02	PRIMARY SCHOOL	TYNE & WEAR
	KELLS LANE		
	GATESHEAD		
	LOW FELL		
	Neighbourhood Centre (PPS6 Local Centre)		
	No Sub Category		
	Total Number of pupils:	416	
	Survey date: FRIDAY	19/10/18	Survey Type: MANUAL
18	WL-04-A-01	PRIMARY SCHOOL	WILTSHIRE
	CASTLE VIEW ROAD		
	NEAR SWINDON		
	CHISELDON		
	Neighbourhood Centre (PPS6 Local Centre)		
	Village		
	Total Number of pupils:	178	
	Survey date: TUESDAY	20/09/16	Survey Type: MANUAL
19	WL-04-A-02	C OF E PRIMARY ACADEMY	WILTSHIRE
	HIGH STREET		
	ROWDE		
	Neighbourhood Centre (PPS6 Local Centre)		
	Village		
	Total Number of pupils:	199	
	Survey date: WEDNESDAY	03/04/19	Survey Type: MANUAL
20	WM-04-A-02	PRIMARY SCHOOL	WEST MIDLANDS
	HAZEL ROAD		
	BIRMINGHAM		
	RUBERY		
	Edge of Town		
	Residential Zone		
	Total Number of pupils:	234	
	Survey date: TUESDAY	10/11/15	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.

RANK ORDER for Land Use 04 - EDUCATION/A - PRIMARY

TOTAL VEHICLES

Ranking Type: **TOTALS** Time Range: 08:00-09:00
15th Percentile = No. **17** SF-04-A-03 Tot: 0.303
85th Percentile = No. **4** EX-04-A-01 Tot: 0.848

Median Values

Arrivals: 0.316
Departures: 0.262
Totals: 0.577

Mean Values

Arrivals: 0.322
Departures: 0.262
Totals: 0.585

Rank	Site-Ref	Description	Town/City	Area	PUPILS	Day	Date	Trip Rate (Sorted by Totals)		
								Arrivals	Departures	Totals
1	HC-04-A-05	PRIMARY SCHOOL	HAYLING ISLAND	HAMPSHIRE	550	Mon	30/11/15	0.822	0.698	1.520
2	WL-04-A-02	C OF E PRIMARY	ROWDE	WILTSHIRE	199	Wed	03/04/19	0.472	0.412	0.884
3	DV-04-A-04	PRIMARY SCHOOL	CHERITON BISHOP	DEVON	85	Wed	12/07/17	0.482	0.388	0.870
4	EX-04-A-01	PRIMARY SCHOOL	NEAR CHELMSFORD	ESSEX	79	Tue	05/11/13	0.468	0.380	0.848
5	LC-04-A-06	PRIMARY SCHOOL	BLACKPOOL	LANCASHIRE	449	Tue	27/09/16	0.412	0.336	0.748
6	TW-04-A-02	PRIMARY SCHOOL	GATESHEAD	TYNE & WEAR	416	Fri	19/10/18	0.380	0.303	0.683
7	WL-04-A-01	PRIMARY SCHOOL	NEAR SWINDON	WILTSHIRE	178	Tue	20/09/16	0.326	0.326	0.652
8	BR-04-A-01	PRIMARY SCHOOL	BRISTOL	BRISTOL CITY	208	Tue	22/09/15	0.375	0.260	0.635
9	NR-04-A-03	PRIMARY SCHOOL	NORTHAMPTON	NORTHAMPTONSHIRE	400	Thu	24/03/16	0.305	0.305	0.610
10	LE-04-A-02	PRIMARY SCHOOL	LEICESTER	LEICESTERSHIRE	380	Thu	30/10/14	0.324	0.263	0.587
11	BU-04-A-01	PRIMARY SCHOOL	NEAR AYLESBURY	BUCKINGHAMSHIRE	208	Wed	01/10/14	0.308	0.260	0.568
12	SM-04-A-01	PRIMARY SCHOOL	NEAR TAUNTON	SOMERSET	407	Thu	27/09/18	0.310	0.256	0.566
13	WM-04-A-02	PRIMARY SCHOOL	BIRMINGHAM	WEST MIDLANDS	234	Tue	10/11/15	0.231	0.179	0.410
14	TW-04-A-01	PRIMARY SCHOOL	GATESHEAD	TYNE & WEAR	260	Mon	07/10/13	0.215	0.188	0.403
15	LN-04-A-01	PRIMARY SCHOOL	GRANTHAM	LINCOLNSHIRE	312	Wed	12/06/13	0.208	0.151	0.359
16	CH-04-A-01	PRIMARY SCHOOL	CHESTER	CHESHIRE	219	Mon	17/11/14	0.196	0.128	0.324
17	SF-04-A-03	PRIMARY SCHOOL	LOWESTOFT	SUFFOLK	234	Wed	10/12/14	0.171	0.132	0.303
18	GM-04-A-01	PRIMARY SCHOOL	ROCHDALE	GREATER MANCHESTER	457	Tue	20/10/15	0.173	0.107	0.280
19	DS-04-A-01	PRIMARY SCHOOL	DERBY	DERBYSHIRE	387	Thu	25/06/15	0.158	0.119	0.277
20	CW-04-A-03	PRIMARY ACADEM	PENRYN	CORNWALL	440	Thu	28/03/19	0.114	0.052	0.166

This section displays actual (not average) trip rates for each of the survey days in the selected set, and ranks them in order of relative trip rate intensity, for a given time period (or peak period irrespective of time) selected by the user. The count type and direction are both displayed just above the table, along with the rows within the table representing the 85th and 15th percentile trip rate figures (highlighted in bold within the table itself).

The table itself displays details of each individual survey, alongside arrivals, departures and totals trip rates, sorted by whichever of the three directional options has been chosen by the user. As with the preceeding trip rate calculation results table, the trip rates shown are per the calculation factor (e.g. per 100m2 GFA, per employee, per hectare, etc). Note that if the peak period option has been selected (as opposed to a specific chosen time period), the peak period for each individual survey day in the table is also displayed.

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 04 - EDUCATION

Category : A - PRIMARY

TOTAL VEHICLES

Selected regions and areas:

02 SOUTH EAST		
BU	BUCKINGHAMSHIRE	1 days
EX	ESSEX	1 days
HC	HAMPSHIRE	1 days
03 SOUTH WEST		
BR	BRISTOL CITY	1 days
CW	CORNWALL	1 days
DV	DEVON	1 days
SM	SOMERSET	1 days
WL	WILTSHIRE	2 days
04 EAST ANGLIA		
SF	SUFFOLK	1 days
05 EAST MIDLANDS		
DS	DERBYSHIRE	1 days
LE	LEICESTERSHIRE	1 days
LN	LINCOLNSHIRE	1 days
NR	NORTHAMPTONSHIRE	1 days
06 WEST MIDLANDS		
WM	WEST MIDLANDS	1 days
08 NORTH WEST		
CH	CHESHIRE	1 days
GM	GREATER MANCHESTER	1 days
LC	LANCASHIRE	1 days
09 NORTH		
TW	TYNE & WEAR	2 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: Number of pupils
 Actual Range: 79 to 550 (units:)
 Range Selected by User: 79 to 621 (units:)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/13 to 03/04/19

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:

Monday	3 days
Tuesday	6 days
Wednesday	5 days
Thursday	5 days
Friday	1 days

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

Selected survey types:

Manual count	20 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:

Suburban Area (PPS6 Out of Centre)	3
Edge of Town	7
Neighbourhood Centre (PPS6 Local Centre)	10

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:

Residential Zone	13
Village	6
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.

Secondary Filtering selection:

Use Class:

F1(a)	20 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 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:

1,000 or Less	1 days
1,001 to 5,000	4 days
5,001 to 10,000	4 days
10,001 to 15,000	1 days
15,001 to 20,000	4 days
20,001 to 25,000	2 days
25,001 to 50,000	3 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:

5,001 to 25,000	1 days
25,001 to 50,000	1 days
50,001 to 75,000	2 days
75,001 to 100,000	4 days
100,001 to 125,000	1 days
125,001 to 250,000	3 days
250,001 to 500,000	8 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	6 days
1.1 to 1.5	13 days
1.6 to 2.0	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:

Yes	4 days
No	16 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	20 days

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

LIST OF SITES relevant to selection parameters

1	BR-04-A-01	PRIMARY SCHOOL	BRISTOL CITY
	SCHOOL CLOSE		
	BRISTOL		
	WHITCHURCH		
	Edge of Town		
	Residential Zone		
	Total Number of pupils:	208	
	Survey date: TUESDAY	22/09/15	Survey Type: MANUAL
2	BU-04-A-01	PRIMARY SCHOOL	BUCKINGHAMSHIRE
	LOWER ROAD		
	NEAR AYLESBURY		
	STOKE MANDEVILLE		
	Neighbourhood Centre (PPS6 Local Centre)		
	Village		
	Total Number of pupils:	208	
	Survey date: WEDNESDAY	01/10/14	Survey Type: MANUAL
3	CH-04-A-01	PRIMARY SCHOOL	CHESHIRE
	WESTON GROVE		
	CHESTER		
	UPTON		
	Edge of Town		
	Residential Zone		
	Total Number of pupils:	219	
	Survey date: MONDAY	17/11/14	Survey Type: MANUAL
4	CW-04-A-03	PRIMARY ACADEMY	CORNWALL
	TREVERBYN RISE		
	PENRYN		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of pupils:	440	
	Survey date: THURSDAY	28/03/19	Survey Type: MANUAL
5	DS-04-A-01	PRIMARY SCHOOL	DERBYSHIRE
	VICARAGE ROAD		
	DERBY		
	MICKLEOVER		
	Edge of Town		
	Residential Zone		
	Total Number of pupils:	387	
	Survey date: THURSDAY	25/06/15	Survey Type: MANUAL
6	DV-04-A-04	PRIMARY SCHOOL	DEVON
	CHURCH LANE		
	CHERITON BISHOP		
	Neighbourhood Centre (PPS6 Local Centre)		
	Village		
	Total Number of pupils:	85	
	Survey date: WEDNESDAY	12/07/17	Survey Type: MANUAL
7	EX-04-A-01	PRIMARY SCHOOL	ESSEX
	THE STREET		
	NEAR CHELMSFORD		
	ROXWELL		
	Neighbourhood Centre (PPS6 Local Centre)		
	Village		
	Total Number of pupils:	79	
	Survey date: TUESDAY	05/11/13	Survey Type: MANUAL
8	GM-04-A-01	PRIMARY SCHOOL	GREATER MANCHESTER
	ROCH MILLS CRESCENT		
	ROCHDALE		
	Edge of Town		
	Residential Zone		
	Total Number of pupils:	457	
	Survey date: TUESDAY	20/10/15	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

9	HC-04-A-05	PRIMARY SCHOOL	HAMPSHIRE
	HAVANT ROAD HAYLING ISLAND		
	Edge of Town Residential Zone Total Number of pupils: 550 Survey date: MONDAY 30/11/15		Survey Type: MANUAL
10	LC-04-A-06	PRIMARY SCHOOL	LANCASHIRE
	SEVERN ROAD BLACKPOOL SOUTH SHORE Neighbourhood Centre (PPS6 Local Centre) Residential Zone Total Number of pupils: 449 Survey date: TUESDAY 27/09/16		Survey Type: MANUAL
11	LE-04-A-02	PRIMARY SCHOOL	LEICESTERSHIRE
	BEAUFORT WAY LEICESTER OADBY Edge of Town Residential Zone Total Number of pupils: 380 Survey date: THURSDAY 30/10/14		Survey Type: MANUAL
12	LN-04-A-01	PRIMARY SCHOOL	LINCOLNSHIRE
	GONERBY HILL FOOT GRANTHAM Neighbourhood Centre (PPS6 Local Centre) Residential Zone Total Number of pupils: 312 Survey date: WEDNESDAY 12/06/13		Survey Type: MANUAL
13	NR-04-A-03	PRIMARY SCHOOL	NORTHAMPTONSHIRE
	BOOTH LANE NORTH NORTHAMPTON Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of pupils: 400 Survey date: THURSDAY 24/03/16		Survey Type: MANUAL
14	SF-04-A-03	PRIMARY SCHOOL	SUFFOLK
	ENSTONE ROAD LOWESTOFT KIRKLEY Neighbourhood Centre (PPS6 Local Centre) Residential Zone Total Number of pupils: 234 Survey date: WEDNESDAY 10/12/14		Survey Type: MANUAL
15	SM-04-A-01	PRIMARY SCHOOL	SOMERSET
	BRIDGWATER ROAD NEAR TAUNTON BATHPOOL Neighbourhood Centre (PPS6 Local Centre) Village Total Number of pupils: 407 Survey date: THURSDAY 27/09/18		Survey Type: MANUAL
16	TW-04-A-01	PRIMARY SCHOOL	TYNE & WEAR
	GLYNWOOD GARDENS GATESHEAD Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of pupils: 260 Survey date: MONDAY 07/10/13		Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

17	TW-04-A-02	PRIMARY SCHOOL	TYNE & WEAR
	KELLS LANE		
	GATESHEAD		
	LOW FELL		
	Neighbourhood Centre (PPS6 Local Centre)		
	No Sub Category		
	Total Number of pupils:	416	
	Survey date: FRIDAY	19/10/18	Survey Type: MANUAL
18	WL-04-A-01	PRIMARY SCHOOL	WILTSHIRE
	CASTLE VIEW ROAD		
	NEAR SWINDON		
	CHISELDON		
	Neighbourhood Centre (PPS6 Local Centre)		
	Village		
	Total Number of pupils:	178	
	Survey date: TUESDAY	20/09/16	Survey Type: MANUAL
19	WL-04-A-02	C OF E PRIMARY ACADEMY	WILTSHIRE
	HIGH STREET		
	ROWDE		
	Neighbourhood Centre (PPS6 Local Centre)		
	Village		
	Total Number of pupils:	199	
	Survey date: WEDNESDAY	03/04/19	Survey Type: MANUAL
20	WM-04-A-02	PRIMARY SCHOOL	WEST MIDLANDS
	HAZEL ROAD		
	BIRMINGHAM		
	RUBERY		
	Edge of Town		
	Residential Zone		
	Total Number of pupils:	234	
	Survey date: TUESDAY	10/11/15	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.

RANK ORDER for Land Use 04 - EDUCATION/A - PRIMARY

TOTAL VEHICLES

Ranking Type: **TOTALS** Time Range: 17:00-18:00

WARNING: Using 85th and 15th percentile highlighted trip rates in data sets of under 20 surveys is not recommended by TRICS and may be misleading.

15th Percentile = No. **16** DV-04-A-04 Tot: 0.012

85th Percentile = No. **4** WM-04-A-02 Tot: 0.094

Median Values

Arrivals: 0.005

Departures: 0.058

Totals: 0.063

Mean Values

Arrivals: 0.022

Departures: 0.041

Totals: 0.064

Rank	Site-Ref	Description	Town/City	Area	PUPILS	Day	Date	Trip Rate (Sorted by Totals)		
								Arrivals	Departures	Totals
1	TW-04-A-01	PRIMARY SCHOOL	GATESHEAD	TYNE & WEAR	260	Mon	07/10/13	0.092	0.058	0.150
2	HC-04-A-05	PRIMARY SCHOOL	HAYLING ISLAND	HAMPSHIRE	550	Mon	30/11/15	0.051	0.082	0.133
3	WL-04-A-01	PRIMARY SCHOOL	NEAR SWINDON	WILTSHIRE	178	Tue	20/09/16	0.028	0.079	0.107
4	WM-04-A-02	PRIMARY SCHOOL	BIRMINGHAM	WEST MIDLANDS	234	Tue	10/11/15	0.034	0.060	0.094
5	LE-04-A-02	PRIMARY SCHOOL	LEICESTER	LEICESTERSHIRE	380	Thu	30/10/14	0.037	0.053	0.090
6	BU-04-A-01	PRIMARY SCHOOL	NEAR AYLESBURY	BUCKINGHAMSHIRE	208	Wed	01/10/14	0.014	0.072	0.086
7	SM-04-A-01	PRIMARY SCHOOL	NEAR TAUNTON	SOMERSET	407	Thu	27/09/18	0.034	0.047	0.081
8	EX-04-A-01	PRIMARY SCHOOL	NEAR CHELMSFORD	ESSEX	79	Tue	05/11/13	0.013	0.063	0.076
9	LN-04-A-01	PRIMARY SCHOOL	GRANTHAM	LINCOLNSHIRE	312	Wed	12/06/13	0.038	0.029	0.067
10	BR-04-A-01	PRIMARY SCHOOL	BRISTOL	BRISTOL CITY	208	Tue	22/09/15	0.005	0.058	0.063
11	CW-04-A-03	PRIMARY ACADEM	PENRYN	CORNWALL	440	Thu	28/03/19	0.016	0.045	0.061
12	SF-04-A-03	PRIMARY SCHOOL	LOWESTOFT	SUFFOLK	234	Wed	10/12/14	0.004	0.047	0.051
13	CH-04-A-01	PRIMARY SCHOOL	CHESTER	CHESHIRE	219	Mon	17/11/14	0.018	0.032	0.050
14	GM-04-A-01	PRIMARY SCHOOL	ROCHDALE	GREATER MANCHESTER	457	Tue	20/10/15	0.033	0.013	0.046
15	DS-04-A-01	PRIMARY SCHOOL	DERBY	DERBYSHIRE	387	Thu	25/06/15	0.003	0.013	0.016
16	DV-04-A-04	PRIMARY SCHOOL	CHERITON BISHOP	DEVON	85	Wed	12/07/17	0.000	0.012	0.012
17	NR-04-A-03	PRIMARY SCHOOL	NORTHAMPTON	NORTHAMPTONSHIRE	400	Thu	24/03/16	0.003	0.007	0.010
18	TW-04-A-02	PRIMARY SCHOOL	GATESHEAD	TYNE & WEAR	416	Fri	19/10/18	0.000	0.007	0.007
19	LC-04-A-06	PRIMARY SCHOOL	BLACKPOOL	LANCASHIRE	449	Tue	27/09/16	0.000	0.007	0.007

This section displays actual (not average) trip rates for each of the survey days in the selected set, and ranks them in order of relative trip rate intensity, for a given time period (or peak period irrespective of time) selected by the user. The count type and direction are both displayed just above the table, along with the rows within the table representing the 85th and 15th percentile trip rate figures (highlighted in bold within the table itself).

The table itself displays details of each individual survey, alongside arrivals, departures and totals trip rates, sorted by whichever of the three directional options has been chosen by the user. As with the preceeding trip rate calculation results table, the trip rates shown are per the calculation factor (e.g. per 100m2 GFA, per employee, per hectare, etc). Note that if the peak period option has been selected (as opposed to a specific chosen time period), the peak period for each individual survey day in the table is also displayed.

Calculation Reference: AUDIT-855401-230317-0333

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 04 - EDUCATION

Category : A - PRIMARY

MULTI-MODAL TOTAL VEHICLESSelected regions and areas:

03	SOUTH WEST	
	CW CORNWALL	1 days
	SM SOMERSET	1 days
	WL WILTSHIRE	1 days
08	NORTH WEST	
	BP BLACKPOOL	1 days
09	NORTH	
	TV TEES VALLEY	3 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: Number of pupils
 Actual Range: 126 to 538 (units:)
 Range Selected by User: 92 to 538 (units:)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/14 to 26/05/22

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:

Monday	1 days
Tuesday	1 days
Wednesday	2 days
Thursday	3 days

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

Selected survey types:

Manual count	7 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:

Suburban Area (PPS6 Out of Centre)	1
Edge of Town	1
Neighbourhood Centre (PPS6 Local Centre)	5

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:

Residential Zone	4
Village	3

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	6 days - Selected
Servicing vehicles Excluded	1 days - Selected

Secondary Filtering selection:Use Class:

F1(a) 7 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:

1,001 to 5,000	2 days
5,001 to 10,000	1 days
10,001 to 15,000	1 days
15,001 to 20,000	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:

25,001 to 50,000	1 days
50,001 to 75,000	1 days
75,001 to 100,000	1 days
100,001 to 125,000	1 days
125,001 to 250,000	2 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	2 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 7 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 7 days

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

LIST OF SITES relevant to selection parameters

1	BP-04-A-01	PRIMARY SCHOOL	BLACKPOOL
	SEVERN ROAD		
	BLACKPOOL		
	SOUTH SHORE		
	Neighbourhood Centre (PPS6 Local Centre)		
	Residential Zone		
	Total Number of pupils:	449	
	Survey date: TUESDAY	27/09/16	Survey Type: MANUAL
2	CW-04-A-03	PRIMARY ACADEMY	CORNWALL
	TREVERBYN RISE		
	PENRYN		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of pupils:	440	
	Survey date: THURSDAY	28/03/19	Survey Type: MANUAL
3	SM-04-A-01	PRIMARY SCHOOL	SOMERSET
	BRIDGWATER ROAD		
	NEAR TAUNTON		
	BATHPOOL		
	Neighbourhood Centre (PPS6 Local Centre)		
	Village		
	Total Number of pupils:	407	
	Survey date: THURSDAY	27/09/18	Survey Type: MANUAL
4	TV-04-A-01	PRIMARY SCHOOL	TEES VALLEY
	CLIFTON AVENUE		
	BILLINGHAM		
	Neighbourhood Centre (PPS6 Local Centre)		
	Residential Zone		
	Total Number of pupils:	538	
	Survey date: WEDNESDAY	25/05/22	Survey Type: MANUAL
5	TV-04-A-02	PRIMARY SCHOOL	TEES VALLEY
	WOLVISTON MILL LANE		
	BILLINGHAM		
	Edge of Town		
	Residential Zone		
	Total Number of pupils:	232	
	Survey date: MONDAY	23/05/22	Survey Type: MANUAL
6	TV-04-A-03	PRIMARY SCHOOL	TEES VALLEY
	THE GREEN		
	BILLINGHAM		
	WOLVISTON		
	Neighbourhood Centre (PPS6 Local Centre)		
	Village		
	Total Number of pupils:	126	
	Survey date: THURSDAY	26/05/22	Survey Type: MANUAL
7	WL-04-A-02	C OF E PRIMARY ACADEMY	WILTSHIRE
	HIGH STREET		
	ROWDE		
	Neighbourhood Centre (PPS6 Local Centre)		
	Village		
	Total Number of pupils:	199	
	Survey date: WEDNESDAY	03/04/19	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 04 - EDUCATION/A - PRIMARY

MULTI-MODAL TOTAL VEHICLES**Calculation factor: 1 PUPILS****BOLD print indicates peak (busiest) period**

Total People to Total Vehicles ratio (all time periods and directions): 2.29

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. PUPILS	Trip Rate	No. Days	Ave. PUPILS	Trip Rate	No. Days	Ave. PUPILS	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	7	342	0.073	7	342	0.033	7	342	0.106
08:00 - 09:00	7	342	0.328	7	342	0.271	7	342	0.599
09:00 - 10:00	7	342	0.031	7	342	0.028	7	342	0.059
10:00 - 11:00	7	342	0.017	7	342	0.015	7	342	0.032
11:00 - 12:00	7	342	0.029	7	342	0.025	7	342	0.054
12:00 - 13:00	7	342	0.026	7	342	0.023	7	342	0.049
13:00 - 14:00	7	342	0.018	7	342	0.030	7	342	0.048
14:00 - 15:00	7	342	0.063	7	342	0.054	7	342	0.117
15:00 - 16:00	7	342	0.189	7	342	0.233	7	342	0.422
16:00 - 17:00	7	342	0.066	7	342	0.102	7	342	0.168
17:00 - 18:00	6	365	0.013	6	365	0.031	6	365	0.044
18:00 - 19:00	6	365	0.009	6	365	0.009	6	365	0.018
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.862			0.854			1.716

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.

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Parameter summary

Trip rate parameter range selected:	126 - 538 (units:)
Survey date range:	01/01/14 - 26/05/22
Number of weekdays (Monday-Friday):	7
Number of Saturdays:	0
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 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

TRICS ASSESSMENT – LOCAL CENTRE

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 01 - RETAIL
 Category : I - SHOPPING CENTRE - LOCAL SHOPS

TOTAL VEHICLESSelected regions and areas:

03	SOUTH WEST	
	BR BRISTOL CITY	1 days
06	WEST MIDLANDS	
	WO WORCESTERSHIRE	1 days
08	NORTH WEST	
	CH CHESHIRE	2 days
	LC LANCASHIRE	1 days
09	NORTH	
	TV TEES VALLEY	2 days
	TW TYNE & WEAR	2 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: 260 to 4052 (units: sqm)
 Range Selected by User: 210 to 8310 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/11 to 28/06/19

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:

Monday	2 days
Tuesday	2 days
Wednesday	1 days
Thursday	2 days
Friday	2 days

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

Selected survey types:

Manual count	9 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:

Neighbourhood Centre (PPS6 Local Centre)	9

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:

Residential Zone	8
High Street	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.

Secondary Filtering selection:

Use Class:

n/a 9 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 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:

5,001 to 10,000	1 days
10,001 to 15,000	1 days
20,001 to 25,000	3 days
25,001 to 50,000	4 days

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

Population within 5 miles:

100,001 to 125,000	2 days
125,001 to 250,000	3 days
250,001 to 500,000	4 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	3 days
1.1 to 1.5	6 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.

Petrol filling station:

Included in the survey count	0 days
Excluded from count or no filling station	9 days

This data displays the number of surveys within the selected set that include petrol filling station activity, and the number of surveys that do not.

Travel Plan:

No 9 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 9 days

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

LIST OF SITES relevant to selection parameters

1	BR-01-I-01	LOCAL SHOPS	BRISTOL CITY
	BELLAND DRIVE		
	BRISTOL		
	WHITCHURCH		
	Neighbourhood Centre (PPS6 Local Centre)		
	Residential Zone		
	Total Gross floor area:	770 sqm	
	Survey date: TUESDAY	22/09/15	Survey Type: MANUAL
2	CH-01-I-02	LOCAL SHOPS	CHESHIRE
	CHRISTLETON ROAD		
	CHESTER		
	BOUGHTON HEATH		
	Neighbourhood Centre (PPS6 Local Centre)		
	Residential Zone		
	Total Gross floor area:	260 sqm	
	Survey date: TUESDAY	15/05/12	Survey Type: MANUAL
3	CH-01-I-03	LOCAL SHOPS	CHESHIRE
	MILL LANE		
	CHESTER		
	BACHE		
	Neighbourhood Centre (PPS6 Local Centre)		
	Residential Zone		
	Total Gross floor area:	365 sqm	
	Survey date: THURSDAY	17/05/12	Survey Type: MANUAL
4	LC-01-I-01	LOCAL SHOPS	LANCASHIRE
	TALBOT ROW		
	NEAR CHORLEY		
	EUXTON		
	Neighbourhood Centre (PPS6 Local Centre)		
	Residential Zone		
	Total Gross floor area:	720 sqm	
	Survey date: MONDAY	17/10/11	Survey Type: MANUAL
5	TV-01-I-03	LOCAL SHOPS	TEES VALLEY
	ACKLAM ROAD		
	MIDDLESBROUGH		
	ACKLAM		
	Neighbourhood Centre (PPS6 Local Centre)		
	Residential Zone		
	Total Gross floor area:	1840 sqm	
	Survey date: FRIDAY	04/10/13	Survey Type: MANUAL
6	TV-01-I-04	LOCAL SHOPS	TEES VALLEY
	CARGO FLEET LANE		
	MIDDLESBROUGH		
	ORMESBY		
	Neighbourhood Centre (PPS6 Local Centre)		
	Residential Zone		
	Total Gross floor area:	585 sqm	
	Survey date: MONDAY	07/10/13	Survey Type: MANUAL
7	TW-01-I-02	LOCAL SHOPS	TYNE & WEAR
	DURHAM ROAD		
	SUNDERLAND		
	BARNES PARK		
	Neighbourhood Centre (PPS6 Local Centre)		
	Residential Zone		
	Total Gross floor area:	540 sqm	
	Survey date: WEDNESDAY	21/11/12	Survey Type: MANUAL
8	TW-01-I-03	LOCAL SHOPS	TYNE & WEAR
	VICTORIA ROAD		
	WASHINGTON		
	CONCORD		
	Neighbourhood Centre (PPS6 Local Centre)		
	High Street		
	Total Gross floor area:	2700 sqm	
	Survey date: FRIDAY	24/05/19	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

9 WO-01-I-02 LOCAL SHOPS WORCESTERSHIRE

CRANHAM DRIVE
WORCESTER

Neighbourhood Centre (PPS6 Local Centre)
Residential Zone

Total Gross floor area: 4052 sqm

Survey date: THURSDAY

22/05/14

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.

RANK ORDER for Land Use 01 - RETAIL/I - SHOPPING CENTRE - LOCAL SHOPS

TOTAL VEHICLES

Ranking Type: **TOTALS** Time Range: 08:00-09:00

WARNING: Using 85th and 15th percentile highlighted trip rates in data sets of under 20 surveys is not recommended by TRICS and may be misleading.

15th Percentile = No. **8** WO-01-I-02 Tot: 1.727

85th Percentile = No. **2** BR-01-I-01 Tot: 16.104

Median Values

Arrivals: 4.074

Departures: 3.519

Totals: 7.593

Mean Values

Arrivals: 4.567

Departures: 4.194

Totals: 8.761

Rank	Site-Ref	Description	Town/City	Area	GFA	Day	Date	Trip Rate (Sorted by Totals)		
								Arrivals	Departures	Totals
1	TV-01-I-04	LOCAL SHOPS	MIDDLESBROUGH	TEES VALLEY	585	Mon	07/10/13	9.402	9.402	18.804
2	BR-01-I-01	LOCAL SHOPS	BRISTOL	BRISTOL CITY	770	Tue	22/09/15	8.312	7.792	16.104
3	CH-01-I-03	LOCAL SHOPS	CHESTER	CHESHIRE	365	Thu	17/05/12	5.479	5.205	10.684
4	CH-01-I-02	LOCAL SHOPS	CHESTER	CHESHIRE	260	Tue	15/05/12	5.000	4.231	9.231
5	TW-01-I-02	LOCAL SHOPS	SUNDERLAND	TYNE & WEAR	540	Wed	21/11/12	4.074	3.519	7.593
6	TW-01-I-03	LOCAL SHOPS	WASHINGTON	TYNE & WEAR	2700	Fri	24/05/19	3.815	3.630	7.445
7	TV-01-I-03	LOCAL SHOPS	MIDDLESBROUGH	TEES VALLEY	1840	Fri	04/10/13	2.989	2.609	5.598
8	WO-01-I-02	LOCAL SHOPS	WORCESTER	WORCESTERSHIRE	4052	Thu	22/05/14	1.061	0.666	1.727
9	LC-01-I-01	LOCAL SHOPS	NEAR CHORLEY	LANCASHIRE	720	Mon	17/10/11	0.972	0.694	1.666

This section displays actual (not average) trip rates for each of the survey days in the selected set, and ranks them in order of relative trip rate intensity, for a given time period (or peak period irrespective of time) selected by the user. The count type and direction are both displayed just above the table, along with the rows within the table representing the 85th and 15th percentile trip rate figures (highlighted in bold within the table itself).

The table itself displays details of each individual survey, alongside arrivals, departures and totals trip rates, sorted by whichever of the three directional options has been chosen by the user. As with the preceeding trip rate calculation results table, the trip rates shown are per the calculation factor (e.g. per 100m2 GFA, per employee, per hectare, etc). Note that if the peak period option has been selected (as opposed to a specific chosen time period), the peak period for each individual survey day in the table is also displayed.

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 01 - RETAIL
 Category : I - SHOPPING CENTRE - LOCAL SHOPS

TOTAL VEHICLES

Selected regions and areas:

03	SOUTH WEST	
BR	BRISTOL CITY	1 days
06	WEST MIDLANDS	
WO	WORCESTERSHIRE	1 days
08	NORTH WEST	
CH	CHESHIRE	2 days
LC	LANCASHIRE	1 days
09	NORTH	
TV	TEES VALLEY	2 days
TW	TYNE & WEAR	2 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: 260 to 4052 (units: sqm)
 Range Selected by User: 210 to 8310 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/11 to 28/06/19

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:

Monday	2 days
Tuesday	2 days
Wednesday	1 days
Thursday	2 days
Friday	2 days

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

Selected survey types:

Manual count	9 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:

Neighbourhood Centre (PPS6 Local Centre)	9

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:

Residential Zone	8
High Street	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.

Secondary Filtering selection:

Use Class:

n/a 9 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 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:

5,001 to 10,000	1 days
10,001 to 15,000	1 days
20,001 to 25,000	3 days
25,001 to 50,000	4 days

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

Population within 5 miles:

100,001 to 125,000	2 days
125,001 to 250,000	3 days
250,001 to 500,000	4 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	3 days
1.1 to 1.5	6 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.

Petrol filling station:

Included in the survey count	0 days
Excluded from count or no filling station	9 days

This data displays the number of surveys within the selected set that include petrol filling station activity, and the number of surveys that do not.

Travel Plan:

No 9 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 9 days

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

LIST OF SITES relevant to selection parameters

1	BR-01-I-01	LOCAL SHOPS	BRISTOL CITY
	BELLAND DRIVE		
	BRISTOL		
	WHITCHURCH		
	Neighbourhood Centre (PPS6 Local Centre)		
	Residential Zone		
	Total Gross floor area:	770 sqm	
	Survey date: TUESDAY	22/09/15	Survey Type: MANUAL
2	CH-01-I-02	LOCAL SHOPS	CHESHIRE
	CHRISTLETON ROAD		
	CHESTER		
	BOUGHTON HEATH		
	Neighbourhood Centre (PPS6 Local Centre)		
	Residential Zone		
	Total Gross floor area:	260 sqm	
	Survey date: TUESDAY	15/05/12	Survey Type: MANUAL
3	CH-01-I-03	LOCAL SHOPS	CHESHIRE
	MILL LANE		
	CHESTER		
	BACHE		
	Neighbourhood Centre (PPS6 Local Centre)		
	Residential Zone		
	Total Gross floor area:	365 sqm	
	Survey date: THURSDAY	17/05/12	Survey Type: MANUAL
4	LC-01-I-01	LOCAL SHOPS	LANCASHIRE
	TALBOT ROW		
	NEAR CHORLEY		
	EUXTON		
	Neighbourhood Centre (PPS6 Local Centre)		
	Residential Zone		
	Total Gross floor area:	720 sqm	
	Survey date: MONDAY	17/10/11	Survey Type: MANUAL
5	TV-01-I-03	LOCAL SHOPS	TEES VALLEY
	ACKLAM ROAD		
	MIDDLESBROUGH		
	ACKLAM		
	Neighbourhood Centre (PPS6 Local Centre)		
	Residential Zone		
	Total Gross floor area:	1840 sqm	
	Survey date: FRIDAY	04/10/13	Survey Type: MANUAL
6	TV-01-I-04	LOCAL SHOPS	TEES VALLEY
	CARGO FLEET LANE		
	MIDDLESBROUGH		
	ORMESBY		
	Neighbourhood Centre (PPS6 Local Centre)		
	Residential Zone		
	Total Gross floor area:	585 sqm	
	Survey date: MONDAY	07/10/13	Survey Type: MANUAL
7	TW-01-I-02	LOCAL SHOPS	TYNE & WEAR
	DURHAM ROAD		
	SUNDERLAND		
	BARNES PARK		
	Neighbourhood Centre (PPS6 Local Centre)		
	Residential Zone		
	Total Gross floor area:	540 sqm	
	Survey date: WEDNESDAY	21/11/12	Survey Type: MANUAL
8	TW-01-I-03	LOCAL SHOPS	TYNE & WEAR
	VICTORIA ROAD		
	WASHINGTON		
	CONCORD		
	Neighbourhood Centre (PPS6 Local Centre)		
	High Street		
	Total Gross floor area:	2700 sqm	
	Survey date: FRIDAY	24/05/19	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

9 WO-01-I-02 LOCAL SHOPS

WORCESTERSHIRE

CRANHAM DRIVE
WORCESTER

Neighbourhood Centre (PPS6 Local Centre)

Residential Zone

Total Gross floor area: 4052 sqm

Survey date: THURSDAY

22/05/14

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.

RANK ORDER for Land Use 01 - RETAIL/I - SHOPPING CENTRE - LOCAL SHOPS

TOTAL VEHICLES

Ranking Type: **TOTALS** Time Range: 17:00-18:00

WARNING: Using 85th and 15th percentile highlighted trip rates in data sets of under 20 surveys is not recommended by TRICS and may be misleading.

15th Percentile = No. **8** LC-01-I-01 Tot: 4.583

85th Percentile = No. **2** TV-01-I-03 Tot: 15.000

Median Values

Arrivals: 4.103

Departures: 4.786

Totals: 8.889

Mean Values

Arrivals: 5.019

Departures: 5.475

Totals: 10.494

Rank	Site-Ref	Description	Town/City	Area	GFA	Day	Date	Trip Rate (Sorted by Totals)		
								Arrivals	Departures	Totals
1	BR-01-I-01	LOCAL SHOPS	BRISTOL	BRISTOL CITY	770	Tue	22/09/15	11.169	11.558	22.727
2	TV-01-I-03	LOCAL SHOPS	MIDDLESBROUGH	TEES VALLEY	1840	Fri	04/10/13	7.011	7.989	15.000
3	CH-01-I-03	LOCAL SHOPS	CHESTER	CHESHIRE	365	Thu	17/05/12	7.397	7.123	14.520
4	TW-01-I-02	LOCAL SHOPS	SUNDERLAND	TYNE & WEAR	540	Wed	21/11/12	3.333	5.926	9.259
5	TV-01-I-04	LOCAL SHOPS	MIDDLESBROUGH	TEES VALLEY	585	Mon	07/10/13	4.103	4.786	8.889
6	TW-01-I-03	LOCAL SHOPS	WASHINGTON	TYNE & WEAR	2700	Fri	24/05/19	4.296	4.444	8.740
7	CH-01-I-02	LOCAL SHOPS	CHESTER	CHESHIRE	260	Tue	15/05/12	4.231	4.231	8.462
8	LC-01-I-01	LOCAL SHOPS	NEAR CHORLEY	LANCASHIRE	720	Mon	17/10/11	2.500	2.083	4.583
9	WO-01-I-02	LOCAL SHOPS	WORCESTER	WORCESTERSHIRE	4052	Thu	22/05/14	1.135	1.135	2.270

This section displays actual (not average) trip rates for each of the survey days in the selected set, and ranks them in order of relative trip rate intensity, for a given time period (or peak period irrespective of time) selected by the user. The count type and direction are both displayed just above the table, along with the rows within the table representing the 85th and 15th percentile trip rate figures (highlighted in bold within the table itself).

The table itself displays details of each individual survey, alongside arrivals, departures and totals trip rates, sorted by whichever of the three directional options has been chosen by the user. As with the preceeding trip rate calculation results table, the trip rates shown are per the calculation factor (e.g. per 100m2 GFA, per employee, per hectare, etc). Note that if the peak period option has been selected (as opposed to a specific chosen time period), the peak period for each individual survey day in the table is also displayed.

APPENDIX F

TRICS ASSESSMENT – FOOD STORE

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 01 - RETAIL
 Category : A - FOOD SUPERSTORE

TOTAL VEHICLES

Selected regions and areas:

04	EAST ANGLIA	
	CA CAMBRIDGESHIRE	2 days
	SF SUFFOLK	2 days
05	EAST MIDLANDS	
	LE LEICESTERSHIRE	1 days
06	WEST MIDLANDS	
	WO WORCESTERSHIRE	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: 2210 to 5700 (units: sqm)
 Range Selected by User: 1500 to 6000 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/13 to 25/09/20

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:

Thursday 1 days
 Friday 5 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:

Town Centre 3
 Edge of Town 2
 Neighbourhood Centre (PPS6 Local 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:

Residential Zone 3
 Retail Zone 1
 High Street 2

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.

Secondary Filtering selection:

Use Class:

E(a) 6 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 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:

5,001 to 10,000	2 days
10,001 to 15,000	1 days
20,001 to 25,000	2 days
25,001 to 50,000	1 days

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

Population within 5 miles:

25,001 to 50,000	1 days
100,001 to 125,000	1 days
125,001 to 250,000	3 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	2 days
1.1 to 1.5	3 days
1.6 to 2.0	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.

Petrol filling station:

PFS is present at the site and is included in the count	3 days
PFS is present at the site but is excluded from the count	0 days
There is no PFS at the site	3 days

This data displays the number of surveys within the selected set that include petrol filling station activity, and the number of surveys that do not.

Travel Plan:

Yes	2 days
No	4 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	CA-01-A-01 SIDNEY STREET CAMBRIDGE	SAINSBURY'S	CAMBRIDGESHIRE
	Town Centre High Street Total Gross floor area:	2210 sqm	
	Survey date: FRIDAY	12/07/13	Survey Type: MANUAL
2	CA-01-A-03 BACK LANE CAMBOURNE GREAT CAMBOURNE	MORRISONS	CAMBRIDGESHIRE
	Town Centre Retail Zone Total Gross floor area:	5500 sqm	
	Survey date: THURSDAY	07/06/18	Survey Type: MANUAL
3	LE-01-A-03 GLEN ROAD LEICESTER OADBY	SAINSBURY'S	LEICESTERSHIRE
	Edge of Town Residential Zone Total Gross floor area:	5700 sqm	
	Survey date: FRIDAY	07/11/14	Survey Type: MANUAL
4	SF-01-A-02 UPPER BROOK STREET IPSWICH	SAINSBURY'S	SUFFOLK
	Town Centre High Street Total Gross floor area:	3280 sqm	
	Survey date: FRIDAY	19/07/13	Survey Type: MANUAL
5	SF-01-A-03 STOKE PARK DRIVE IPSWICH	ASDA	SUFFOLK
	Edge of Town Residential Zone Total Gross floor area:	4250 sqm	
	Survey date: FRIDAY	25/09/20	Survey Type: MANUAL
6	WO-01-A-02 LONDON ROAD WORCESTER RED HILL	WAITROSE	WORCESTERSHIRE
	Neighbourhood Centre (PPS6 Local Centre) Residential Zone Total Gross floor area:	4780 sqm	
	Survey date: FRIDAY	27/09/19	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.

RANK ORDER for Land Use 01 - RETAIL/A - FOOD SUPERSTORE

TOTAL VEHICLES

Ranking Type: **TOTALS** Time Range: 08:00-09:00

WARNING: Using 85th and 15th percentile highlighted trip rates in data sets of under 20 surveys is not recommended by TRICS and may be misleading.

15th Percentile = No. **5** WO-01-A-02 Tot: 3.661

85th Percentile = No. **2** LE-01-A-03 Tot: 7.930

Median Values

Arrivals: 3.030

Departures: 2.633

Totals: 5.662

Mean Values

Arrivals: 3.053

Departures: 2.528

Totals: 5.582

Rank	Site-Ref	Description	Town/City	Area	GFA	Day	Date	Trip Rate (Sorted by Totals)		
								Arrivals	Departures	Totals
1	CA-01-A-03	MORRISONS	CAMBOURNE	CAMBRIDGESHIRE	5500	Thu	07/06/18	4.473	3.691	8.164
2	LE-01-A-03	SAINSBURY'S	LEICESTER	LEICESTERSHIRE	5700	Fri	07/11/14	4.281	3.649	7.930
3	SF-01-A-03	ASDA	IPSWICH	SUFFOLK	4250	Fri	25/09/20	4.024	3.365	7.389
4	CA-01-A-01	SAINSBURY'S	CAMBRIDGE	CAMBRIDGESHIRE	2210	Fri	12/07/13	2.036	1.900	3.936
5	WO-01-A-02	WAITROSE	WORCESTER	WORCESTERSHIRE	4780	Fri	27/09/19	2.134	1.527	3.661
6	SF-01-A-02	SAINSBURY'S	IPSWICH	SUFFOLK	3280	Fri	19/07/13	1.372	1.037	2.409

This section displays actual (not average) trip rates for each of the survey days in the selected set, and ranks them in order of relative trip rate intensity, for a given time period (or peak period irrespective of time) selected by the user. The count type and direction are both displayed just above the table, along with the rows within the table representing the 85th and 15th percentile trip rate figures (highlighted in bold within the table itself).

The table itself displays details of each individual survey, alongside arrivals, departures and totals trip rates, sorted by whichever of the three directional options has been chosen by the user. As with the preceeding trip rate calculation results table, the trip rates shown are per the calculation factor (e.g. per 100m2 GFA, per employee, per hectare, etc). Note that if the peak period option has been selected (as opposed to a specific chosen time period), the peak period for each individual survey day in the table is also displayed.

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 01 - RETAIL
Category : A - FOOD SUPERSTORE

TOTAL VEHICLES

Selected regions and areas:

04	EAST ANGLIA	
	CA CAMBRIDGESHIRE	2 days
	SF SUFFOLK	2 days
05	EAST MIDLANDS	
	LE LEICESTERSHIRE	1 days
06	WEST MIDLANDS	
	WO WORCESTERSHIRE	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: 2210 to 5700 (units: sqm)
Range Selected by User: 1500 to 6000 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/13 to 25/09/20

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:

Thursday 1 days
Friday 5 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:

Town Centre 3
Edge of Town 2
Neighbourhood Centre (PPS6 Local 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:

Residential Zone 3
Retail Zone 1
High Street 2

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.

Secondary Filtering selection:

Use Class:

E(a) 6 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 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:

5,001 to 10,000	2 days
10,001 to 15,000	1 days
20,001 to 25,000	2 days
25,001 to 50,000	1 days

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

Population within 5 miles:

25,001 to 50,000	1 days
100,001 to 125,000	1 days
125,001 to 250,000	3 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	2 days
1.1 to 1.5	3 days
1.6 to 2.0	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.

Petrol filling station:

PFS is present at the site and is included in the count	3 days
PFS is present at the site but is excluded from the count	0 days
There is no PFS at the site	3 days

This data displays the number of surveys within the selected set that include petrol filling station activity, and the number of surveys that do not.

Travel Plan:

Yes	2 days
No	4 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	CA-01-A-01 SIDNEY STREET CAMBRIDGE	SAINSBURY'S	CAMBRIDGESHIRE
	Town Centre High Street Total Gross floor area:	2210 sqm	
	Survey date: FRIDAY	12/07/13	Survey Type: MANUAL
2	CA-01-A-03 BACK LANE CAMBOURNE GREAT CAMBOURNE	MORRISONS	CAMBRIDGESHIRE
	Town Centre Retail Zone Total Gross floor area:	5500 sqm	
	Survey date: THURSDAY	07/06/18	Survey Type: MANUAL
3	LE-01-A-03 GLEN ROAD LEICESTER OADBY	SAINSBURY'S	LEICESTERSHIRE
	Edge of Town Residential Zone Total Gross floor area:	5700 sqm	
	Survey date: FRIDAY	07/11/14	Survey Type: MANUAL
4	SF-01-A-02 UPPER BROOK STREET IPSWICH	SAINSBURY'S	SUFFOLK
	Town Centre High Street Total Gross floor area:	3280 sqm	
	Survey date: FRIDAY	19/07/13	Survey Type: MANUAL
5	SF-01-A-03 STOKE PARK DRIVE IPSWICH	ASDA	SUFFOLK
	Edge of Town Residential Zone Total Gross floor area:	4250 sqm	
	Survey date: FRIDAY	25/09/20	Survey Type: MANUAL
6	WO-01-A-02 LONDON ROAD WORCESTER RED HILL	WAITROSE	WORCESTERSHIRE
	Neighbourhood Centre (PPS6 Local Centre) Residential Zone Total Gross floor area:	4780 sqm	
	Survey date: FRIDAY	27/09/19	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.

RANK ORDER for Land Use 01 - RETAIL/A - FOOD SUPERSTORE

TOTAL VEHICLES

Ranking Type: **TOTALS** Time Range: 17:00-18:00

WARNING: Using 85th and 15th percentile highlighted trip rates in data sets of under 20 surveys is not recommended by TRICS and may be misleading.

15th Percentile = No. **5** CA-01-A-01 Tot: 6.878

85th Percentile = No. **2** LE-01-A-03 Tot: 11.421

Median Values

Arrivals: 4.776

Departures: 5.083

Totals: 9.859

Mean Values

Arrivals: 4.461

Departures: 4.653

Totals: 9.114

Rank	Site-Ref	Description	Town/City	Area	GFA	Day	Date	Trip Rate (Sorted by Totals)		
								Arrivals	Departures	Totals
1	CA-01-A-03	MORRISONS	CAMBOURNE	CAMBRIDGESHIRE	5500	Thu	07/06/18	7.000	6.036	13.036
2	LE-01-A-03	SAINSBURY'S	LEICESTER	LEICESTERSHIRE	5700	Fri	07/11/14	5.140	6.281	11.421
3	SF-01-A-03	ASDA	IPSWICH	SUFFOLK	4250	Fri	25/09/20	4.824	5.459	10.283
4	WO-01-A-02	WAITROSE	WORCESTER	WORCESTERSHIRE	4780	Fri	27/09/19	4.728	4.707	9.435
5	CA-01-A-01	SAINSBURY'S	CAMBRIDGE	CAMBRIDGESHIRE	2210	Fri	12/07/13	3.213	3.665	6.878
6	SF-01-A-02	SAINSBURY'S	IPSWICH	SUFFOLK	3280	Fri	19/07/13	1.860	1.768	3.628

This section displays actual (not average) trip rates for each of the survey days in the selected set, and ranks them in order of relative trip rate intensity, for a given time period (or peak period irrespective of time) selected by the user. The count type and direction are both displayed just above the table, along with the rows within the table representing the 85th and 15th percentile trip rate figures (highlighted in bold within the table itself).

The table itself displays details of each individual survey, alongside arrivals, departures and totals trip rates, sorted by whichever of the three directional options has been chosen by the user. As with the preceeding trip rate calculation results table, the trip rates shown are per the calculation factor (e.g. per 100m2 GFA, per employee, per hectare, etc). Note that if the peak period option has been selected (as opposed to a specific chosen time period), the peak period for each individual survey day in the table is also displayed.

APPENDIX G

TRICS ASSESSMENT – DAY NURSERY

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 04 - EDUCATION
 Category : D - NURSERY

TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST	
	ES EAST SUSSEX	1 days
03	SOUTH WEST	
	WL WILTSHIRE	1 days
04	EAST ANGLIA	
	CA CAMBRIDGESHIRE	1 days
05	EAST MIDLANDS	
	DS DERBYSHIRE	1 days
	LE LEICESTERSHIRE	1 days
	LN LINCOLNSHIRE	1 days
06	WEST MIDLANDS	
	WK WARWICKSHIRE	1 days
09	NORTH	
	TV TEES VALLEY	1 days
	TW TYNE & WEAR	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: 150 to 725 (units: sqm)
 Range Selected by User: 120 to 987 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/13 to 21/05/19

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
Thursday	3 days
Friday	3 days

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

Selected survey types:

Manual count	9 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:

Suburban Area (PPS6 Out of Centre)	4
Edge of Town	4
Neighbourhood Centre (PPS6 Local 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:

Residential Zone	9

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.

Secondary Filtering selection:

Use Class:

E(f) 9 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 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:

5,001 to 10,000	1 days
15,001 to 20,000	3 days
20,001 to 25,000	1 days
25,001 to 50,000	3 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:

50,001 to 75,000	1 days
75,001 to 100,000	1 days
125,001 to 250,000	3 days
250,001 to 500,000	4 days

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

Car ownership within 5 miles:

0.5 or Less	1 days
0.6 to 1.0	2 days
1.1 to 1.5	5 days
2.1 to 2.5	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 9 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 9 days

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

LIST OF SITES relevant to selection parameters

1	CA-04-D-02	NURSERY		CAMBRIDGESHIRE
	EASTFIELD ROAD			
	PETERBOROUGH			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Gross floor area:	400 sqm		
	Survey date: TUESDAY	18/10/16		Survey Type: MANUAL
2	DS-04-D-02	NURSERY		DERBYSHIRE
	MAXWELL AVENUE			
	DERBY			
	DARLEY ABBEY			
	Edge of Town			
	Residential Zone			
	Total Gross floor area:	415 sqm		
	Survey date: THURSDAY	12/07/18		Survey Type: MANUAL
3	ES-04-D-01	NURSERY		EAST SUSSEX
	CONNAUGHT ROAD			
	BRIGHTON			
	HOVE			
	Neighbourhood Centre (PPS6 Local Centre)			
	Residential Zone			
	Total Gross floor area:	185 sqm		
	Survey date: FRIDAY	22/09/17		Survey Type: MANUAL
4	LE-04-D-01	NURSERY		LEICESTERSHIRE
	WIGSTON ROAD			
	LEICESTER			
	OADBY			
	Edge of Town			
	Residential Zone			
	Total Gross floor area:	375 sqm		
	Survey date: THURSDAY	30/10/14		Survey Type: MANUAL
5	LN-04-D-01	NURSERY		LINCOLNSHIRE
	NEWARK ROAD			
	LINCOLN			
	SWALLOW BECK			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Gross floor area:	600 sqm		
	Survey date: TUESDAY	31/10/17		Survey Type: MANUAL
6	TV-04-D-01	NURSERY		TEES VALLEY
	COTSWOLD DRIVE			
	REDCAR			
	Edge of Town			
	Residential Zone			
	Total Gross floor area:	150 sqm		
	Survey date: FRIDAY	19/05/17		Survey Type: MANUAL
7	TW-04-D-03	NURSERY		TYNE & WEAR
	JUBILEE ROAD			
	NEWCASTLE UPON TYNE			
	GOSFORTH			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Gross floor area:	725 sqm		
	Survey date: TUESDAY	21/05/19		Survey Type: MANUAL
8	WK-04-D-01	NURSERY		WARWICKSHIRE
	THE RIDGEWAY			
	STRATFORD UPON AVON			
	Edge of Town			
	Residential Zone			
	Total Gross floor area:	340 sqm		
	Survey date: FRIDAY	29/06/18		Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

9 WL-04-D-01 NURSERY

WILTSHIRE

SHREWSBURY ROAD

SWINDON

WALCOT

Suburban Area (PPS6 Out of Centre)

Residential Zone

Total Gross floor area:

500 sqm

Survey date: THURSDAY

22/09/16

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.

RANK ORDER for Land Use 04 - EDUCATION/D - NURSERY

TOTAL VEHICLES

Ranking Type: **TOTALS** Time Range: 08:00-09:00

WARNING: Using 85th and 15th percentile highlighted trip rates in data sets of under 20 surveys is not recommended by TRICS and may be misleading.

15th Percentile = No. **8** CA-04-D-02 Tot: 3.500

85th Percentile = No. **2** TV-04-D-01 Tot: 10.000

Median Values

Arrivals: 3.000

Departures: 3.000

Totals: 6.000

Mean Values

Arrivals: 3.632

Departures: 2.544

Totals: 6.176

Rank	Site-Ref	Description	Town/City	Area	GFA	Day	Date	Trip Rate (Sorted by Totals)		
								Arrivals	Departures	Totals
1	ES-04-D-01	NURSERY	BRIGHTON	EAST SUSSEX	185	Fri	22/09/17	7.027	7.027	14.054
2	TV-04-D-01	NURSERY	REDCAR	TEES VALLEY	150	Fri	19/05/17	8.667	1.333	10.000
3	WK-04-D-01	NURSERY	STRATFORD UPON AVON	WARWICKSHIRE	340	Fri	29/06/18	2.647	4.118	6.765
4	LE-04-D-01	NURSERY	LEICESTER	LEICESTERSHIRE	375	Thu	30/10/14	3.467	2.667	6.134
5	WL-04-D-01	NURSERY	SWINDON	WILTSHIRE	500	Thu	22/09/16	3.000	3.000	6.000
6	DS-04-D-02	NURSERY	DERBY	DERBYSHIRE	415	Thu	12/07/18	3.133	2.169	5.302
7	LN-04-D-01	NURSERY	LINCOLN	LINCOLNSHIRE	600	Tue	31/10/17	3.000	0.833	3.833
8	CA-04-D-02	NURSERY	PETERBOROUGH	CAMBRIDGESHIRE	400	Tue	18/10/16	1.750	1.750	3.500
9	TW-04-D-03	NURSERY	NEWCASTLE UPON TYNE	TYNE & WEAR	725	Tue	21/05/19	0.000	0.000	0.000

This section displays actual (not average) trip rates for each of the survey days in the selected set, and ranks them in order of relative trip rate intensity, for a given time period (or peak period irrespective of time) selected by the user. The count type and direction are both displayed just above the table, along with the rows within the table representing the 85th and 15th percentile trip rate figures (highlighted in bold within the table itself).

The table itself displays details of each individual survey, alongside arrivals, departures and totals trip rates, sorted by whichever of the three directional options has been chosen by the user. As with the preceeding trip rate calculation results table, the trip rates shown are per the calculation factor (e.g. per 100m2 GFA, per employee, per hectare, etc). Note that if the peak period option has been selected (as opposed to a specific chosen time period), the peak period for each individual survey day in the table is also displayed.

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 04 - EDUCATION

Category : D - NURSERY

TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST	
	ES EAST SUSSEX	1 days
03	SOUTH WEST	
	WL WILTSHIRE	1 days
04	EAST ANGLIA	
	CA CAMBRIDGESHIRE	1 days
05	EAST MIDLANDS	
	DS DERBYSHIRE	1 days
	LE LEICESTERSHIRE	1 days
	LN LINCOLNSHIRE	1 days
06	WEST MIDLANDS	
	WK WARWICKSHIRE	1 days
09	NORTH	
	TV TEES VALLEY	1 days
	TW TYNE & WEAR	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: 150 to 725 (units: sqm)
Range Selected by User: 120 to 987 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/13 to 21/05/19

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
Thursday	3 days
Friday	3 days

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

Selected survey types:

Manual count	9 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:

Suburban Area (PPS6 Out of Centre)	4
Edge of Town	4
Neighbourhood Centre (PPS6 Local 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:

Residential Zone	9

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.

Secondary Filtering selection:

Use Class:

E(f) 9 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 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:

5,001 to 10,000	1 days
15,001 to 20,000	3 days
20,001 to 25,000	1 days
25,001 to 50,000	3 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:

50,001 to 75,000	1 days
75,001 to 100,000	1 days
125,001 to 250,000	3 days
250,001 to 500,000	4 days

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

Car ownership within 5 miles:

0.5 or Less	1 days
0.6 to 1.0	2 days
1.1 to 1.5	5 days
2.1 to 2.5	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 9 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 9 days

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

LIST OF SITES relevant to selection parameters

1	CA-04-D-02	NURSERY		CAMBRIDGESHIRE
	EASTFIELD ROAD			
	PETERBOROUGH			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Gross floor area:	400 sqm		
	Survey date: TUESDAY	18/10/16		Survey Type: MANUAL
2	DS-04-D-02	NURSERY		DERBYSHIRE
	MAXWELL AVENUE			
	DERBY			
	DARLEY ABBEY			
	Edge of Town			
	Residential Zone			
	Total Gross floor area:	415 sqm		
	Survey date: THURSDAY	12/07/18		Survey Type: MANUAL
3	ES-04-D-01	NURSERY		EAST SUSSEX
	CONNAUGHT ROAD			
	BRIGHTON			
	HOVE			
	Neighbourhood Centre (PPS6 Local Centre)			
	Residential Zone			
	Total Gross floor area:	185 sqm		
	Survey date: FRIDAY	22/09/17		Survey Type: MANUAL
4	LE-04-D-01	NURSERY		LEICESTERSHIRE
	WIGSTON ROAD			
	LEICESTER			
	OADBY			
	Edge of Town			
	Residential Zone			
	Total Gross floor area:	375 sqm		
	Survey date: THURSDAY	30/10/14		Survey Type: MANUAL
5	LN-04-D-01	NURSERY		LINCOLNSHIRE
	NEWARK ROAD			
	LINCOLN			
	SWALLOW BECK			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Gross floor area:	600 sqm		
	Survey date: TUESDAY	31/10/17		Survey Type: MANUAL
6	TV-04-D-01	NURSERY		TEES VALLEY
	COTSWOLD DRIVE			
	REDCAR			
	Edge of Town			
	Residential Zone			
	Total Gross floor area:	150 sqm		
	Survey date: FRIDAY	19/05/17		Survey Type: MANUAL
7	TW-04-D-03	NURSERY		TYNE & WEAR
	JUBILEE ROAD			
	NEWCASTLE UPON TYNE			
	GOSFORTH			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Gross floor area:	725 sqm		
	Survey date: TUESDAY	21/05/19		Survey Type: MANUAL
8	WK-04-D-01	NURSERY		WARWICKSHIRE
	THE RIDGEWAY			
	STRATFORD UPON AVON			
	Edge of Town			
	Residential Zone			
	Total Gross floor area:	340 sqm		
	Survey date: FRIDAY	29/06/18		Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

9 WL-04-D-01 NURSERY

WILTSHIRE

SHREWSBURY ROAD

SWINDON

WALCOT

Suburban Area (PPS6 Out of Centre)

Residential Zone

Total Gross floor area:

500 sqm

Survey date: THURSDAY

22/09/16

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.

RANK ORDER for Land Use 04 - EDUCATION/D - NURSERY

TOTAL VEHICLES

Ranking Type: **TOTALS** Time Range: 17:00-18:00

WARNING: Using 85th and 15th percentile highlighted trip rates in data sets of under 20 surveys is not recommended by TRICS and may be misleading.

15th Percentile = No. **8** CA-04-D-02 Tot: 2.000

85th Percentile = No. **2** ES-04-D-01 Tot: 7.027

Median Values

Arrivals: 1.867

Departures: 2.667

Totals: 4.534

Mean Values

Arrivals: 1.803

Departures: 2.676

Totals: 4.479

Rank	Site-Ref	Description	Town/City	Area	GFA	Day	Date	Trip Rate (Sorted by Totals)		
								Arrivals	Departures	Totals
1	WK-04-D-01	NURSERY	STRATFORD UPON AVON	WARWICKSHIRE	340	Fri	29/06/18	2.941	4.118	7.059
2	ES-04-D-01	NURSERY	BRIGHTON	EAST SUSSEX	185	Fri	22/09/17	3.243	3.784	7.027
3	WL-04-D-01	NURSERY	SWINDON	WILTSHIRE	500	Thu	22/09/16	2.800	3.600	6.400
4	LN-04-D-01	NURSERY	LINCOLN	LINCOLNSHIRE	600	Tue	31/10/17	2.500	3.000	5.500
5	LE-04-D-01	NURSERY	LEICESTER	LEICESTERSHIRE	375	Thu	30/10/14	1.867	2.667	4.534
6	TV-04-D-01	NURSERY	REDCAR	TEES VALLEY	150	Fri	19/05/17	0.667	3.333	4.000
7	DS-04-D-02	NURSERY	DERBY	DERBYSHIRE	415	Thu	12/07/18	1.205	2.169	3.374
8	CA-04-D-02	NURSERY	PETERBOROUGH	CAMBRIDGESHIRE	400	Tue	18/10/16	1.000	1.000	2.000
9	TW-04-D-03	NURSERY	NEWCASTLE UPON TYNE	TYNE & WEAR	725	Tue	21/05/19	0.000	0.414	0.414

This section displays actual (not average) trip rates for each of the survey days in the selected set, and ranks them in order of relative trip rate intensity, for a given time period (or peak period irrespective of time) selected by the user. The count type and direction are both displayed just above the table, along with the rows within the table representing the 85th and 15th percentile trip rate figures (highlighted in bold within the table itself).

The table itself displays details of each individual survey, alongside arrivals, departures and totals trip rates, sorted by whichever of the three directional options has been chosen by the user. As with the preceeding trip rate calculation results table, the trip rates shown are per the calculation factor (e.g. per 100m2 GFA, per employee, per hectare, etc). Note that if the peak period option has been selected (as opposed to a specific chosen time period), the peak period for each individual survey day in the table is also displayed.

APPENDIX 4

TECHNICAL NOTE N MODAL SHARE AND PERSON TRIP GENERATION (ADC2570-RP-N-V2)



TECHNICAL NOTE N

MODAL SHARE AND PERSON TRIP GENERATION

ISLEY WOODHOUSE

DOCUMENT CONTROL

project number: ADC2570			report reference: ADC2570-RP-N	
version	date	author	reviewer	comments
1		Mark Higgins		internal draft
2	04/03/2025	Mark Higgins	David Cummins	to be issued as part of Transport Assessment

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APPENDICES

Appendix A	TEMPRO multi-modal trip data
Appendix B	2011 Census travel to work data

1.0 INTRODUCTION

- 1.1 This Technical Note is one of a series that has been prepared to address the transport and highways issues associated with the proposed new settlement known as Isley Woodhouse in Leicestershire.
- 1.2 The Transport Working Group (TWG)¹ have agreed that the impacts of the proposed new settlement will be assessed using Leicestershire County Council's Freeport Model, which is a cordoned part of the larger PRTM 2019 (Pan-Regional Transport Model). The transport modelling methodology is broken down into three stages with stage 1 considering the effects of the development traffic without mitigation (Technical Note J²), stage 2 considering the effects of the identified mitigation strategy and stage 3 considering the phasing strategy for the delivery of the development and mitigation strategy. The stage 1 PRTM runs for the 'without development' and 'with development' scenarios were completed in August 2024.
- 1.3 To enable the stage 1 runs of PRTM, it was necessary to determine the amount of morning and evening peak hour traffic that could be generated by the proposed new settlement. ADC Infrastructure prepared Technical Note B³ which details the forecast traffic generation for all of the proposed uses at Isley Woodhouse. Technical Note B was discussed extensively with the TWG, with the document going through seven revisions, reflecting feedback from Leicestershire County Council (LCC) and National Highways on the trip rates and internalisation methodology. The traffic generation and internalisation was agreed with the TWG.
- 1.4 Whilst establishing the forecast traffic generation of the proposed new settlement was critical to allow the stage 1 modelling to proceed, it is also important to establish the peak hour person trip generation for the new settlement so that appropriate active travel infrastructure and public transport opportunities can be provided to cater for the resulting demand for travel. This applies both internally within the new settlement and also externally to connect the new settlement with trip attractors such as the extensive employment zones local to the development site. Agreeing ambitious targets for active travel and public transport mode share will be key in establishing the sustainable credentials of the proposed new settlement.
- 1.5 This Technical Note presents the methodology used to determine the total, internal, and external person trip generation and goes on to set out initial target modal shares. It is intended that this document and the targets set will evolve over time as further analysis and discussion with the TWG takes place, ultimately feeding into the Framework Travel Plan and influencing the design of the masterplan and external physical interventions required to facilitate the expected development trips.

¹ A Transport Working Group has been established to provide a forum for discussion and allow a step-by-step approach to the assessment and agreement of transport matters relating to Isley Woodhouse. The TWG comprises representatives from LCC, NCC, DCC, National Highways and their consultant Jacobs (previously Aecom), the Applicant and their consultant team, comprising ADC Infrastructure Ltd, Pegasus Planning, and Oxalis Planning.

² PRTM Briefing Note – Stage 1, ADC Infrastructure, reference ADC2570-R-J-v3

³ Traffic Generation, ADC Infrastructure, reference ADC2570-RP-B-v7)

2.0 PROPOSED DEVELOPMENT AND AGREED TRAFFIC GENERATION

Site location

- 2.1 The site location is shown at **Figure 1**. It is adjacent to the hamlet of Isley Walton, south of Donington Park Circuit and to the southwest of East Midlands Airport (EMA) in Leicestershire. The land is predominantly agricultural land, with some areas of woodland.



Figure 1: site location

The Leicestershire Spatial Growth Plan and East Midlands Freeport

- 2.2 The Leicestershire Spatial Growth Plan (SGP)⁴ was published in 2018 and provides a long-term vision for Leicester and Leicestershire, aiming to address the challenges and opportunities associated with delivering long-term, sustainable growth. Whilst it is a non-statutory plan, it sets out an agreed strategy for the period to 2050 which is to be delivered through Local Plans.
- 2.3 The SGP discusses the Leicestershire International Gateway. Highlighted in purple on **Figure 2**, the Leicestershire International Gateway is centred around the northern part of the A42 and the M1 corridor. Viewed as an area of significant long-term strategic growth, the Leicestershire International Gateway provides major high-quality employment centres, most notably East Midlands Gateway (EMG), East Midlands Airport (EMA), Castle Donnington Distribution Centre, planned development around the airport as part of the Freeport, and Ratcliffe on Soar power station.
- 2.4 The SGP is clear in its desire to provide the required levels of housing to support the recent and planned employment growth in the area, as a matter of priority. In 2011 the estimated number of jobs in the area was c.15,000, but by 2022 this had grown to c.29,000. However, during the same period the number of homes had grown by just c.800 from c.6,200 to c.7,000. Most employees

⁴ Leicester and Leicestershire 2050: Our Vision for Growth, December 2018

have no opportunity to live locally and have to travel considerable distances. Overall, it is estimated that the area has the potential to accommodate up to 11,200 new homes.

- 2.5 **Figure 2** shows that the proposed development site is located at the heart of the Leicestershire International Gateway and is therefore well placed to support the growth ambitions of the SGP.

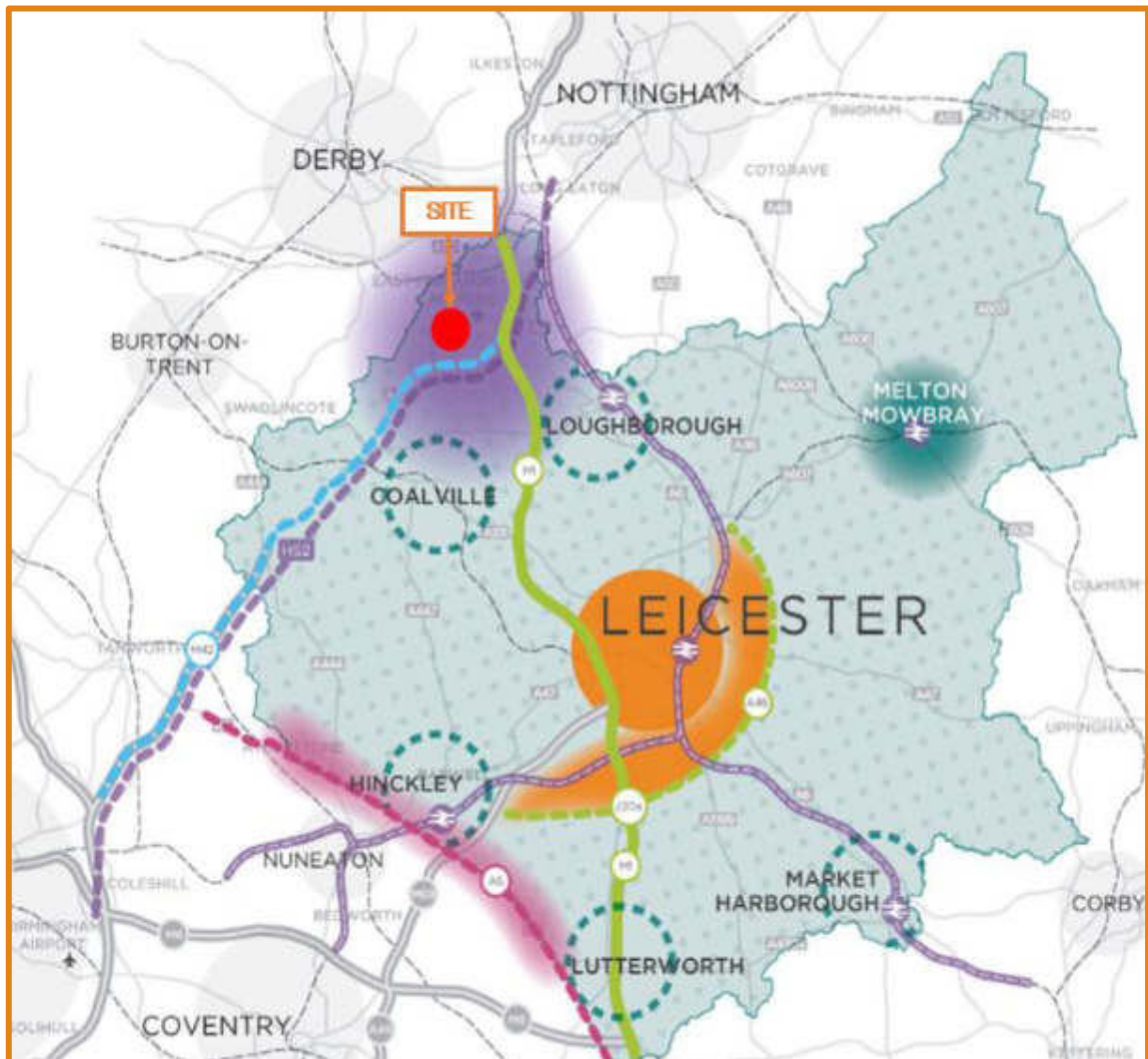


Figure 2: Extract from Leicestershire SGP (the Leicestershire International Gateway is highlighted purple)

- 2.6 Allied to the Leicestershire Spatial Growth Plan, in March 2021 'Freeport' status was granted to EMA and some of the industrial sites around it, including EMG as well as the Ratcliffe-on-Soar power station and the area around the existing Toyota plant at Willington.
- 2.7 The Freeport, which is one of eight such areas across the country, is envisaged to play an important role in supporting local business growth through generous tax relief, customs benefits and wider government support. It is hoped that the measures will bring essential investment to the area and hence additional trade and employment opportunities. Ultimately, the project will make the area a key employment zone both regionally and nationally, potentially leading to the creation of up to 60,000 jobs within a 10-mile radius of the Isley Woodhouse development.

Development vision

- 2.8 The vision for Isley Woodhouse is for an inherently sustainable new settlement, consisting of 4,250 dwellings with a commitment to net-zero carbon at the core of the proposals. The location

of the site has been selected to place it close to the existing and proposed employment sites discussed above, and therefore the proposals align with the aims of the SGP. Additional land-uses within the development have been identified to support the sustainability of the new settlement, including education, employment, retail, and leisure.

- 2.9 The movement strategy for the new settlement is a fundamental part of the net-zero carbon development objectives, and hence a key aspect of the movement strategy will be the design of appropriate pedestrian and cycle infrastructure to cater for journeys within the site and also to the significant existing and planned employment centres identified above.
- 2.10 A further key aspect of the movement strategy will be the provision of public transport which will ensure all residents are within walking distance of a regular bus service. Significant work is already being undertaken on the bus services within the area, as part of EMG and other local employment sites. The bus strategy will link with that work to enable journeys to work by bus for the new residents of Isley Woodhouse.

Traffic generation methodology

- 2.11 The traditional methodology for calculating the volume of traffic that could be generated by a new development has been to survey existing developments with similar characteristics and apply the resulting trip rates to the proposed development. This approach, known as predict and provide, assumes that past travel patterns will continue unchanged into the future, and hence this methodology does not account for changing travel behaviour, such as the reduction in trip making by car over time. It also fails to acknowledge that the resulting trip rates could be influenced by the design of the development.
- 2.12 The scale of the Isley Woodhouse settlement is such that the effects of changing travel behaviour, in terms of the demand for travel and also the travel mode of choice, should not be ignored. Otherwise it will result in capital expenditure on highway improvements instead of internal facilities and sustainable transport provision.
- 2.13 An alternate approach known as Decide and Provide⁵ is emerging, which is based upon an understanding of how trip rates are changing over time, and how the design of a settlement would influence the demand to travel. The methodology proposes “*deciding on a preferred future and providing a development path best suited to achieving it*”.
- 2.14 The Decide and Provide methodology is in its infancy, and following discussions with the TWG it was decided that the traditional methodology should be used for the proposed development to assess a robust worst-case scenario in the first instance as part of the stage 1 PRTM modelling.
- 2.15 Once the worst-case impacts of the development have been identified in stage 1, the stage 2 PRTM modelling will consider a comprehensive strategy for mitigating the identified impacts of the development. This mitigation strategy will include the following:
- targeted highway improvements to accommodate the traffic generated by the development
 - a reduction in the external traffic generation due to the positive effects of the movement strategy that seeks to reduce the number of single occupancy car trips and maximise the opportunity for residents to commute to the extensive local employment zones using active modes.

⁵ Guidance Note on the Practical Implementation of the Decide and Provide Approach, TRICS Consortium Limited, February 2021

Agreed forecast traffic generation

- 2.16 Technical Note B sets out the forecast traffic generation for the stage 1 PRTM modelling, which has been agreed with the TWG.
- 2.17 The unmitigated development would generate a significant amount of traffic movements. Some of those movements will be internalised, for example new residents who attend the primary and secondary schools or use the local shops. For PRTM purposes, it is the external traffic that is of interest. The agreed internal and external traffic generation for Isley Woodhouse stage 1 modelling is summarised in the tables below.

TRAFFIC GENERATION			AM peak hour			PM peak hour		
			arrive	depart	two-way	arrive	depart	two-way
C3 residential	4250	dwellings	536	1509	2045	1386	625	2011
employment area	23924	sqm	128	68	196	41	108	149
secondary school	900	pupils	130	97	227	20	26	46
primary schools (x3)	1260	pupils	406	330	736	28	52	80
day nurseries (x3)	1800	sqm	65	46	111	32	48	80
large local centre - local centre uses	8000	sqm	326	282	608	328	383	711
large local centre - food store	3000	sqm	92	76	168	134	140	274
neighbourhood centres - local centre uses	4000	sqm	163	141	304	164	191	355
total			1846	2549	4395	2133	1573	3706

INTERNAL TRIPS	Internalisation rate		AM peak hour			PM peak hour		
	AM	PM	arrive	depart	two-way	arrive	depart	two-way
C3 residential	0%	0%	0	0	0	0	0	0
employment area	20%	20%	26	14	40	8	22	30
secondary school	50%	50%	65	49	114	10	13	23
primary schools (x3)	75%	75%	305	248	553	21	39	60
day nurseries (x3)	75%	75%	49	35	84	24	36	60
large local centre - local centre uses	50%	50%	163	141	304	164	192	356
large local centre - food store	65%	38%	60	49	109	51	53	104
neighbourhood centres - local centre uses	90%	90%	147	127	274	148	172	320
total			815	663	1478	426	527	953

EXTERNAL TRIPS			AM peak hour			PM peak hour		
			arrive	depart	two-way	arrive	depart	two-way
C3 residential			536	1509	2045	1386	625	2011
employment area			102	54	156	33	86	119
secondary school			65	48	113	10	13	23
primary schools (x3)			101	82	183	7	13	20
day nurseries (x3)			16	11	27	8	12	20
large local centre - local centre uses			163	141	304	164	191	355
large local centre - food store			32	27	59	83	87	170
neighbourhood centres - local centre uses			16	14	30	16	19	35
total			1031	1886	2917	1707	1046	2753

3.0 RESIDENTIAL

Introduction

- 3.1 The traffic generation for the residential aspect of the development has been established in Technical Note B. To calculate the likely number of person trips due to the 4,250 dwellings, it is necessary to identify an appropriate baseline modal split. Accordingly, information from the following two national data sources has been examined:
- TEMPRO (version 8.1)
 - Census 2011 travel to work data⁶.

TEMPRO (version 8.1) - all home-based journey purposes

- 3.2 TEMPRO has been used to extract multi-modal trip data for the North West Leicestershire 001 NTEM zone in the 2024 base year. The North West Leicestershire 001 NTEM zone contains the development site and the settlements of Castle Donington, Breedon on the Hill, Isley Walton, Hemington and Lockington.
- 3.3 A modal split for the proposed site has been calculated by combining all home-based journey purposes in the morning and evening peak hour periods, and also for a typical weekday. Home based journeys can include journeys for work, business, education, shopping, personal business, recreation/social, visiting friends and holiday/day trip purposes. The table below summarises the data for each travel mode. Raw data is included in **Appendix A**.

2024 TEMPRO modal share- all journey purposes			
transport mode	morning peak	evening peak	daily
on foot	8.5%	7.8%	9.2%
bicycle	1.8%	2.5%	2.2%
bus	4.8%	3.4%	4.4%
train	1.6%	1.5%	1.4%
car driver	63.8%	63.3%	60.4%
passenger	19.5%	21.4%	22.4%
total	100%	100%	100%

- 3.4 The TEMPRO data indicates that 63.8% and 63.3% of home-based trips are made by car in the respective morning and evening peak periods. Excluding car passenger trips, walking is the next most popular mode of transport, accounting for 8.5% and 7.8% of home-based trips in the respective morning and evening peak hours. When analysed across an average weekday, the data indicates that 60.4% of home-based trips are made by car, with 9.2% on foot.

Residential internalisation

- 3.5 As detailed in Technical Note B, the identified methodology for calculating the traffic generation of the proposed 4,250 dwellings was to calculate mean trip rates using the TRICS database. This approach is robust because a considerable number of the selected TRICS sites do not have internal facilities such as local centres, education facilities or leisure opportunities.

⁶ The Census of 2021 was conducted during the COVID pandemic. During this period daily travel patterns had been adversely affected with many people working from home. Hence, travel statistics from the 2021 Census cannot be relied upon and reference is therefore made to the 2011 Census.

- 3.6 For a mixed-use development, it is appropriate to consider trips between uses, i.e. trips that will remain within the development and not route on the external road network, such as home-school-home trips, or trips that are already taking place, such as home-school-work externally trips (linked trips). This effect is known as internalisation and is a key benefit of sustainable development and locating interdependent uses within the same settlement. Internalisation rates were agreed with the TWG for the trips generated by the employment, education and retail land-uses.
- 3.7 An internalisation rate was also identified for the residential traffic generation. However, during the process of seeking to agree Technical Note B with the TWG, LCC raised concerns about applying further reductions to the residential trip rates through an internalisation rate. Hence, it was agreed that an internalisation rate would not be applied to the residential trips, which all appear as external trips on the network.
- 3.8 Given that no internalisation rate is applied to the residential trip generation and all of these trips appear on the external network, it would not be appropriate to apply a modal share based upon all home-based journey purposes. Therefore, a modal share based upon home-based journeys to work would be most appropriate for the residential trip generation on the external network.

TEMPRO (version 8.1) - home-based journeys to work

- 3.9 TEMPRO has also been examined to identify modal split proportions for the purpose of journeys to work, as shown in the table below. The data shows that 81.0% of journey to work trips during the morning peak period are made by car and 79.3% of journey to work trips during the evening peak period are made by car. Walking is the next most popular mode of transport, though with a much lower mode share when compared to the data for all home-based journey purposes, accounting for 3.2% and 4.1% of home-based commuter trips in the respective morning and evening peak hours. When analysed across an average weekday the data indicates that 79.9% of home-based trips to work are made by car, with 4.0% on foot.

2024 TEMPRO modal share – travel to work			
transport mode	morning peak	evening peak	daily
on foot	3.2%	4.1%	4.0%
bicycle	2.0%	2.1%	2.3%
bus	2.8%	2.8%	2.8%
train	2.2%	1.8%	1.7%
car driver	81.0%	79.3%	79.9%
passenger	8.7%	10.0%	9.3%
total	100%	100%	100%

2011 Census – travel to work data

- 3.10 The North West Leicestershire 001 NTEM zone covers a relatively large area, within which Castle Donington is the most significant population centre, with 3,207 households recorded in the 2021 Census (up from 2,846 in the 2011 Census). Hence, whilst the proposed Isley Woodhouse settlement would have more dwellings (4,250), it would be broadly comparable in scale to Castle Donington and would have a similar range of education, retail and leisure opportunities. The other settlements in the North West Leicestershire 001 NTEM zone are isolated villages and hamlets and hence the modal split across the zone could be distorted such that it would not be appropriate to apply it directly to the proposed development.

- 3.11 To determine whether the above TEMPRO modal share could be applicable to the proposed development, a comparative analysis at a more granular, localised level has been undertaken using the 2011 journey to work Census data for the Castle Donington Ward. To benchmark the analysis further, the ward which includes the market town of Melbourne, which is located approximately 4km west of the site within South Derbyshire District, has been considered. Additionally, the two lower-level super output areas that make up the built-up area within the nearby settlement of Kegworth, which is located 6km west of the site was also analysed.
- 3.12 The 2011 Census travel to work data is shown in the table below. The raw data is included in **Appendix B**.

2011 Census modal share – travel to work			
transport mode	Castle Donington Ward	Melbourne Ward	Kegworth LSOAs
on foot	10.0%	11.5%	13.5%
bicycle	2.5%	2.7%	2.5%
bus	4.0%	2.0%	5.0%
train	1.1%	0.7%	0.6%
car driver	78.2%	79.1%	73.1%
passenger	4.2%	3.9%	5.3%

- 3.13 The 2011 travel to work data shows that the wards of Castle Donington and Melbourne display a very similar split across all modes, which would be expected given that they are both market towns with comparable geographical locations. Whilst the data for Kegworth shows a similar general pattern when compared to Castle Donington and Melbourne, the proportion of car drivers is c.6% lower, with more people commuting on foot and by bus.
- 3.14 When compared to the modal splits for the 2024 TEMPRO residential based work trips for the North West Leicestershire 001 NTEM zone, the 2011 Census data for the Castle Donington wards correlates closely for commuter trips by car, bicycle and public transport. A detailed comparison shows that the Castle Donington ward has 2.3 percentage points (3.6%) fewer daily driver-based journeys to work in the morning peak hour when compared to the TEMPRO data, and 1.1 percentage points (1.4%) fewer daily driver-based journeys to work in the evening peak hour.
- 3.15 Further to the above, all three datasets considered from the 2011 Census have a higher modal share for commuter trips on foot when compared to the TEMPRO data for the North West Leicestershire 001 NTEM zone, with the opposite effect evident for passenger trips. The 2011 Census travel to work data shows that 10% of residents of the Castle Donington ward commute on foot. There were numerous employment centers within walking distance of Castle Donington at the time of the 2011 Census and the modal share is supported by the analysis of the data for Melbourne and Kegworth. Further, since the 2011 Census the number of employment centers local to Castle Donington has grown significantly, including the East Midlands Distribution Centre, the Aldi Regional Distribution Center and EMG, which are all within walking distance.
- 3.16 However, the proposed development is located further away from the majority of the local employment centres, with only the DHL distribution hub and EMA within acceptable walking distance. Therefore, it is more likely that the proposed development would have a baseline modal share for commuting on foot similar to the TEMPRO data for the North West Leicestershire 001 NTEM zone and no calibration is proposed.

Person trip generation

- 3.17 As detailed in Technical Note B, the residential aspect of the proposed development could generate 2,045 two-way vehicle movements in the morning peak hour and 2,011 two-way vehicle movements in the evening peak hour.
- 3.18 Hence, using the agreed traffic generation and the TEMPRO travel to work modal split identified at paragraph 3.9 above, the external two-way person trips that could be generated by the residential aspect of the proposed development in the morning and evening peak hours are presented in the tables below.

Residential person trip generation - morning peak hour						
	Walk	Cycle	Car	Passenger	Public transport	Total
Modal split	3.2%	2.0%	81.0%	8.7%	5.0%	99.9%
Total person trips	81	51	2045	220	126	2525

Residential person trip generation - Evening peak hour						
	Walk	Cycle	Car	Passenger	Public transport	Total
Modal split	4.1%	2.1%	79.3%	10.0%	4.6%	100.1%
Total person trips	104	53	2011	254	117	2536

4.0 EMPLOYMENT

Introduction

- 4.1 The development proposals include 23,000sqm of B2/B8 employment floor space. There would also be 930sqm of non-retail Class E employment floor space.
- 4.2 Given the relatively small scale of the employment zone, it is unlikely to be developed for significant B1(a) office or B8 logistics use and is more likely to be developed for a mix of smaller scale logistics and industrial uses.

2011 Census modal share

- 4.3 The traffic generation for the employment aspect of the development has been established in Technical Note B. To calculate the likely number of person trips due to this element of the development, it is necessary to identify an appropriate baseline modal split. Accordingly, reference was made to the 2011 National Census 'location of usual residence and place of work by method of travel to work' dataset (reference WU03EW). The data provides information on the 'in' moves and 'out' moves, by each travel mode, to and from each middle layer super output area, associated with journeys to work.
- 4.4 The site is located in the North West Leicestershire 001 MSOA. The North West Leicestershire 001 MSOA contains the development site and the settlements of Castle Donington, Breedon on the Hill, Isley Walton, Hemington and Lockington, along with large parts of EMA and the large employment areas to the north of Castle Donington. Therefore, it is considered that the proposed employment development will generate a travel pattern similar to the North West Leicestershire 001 MSOA.
- 4.5 The data for the North West Leicestershire 001 MSOA was examined to identify how people working in the MSOA currently travel to work. A copy of the Census data is contained in **Appendix B** and the modal split is summarised below.

Trip type	Number of people	Modal split of the MSOA
Underground, metro, light rail or tram	16	0.15%
Train	49	0.47%
Bus, minibus, or coach	428	4.10%
Taxi	6	0.06%
Motorcycle, scooter or moped	113	1.08%
Driving a car or van	8,715	83.45%
Passenger in a car or van	545	5.22%
Bicycle	174	1.67%
On foot	397	3.80%
Total	10,443	100%

Person trip generation

- 4.6 As detailed in Technical Note B, the employment aspect of the proposed development could generate 196 two-way vehicle movements in the morning peak hour and 149 two-way vehicle movements in the evening peak hour.

- 4.7 Hence, using the agreed traffic generation, the modal split identified above and applying the agreed internalisation rate of 20%, the internal and external two-way person trips that could be generated by the proposed development in the morning and evening peak hours are presented in the tables below.

Employment person trip generation - morning peak hour						
	Walk	Cycle	Car	Passenger	Public transport	Total
Modal split	3.8%	1.7%	84.5%	5.2%	4.8%	100.0%
Total person trips	9	4	196	12	11	232
Internal person trips	2	1	39	2	2	46
External person trips	7	3	157	10	8	185

Employment person trip generation - evening peak hour						
	Walk	Cycle	Car	Passenger	Public transport	Total
Modal split	3.8%	1.7%	84.5%	5.2%	4.8%	100.0%
Total person trips	7	3	149	9	8	176
Internal person trips	1	1	30	2	2	36
External person trips	6	2	119	7	6	140

5.0 EDUCATION

Introduction

- 5.1 Education provision has been discussed with LCC, the local education authority, and the development proposals reflect their advice. A secondary school catering for 900 pupils would be provided. There would be two primary schools each with up to three form entry catering for a total of 1,260 pupils. The proposals were previously for three smaller primary schools, though with the same total number of pupil places and, hence, the traffic generation associated with this land-use is unchanged. Three nursery schools are also proposed.

Secondary school

- 5.2 Whilst the proposed new secondary school is intended to cater for the needs of Isley Woodhouse residents, it is acknowledged that the new school could also attract pupils from the surrounding area. To ensure a very robust assessment of development impacts is undertaken, it was agreed with the TWG that 50% of all vehicle trips generated by the secondary school would be due to residents on site, and the remaining 50% would be generated externally, including employees at the school as well as pupils.
- 5.3 The nearest secondary school to the proposed development site is Castle Donington Community College, located approximately 3.5km (2.2 miles) from the centre of Isley Woodhouse. Castle Donington Community College has a capacity of c.645 pupils and welcomes pupils from primary schools in Castle Donington, Hemington, Kegworth, Diseworth and Breedon on the Hill. Also located within a stand-alone settlement in Leicestershire is Iveshead School (formally Shepshed High School). Iveshead School is approximately 11km from the proposed development and has a capacity of c.950 pupils, welcoming pupils from primary schools in Shepshed, Belton, Hathern, Long Whatton and Diseworth. The surrounding area is therefore well catered for in terms of secondary education.
- 5.4 The 2011 School Travel Survey provides pupil mode share for Castle Donington College, as shown in the table below. The table also shows the modal share figures for Iveshead School.

Secondary school	Walk	Cycle	Car	Bus	Rail/Tram	Total
Castle Donington College	53.7%	3.4%	4.9%	38.0%	0.0%	100.0%
Iveshead School	76.4%	5.8%	12.3%	5.6%	0.0%	100.1%

- 5.5 These figures show the modal share for car-based journeys to the local schools being 4.9% and 12.3%, with Iveshead School having a very high modal share for walking and Castle Donington College having high modal shares for both walking and bus travel. The very high walking modal share for Iveshead School suggests that the main catchment area is very much within walking distance of the school. To a slightly lesser extent, this is also applicable to Castle Donington College, though the high proportion of bus-based trips suggests pupils arrive from a wider catchment and, hence, might not be applicable to the proposed secondary school at Isley Woodhouse.
- 5.6 Data from the 2021 Census shows that Castle Donington had a population of 7,344 with 3,207 households. The population of Shepshed was 14,873 with 6,486 households. Hence, whilst Shepshed has more than double the population and double the number of dwellings compared to Castle Donington, there is only a 47% difference in the number of places at the two secondary schools (950 v 645). This comparison helps to explain why the Iveshead school has a higher proportion of walking trips and Castle Donington has a higher proportion of bus-based trips.

- 5.7 The proposed new secondary school is intended to cater for the needs of Isley Woodhouse residents. Therefore, similar to the Iveshead School in Shepshed, the main catchment area would be within walking distance of the school, though it is acknowledged that the new school would also cater for pupils from the surrounding area. Therefore, the proposed secondary school would have a higher walking modal share, but a lower bus modal share, compared to Castle Donington Community College.
- 5.8 The walking catchment of the secondary school would not cover a significant number of external residential dwellings. Therefore, applying an internalisation factor of 50% to the total number of pedestrian trips (808 in the morning peak hour and 161 in the evening peak hour) would be unreasonable. However, the secondary school may still attract pupil trips on foot from the nearby villages such as Diseworth and also the southern parts of Castle Donington. Therefore, 95% of the pedestrian trips associated with the secondary school are assumed to be internally generated, with 5% being from external sources. The reverse effect is likely to be true for pupil bus trips and therefore a 75%/25% split has been applied to the total number of bus trips to acknowledge that most bus trips to the secondary school would be from outside of Isley Woodhouse.
- 5.9 Hence, using the agreed traffic generation⁷, the Iveshead School modal split identified above, and applying the agreed traffic internalisation rate of 50% (allowing for the above adjustments to walking and public transport), the internal and external person trips that could be generated by the secondary school in the morning and evening peak hours are presented in the tables below.

Secondary school person trip generation - morning peak hour					
	Walk	Cycle	Car	Public transport	Total
Modal split	76.4%	5.8%	12.3%	5.6%	100%
Total person trips	808	61	130	59	1,057
Internal person trips	768	31	65	15	879
External person trips	40	31	65	44	180

Secondary school person trip generation - evening peak hour					
	Walk	Cycle	Car	Public transport	Total
Modal split	76.4%	5.8%	12.3%	5.6%	100%
Total person trips	161	12	26	12	211
Internal person trips	153	6	13	3	175
External person trips	8	6	13	9	36

Primary schools

- 5.10 Through consultation with the local education authority, it has been established that the surrounding area is well catered for in terms of primary education. However, a development totalling 4,250 dwellings has the potential to place significant demands on the local education system and therefore two new primary schools will be provided of sufficient size to cater for the residents of the proposed dwellings. They are not expected to cater for pupils living outside of Isley Woodhouse.

⁷ The modal share derived from the 2011 school travel survey does not relate to two-way trips. Rather, pupils were asked how they travelled to school. A pupil arriving on foot is treated the same as a pupil arriving by car, even though that car will arrive, drop off, and depart. Therefore, the morning peak hour calculations are based upon the agreed traffic arrivals and the evening peak hour calculations are based upon the agreed traffic departures.

- 5.11 To establish a modal split for the proposed primary schools, data from the 2011 School Census was interrogated. The School Census is undertaken on an annual basis, with the most recent data collected in January 2020. However, 2011 was the final year in which data concerning travel to school by mode was collected. To be consistent with the analysis for secondary schools, the primary schools within Castle Donington and Shepshed were analysed. The trips by each mode for the four identified schools and the resulting modal split is displayed in the table below.

Primary school	Walk	Cycle	Car	Bus	Total
Orchard Community Primary School	173	0	28	0	201
St Edwards Primary School	95	0	55	0	150
Saint Winefride's Primary School	71	0	93	12	176
Oxley Primary School	156	0	39	0	195
Total	495	0	215	12	722
Modal split	68.6%	0.0%	29.8%	1.7%	100%

- 5.12 The resulting modal split in the table shows a similar pattern to that adopted for the secondary school, discussed above, with a slightly higher proportion for car trips and a lower proportion for walking trips. This is expected as the proportion of parents dropping off their child by car would be higher for primary schools than for secondary schools. Hence, the modal split is appropriate.
- 5.13 Similar to the analysis for the secondary school, the walking catchment of the primary schools would not include a significant number of external residential dwellings. Therefore, an adjustment has been to the internalisation of walking trips such that 100% of the total pedestrian trips associated with the primary schools are assumed to be internal to the development site. It is unlikely that there would be a material number of internal trips to the primary schools by public transport and, therefore, all public transport trips are assumed to be from external sources.
- 5.14 Hence, using the agreed traffic generation⁸, the modal split identified above, and applying the agreed internalisation rate of 75% and the above adjustments for walking and public transport, the internal and external person trips that could be generated by the proposed primary schools in the morning and evening peak hours are presented in the tables below.

Primary school person trip generation - morning peak hour					
	Walk	Cycle	Car	Public transport	Total
Modal split	68.6%	0.0%	29.8%	1.6%	100%
Total person trips	934	0	406	22	1362
Internal person trips	934	0	305	0	1239
External person trips	0	0	101	22	123

Primary school person trip generation - evening peak hour					
	Walk	Cycle	Car	Public transport	Total
Modal split	68.6%	0.0%	29.8%	1.6%	100%
Total person trips	119	0	52	3	174
Internal person trips	119	0	39	0	158
External person trips	0	0	13	3	16

⁸ The modal share derived from the 2011 school travel survey does not relate to two-way trips. Rather, pupils were asked how they travelled to school. A pupil arriving on foot is treated the same as a pupil arriving by car, even though that car will arrive, drop off, and depart. Therefore, the morning peak hour calculations are based upon the agreed traffic arrivals and the evening peak hour calculations are based upon the agreed traffic departures.

Nursery school

- 5.15 The modal split established above for primary school trips has been applied to the proposed nursery schools. The modal split and resultant two-way person trip generation is displayed in the table below.

Nursery school person trip generation - morning peak hour					
	Walk	Cycle	Car	Public transport	Total
Modal split	68.6%	0.0%	29.8%	1.6%	100%
Total person trips	255	0	111	6	372
Internal person trips	255	0	83	5	343
External person trips	0	0	28	1	29

Nursery school person trip generation - evening peak hour					
	Walk	Cycle	Car	Public transport	Total
Modal split	68.6%	0.0%	29.8%	1.6%	100%
Total person trips	184	0	80	4	268
Internal person trips	184	0	60	3	247
External person trips	0	0	20	1	21

6.0 LOCAL AND NEIGHBOURHOOD CENTRES

Introduction

- 6.1 The development proposals include a large, centrally located, local centre of 8,000sqm and two neighbourhood centres each of 2,000sqm, located to the east and west of the development.
- 6.2 The large local centre would contain a mix of leisure, community, retail, health and residential uses, seeking to become the heart of the new community. The local centre could include a pub, restaurant, medical centre, and community uses such as a community hall and hence could attract trips external to the Isley Woodhouse development and as such an internalisation factor of 50% was agreed with the TWG.
- 6.3 Each of the neighbourhood centres would include small scale retail uses such as a small convenience store, cafes, take-aways, and small retail units such as an off-licence or butcher. These uses would not be expected to attract trips from sources external to the development. However, to be robust an internalisation factor of 90% was agreed to acknowledge that the neighbourhood centres may still offer facilities not available in the surrounding villages.

TRICS modal share

- 6.4 The traffic generation for the local and neighbourhood centres has been established in Technical Note B. To calculate the likely number of person trips due to these elements of the development, it is necessary to identify an appropriate baseline modal split. Accordingly, the TRICS database was interrogated. All multi-modal site surveys within the land use category 01 Retail/I – Shopping centre, Local Shops were elected, and sites outside of England were excluded. The resultant seven survey days were used to generate an average modal split across the sites, between the hours of 10:00 and 18:00. The resulting modal split is shown below at **Figure 3**.

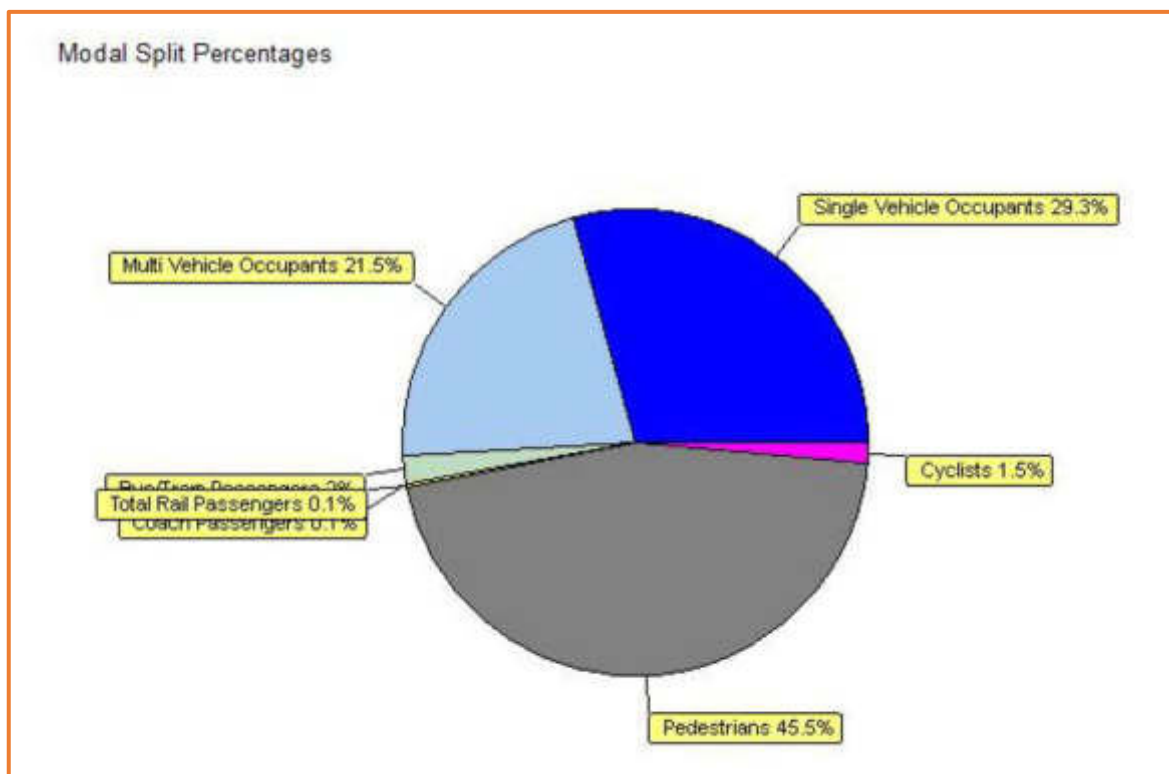


Figure 3: TRICS modal split for land use category 01 Retail/I – Shopping centre, Local Shops

Person trip generation – large local centre

- 6.5 As detailed in Technical Note B, the local centre aspect of the proposed could generate 608 two-way vehicle movements in the morning peak hour and 711 two-way vehicle movements in the evening peak hour.
- 6.6 The walking catchment of the local centre would not include a significant number of external residential dwellings, and therefore applying an internalisation factor of 50% to the total number of pedestrian trips (944 in the morning peak hour and 1,104 in the evening peak hour) would be unreasonable. However, the local centre may still attract pedestrian trips from the nearby villages such as Diseworth and also from employment hubs within the catchment such as the DHL hub and EMA. Therefore, an adjustment has been made such that 95% of the total pedestrian trips associated with the local centre are assumed to be internal to the development site, with 5% of the total number of pedestrian trips being from external sources.
- 6.7 Hence, using the agreed traffic generation, the modal split identified above, and applying the agreed internalisation rate of 50% (allowing for the above adjustment to pedestrian trips), the internal and external two-way person trips that could be generated by the local centre in the morning and evening peak hours are presented in the tables below.

Local centre person trip generation - morning peak hour						
	Walk	Cycle	Car	Passenger	Public transport	Total
Modal split	45.5%	1.5%	29.3%	21.5%	2.2%	100.0%
Total person trips	944	31	608	446	46	2075
Internal person trips	897	16	304	223	23	1463
External person trips	47	15	304	223	23	612

Local centre person trip generation - evening peak hour						
	Walk	Cycle	Car	Passenger	Public transport	Total
Modal split	45.5%	1.5%	29.3%	21.5%	2.2%	100.0%
Total person trips	1104	36	711	522	53	2427
Internal person trips	1049	18	356	261	26	1710
External person trips	55	18	355	261	27	716

Person trip generation – neighbourhood centres

- 6.8 As detailed in Technical Note B, the neighbourhood centres could generate 304 two-way vehicle movements in the morning peak hour and 355 two-way vehicle movements in the evening peak hour.
- 6.9 The neighbourhood centres are unlikely to attract a material number of pedestrian trips from external locations and, therefore, 100% of pedestrian trips are assumed to be internal to Isley Woodhouse. Further, given the intended function of the neighbourhood centres, it is unlikely that there would be a material number of internal trips to the neighbourhood centres by public transport and, therefore, all public transport trips are assumed to be from external sources.
- 6.10 Hence, using the agreed traffic generation, the modal split identified above, and applying the agreed internalisation rate of 90% (allowing for the above adjustment to public transport), the internal and external two-way person trips that could be generated by the proposed development in the morning and evening peak hours are presented in the tables below.

Neighbourhood centre person trip generation - morning peak hour						
	Walk	Cycle	Car	Passenger	Public transport	Total
Modal split	45.5%	1.5%	29.3%	21.5%	2.2%	100.0%
Total person trips	472	16	304	223	23	1038
Internal person trips	472	14	274	201	0	961
External person trips	0	2	30	22	23	77

Neighbourhood centre person trip generation - evening peak hour						
	Walk	Cycle	Car	Passenger	Public transport	Total
Modal split	45.5%	1.5%	29.3%	21.5%	2.2%	100.0%
Total person trips	551	18	355	261	27	1212
Internal person trips	551	16	320	235	0	1122
External person trips	0	2	35	26	27	90

7.0 FOOD STORE

Introduction

- 7.1 The development proposals include a 3,000sqm food store at the large local centre. The food store could attract external trips to the Isley Woodhouse development and as such internalisation factors of 65% and 38% were agreed with the TWG for the respective morning and evening peak hours.

TRICS modal share

- 7.2 The traffic generation for the food store aspect of the development has been established in Technical Note B. To calculate the likely number of person trips due to this element of the development, it is necessary to identify an appropriate baseline modal split. Accordingly, the TRICS database was interrogated. All multi-modal site surveys within the land use category 06 – Retail, A – Food superstore were selected, and sites outside of England were excluded. The date range was expanded to 2012 to capture more data, Saturday and Sunday surveys were excluded and Town Centre and Edge of Town Centre locations were deselected, to be consistent with the traffic generation reported in Technical Note B.
- 7.3 The resultant seven survey days were used to generate an average modal split across the sites, between the hours of 10:00 and 18:00. The resulting modal split is shown below at **Figure 4**.

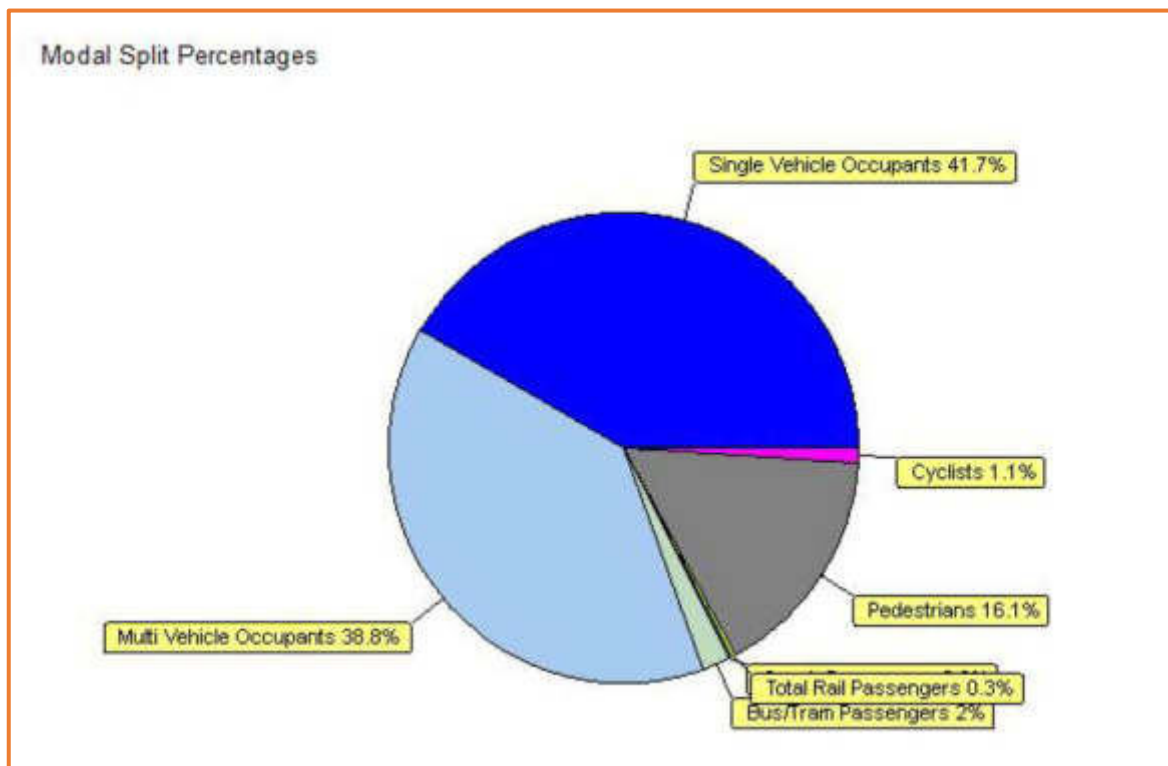


Figure 4: TRICS modal split for land use category 06 – Retail, A – Food superstore

Person trip generation

- 7.4 As detailed in Technical Note B, the food store aspect of the proposed development could generate 168 two-way vehicle movements in the morning peak hour and 274 two-way vehicle movements in the evening peak hour.

- 7.5 The walking catchment of the food store would not include a significant number of external residential dwellings, and therefore applying the internalisation factors of 65% and 38% for the respective morning and evening peak hours to the total number of pedestrian trips would be unreasonable. However, the food convenience store may still attract pedestrian trips from the nearby villages such as Diseworth and also from employment hubs within the catchment such as the DHL hub and EMA. Therefore, an adjustment has been made such that 90% of the total pedestrian trips associated with the local centre are assumed to be internal to the development site, with 10% of the total number of pedestrian trips being from external sources.
- 7.6 Hence, using the agreed traffic generation, the modal split identified above and applying the agreed internalisation rates stated above (allowing for the above adjustment to pedestrian trips), the internal and external two-way person trips that could be generated by the food store in the morning and evening peak hours are presented in the tables below.

Food store person trip generation - morning peak hour						
	Walk	Cycle	Car	Passenger	Public transport	Total
Modal split	16.1%	1.1%	41.7%	38.8%	2.3%	100.0%
Total person trips	65	4	168	156	9	403
Internal person trips	59	3	109	101	6	278
External person trips	6	1	59	55	3	124

Food store person trip generation - evening peak hour						
	Walk	Cycle	Car	Passenger	Public transport	Total
Modal split	16.1%	1.1%	41.7%	38.8%	2.3%	100.0%
Total person trips	106	7	274	255	15	657
Internal person trips	95	3	104	97	6	305
External person trips	11	4	170	158	9	352

8.0 TOTAL PERSON TRIP GENERATION

8.1 Combining the two-way person trips calculated at Sections 3 to 7 of this report for the various development land-uses provides a summary of total, internal, and external two-way person trips associated with the proposed development in the morning and evening peak hours, as shown in the tables below.

Total person trips - morning peak hour						
Land-use	Walk	Cycle	Car Driver	Car Passenger	Bus	Total trips
residential	81	51	2,045	220	126	2,523
employment area	9	4	196	12	11	232
secondary school	808	61	227	0	59	1,155
primary schools (x3)	934	0	736	0	22	1,692
day nurseries (x3)	255	0	111	0	6	372
large local centre - local centre uses	944	31	608	446	46	2,075
large local centre - food store	65	4	168	156	9	402
neighbourhood centres - local centre uses	472	16	304	223	23	1,038
Total	3,568	167	4,395	1,057	302	9,489

Internal person trips - morning peak hour						
Land-use	Walk	Cycle	Car Driver	Car Passenger	Bus	Total trips
residential						0
employment area	2	1	39	2	2	46
secondary school	768	31	114	0	15	928
primary schools (x3)	934	0	552	0	0	1,486
day nurseries (x3)	255	0	83	0	5	343
large local centre - local centre uses	897	16	304	223	23	1,463
large local centre - food store	59	3	109	101	6	278
neighbourhood centres - local centre uses	472	14	274	201	0	961
Total	3,387	65	1,475	527	51	5,505

External person trips - morning peak hour						
Land-use	Walk	Cycle	Car Driver	Car Passenger	Bus	Total trips
residential	81	51	2,045	220	126	2,523
employment area	7	3	157	10	8	185
secondary school	40	31	114	0	44	229
primary schools (x3)	0	0	184	0	22	206
day nurseries (x3)	0	0	28	0	1	29
large local centre - local centre uses	47	15	304	223	23	612
large local centre - food store	6	1	59	55	3	124
neighbourhood centres - local centre uses	0	2	30	22	23	77
Total	181	103	2,921	530	250	3,985
Modal share	4.5%	2.6%	73.3%	13.3%	6.3%	100%

Total person trips - evening peak hour						
Land-use	Walk	Cycle	Car Driver	Car Passenger	Public transport	Total trips
residential	104	53	2,011	254	117	2,539
employment area	7	3	149	9	8	176
secondary school	161	12	46	0	12	231
primary schools (x3)	119	0	80	0	3	202
day nurseries (x3)	184	0	80	0	4	268
large local centre - local centre uses	1,104	36	711	522	53	2,426
large local centre - food store	106	7	274	255	15	657
neighbourhood centres - local centre uses	551	18	355	261	27	1,212
Total	2,336	129	3,706	1,301	239	7,711

Internal person trips - evening peak hour						
Land-use	Walk	Cycle	Car Driver	Car Passenger	Public transport	Total trips
residential	0	0	0	0	0	0
employment area	1	1	30	2	2	36
secondary school	153	6	23	0	3	185
primary schools (x3)	119	0	60	0	0	179
day nurseries (x3)	184	0	60	0	3	247
large local centre - local centre uses	1,049	18	356	261	26	1,710
large local centre - food store	95	3	104	97	6	305
neighbourhood centres - local centre uses	551	16	320	235	0	1,122
Total	2,152	44	953	595	40	3,784

External person trips - evening peak hour						
Land-use	Walk	Cycle	Car Driver	Car Passenger	Public transport	Total trips
residential	104	53	2,011	254	117	2,539
employment area	6	2	119	7	6	140
secondary school	8	6	23	0	9	46
primary schools (x3)	0	0	20	0	3	23
day nurseries (x3)	0	0	20	0	1	21
large local centre - local centre uses	55	18	355	261	27	716
large local centre - food store	11	4	170	158	9	352
neighbourhood centres - local centre uses	0	2	35	26	27	90
Total	184	85	2,753	706	199	3,927
Modal share	4.7%	2.2%	70.1%	18.0%	5.1%	100%

9.0 MODAL SHARE TARGETS

Introduction

- 9.1 The total person trip generation in Section 8 can be thought of as the baseline forecast for assessment purposes. The figures are largely derived from the traffic generation forecasts, agreed with the Transport Working Group. Those traffic generation forecasts were robust, in particular to satisfy LCC and their cautious approach to modelling traffic demands in advance of commitments to sustainable transport infrastructure. In other words, there is scope to reduce the demands, and create modal shift, to mitigate the traffic impact of the development. It is also necessary to consider targets for the Travel Plan, which will be used to ensure ongoing monitoring of the development demands. This section therefore proposes modal share targets.

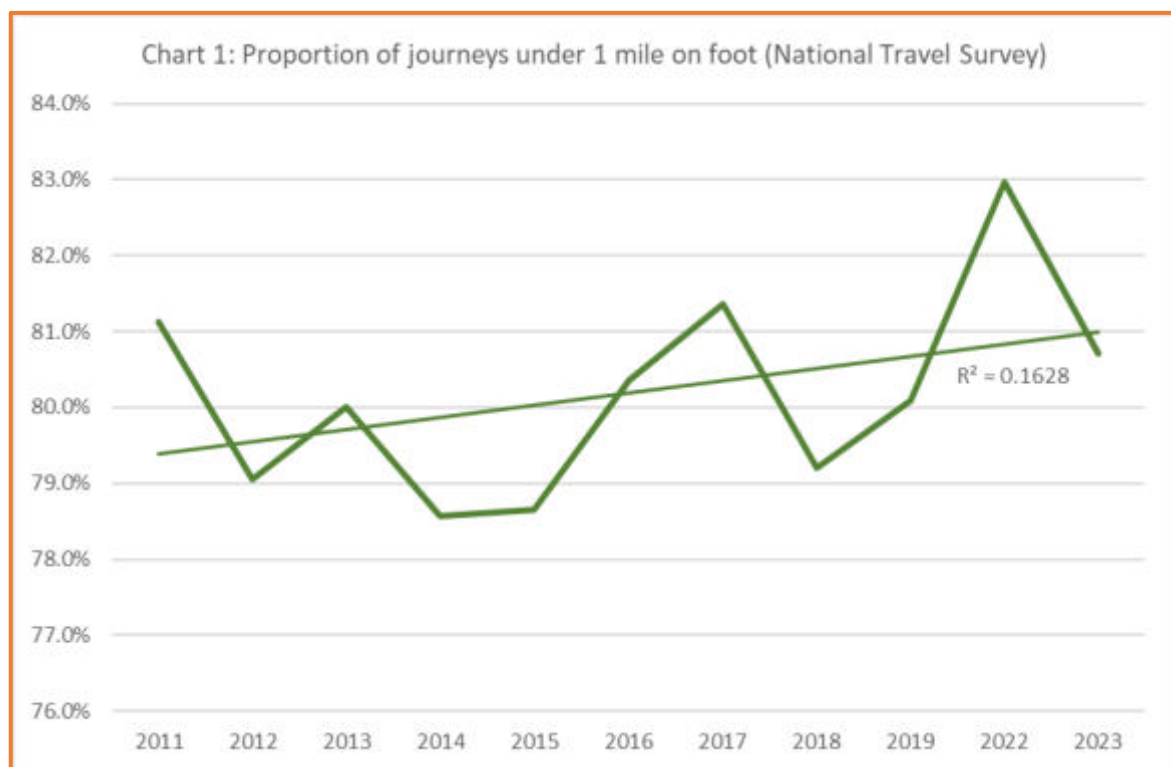
Internal trips – target

- 9.2 The internal Isley Woodhouse peak hour person trips detailed in Section 8 do not fully take account of the effect of linked trips between the different elements of the proposed settlement. As discussed in Section 3, no internalisation of residential trips was made when the peak hour traffic generation was calculated and agreed with the TWG, and no allowance has been made for the double counting of trips between the various land-uses. For example, a parent who walks their child to school and then calls at the food store. The total number of peak hour two-way internal person trips is therefore overestimated. However, when designing the required infrastructure internal to the new settlement, this robustness may be an advantage, especially for active travel modes.
- 9.3 As discussed in Section 2, Isley Woodhouse will be a new settlement with a full range of supporting land-uses for education, retail (including food), leisure, and employment and will therefore be inherently sustainable. The concept behind the masterplan is for the creation of walkable neighbourhoods to encourage modal shift towards pedestrian and cycle movement and internalise as many trips as possible. The 15-minute settlement concept is a key theme within the masterplan, with Isley Woodhouse intended to be a place where all your daily needs can be accessed within a 15-minute walk or short cycle journey from your home. The masterplan proposes three ‘village’ hubs to achieve this aim, with a range of retail, education and leisure opportunities provided at each. It is acknowledged that whilst there will be employment opportunities within the settlement, many people would work externally.
- 9.4 The details of the proposed internal and external infrastructure will be discussed separately. However, the internal movement network would comprise of primary and secondary active travel routes designed with pedestrians and cyclists in mind, with integration into the primary streets network and the extensive green corridors. Residents and visitors would therefore have multiple routing options on high-quality infrastructure when travelling within the settlement.
- 9.5 The National Travel Survey⁹ provides data on transport mode choice for trips of up to 1 mile. The table below summarises this data for the period between 2011 and 2023 (excluding 2020 and 2021 which were influenced by the Covid pandemic). The table shows that for journeys of up to 1 mile, walking is by far the most popular mode choice with 80.2% of journeys. Journeys by car, either as a driver or passenger are the next most popular mode choice with an average of 10.9% of trips under 1 mile made by driving. Cycling trips of under 1 mile are very low by comparison at 1.1%, with journeys by bus lower still, as might be expected.

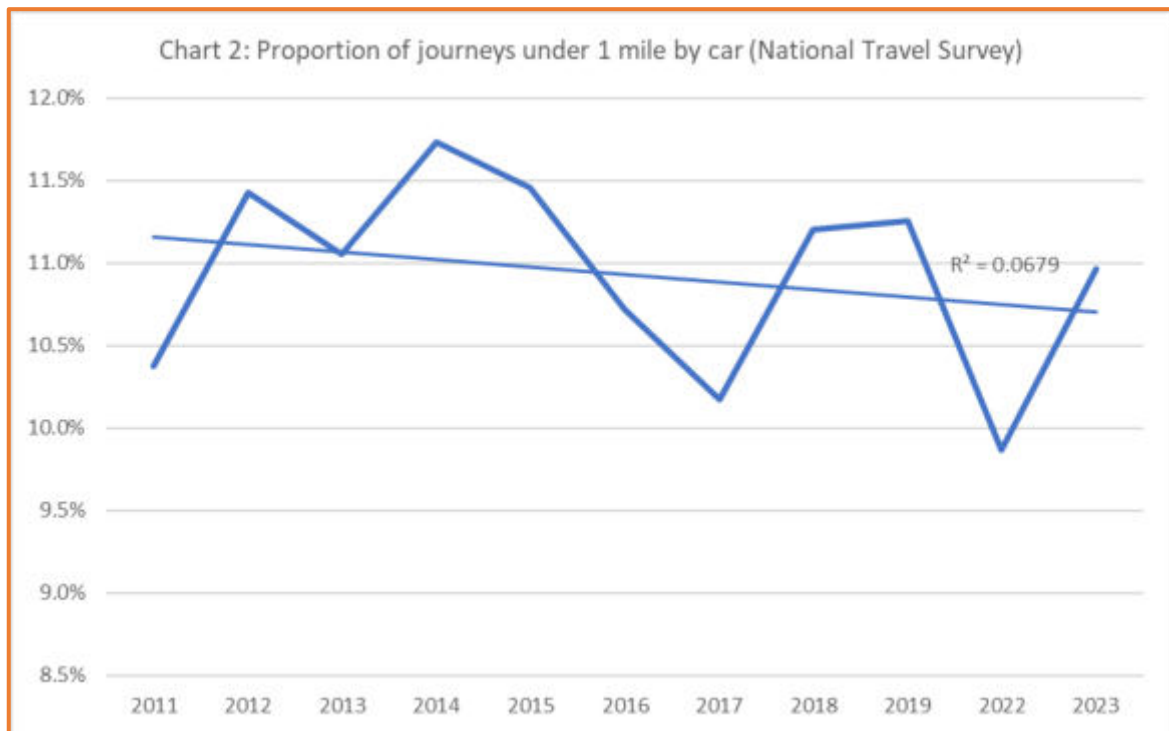
⁹ NTS0308d: Average distance travelled by trip length and mode

NTS0308d: Average distance travelled by trip length and mode					
Survey year	Walk	Cycle	Car Driver	Car Passenger	Bus
2011	81.1%	0.9%	10.4%	5.7%	0.9%
2012	79.0%	1.4%	11.4%	7.1%	1.0%
2013	80.0%	1.1%	11.1%	6.3%	1.1%
2014	78.6%	1.0%	11.7%	7.7%	1.0%
2015	78.6%	1.6%	11.5%	7.3%	0.5%
2016	80.4%	0.9%	10.7%	6.7%	0.9%
2017	81.4%	0.8%	10.2%	6.4%	0.8%
2018	79.2%	1.2%	11.2%	6.8%	0.8%
2019	80.1%	0.9%	11.3%	6.5%	0.9%
2022	83.0%	0.9%	9.9%	5.4%	0.4%
2023	80.7%	1.3%	11.0%	6.1%	0.9%
Average	80.2%	1.1%	10.9%	6.5%	0.8%

- 9.6 **Chart 1** below plots the mode share for walking over the period considered and shows that the trend is positive with the number of people choosing to walk for journeys of up to 1 mile increasing over time. Extrapolating the trend line, for walking trips below 1 mile to the year 2050, which is the estimated completion date of Isley Woodhouse, would give a mode share of around 85%. Though not shown, the trends for cycling and bus mode choice are slightly downward.



- 9.7 **Chart 2** below shows the mode share for car drivers, and that it has a negative trend line with the number of people choosing to drive for journeys of up to 1 mile reducing over time. Extrapolating the trend line on **Chart 2**, the mode share for car trips would fall to around 9%, with a similar reduction in the proportion of car passenger trips.



- 9.8 Whilst it would be fair to expect that the increase in the mode share for walking may slow over time as it is already high, there is nothing to suggest that the trend for falling car trips will slow. Indeed, the fall in the proportion of short-distance car trips could accelerate as fuel/energy prices increase over time, particularly if the enormous potential of cycling and e-biking to replace these car trips can be realised through the delivery of appropriate high-quality infrastructure. Such an opportunity is afforded at Isley Woodhouse.
- 9.9 Hence, given the vision for the new settlement and taking account of the evidence presented from the National Travel Survey, it would be appropriate to set ambitious modal share targets for internal walking and cycling trips. The proposed development offers a significant opportunity to promote cycling/e-biking as an alternative to car trips for short-journeys, though whilst an equal focus is also placed on providing high quality routes for pedestrians, a successful cycling strategy could also affect walking numbers and as such setting individual targets for these modes is not necessary.
- 9.10 Therefore, it is proposed to combine walking and cycling and set an active travel modal share target for trips within Isley Woodhouse of 90%. The table below sets out the modal split targets and resulting internal two-way person trips by mode for the morning and evening peak hours.

Internal person trips - morning peak hour					
Land-use	Active travel	Car Driver	Car Passenger	Public transport	Total trips
target modal share	90.0%	6.0%	3.0%	1.0%	100%
employment area	41	3	1	0	46
secondary school	835	56	28	9	928
primary schools (x3)	1,337	89	45	15	1,486
day nurseries (x3)	309	21	10	3	343
large local centre - local centre uses	1,317	88	44	15	1,463
large local centre - food store	250	17	8	3	278
neighbourhood centres - local centre uses	865	58	29	10	961
Total	4,955	332	165	55	5,505

Internal person trips - evening peak hour					
Land-use	Active travel	Car Driver	Car Passenger	Public transport	Total trips
target modal share	90.0%	6.0%	3.0%	1.0%	100%
employment area	32	2	1	0	36
secondary school	167	11	6	2	185
primary schools (x3)	161	11	5	2	179
day nurseries (x3)	222	15	7	2	247
large local centre - local centre uses	1,539	103	51	17	1,710
large local centre - food store	275	18	9	3	305
neighbourhood centres - local centre uses	1,010	67	34	11	1,122
Total	3,407	227	113	37	3,784

External trips – baseline forecast

- 9.11 The external person trips that could be generated by Isley Woodhouse in the morning and evening peak hours are set-out in Section 8 and the resulting impact on the highway network will be analysed as part of the Transport Assessment for the proposed development. Interventions will be designed to reduce the number of external single occupancy car trips and increase the mode share for active and sustainable modes, with a focus on cycling, e-biking and public transport. These inventions will be ambitious and seek to tie into the work undertaken by Sustrans in preparing the Local Cycling and Walking Infrastructure Plan (LCWIP) for North West Leicestershire District Council.
- 9.12 The two-way morning and evening peak hour external person trip generation shown in Section 8 can be expressed as modal share percentages, as shown in the table below.

Calculated external modal share						
Peak	Walk	Cycle	Car Driver	Car Passenger	Public transport	Total trips
Morning peak hour	4.5%	2.6%	73.3%	13.3%	6.3%	100%
Evening peak hour	4.7%	2.2%	70.1%	18.0%	5.1%	100%
Average	4.6%	2.4%	71.7%	15.6%	5.7%	100%

External trips – target, for local employment sites

- 9.13 As detailed in Section 2, the vision is for an inherently sustainable new settlement, located close to the existing and proposed employment sites within the Leicestershire International Gateway, and therefore the proposals align with the aims of the SGP.
- 9.14 Typically, Travel Plans for new development set a target for modal change in single occupancy car journeys (usually 10%) and identify interventions to help drive the desired change. Whilst that

approach will also be applicable to Isley Woodhouse, in this instance, a unique opportunity to achieve significant modal change is available. The location of the proposed new settlement has been strategically selected to co-locate homes/people within walking and cycling distance of a significant number of current and proposed employment sites, where employees are currently travelling much longer distances to work from the nearby conurbations of Derby, Leicester, Loughborough and Nottingham. Many of these longer-distance journeys to work will be single occupancy car trips.

- 9.15 The PRTM uses a gravity model to distribute the proposed development vehicle trips across the modelled network, and in doing has estimated the number of development vehicle trips to the local employment centres, including the DHL distribution hub, EMA, the Pegasus Business Park, EMG, the Freeport development site, the Ratcliffe Power Station development site, and employment sites in and around Castle Donington. The table below summarises the vehicle trips to these employment centres, showing that in the morning peak hour there would be 588 two-way trips between the site and the local employment zones, which equates to 29% of the residential vehicle trips generated by the proposed development. In the evening peak hour there would be 562 two-way vehicle trips between the site and the employment zones, which equates to 28% of the residential vehicle trips.

Isley Woodhouse residents' car trips to local employment - PRTM			
Peak hour	Residential traffic generation	Total trips to local employment	% of residential traffic generation
Morning	2,045	588	28.8%
Evening	2,011	562	27.9%

- 9.16 Applying the residential modal share (table at paragraph 3.18) gives the two-way person trips to the local employment zones shown in the table below.

Local employee trips - baseline forecast						
Land-use	Walk	Cycle	Car Driver	Car Passenger	Public transport	Total trips
AM residential modal share	3.2%	2.0%	81.0%	8.7%	5.0%	100%
AM resi trips to local emp	23	15	588	63	36	725
PM residential modal share	4.1%	2.1%	79.3%	10.0%	4.6%	100%
PM resi trips to local emp	29	15	562	71	33	710

- 9.17 The vehicle trips to the local employment zones represent a significant proportion of the overall traffic likely to be generated by the proposed development and can be targeted for modal change, in keeping with the vision for the development. With the introduction of exemplar active travel infrastructure (particularly for cycling trips in accordance with LTN 1/20 but also for pedestrians with DHL and EMA within 2km walking distance) and the implementation of a public transport strategy, there is no reason why almost all of these vehicle trips could not be transferred to active travel or public transport modes. For context, the table below shows the distance and cycle journey times to some of the key local employment areas.

Employment site	Distance	Cycle time
East Midlands Airport	1.7km	7 minutes
Pegasus Business Park	4.0km	13 minutes
East Midlands Gateway	4.1km	14 minutes
East Midlands Distribution Centre (Castle Donington)	4.0km	8 minutes

- 9.18 A target of 50% mode shift from single occupancy car trips on journeys between the site and the local employment zones is proposed, which would equate to shifting 294 two-way vehicle trips in the morning peak hour and 281 two-way vehicle trips in the evening peak hour. Of these trips, an initial assumption is that 80% would switch to cycling, 5% to walking, 10% to public transport, and 5% to car share. This reflects the fact that only DHL and EMA would be within reasonable walking distance for Isley Woodhouse residents, whilst all the listed employment zones would be within comfortable cycling distance. The table below shows the resulting two-way person trips to the local employment zones.

Local employee trips - with modal change						
Land-use	Walk	Cycle	Car Driver	Car Passenger	Public transport	Total trips
AM local employment trips	38	250	294	78	66	725
AM local emp. modal share	5.2%	34.4%	40.5%	10.7%	9.1%	100%
PM local employment trips	43	240	281	85	61	710
PM local emp. modal share	6.1%	33.8%	39.6%	12.0%	8.6%	100%

External trips – target, for remainder

- 9.19 Residents of Isley Woodhouse travelling externally from the settlement who do not work locally are likely to be on a longer-distance trip and hence the potential for mode change would not be as high, with change towards public transport most likely.
- 9.20 The majority of the remaining external trips would be made by residents from within the North West Leicestershire 001 MSOA and neighbouring Charnwood accessing the schools or the retail and leisure opportunities, or by people working within the local employment zones who may use the retail and leisure opportunities at the local centre. The same active travel infrastructure and public transport strategy designed to encourage residents at Isley Woodhouse who work locally to use active and sustainable transport modes would also be available for these external trips to/from the site, and hence it is reasonable to assume a good deal of modal change could be achieved. However, it must also be considered that many of these trips to Isley Woodhouse would be made as part of a linked or diverted trip and/or by people who have long established travel behavior which is more difficult to influence.
- 9.21 Therefore, for external trips excluding those to local employment zones, a more conservative target of 15% modal change from single occupancy car trips is proposed. That would equate to reductions of 350 two-way vehicle trips in the morning peak hour¹⁰ and 329 two-way vehicle trips in the evening peak hour¹¹. Of these trips, an initial assumption that 50% would switch to cycling, 10% to walking, 30% to public transport and 10% car share has been applied. These proportions reflect that these trips include longer distance employment trips and retail and education trips for which people may not wish to cycle. The table below shows the resulting external two-way person trips, excluding those to the local employment zones.

External person trips (excluding local employment) - with modal change						
Land-use	Walk	Cycle	Car Driver	Car Passenger	Public transport	Total trips
AM external trips	193	263	1,983	502	325	3,266
AM external modal share	5.9%	8.1%	60.7%	15.4%	9.9%	100%
PM external trips	188	235	1,862	668	265	3,217
PM external modal share	5.8%	7.3%	57.9%	20.8%	8.2%	100%

¹⁰ 2,921 – 588 = 2,333, x 15% = 350, and 2,333 – 350 = 1,983

¹¹ 2,753 – 562 = 2,191, x 15% = 329, and 2,191 – 329 = 1,862

External trips – target total

- 9.22 Combining the tables at paragraphs 9.18 and 9.21 gives the total external two-way person trips in the morning and evening peak hours with the modal shift targets applied. The tables show that, compared against the baseline forecast, the number of single occupancy car trips has reduced by 644 two-way trips in the morning peak hour (= 2,921 – 2,277) and by 610 two-way trips in the evening peak hour (= 2,753 – 2,143).

External trips - AM peak with resultant modal split						
Land-use	Walk	Cycle	Car Driver	Car Passenger	Public transport	Total trips
local employment trips	38	250	294	78	66	725
other external trips	193	263	1,983	502	319	3,260
total	231	513	2,277	580	384	3,985
external mode split	5.8%	12.9%	57.1%	14.5%	9.6%	100%

External trips - PM peak with resultant modal change						
Land-use	Walk	Cycle	Car Driver	Car Passenger	Public transport	Total trips
local employment trips	43	240	281	85	61	710
other external trips	188	235	1,862	668	265	3,217
total	231	474	2,143	753	326	3,927
external mode split	5.9%	12.1%	54.6%	19.2%	8.3%	100%

10.0 SUMMARY AND CONCLUSIONS

Baseline forecast

- 10.1 This technical note undertakes calculations for each land use within the proposed Isley Woodhouse development and determines the number of peak hour trips that would be made by walking, cycling, car, car share, and public transport. Those forecasts are further divided into internal and external trips. The results for the morning and evening peak hours are shown in Section 8.
- 10.2 The figures can be thought of as the baseline forecast. They are derived from agreed estimates of the amount of traffic that would be generated, albeit those estimates were robust to ensure that traffic modelling does not underestimate the traffic impacts. The forecasts do not accurately assess internal linked trips and therefore the internal modal split should be treated cautiously, although it is sufficient to give a very robust sense of scale.
- 10.3 The modal split for the external trips is accurate, and gives the following totals.

External person trips - morning peak hour						
Land-use	Walk	Cycle	Car Driver	Car Passenger	Bus	Total trips
Total	181	103	2,921	530	250	3,985
Modal share	4.5%	2.6%	73.3%	13.3%	6.3%	100.0%

External person trips - evening peak hour						
Land-use	Walk	Cycle	Car Driver	Car Passenger	Public transport	Total trips
Total	184	85	2,753	706	199	3,927
Modal share	4.7%	2.2%	70.1%	18.0%	5.1%	100.0%

Targets

- 10.4 In keeping with the vision for Isley Woodhouse, target modal shares have been identified, which encourage a shift from single occupancy car trips. The target for internal trips is based on the National Travel Survey mode choice for trips up to one mile, and is shown in the table below.

Internal person trips - morning peak hour					
Land-use	Active travel	Car Driver	Car Passenger	Public transport	Total trips
target modal share	90.0%	6.0%	3.0%	1.0%	100.0%
Total	4,955	332	165	55	5,505

Internal person trips - evening peak hour					
Land-use	Active travel	Car Driver	Car Passenger	Public transport	Total trips
target modal share	90.0%	6.0%	3.0%	1.0%	100.0%
Total	3,407	227	113	37	3,784

- 10.5 Separate targets are identified for external trips to the local employment sites, and the remaining external trips, as shown in the table below. These figures can be compared with the baseline forecast above, and result in a reduction of 644 and 610 two-way traffic movements in the morning an evening peak hours, respectively.

External trips - AM peak with resultant modal split						
Land-use	Walk	Cycle	Car Driver	Car Passenger	Public transport	Total trips
local employment trips	38	250	294	78	66	725
other external trips	193	263	1,983	502	319	3,260
total	231	513	2,277	580	384	3,985
external mode split	5.8%	12.9%	57.1%	14.5%	9.6%	100%

External trips - PM peak with resultant modal change						
Land-use	Walk	Cycle	Car Driver	Car Passenger	Public transport	Total trips
local employment trips	43	240	281	85	61	710
other external trips	188	235	1,862	668	265	3,217
total	231	474	2,143	753	326	3,927
external mode split	5.9%	12.1%	54.6%	19.2%	8.3%	100%

APPENDIX A

TEMPO MULTI-MODAL TRIP DATA

Growth Factor (2051 Data/2024 Data)

Area Description		HB Work		HB Employers Business		HB Education		HB Shopping		HB Personal Business		HB Recreation/Social		HB Visiting Friends and Relatives	
Level	Name	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination
E02005397	North West Leicestershire 001	1.1569	1.0629	1.1858	1.0885	1.1774	1.0832	1.2385	1.1653	1.2576	1.1458	1.2718	1.1823	1.2503	1.2566

Future Year (2051) - Base Year (2024)

Area Description		HB Work		HB Employers Business		HB Education		HB Shopping		HB Personal Business		HB Recreation/Social		HB Visiting Friends and Relatives	
Level	Name	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination
E02005397	North West Leicestershire 001	316	285	47	45	257	76	142	107	104	86	39	16	19	19

Base Year (2024)

Area Description		HB Work		HB Employers Business		HB Education		HB Shopping		HB Personal Business		HB Recreation/Social		HB Visiting Friends and Relatives	
Level	Name	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination
E02005397	North West Leicestershire 001	2,011	4,527	254	506	1,448	917	595	646	402	589	143	89	76	75

Future Year (2051)

Area Description		HB Work		HB Employers Business		HB Education		HB Shopping		HB Personal Business		HB Recreation/Social		HB Visiting Friends and Relatives	
Level	Name	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination
E02005397	North West Leicestershire 001	2,327	4,812	301	551	1,705	994	737	753	506	675	181	105	95	94

Scenario	Year	Total trips	Rail	Bus	Car Passenger	Car Driver	Cycle	Walk
All trips	2024	12,809	204	611	2,504	8,171	231	1,088
			1.6%	4.8%	19.5%	63.8%	1.8%	8.5%
All trips	2051	14,452	215	617	2,805	9,397	234	1,184
			1.5%	4.3%	19.4%	65.0%	1.6%	8.2%
Work trips	2024	6,539	143	185	567	5,298	134	212
			2.2%	2.8%	8.7%	81.0%	2.0%	3.2%
Work trips	2051	7,138	151	164	557	5,934	129	203
			2.1%	2.3%	7.8%	83.1%	1.8%	2.8%
Education trips	2024	2,363	15	284	1,026	507	35	496
			0.6%	12.0%	43.4%	21.5%	1.5%	21.0%
Education trips	2051	2,700	15	311	1,191	592	38	553
			0.6%	11.5%	44.1%	21.9%	1.4%	20.5%

HB Holiday/Day Trip		NHB Work		NHB Employers Business		NHB Education		NHB Shopping		NHB Personal Business		NHB Recreation/Social		NHB Holiday/Day Trip	
Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination
1.1876	1.1496	1.0902	1.0964	1.0753	1.0771	1.0751	1.0646	1.1034	1.1184	1.0949	1.1012	1.0961	1.1241	1.1099	1.1100

HB Holiday/Day Trip		NHB Work		NHB Employers Business		NHB Education		NHB Shopping		NHB Personal Business		NHB Recreation/Social		NHB Holiday/Day Trip	
Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination
36	51	25	40	16	15	6	3	13	7	7	5	5	2	6	7

HB Holiday/Day Trip		NHB Work		NHB Employers Business		NHB Education		NHB Shopping		NHB Personal Business		NHB Recreation/Social		NHB Holiday/Day Trip	
Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination
191	340	274	412	214	192	78	48	121	57	69	53	57	17	59	64

HB Holiday/Day Trip		NHB Work		NHB Employers Business		NHB Education		NHB Shopping		NHB Personal Business		NHB Recreation/Social		NHB Holiday/Day Trip	
Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination
227	391	299	452	230	206	84	51	134	63	76	59	62	19	65	72

Growth Factor (2051 Data/2024 Data)

Area Description		HB Work		HB Employers Business		HB Education		HB Shopping		HB Personal Business		HB Recreation/Social		HB Visiting Friends and Relatives	
Level	Name	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination
E02005397	North West Leicestershire 001	1.0562	1.1328	1.0884	1.1626	1.0769	1.1864	1.1195	1.1708	1.1494	1.1937	1.1981	1.1963	1.2053	1.2493

Future Year (2051) - Base Year (2024)

Area Description		HB Work		HB Employers Business		HB Education		HB Shopping		HB Personal Business		HB Recreation/Social		HB Visiting Friends and Relatives	
Level	Name	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination
E02005397	North West Leicestershire 001	197	232	39	43	22	74	128	153	93	102	104	83	124	136

Base Year (2024)

Area Description		HB Work		HB Employers Business		HB Education		HB Shopping		HB Personal Business		HB Recreation/Social		HB Visiting Friends and Relatives	
Level	Name	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination
E02005397	North West Leicestershire 001	3,506	1,748	442	262	280	400	1,070	895	621	524	524	420	604	546

Future Year (2051)

Area Description		HB Work		HB Employers Business		HB Education		HB Shopping		HB Personal Business		HB Recreation/Social		HB Visiting Friends and Relatives	
Level	Name	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination
E02005397	North West Leicestershire 001	3,703	1,980	481	305	302	474	1,198	1,047	714	626	628	503	728	682

Scenario	Year	Total trips	Rail	Bus	Car Passenger	Car Driver	Cycle	Walk
All trips	2024	13,108	192	446	2,810	8,299	333	1,028
			1.5%	3.4%	21.4%	63.3%	2.5%	7.8%
All trips	2051	14,804	200	435	3,163	9,549	348	1,109
			1.4%	2.9%	21.4%	64.5%	2.4%	7.5%
Work trips	2024	5,256	92	148	523	4,170	110	213
			1.8%	2.8%	10.0%	79.3%	2.1%	4.1%
Work trips	2051	5,683	97	132	520	4,622	105	207
			1.7%	2.3%	9.2%	81.3%	1.8%	3.6%
Education trips	2024	680	5	56	234	253	10	122
			0.7%	8.2%	34.4%	37.2%	1.5%	17.9%
Education trips	2051	777	5	61	271	294	11	135
			0.6%	7.9%	34.9%	37.8%	1.4%	17.4%

HB Holiday/Day Trip		NHB Work		NHB Employers Business		NHB Education		NHB Shopping		NHB Personal Business		NHB Recreation/Social		NHB Holiday/Day Trip	
Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination
1.1216	1.1448	1.0708	1.0838	1.0744	1.0760	1.0908	1.0883	1.1006	1.1162	1.0982	1.1060	1.0889	1.1167	1.0994	1.1002

HB Holiday/Day Trip		NHB Work		NHB Employers Business		NHB Education		NHB Shopping		NHB Personal Business		NHB Recreation/Social		NHB Holiday/Day Trip	
Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination
87	79	2	2	16	15	4	1	30	16	10	8	30	11	29	36

HB Holiday/Day Trip		NHB Work		NHB Employers Business		NHB Education		NHB Shopping		NHB Personal Business		NHB Recreation/Social		NHB Holiday/Day Trip	
Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination
717	545	29	24	214	197	40	17	300	139	97	78	341	90	289	358

HB Holiday/Day Trip		NHB Work		NHB Employers Business		NHB Education		NHB Shopping		NHB Personal Business		NHB Recreation/Social		NHB Holiday/Day Trip	
Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination
804	624	31	26	229	212	43	18	330	155	107	86	371	101	318	394

Growth Factor (2051 Data/2024 Data)

Area Description		HB Work		HB Employers Business		HB Education		HB Shopping		HB Personal Business		HB Recreation/Social		HB Visiting Friends and Relatives	
Level	Name	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination
E02005397	North West Leicestershire 001	1.0826	1.0782	1.1183	1.1197	1.1426	1.1384	1.1618	1.1701	1.1851	1.1778	1.1918	1.2048	1.2067	1.2426

Future Year (2051) - Base Year (2024)

Area Description		HB Work		HB Employers Business		HB Education		HB Shopping		HB Personal Business		HB Recreation/Social		HB Visiting Friends and Relatives	
Level	Name	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination
E02005397	North West Leicestershire 001	701	705	153	155	363	323	816	813	531	528	411	384	431	463

Base Year (2024)

Area Description		HB Work		HB Employers Business		HB Education		HB Shopping		HB Personal Business		HB Recreation/Social		HB Visiting Friends and Relatives	
Level	Name	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination
E02005397	North West Leicestershire 001	8,476	9,009	1,290	1,295	2,547	2,330	5,045	4,778	2,871	2,969	2,141	1,876	2,085	1,910

Future Year (2051)

Area Description		HB Work		HB Employers Business		HB Education		HB Shopping		HB Personal Business		HB Recreation/Social		HB Visiting Friends and Relatives	
Level	Name	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination
E02005397	North West Leicestershire 001	9,177	9,713	1,443	1,450	2,910	2,653	5,861	5,591	3,402	3,497	2,551	2,261	2,516	2,373

Scenario	Year	Total trips	Rail	Bus	Car Passenger	Car Driver	Cycle	Walk
All trips	2024	53,601	749	2,366	12,027	32,355	1,177	4,927
			1.4%	4.4%	22.4%	60.4%	2.2%	9.2%
All trips	2051	61,031	786	2,357	13,611	37,688	1,229	5,360
			1.3%	3.9%	22.3%	61.8%	2.0%	8.8%
Work trips	2024	17,485	300	488	1,628	13,975	394	700
			1.7%	2.8%	9.3%	79.9%	2.3%	4.0%
Work trips	2051	18,891	317	434	1,602	15,488	375	675
			1.7%	2.3%	8.5%	82.0%	2.0%	3.6%
Education trips	2024	4,878	34	480	1,830	1,432	71	1,031
			0.7%	9.8%	37.5%	29.4%	1.5%	21.1%
Education trips	2051	5,562	34	518	2,120	1,667	75	1,148
			0.6%	9.3%	38.1%	30.0%	1.3%	20.6%

HB Holiday/Day Trip		NHB Work		NHB Employers Business		NHB Education		NHB Shopping		NHB Personal Business		NHB Recreation/Social		NHB Holiday/Day Trip	
Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination
1.1350	1.1285	1.0756	1.0900	1.0761	1.0775	1.0806	1.0714	1.0958	1.1131	1.0954	1.1032	1.0891	1.1147	1.1005	1.1011

HB Holiday/Day Trip		NHB Work		NHB Employers Business		NHB Education		NHB Shopping		NHB Personal Business		NHB Recreation/Social		NHB Holiday/Day Trip	
Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination
313	343	49	64	92	84	21	10	149	73	53	41	104	36	114	133

HB Holiday/Day Trip		NHB Work		NHB Employers Business		NHB Education		NHB Shopping		NHB Personal Business		NHB Recreation/Social		NHB Holiday/Day Trip	
Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination
2,314	2,667	651	707	1,215	1,086	259	141	1,553	642	554	398	1,171	314	1,132	1,318

HB Holiday/Day Trip		NHB Work		NHB Employers Business		NHB Education		NHB Shopping		NHB Personal Business		NHB Recreation/Social		NHB Holiday/Day Trip	
Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination
2,627	3,009	700	771	1,308	1,170	280	151	1,702	715	606	439	1,275	349	1,246	1,451

APPENDIX B

2011 CENSUS TRAVEL TO WORK DATA

QS701EW - Method of travel to work

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population All usual residents aged 16 to 74
units Persons
date 2011
rural urban Total

	Catle Donington Ward	Kegworth LSOA's		Melbourne Ward
Method of Travel to Work	WARD011qs:E05005517 : Castle Donington	LSOA2011:E01025945 : North West Leicestershire 002C	LSOA2011:E01025946 : North West Leicestershire 002D	WARD: E05008815 Melbourne
All categories: Method of travel to work	5,445	1,155	1,274	3,671
Work mainly at or from home	229	47	46	375
Underground, metro, light rail, tram	4	0	1	2
Train	34	3	4	16
Bus, minibus or coach	140	27	43	43
Taxi	1	0	0	2
Motorcycle, scooter or moped	23	7	5	16
Driving a car or van	2,751	508	506	1,710
Passenger in a car or van	148	38	37	86
Bicycle	88	21	14	58
On foot	354	92	98	250
Other method of travel to work	33	5	3	10
Not in employment	1,640	407	517	1,103

Trip type	Castle Donnington Ward		Kegworth		Melbourne	
	Number of people	Modal split	Number of people	Modal split	Number of people	Modal split
on foot	354	10.0%	190	13.5%	250	11.5%
bicycle	88	2.5%	35	2.5%	58	2.7%
bus	140	4.0%	70	5.0%	43	2.0%
train	38	1.1%	8	0.6%	16	0.7%
motorcycle/moped	23	0.6%	12	0.9%	16	0.7%
car driver	2,751	77.6%	1,014	72.2%	1710	78.4%
passenger	148	4.2%	75	5.3%	86	3.9%
taxi	1	0.0%	0	0.0%	2	0.1%
total	3543	100.0%	1404	100.0%	2181	100.0%

APPENDIX 5

TECHNICAL NOTE J PRTM BRIEFING NOTE – STAGE 1 (ADC2570-RP-J-V3)



TECHNICAL NOTE J

PRTM BRIEFING NOTE – STAGE 1

ISLEY WOODHOUSE

DOCUMENT CONTROL

project number: ADC2570			report reference: ADC2570-RP-J	
version	date	author	reviewer	comments
1		Mark Higgins		internal draft
2	27/10/2023	Mark Higgins	David Cummins	first external issue
3	29/11/2023		David Cummins	AppA (ProForma) amended following LCC and NH comments.

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APPENDICES

Appendix A	PRTM 2019 Development Testing Pro-Forma

1.0 INTRODUCTION

- 1.1 This Technical Note is one of a series that has been prepared to address transport and highways issues associated with Isley Woodhouse.
- 1.2 The Transport Working Group have agreed that the development will be assessed using Leicestershire County Council's Freeport Model, which is a cordoned part of the larger PRTM 2019 (Pan-Regional Transport Model). That model has recently been revised to a 2019 base year and has been validated in the local area around the Freeport sites.
- 1.3 This note informs the Stage 1 runs of the PRTM 2019 Freeport Model, and has been produced to supplement the information provided within the PRTM 2019 Development Testing Pro-Forma, which is provided at **Appendix A**.

2.0 PROPOSED DEVELOPMENT

Site location

- 2.1 The site location is shown at **Figure 1**. It surrounds the hamlet of Isley Walton, south of Donington Park Circuit and to the southwest of East Midlands Airport (EMA) in Leicestershire. The land is predominantly agricultural land with areas of woodland located in the south-eastern corner of the site.



Figure 1: site location

Isley Woodhouse proposals

- 2.2 The development concept is for an inherently sustainable new settlement, consisting of up to 4,250 dwellings and other uses with a commitment to net-zero carbon at the core of the proposals. The location of the site has been selected to place it close to existing and proposed employment sites including East Midlands Gateway SRFI, East Midlands Airport, Castle Donington Distribution Centre, and planned development around the airport including the Freeport and Ratcliffe on Soar power station sites.
- 2.3 A separate Technical Note (E – Development Schedule) sets out the proposed land uses and includes a detailed location plan.

Forecast traffic generation

- 2.4 A separate Technical Note (B – Traffic Generation) sets out the forecast traffic generation of the proposals. It has been agreed with the Transport Working Group.
- 2.5 The development will generate a significant amount of traffic movements. Some of those movements will be internalised, for example new residents who use the local shops. For PRTM

purposes, it is the external traffic that is of interest and is therefore summarised below for ease of reference.

- 2.6 Excluding the three primary schools and day nurseries, Isley Woodhouse will generate 2,707 and 2,713 two-way external traffic movements during the peak hours.

EXTERNAL TRIPS			AM peak hour			PM peak hour		
			arrive	depart	two-way	arrive	depart	two-way
C3 residential			536	1509	2045	1386	625	2011
employment area			102	54	156	33	86	119
secondary school			65	48	113	10	13	23
large local centre - local centre uses			163	141	304	164	191	355
large local centre - food store			32	27	59	83	87	170
neighbourhood centres - local centre uses			16	14	30	16	19	35
total			914	1793	2707	1692	1021	2713

- 2.7 The primary schools and day nurseries are forecast to generate 847 and 160 traffic movements in a morning and evening peak hour, as shown in the table below. At this stage, an internalisation rate for these trips has not been agreed with LCC and therefore they are treated separately. It is hoped that some trip distribution work using PRTM may assist in gaining an agreement about the total traffic generation including the primary schools and day nurseries.

TRAFFIC GENERATION			AM peak hour			PM peak hour		
			arrive	depart	two-way	arrive	depart	two-way
primary schools (x3)	1260	pupils	406	330	736	28	52	80
day nurseries (x3)	1800	sqm	65	46	111	32	48	80

- 2.8 For the purposes of the strategic modelling, assumptions are required about different vehicle types. The only land-use that is likely to generate a material number of HGV trips would be the employment zone. 10% of the traffic generated by this part of the development could be HGVs.

Vehicular access strategy

- 2.9 The indicative masterplan (supplied separately) shows that as part of the development proposals the A453 would be diverted towards the western site boundary, effectively forming a bypass around the development site. The realignment is proposed to remove this high category road from within the developable area, helping to create a coherent community with suitable connectivity throughout. It would also provide an opportunity to improve the alignment of this section of the A453 for other users.
- 2.10 Vehicular access to the proposed development will be gained by four junctions along the existing A453, and the new diverted section of the A453. The access junctions are the subject of ongoing assessment. Nevertheless, to initiate modelling work, the current proposals are summarised below:
- To the southwest, a new four-arm roundabout will replace the existing A453/Moor Lane T-junction, connecting the southern extent of the realigned A453 with Moor Lane and providing access to the development (**drawing ADC2570-DR-002-P4**).
 - To the northwest, a new four-arm roundabout will replace the existing A453/Melbourne Road T-junction, connecting the northern extent of the realigned A453 with the existing A453, Melbourne Road and also providing access to the development (**drawing ADC2570-DR-002-P4**).
 - A fourth arm will be added to the existing A453/Airport Access Road traffic signal controlled T-junction to form a signal controlled crossroads, providing central access to the development. The proposed junction layout is shown on **drawing ADC2570-DR-003-P3**.

- To the northeast, a new traffic signal controlled T-junction would be provided as shown on **drawing ADC2570-DR-004-P4**. This junction would not provide for the left-turn out of the development or the right-turn into the development to enable a simple two-stage operation and limit delay to the A453.

2.11 LinSig models can be provided for the two traffic signal controlled access junctions on request.

Highway mitigation strategy and other modes

- 2.12 The outcomes of the Stage 1 PRTM modelling will enable a comprehensive highway mitigation strategy to be developed. The highway mitigation strategy will be tested in the Stage 2 modelling.
- 2.13 To help achieve the sustainability ambitions for the proposed new settlement, a comprehensive strategy for travel by walking and cycling is being developed. A separate strategy for travel by bus is being developed, and will be discussed and agreed with the Transport Working Group.
- 2.14 These strategies would be implemented through the Framework Travel Plan, which would set ambitious targets to reduce travel by private car and promote Active Travel alternatives. Given the scale of the development, the range of sustainable land uses being promoted, and the prevalence of employment opportunities within the walking, cycling, and public transport catchments, an ambitious and targeted Travel Plan has the potential to significantly reduce external car trips. The Travel Plan will therefore be part of the mitigation package and its effects will be tested in the Stage 2 modeling.

Development phasing

- 2.15 Whilst the development phasing is unknown at the current time, the full build-out of the proposals is expected to take around 20 years from a first occupation in 2029 (opening year), at an average build-rate of 225 dwellings per annum.
- 2.16 Following the completion of the Stage 1 and Stage 2 modelling, and agreement with the Transport Working Group on the mitigation strategy, a phasing strategy will be devised and tested as part of the Stage 3 modelling.

3.0 TRANSPORT MODELLING METHODOLOGY

Introduction

- 3.1 The Transport Working Group have agreed that the development will be assessed using Leicestershire County Council's Freeport Model, which is a cordoned section of the larger PRTM 2019 (Pan-Regional Transport Model).

PRTM 2019

- 3.2 PRTM was developed from the Leicester and Leicestershire Integrated Transport Model (LLITM). The first version of PRTM had a 2014 base year – it replicated the transport conditions in that year. Due to the age of the data, PRTM was updated to a 2019 base year, and is known as PRTM 2019.
- 3.3 PRTM 2019 is a suite of models including a highway assignment model, a public transport assignment model, and a variable demand model. The assignment models developed for PRTM 2019, both the highway and public transport models, have been developed to represent a typical weekday (Monday to Thursday) in a base year of (April to June) 2019. PRTM 2019 has the ability to forecast up to a horizon year of 2051.
- 3.4 The Highway Local Model Validation Report (AECOM, 10 January 2023) describes the development of the PRTM 2019 highway model, detailing the key features, the calibration and validation data, the network and trip matrix development and calibration, and validation methods and results. The report states that the PRTM 2019 highway model has been calibrated and validated such that it “*meets and generally exceeds the TAG guidelines*”. Further, the report concludes that the “*PRTM 2019 provides a robust basis for the assessment of base year and forecast travel conditions within Leicester and Leicestershire as part of business cases, Local Plans, and development assessments*”.
- 3.5 As agreed with the Transport Working Group, the impacts of the proposed development will be assessed using the Freeport Model, which is a cordoned part of the larger PRTM 2019.

Methodology

- 3.6 The modelling work will assess a cumulative scenario. The Isley Woodhouse Transport Working Group will agree the schemes to be included in the cumulative scenario, given the significant changes planned for the area. Those changes include schemes already being built on the west side of Castle Donington, at East Midlands Gateway, planned development around the airport, as part of the Freeport, HS2, and aspirations for Ratcliffe on Soar power station. All planned and allocated development and infrastructure to be included within the cumulative assessment will be agreed via the Uncertainty Log.
- 3.7 The output from the Freeport Model will include traffic forecasts without and with Isley Woodhouse. Those forecasts will inform an assessment of the area of influence. They will also be used to inform the mitigation strategy and designs of highway mitigation schemes, such as junction upgrades, and the new section of the A453.
- 3.8 At this stage it is not possible to define an area of influence, which is defined as the area in which the traffic impacts will be felt, and also where the environmental impacts will need to be considered. However, it is anticipated that the area of influence will include, amongst other locations, the M1, A42, A453, A50, A6 and numerous local roads.

- 3.9 Due to the scale of the proposed development, the construction period will be extensive. Therefore, it will also be necessary to carefully consider the phasing of the proposed development. In due course, the Freeport Model may be used to understand the intermediate impacts and triggers for delivery of the mitigation strategy.
- 3.10 Therefore, it is proposed that the strategic modelling should be progressed in three stages, as follows.
- Stage 1 – initial modelling focused on achieving the following objectives:
 - forecasting the morning and evening peak hour reference case traffic scenarios (i.e. no Isley Woodhouse development) for the opening year and assessment year
 - establishing the distribution of development traffic
 - forecasting the morning and evening peak hour ‘with development but no mitigation’ traffic scenarios (ie. with Isley Woodhouse but no mitigation) for the opening year and the assessment year
 - demonstrating the suitability of the access strategy
 - identifying off-site impacts due to the development traffic in the assessment year and agreeing the area of influence.
 - Stage 2 – using outputs from the Stage 1 modelling, a mitigation strategy incorporating highway interventions and strategies for walking, cycling, and public transport would be identified and agreed with the Transport Working Group. This strategy would be tested using the Freeport model, demonstrating that the proposed mitigation strategies successfully limit residual impacts to acceptable levels.
 - Stage 3 – test the proposed phasing strategy for the proposed development.
- 3.11 This Technical Note relates to the Stage 1 modelling only, further Technical Notes would be provided for Stage 2 and Stage 3.

Planning assumptions

- 3.12 To ensure PRTM considers a cumulative scenario, planning data and highway schemes are kept up to date in an Uncertainty Log. It sets out all committed development, and a timeline for occupations, in all areas of Leicestershire, and relevant areas beyond. A level of uncertainty is attributed to each development. Also included in the Uncertainty Log are changes to the highway network.
- 3.13 The Uncertainty Log will be agreed with the Transport Working Group before it is applied to the Freeport Model for testing Isley Woodhouse.

4.0 ASSESSMENT YEARS AND SCENARIOS

Assessment years

- 4.1 The Transport Working Group previously agreed an Opening Year of 2026, when first occupations would occur, and an Assessment Year of 2046, a proxy for when the development would be complete, also aligning with the end of the Local Plan period. However, given the passing of time, these years are adjusted as shown in the table below.

year	Purpose
2019 2022	Baseline Years - Freeport Model outputs will be required for the assessment of the environmental impacts on air quality and noise. - For air quality, monitoring data will be annualised to 2019 for the air quality model verification. Hence, 2019 will be used to provide baseline traffic data for the air quality assessment. - Baseline monitoring for noise was undertaken during 2022. Hence, 2022 will be used to provide baseline traffic data for the noise assessment.
2029	Opening Year when the first occupations are expected
2051	Assessment Year a proxy for the completion of the development, also aligned with the end of the Local Plan period

Assessment scenarios

- 4.2 The traffic impacts due to Isley Woodhouse would impact on the Strategic Road Network. Therefore modelling scenarios that comply with the requirements of DfT Circular 01/2022¹ are required. The Circular requires only an opening year assessment, to include the forecast growth and committed development up to that opening year. The Circular also requires multi-phase developments to undertake additional assessment based on the opening of each phase. As already discussed, the phased delivery of the proposed development has not yet been identified but will be considered during Stage 3 of the modelling process.
- 4.3 To comply with the Circular, the following scenarios will be tested:
- 2029 Reference Case - to include committed and allocated development and infrastructure in place by the 2029 opening year.
 - 2029 With Development - to include the proposed development and the access strategy.
- 4.4 Assessments of the local road network will compare traffic volumes in 2051 without and with the development. Thus the following scenarios will be tested:
- 2051 Reference Case - to include committed and allocated development and infrastructure in place by the 2051 assessment year.
 - 2051 With Development - to include the proposed development and the access strategy.
- 4.5 The table below sets out the scenarios to be modelled for Stage 1:

¹ [Strategic road network and the delivery of sustainable development - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/publications/strategic-road-network-and-the-delivery-of-sustainable-development)

stage		ID	year	scenario	reference case parameters	development parameters	to be used for
Stage 1	Base	B2019	2019	base year	committed and allocated development and infrastructure in place by 2019	n/a	base year traffic flows for air quality model verification
		B2022	2022	base year	committed and allocated development and infrastructure in place by 2022	n/a	base year traffic flows
	Reference Case	RC1	2029	opening year	committed and allocated development and infrastructure in place by 2029	n/a	background traffic flows in opening year for assessment of: • environmental effects • assessment of local road network • assessment of strategic road network
		RC2	2051	assessment year	committed and allocated development and infrastructure in place by 2051	n/a	background traffic flows in assessment year for assessment of: • environmental effects • assessment of local road network
	With	WD1	2029	opening year with development no mitigation	RC1	100% of development no mitigation (other than site access)	Circular 01/2022 compliant assessment of the development impact on the strategic road network
		WD2	2051	assessment year with development no mitigation	RC2	100% of development no mitigation (other than site access)	assessment of the development impact on the local road network

APPENDIX A

PRTM 2019 DEVELOPMENT TESTING PRO-FORMA

Pan Regional Transport Model (PRTM) Development Testing Proforma

Foreword:

Before completing this form for development management purposes, it is recommended that you contact Leicestershire County Council (LCC) and seek advice from the Highway Development Management (HDM) team on the proposed use of PRTM. The HDM team can be contacted at hdc@leics.gov.uk.

Although not a requirement it is strongly recommended that potential stakeholders, e.g. LCC HDM, National Highways, sign-off on your brief and trip generation before submitting this proforma to the Environment and Transport – Commissioning Framework (ET-CF). This should ensure that any subsequent work proposal through the ET-CF Framework is as accurate as possible in terms of scope, timescales and cost.

Please note that the ET-CF and wider Network Data and Intelligence (NDI) Team work independently from all other teams within LCC, including HDM. Please ensure any correspondence intended for the HDM team is sent to the case officer for your (pre)application; or, if unknown, to HDM's generic inbox: hdc@leics.gov.uk.

On the following page is an indicative flowchart summarising the general transport modelling process for using the PRTM to inform client Transport Assessments; this is a typical approach and has been simplified to a generic process – each individual application may differ from the below and as above advice should be sought from the HDM team.



Section 1: Client Details

Name:	David Cummins
Company:	ADC Infrastructure
Telephone:	0115 941 4817
E-mail:	david.cummins@adcinfrastructure.com
Date:	14/11/2023

Section 2: Project Details

Title:	Isley Woodhouse
District / Location:	North West Leicestershire

Background:	The site surrounds the hamlet of Isley Walton, south of Donington Park Circuit and to the southwest of East Midlands Airport (EMA) in Leicestershire. The land is predominantly agricultural land with areas of woodland located in the south-eastern corner of the site. The development concept is for an inherently sustainable new settlement, consisting of up to 4,250 dwellings and other uses with a commitment to net-zero carbon at the core of the proposals. The location of the site has been selected to place it close to existing and proposed employment sites including East Midlands Gateway SRFI, East Midlands Airport, Castle Donington Distribution Centre, and planned development around the airport including the Freeport and Ratcliffe on Soar power station sites. As set out in ADC Technical Note ADC2570-RP-E-V4 the development comprise of the following: • residential dwellings – 4,250 • education ○ new secondary school - 900 pupils ○ primary school #1 – 420 pupils ○ primary school #2 – 420 pupils ○ primary school #3 – 420 pupils • large local centre ○ convenience store – 3,000sqm ○ mixed use units – 8,000sqm total ○ day nurse – 600sqm ○ pub – 450sqm ○ doctors surgery – 280sqm ○ community uses – 200sqm • small neighbourhood centre #1 ○ small convenience store – 900sqm ○ mixed use units – 1,100sqm total ○ day nurse – 600sqm • small neighbourhood centre #2 ○ small convenience store – 900sqm ○ mixed use units – 1,100sqm total ○ day nurse – 600sqm • employment area ○ non retail units (Class E) – 930sqm ○ B2/B8 employment – 22,294sqm

Section 3: Development Details

Please input your development phasing into the provided table on the right; if it is a mixed-use site, please separate dwellings and employment floorspace with a comma. This table will act as an overview to the detail provided further in this proforma as well as the supporting brief (if available).

There are two main forms of assessment that the ETCF offers, a highway-only model run and a full-PRTM model run. Your HDM Case Officer will confirm which type of assessment is needed for your development.

For highway-only model runs please provide details in section 3a, for full model runs please provide details in section 3b.

Please provide a brief description of the access arrangements in the box below; if there are preliminary scheme drawings available please provide these alongside submission of this proforma via email attachment.

Brief description of access arrangements:

The indicative masterplan (supplied separately) shows that as part of the development proposals the A453 would be diverted towards the western site boundary, effectively forming a bypass around the development site. The realignment is proposed to remove this high category road from within the developable area, helping to create a coherent community with suitable connectivity throughout. It would also provide an opportunity to improve the alignment of this section of the A453 for other users.

Vehicular access to the proposed development will be gained by four junctions along the existing A453, and the new diverted section of the A453. The access junctions are the subject of ongoing assessment. Nevertheless, to initiate modelling work, the current proposals are summarised below:

- To the southwest, a new four-arm roundabout will replace the existing A453/Moor Lane T-junction, connecting the southern extent of the realigned A453 with Moor Lane and providing access to the development (**drawing ADC2570-DR-002-P4**).
- To the northwest, a new four-arm roundabout will replace the existing A453/Melbourne Road T-junction, connecting the northern extent of the realigned A453 with the existing A453, Melbourne Road and also providing access to the development (**drawing ADC2570-DR-002-P4**).
- A fourth arm will be added to the existing A453/Airport Access Road traffic signal controlled T-junction to form a signal controlled crossroads, providing central access to

Year	No.
2021	Figure
2022	Figure
2023	Figure
2024	Figure
2025	Figure
2026	Figure
2027	Figure
2028	Figure
2029	1
2030	Figure
2031	Figure
2032	Figure
2033	Figure
2034	Figure
2035	Figure
2036	Figure
2037	Figure
2038	Figure
2039	Figure
2040	Figure
2041	Figure
2042	Figure
2043	Figure
2044	Figure
2045	Figure
2046	Figure
2047	Figure
2048	Figure
2049	Figure
2050	Figure
2051	4250
Total	Figure

the development. The proposed junction layout is shown on **drawing ADC2570-DR-003-P3**.

- To the northeast, a new traffic signal controlled T-junction would be provided as shown on **drawing ADC2570-DR-004-P4**. This junction would not provide for the left-turn out of the development or the right-turn into the development to enable a simple two-stage operation and limit delay to the A453.

Section 3a: Highway Model Only Development Details

Please provide either the agreed trip rates and/or trip generation for your development in the relevant tables below. Depending on your land use and agreed approach with LCC HDM, values may not be required for all three time periods.

Technical Note ADC2570-RP-B-V5 sets out the methodology for calculating the traffic generation for the Isley Woodhouse development. It details the trip rates for each use and the percentage of trips which will be internal to the development. The number of external trips is provided in the table below.

EXTERNAL TRIPS			AM peak hour			PM peak hour		
			arrive	depart	two-way	arrive	depart	two-way
C3 residential			536	1509	2045	1386	625	2011
employment area			102	54	156	33	86	119
secondary school			65	48	113	10	13	23
large local centre - local centre uses			163	141	304	164	191	355
large local centre - food store			32	27	59	83	87	170
neighbourhood centres - local centre uses			16	14	30	16	19	35
total			914	1793	2707	1692	1021	2713

In addition to the above, it has been agreed that the primary schools and day nurseries will generate 847 and 160 traffic movements in a morning and evening peak hour, as shown in the table below. At this stage, an internalisation rate for these trips has not been agreed with LCC and therefore they are treated separately. It is hoped that some trip distribution work using PRTM may assist in gaining an agreement about the total traffic generation including the primary schools and day nurseries.

TRAFFIC GENERATION			AM peak hour			PM peak hour		
			arrive	depart	two-way	arrive	depart	two-way
primary schools (x3)	1260 pupils		406	330	736	28	52	80
day nurseries (x3)	1800 sqm		65	46	111	32	48	80

For the purposes of the strategic modelling, assumptions are required about different vehicle types. The only land-use that is likely to generate a material number of HGV trips would be the employment zone. 10% of the traffic generated by this part of the development could be HGVs.

Trip Rates:

Housing:

Vehicle Type	AM			IP			PM		
	Arr.	Dep.	Total	Arr.	Dep.	Total	Arr.	Dep.	Total
Light Vehicles									
HGV's									
Total									

Employment:

Vehicle Type	AM			IP			PM		
	Arr.	Dep.	Total	Arr.	Dep.	Total	Arr.	Dep.	Total
Light Vehicles									
HGV's									
Total									

Trip Generation:

Housing:

Vehicle Type	AM			IP			PM		
	Arr.	Dep.	Total	Arr.	Dep.	Total	Arr.	Dep.	Total
Light Vehicles									
HGV's									
Total									

Employment:

Vehicle Type	AM			IP			PM		
	Arr.	Dep.	Total	Arr.	Dep.	Total	Arr.	Dep.	Total
Light Vehicles									
HGV's									
Total									

Section 3b: Full Model Run Development Details

Please provide the number of dwellings and/or employment floorspace, or preferably if known, jobs for each of the sub-categories below.

Full details of the development quantum are set out in Technical Note ADC2570-RP-E-V4 and these are also summarised above.

Employment Development Land Use:

Land Use	Class	Unit	Quantum	Jobs
Shops	A1	m ²	Figure	Figure
Business	B1a	m ²	Figure	Figure

General Industrial	B2	m ²	Figure	Figure
Storage or Distribution	B8	m ²	Figure	Figure
Research & Development	B1b	m ²	Figure	Figure
Leisure	D2	m ²	Figure	Figure
Hotels	C1	Beds	Figure	Figure
Education	D1	Jobs	Figure	Figure

Housing Development Land Use:

Land Use	Class	Dwellings
Dwellings	C3	4250

Section 4: Modelling Required

Assessment Years:

Please select your assessment years from the options below. Please note that if you need PRTM forecast years to infer model flows to correspond with data collection, you will need to select the 'shoulder' forecast years (i.e. inferring the 2018 model forecast year will require 2016 and 2021 PRTM forecast years). Bespoke individual forecast years may be requested with the "Other, please specify" option, but this does not guarantee inclusion in any provided proposal.

2014 (base) ☐	2016 ☐	2021 ☐
2026 ☐	2031 ☐	2036 ☐
2041 ☐	2046 ☐	2051 ☒
Other, please specify:	2019 baseline year 2022 baseline year 2029 opening year 2051 assessment year see supporting Technical Note ADC2570-RP-J-v2	

If required, please provide proposed phasing in each forecast year selected above, in the box below. An example has been included in green, please delete and populate with your data.

As set out in Technical Note ADC2570-RP-J-v2, phasing of the development will be considered in a later stage of modelling.

Assessment Options:

Please select which scenarios you will want testing, as well as defining which model year each scenario corresponds to as this can potentially be multiple forecast years for one scenario; this will depend on your discussions with HDM and their requirements.

Scenario	Choice	Model Year(s)
Core	Assumed	
Core + no development + access strategy	☐	
Core + development + no mitigation	Assumed	
Core + development + mitigation	☐	
Other, please specify:	The table at paragraph 4.5 in Technical Note ADC2570-RP-J-v2 sets out the proposed scenarios to be modelled in the first stage modelling. In summary, these comprise of the following:	

	• 2019 base year - committed and allocated development and infrastructure in place by 2019 • 2022 base year - committed and allocated development and infrastructure in place by 2022 • Reference Case 1 (RC1) 2029 opening year - committed and allocated development and infrastructure in place by 2029 • Reference Case 2 (RC2) 2051 assessment year - committed and allocated development and infrastructure in place by 2051 • With development scenario 1 – 2029 opening year with 100% development and no mitigation (other than the site accesses) • With development scenario 2 – 2051 opening year with development and no mitigation (other than the site accesses)

Time Period Selection:

Please select the time periods you would like your development assessed in.

AM (0800-0900)	☒
IP (average hour for 1000-1600)	☐
PM (1700-1800)	☒

Indicative list of Junctions for Further Assessment:

If known, please provide an indicative list of expected junctions that may be required for further assessment in the box below. This, in turn, will facilitate the delivery of strategic model outputs to inform any further detailed junction assessments. Failing that, a rough estimation of the number of junctions that **may** require further assessment will aid consultants in producing robust quotations within their proposals.

At this stage it is not possible to define an area of influence, which is defined as the area in which the traffic impacts will be felt, and also where the environmental impacts will need to be considered. However, it is anticipated that the area of influence will include, amongst other locations, the M1, A42, A453, A50, A6 and numerous local roads.

Section 5: Pre-Modelling Outputs

This section details the options available to the client pre-modelling; typically, in aid of model assurance for project stakeholders to ensure no abortive work is undertaken. Please select which pre-modelling outputs you require.

Project Specific Study Area Model Validation Report	☒
Local Planning Data Assumptions	☒
Network Scheme Uncertainty Log	☒

Section 6: Post-Modelling Outputs

Highway Model Outputs:

The following highway model output options are available post-transport-model assignment. Some metrics below will need to be specified by the client after analysis of the forecasting report; for instance, “individual junction plots” which would tie in with the relevant sub-section in Section 4.

Area of Influence (AoI) (criteria defined as 5% and 30 PCU change)	Assumed
Highway Flow Changes within AoI	Assumed
Highway Delay Changes within AoI	☒
Individual Junction Plots – Turning Flows	☒
Individual Junction Plots – Volume/Capacity Ratio	☒
Maximum Volume/Capacity Ratio Plots	☒
Select Link Analysis of Development Traffic (link based)	☒
Provision of flow data for junction design/assessment	☒
AADT/AAWT	☒

Variable Demand Model Outputs (full PRTM run required):

The following demand model output options are available post-transport-model assignment.

Mode Share reporting; PT, Car, Active	☐
Trip Distance, 24-hour trip making & sustainability	☐

Public Transport Model Outputs (full PRTM run required):

The following highway model output options are available post-transport-model assignment.

Change in travel time, distances & speeds	☐
Distribution Analysis/Diagrams of Development Traffic	☐
Travel Time Changes along Key Routes	☐
Public Transport Passenger Changes	☐

Environmental Model Outputs:

Environmental model outputs are available post-transport-model assignment. Please note that environmental outputs will require a separate commission via the ETCF Manager, please contact ETCF@leics.gov.uk if you require emission or dispersion modelling to support your application.

Section 7: Supporting Documents

Supporting Documents:

Please provide any supporting documents that have been selected below to the ETCF Manager upon delivery of your proforma.

Location Plan	☐
Access Scheme Drawings (and any associated signal timings)	☐
Development Masterplan	☐
Other, please specify:	All the above will be supplied along with the supporting Technical Note ADC2570-RP-J-v2

Client's Expected Timescales:

Please provide an approximation for your client's timescales for this modelling commission in the box below; please take into consideration HDM's and National Highways' standard response times and sign-off procedures to avoid unrealistic timescales being provided and slippage to your project.

Section 8: Contact Details

Email the completed form, along with supporting documents to ETCF@leics.gov.uk

For queries regarding the modelling process please contact:

██████████ – ET-CF Manager

Tel: ██████████

Email: ETCF@leics.gov.uk

APPENDIX 6

EMFM 2019: ISLEY WOODHOUSE BASE YEAR MODEL REVIEW (AECOM REPORT V1.0)

EMFM 2019

Isley Woodhouse: Base Year Model Review

Quality Information

Prepared by	Checked by	Approved by
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Revision History

Revision	Revision date	Details	Authorised	Name	Position
v1.0	2024-01-26	For Issue	Yes	Mark Dazeley	Regional Director

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Section 1 – Overview

1.1 Introduction

- 1.1.1 The Isley Woodhouse development is a proposed residential development comprising up to 4,250 dwellings, one secondary school, three primary schools, three day nurseries, local centres and an employment area (930 sqm Class E non-retail units and 22,294 sqm B2 / B8 employment).
- 1.1.2 The development site is located to the south of the A453, surrounding the village of Isley Walton, and to the south-west of the East Midlands Airport in Leicestershire. The proposed development is assumed to build out by 2051.
- 1.1.3 Figure 1.1 shows an indication of the location of the proposed development, denoted by the area shaded in purple. It is proposed that the A453 will be realigned towards the west of proposed development site boundary thus removing this A-road from within the development area. The development will access the highway network via four junctions along the A453:
- A new signalised T-junction located to the north-east of the proposed development site.
 - An additional fourth arm on the existing A453 Walton Hill signalised junction.
 - A new four-arm roundabout replacing the existing A453 / Melbourne Road T-junction that is located to the north-west of the proposed development site. This will connect the northern end of the realigned A453 with the existing A453 and Melbourne Road and provide access to the proposed development.
 - A new four-arm roundabout replacing the existing A453 / Moor Lane T-junction that is located to the south-west of the proposed development site. This will connect the southern end of the realigned A453 with Moore Lane and provide access to the proposed development.

Figure 1.1: Indicative Location of Proposed Development



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- 1.1.4 AECOM has been commissioned to undertake this strategic modelling to assess the potential traffic impacts of the proposed development using the East Midlands Freeport Model (EMFM). The first stage of this commission is to undertake a review of the EMFM base year model.

- 1.1.5 The base year of the EMFM is 2019, and it is a highway assignment model (for the AM Peak and PM Peak hours), with its demand derived from the more extensive Pan-Regional Transport Model (PRTM 2019), though the EMFM has greater network and zonal density in the vicinity of Isley Woodhouse and the nearby Freeport sites. The latest version of the EMFM (version 1.2) uses the November 2023 TAG data book.
- 1.1.6 The EMFM is derived from a cordon extract from the Pan-Regional Transport Model 2019 (PRTM 2019). The highway simulation network of the EMFM has been extended northward and model zones have been disaggregated for zones outside Leicestershire to provide greater detail in the Freeport area. Figure 2.1, Figure 2.2 and Figure 2.3 provide an overview of the EMFM zone system and network structure.
- 1.1.7 This document is the Base Year Model Review which summarises the key characteristics of the EMFM and presents the results of the base year calibration and validation performance in the vicinity of the proposed development site.

1.2 Report Structure

- 1.2.1 Following the introduction, this report contains the following sections:
- Section 2 details the review of the EMFM zone system and network structure in the vicinity of the proposed Isley Woodhouse development;
 - Section 3 details the review of the EMFM base year model performance compared with observed data;
 - Section 4 provides a summary of the base year model review; and
 - Appendix A provides journey time validation graphs for routes in the vicinity of the proposed Isley Woodhouse development.

Section 2 – Zone System and Network Structure

2.1 Introduction

2.1.1 This section details the review of the 2019 base year EMFM highway model in the vicinity of the proposed Isley Woodhouse development, which includes:

- a review of the model zone system in the vicinity of the proposed development; and
- a review of the base year highway network coding in the vicinity of the proposed development, including:
 - the A453 between the Tonge Interchange with the A42 and the interchange with the A42 and M1 Junction 23A;
 - the M1 from Junction 23 and Junction 24;
 - the A42 / A453 junction (Tonge Interchange);
 - the A50 Junction 1; and
 - the local network of Diseworth, Castle Donington and Melbourne.

2.2 Zone System

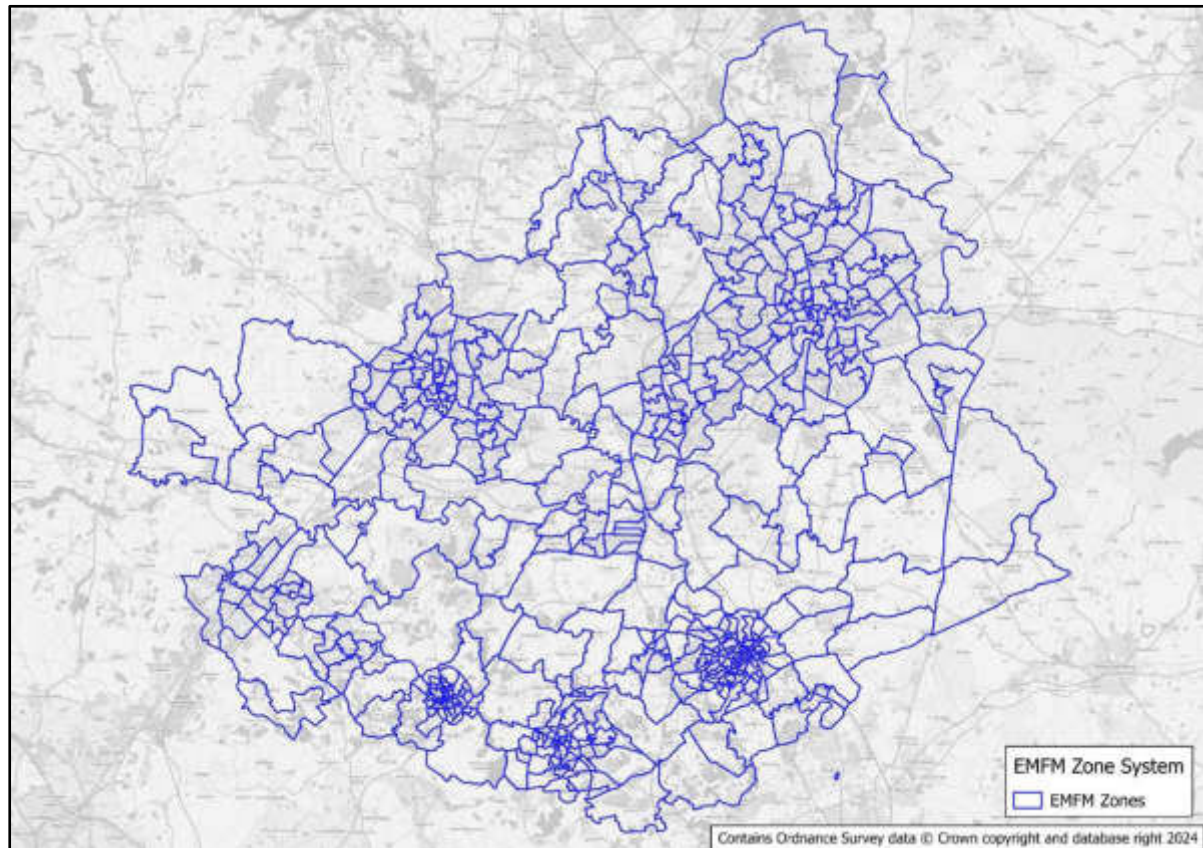
2.2.1 The existing zoning for the EMFM is largely defined by existing land-use and 2011 Census geography.

2.2.2 Figure 2.1 shows an overview of the EMFM highway model zone system. The granularity of the zone system is generally higher in urban areas, such as Loughborough, Derby and Nottingham, and larger zones are used for rural areas.

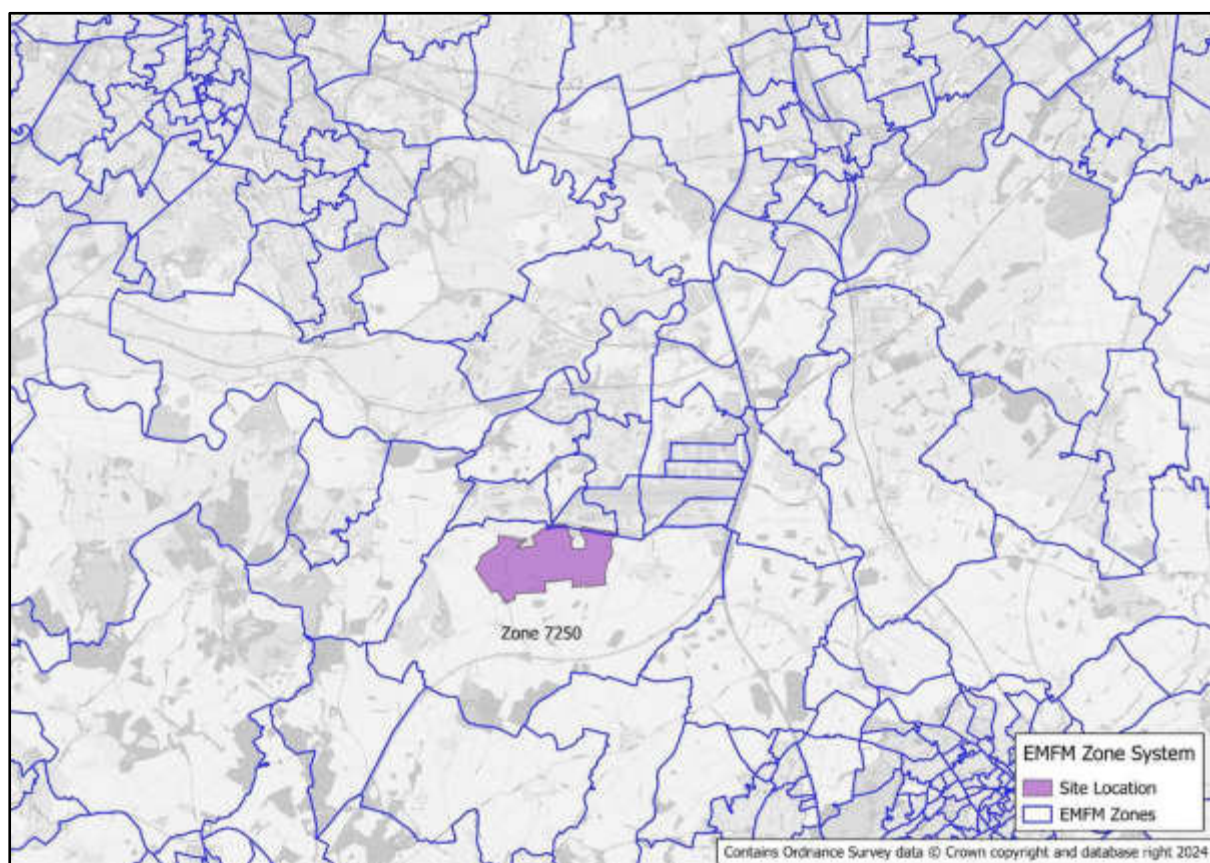
2.2.3 Figure 2.2 shows the EMFM highway model zone system in north-west Leicestershire, with Isley Woodhouse broadly in the centre. The zonal detail in the Isley Woodhouse area is considered suitable for this application of the EMFM, considering the existing underlying land-use.

2.2.4 The proposed development site is covered by the existing zone 7250 in the EMFM. This zone covers a predominantly rural area with two small villages (Breedon on the Hill and Diseworth) and is connected to the highway network using a single access point onto the highway network at Breedon on the Hill. Considering the level of expected trip generation within zone 7250, predominantly from these small villages, this is judged to be appropriate zonal detail.

2.2.5 It is recommended that four to six 'development zones' are used to represent the Isley Woodhouse development, thus separating the demand from the proposed development from the demand in the existing zone 7250. The use of 'development zones' to represent different land parcels within the proposed development and their connectors to the proposed access junctions will be discussed and confirmed with the client before the commencement of forecasting.

Figure 2.1: Highway Model Zone System – EMFM

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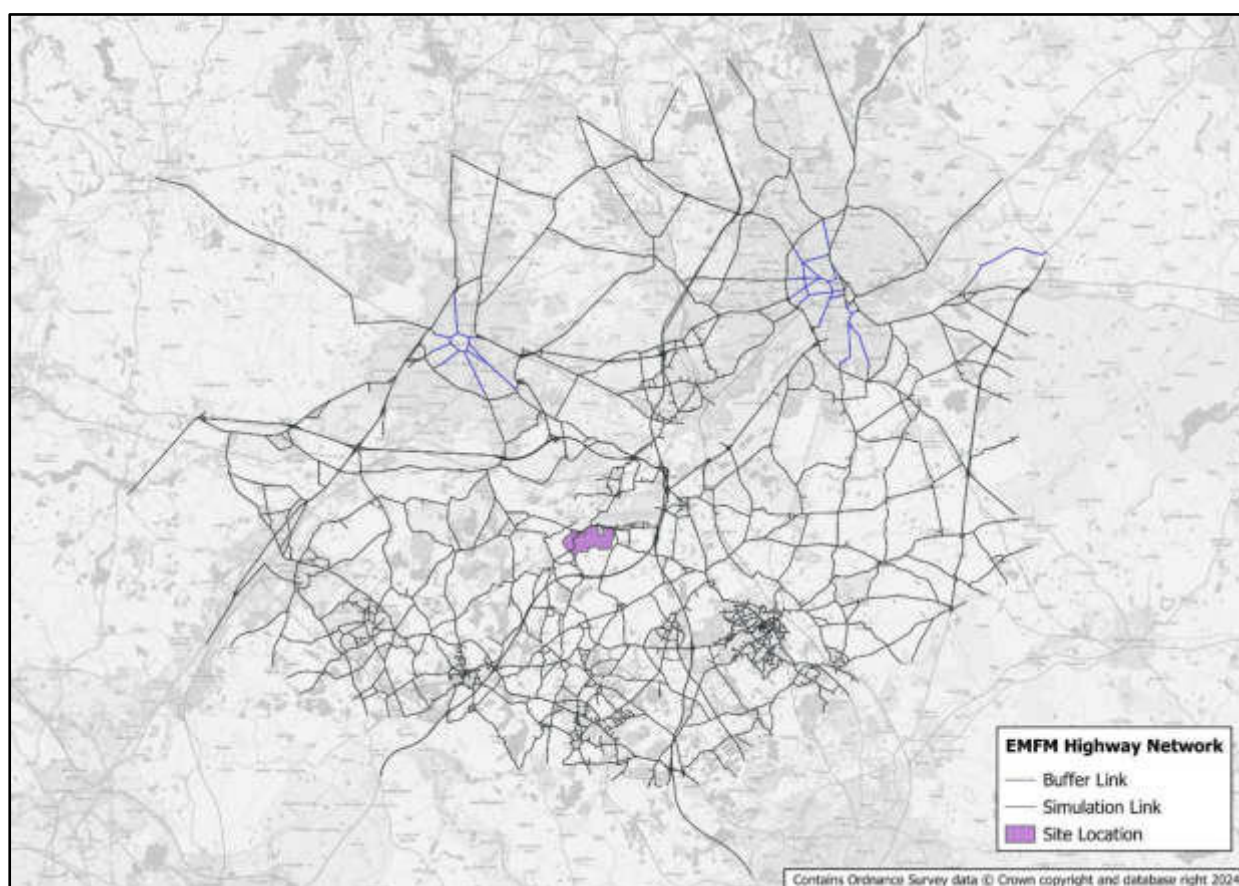
Figure 2.2: Highway Model Zone System – Isley Woodhouse Area

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2.3 EMFM Highway Base Year Model Network Coding

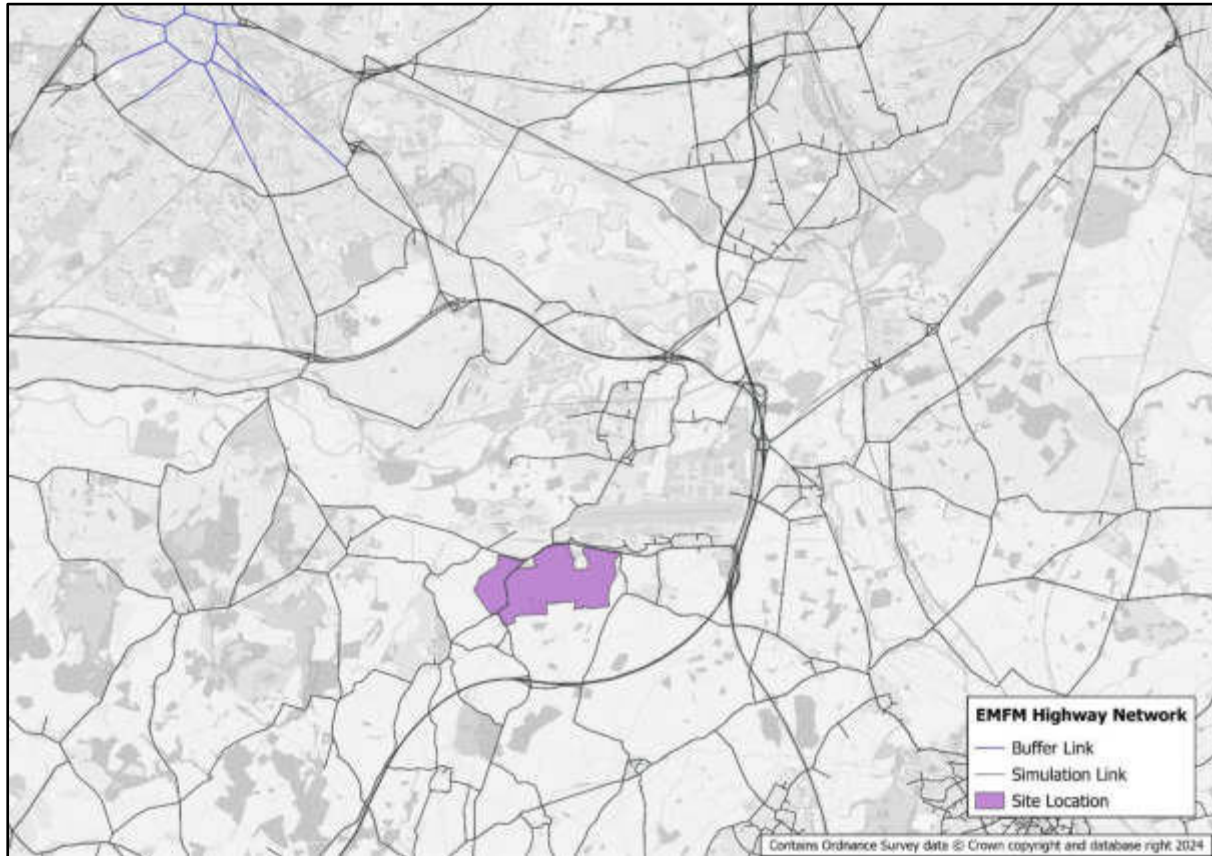
- 2.3.1 Figure 2.3 shows the base year highway network of the EMFM. The EMFM highway network has been coded using the standards set out in the PRTM 2019 Coding Manual¹. All links (and junctions) are within the simulation area, except for the urban areas of Nottingham and Derby which have been coded as buffer. As shown in Figure 2.3, all strategic roads within the model area are included in the EMFM highway network. The review of the existing base year network coding is focused on the Isley Woodhouse area, and specifically the roads and junctions that are likely to be affected by the proposed development.
- 2.3.2 Figure 2.4 shows the highway network extent near the proposed Isley Woodhouse development. All strategic links and junctions near the proposed development are simulated and the network detail in the base year model is appropriate for the purpose of strategic assessment of the proposed development.
- 2.3.3 The highway network in the vicinity of the proposed development has been reviewed and the findings are presented in Table 2.1. This detailed junction coding review involved checking the junction type, number of lanes, turning movements, flare lengths, saturation flows, distances, speed flow curves and link capacities at each junction. These were all found to be satisfactory in terms of their accuracy and consistency with the Coding Manual, with no significant discrepancies found.
- 2.3.4 Overall, the junctions along the A453 (between the Tonge Interchange with the A42 and M1 Junction 23A), the M1 (between Junction 23 and Junction 24), A42 / A453 junction (Tonge Interchange), A50 Junction 1, and the local networks of Diseworth, Castle Donington, and Melbourne have been reviewed and are found to be representative of the 2019 road configurations.

Figure 2.3: Overview of the Highway Network – EMFM



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¹ PRTM 2019 SATURN Coding Manual (December 2020)

Figure 2.4: Overview of the Highway Network – Isley Woodhouse Area

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Table 2.1: Detailed Junction Coding Review

Junctions	Lanes	Turning Movements	Flare Coding	Saturation Flows	Distance	Speed Flow Curves	Capacity
A453 between the Tonge Interchange with the A42 and the interchange with the A42 and M1 Junction 23A	✓	✓	✓	✓	✓	✓	✓
M1 from Junction 23 and Junction 24	✓	✓	✓	✓	✓	✓	✓
A42 / A453 junction (Tonge Interchange)	✓	✓	✓	✓	✓	✓	✓
A50 Junction 1	✓	✓	✓	✓	✓	✓	✓
Local Network of Diseworth, Castle Donington, and Melbourne	✓	✓	✓	✓	✓	✓	✓

Section 3 – Base Year Model Performance

3.1 Introduction

- 3.1.1 This section presents a summary of the performance of the EMFM base year model compared with the observed traffic counts and journey times in the vicinity of the proposed Isley Woodhouse development.

3.2 EMFM Highway Base Year Model Screenline / Cordon Performance

- 3.2.1 Guidelines set out in Table 1 of TAG Unit M3.1 on highway assignment modelling state that a modelled screenline meets TAG criteria if the differences between modelled flows and observed counts are less than 5% of the counts and that this should be true for 'all or nearly all screenlines'.
- 3.2.2 Screenlines are normally made up of 5 links or more. Within the EMFM, there are several screenlines / cordons with fewer than five count locations and / or with a relatively low observed flow for the screenline. It has been noted that such screenline / cordons tend to fail the 5% TAG criterion for screenline / cordon flows even when all individual links are within the TAG criteria. For this reason, the flow criterion has been adjusted for screenlines / cordons with fewer than five counts and / or low observed flows.
- 3.2.3 This revised criterion has been based on the individual link flow acceptability criteria and is given in Table 3.1. This uses the individual link flow TAG criteria for screenlines with one count, and the standard screenline criterion for screenlines with five or more counts and interpolates between these two points for screenlines with between two and four counts. These revised criteria have been used in the assessment of the modelled screenline flows against observed data.

Table 3.1: Revised Screenline Flow Acceptability Criteria

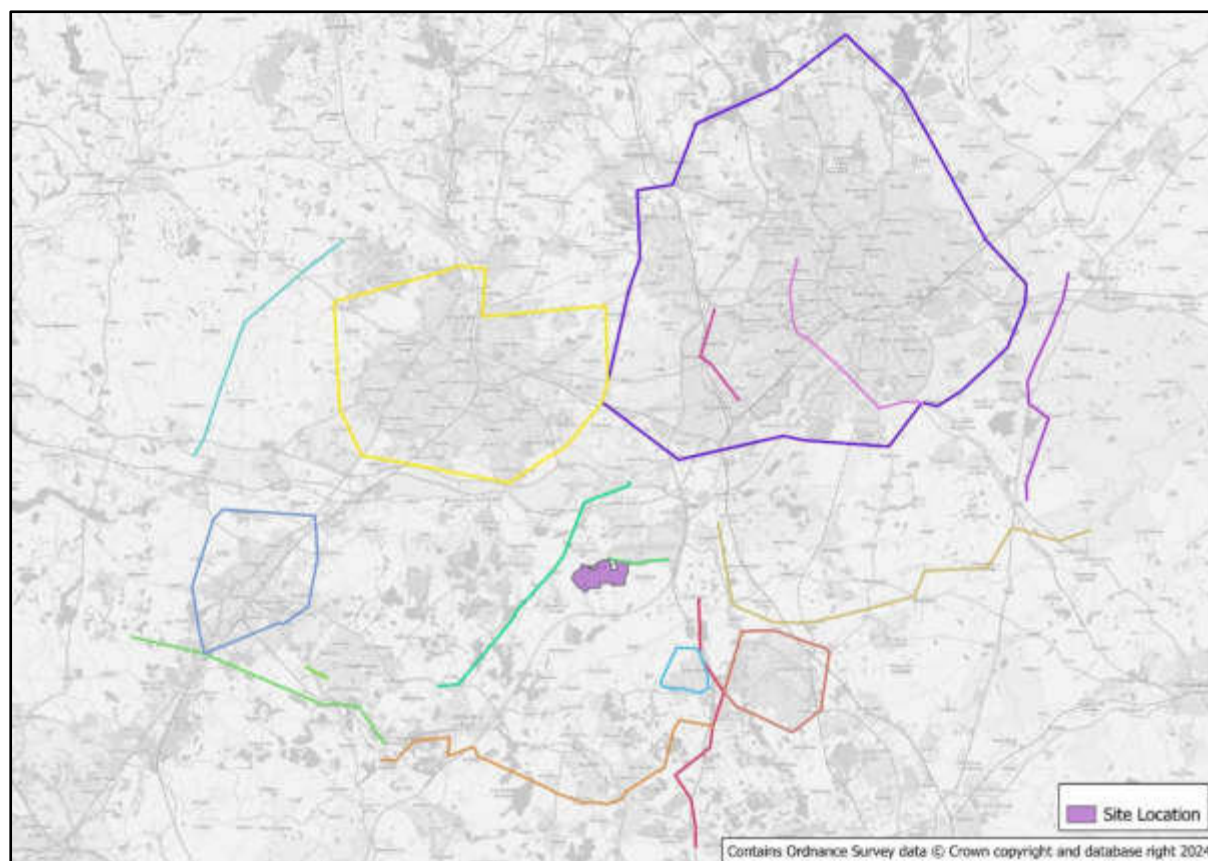
Number of Counts on Screenline	Acceptability Guidelines
5 of more counts	Within $\pm 5\%$ or ± 100 vehicles of observed count
4 counts	Within $\pm 7.5\%$ or ± 100 vehicles of observed count
3 counts	Within $\pm 10\%$ or ± 100 vehicles of observed count
2 counts	Within $\pm 12.5\%$ or ± 100 vehicles of observed count
1 count	Within $\pm 15\%$ or ± 100 vehicles of observed count

- 3.2.4 Figure 3.1 shows the screenlines and cordons for the EMFM and Table 3.2 provides a summary of the base year model performance by county. For the AM Peak hour, one screenline in Leicestershire (Leicestershire County Screenline (North) Inbound) marginally fails, resulting in a 92.9% (13 out of 14) pass rate for Leicestershire. In the PM Peak hour, one screenline in Nottinghamshire (Nottingham Cordon Outbound) marginally fails, resulting in an 87.5% (7 out of 8) pass rate for Nottinghamshire.
- 3.2.5 Overall, the screenline and cordon performance for the EMFM base year model is strong and meets the TAG that 'all or nearly all screenlines' pass the acceptability criteria.

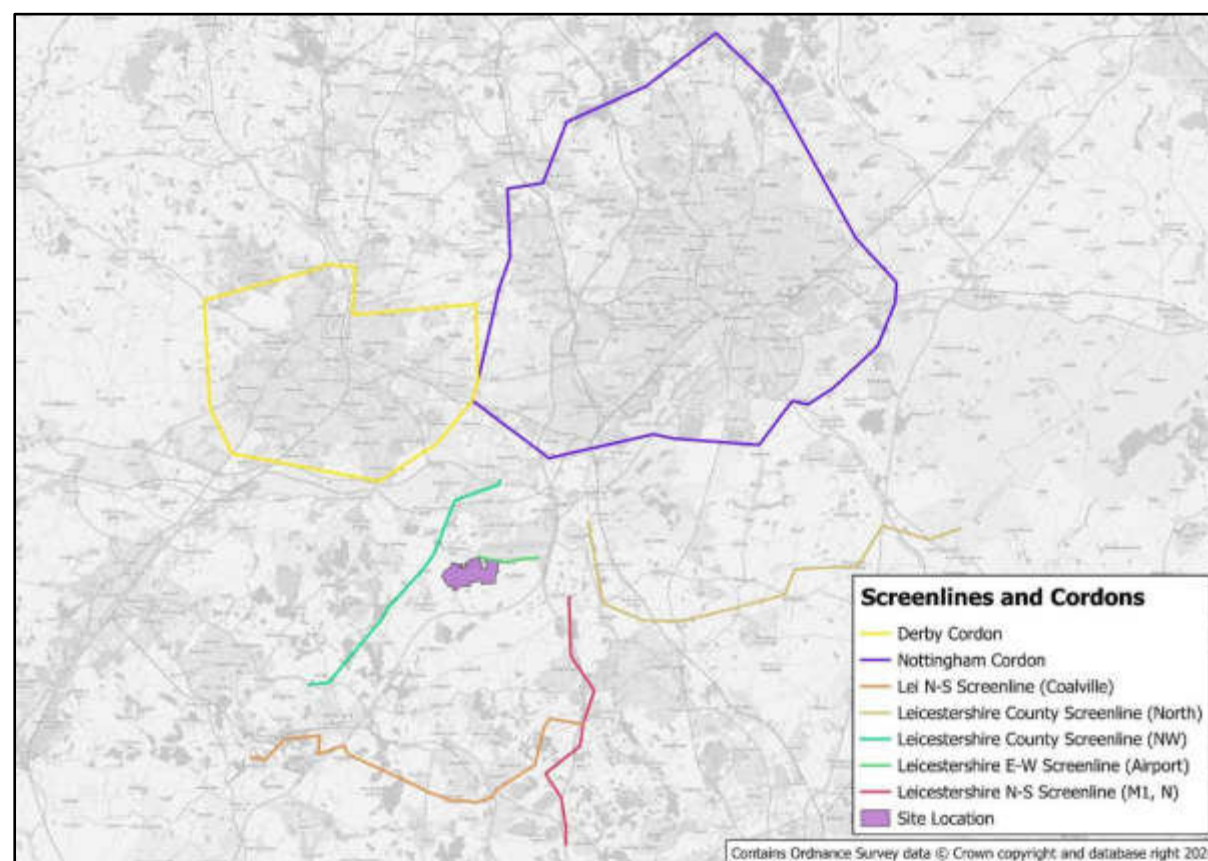
Table 3.2: Screenline and Cordon Performance for the EMFM

Area	Screenlines	All Vehicles		Car		LGV		HGV	
		AM	PM	AM	PM	AM	PM	AM	PM
Nottinghamshire	8	100.0%	87.5%	87.5%	87.5%	100.0%	100.0%	100.0%	100.0%
Leicestershire	14	92.9%	100.0%	92.9%	100.0%	100.0%	100.0%	100.0%	100.0%
Derbyshire	8	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Staffordshire	2	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

- 3.2.6 In the vicinity of the proposed Isley Woodhouse development (shown in Figure 3.2), there are five screenlines in Leicestershire and two cordons for Nottingham and Derby; the detailed base year model performance results are provided in Table 3.3. All screenlines and cordons considered meet the acceptability criteria in both directions and in both modelled peak hours except for the Leicestershire County Screenline (North) which marginally fails for southbound (i.e. inbound to Leicestershire) in the AM Peak hour, and the Nottingham Cordon Inbound which marginally fails in the PM Peak hour.

Figure 3.1: Screenlines and Cordons for the EMFM

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Figure 3.2: Screenlines and Cordons in the Vicinity of the Proposed Development

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Table 3.3: Screenline and Cordon Performance in the Vicinity of the Proposed Development

Screenline / Cordon	# Counts	AM Peak					PM Peak				
		Observed (veh)	Modelled (veh)	Abs Diff (veh)	% Diff	Pass?	Observed (veh)	Modelled (veh)	Abs Diff (veh)	% Diff	Pass?
Leicestershire County Screenline (North) Inbound	9	3,788	4,010	222	5.9%	✗	3,988	3,984	-5	-0.1%	✓
Leicestershire County Screenline (North) Outbound	9	3,821	3,805	-16	-0.4%	✓	4,095	4,175	80	2.0%	✓
Leicestershire N-S Screenline (M1, North) Eastbound	9	5,604	5,634	30	0.5%	✓	4,721	4,671	-49	-1.0%	✓
Leicestershire N-S Screenline (M1, North) Westbound	9	3,945	4,005	60	1.5%	✓	5,275	5,367	92	1.7%	✓
Leicestershire N-S Screenline (Coalville) Inbound	19	10,608	10,692	83	0.8%	✓	11,981	11,949	-32	-0.3%	✓
Leicestershire N-S Screenline (Coalville) Outbound	19	10,639	10,565	-75	-0.7%	✓	10,753	10,734	-19	-0.2%	✓
Leicestershire E-W Screenline (Airport) Northbound	3	1,301	1,291	-10	-0.8%	✓	424	378	-46	-10.9%	✓
Leicestershire E-W Screenline (Airport) Southbound	3	415	397	-17	-4.2%	✓	1,150	1,089	-61	-5.3%	✓
Leicestershire County Screenline (North-West) Inbound	7	4,279	4,248	-31	-0.7%	✓	5,134	5,024	-110	-2.1%	✓
Leicestershire County Screenline (North-West) Outbound	7	4,843	4,652	-191	-3.9%	✓	4,946	4,927	-19	-0.4%	✓
Nottingham Cordon Inbound	25	23,816	23,105	-711	-3.0%	✓	24,787	24,158	-629	-2.5%	✓
Nottingham Cordon Outbound	25	22,567	21,740	-828	-3.7%	✓	24,524	23,280	-1,244	-5.1%	✗
Derby Cordon Inbound	13	12,975	12,446	-529	-4.1%	✓	12,760	12,644	-116	-0.9%	✓
Derby Cordon Outbound	13	11,285	11,269	-16	-0.1%	✓	13,448	13,074	-374	-2.8%	✓

3.3 EMFM Highway Base Year Model Link Flow Performance

3.3.1 Guidelines set out in Table 2 of TAG Unit 3.1 on highway assignment modelling state that a modelled link flow meets TAG criteria if at least one of the two following conditions is met:

- Flow criteria:
 - modelled flow is within 100 vehicles for counts with an observed flow of less than 700 vehicles;
 - modelled flow is within 15% vehicles for counts with an observed flow between 700 and 2,700 vehicles; or
 - modelled flow is within 400 vehicles for counts with an observed flow greater than 2,700 vehicles.
- GEH criteria:
 - a GEH^2 value of less than 5.

3.3.2 Figure 3.3 shows the location of observed traffic count sites within the EMFM. Based on these data, 258 directional traffic counts have been used in the calibration of the model.

3.3.3 Table 3.4 provides a summary of the base year model link flow performance; and Figure 3.4 and Figure 3.5 illustrate the locations of the links passing TAG criteria in the AM Peak hour and PM Peak hour respectively. Table 3.4 shows that of the 258 counts used for the calibration of the model, the pass rates for all vehicles are 93.8% and 92.2% for the AM Peak hour and PM Peak hour respectively, exceeding the 85% TAG criteria guidelines.

Figure 3.3: Link Count Locations

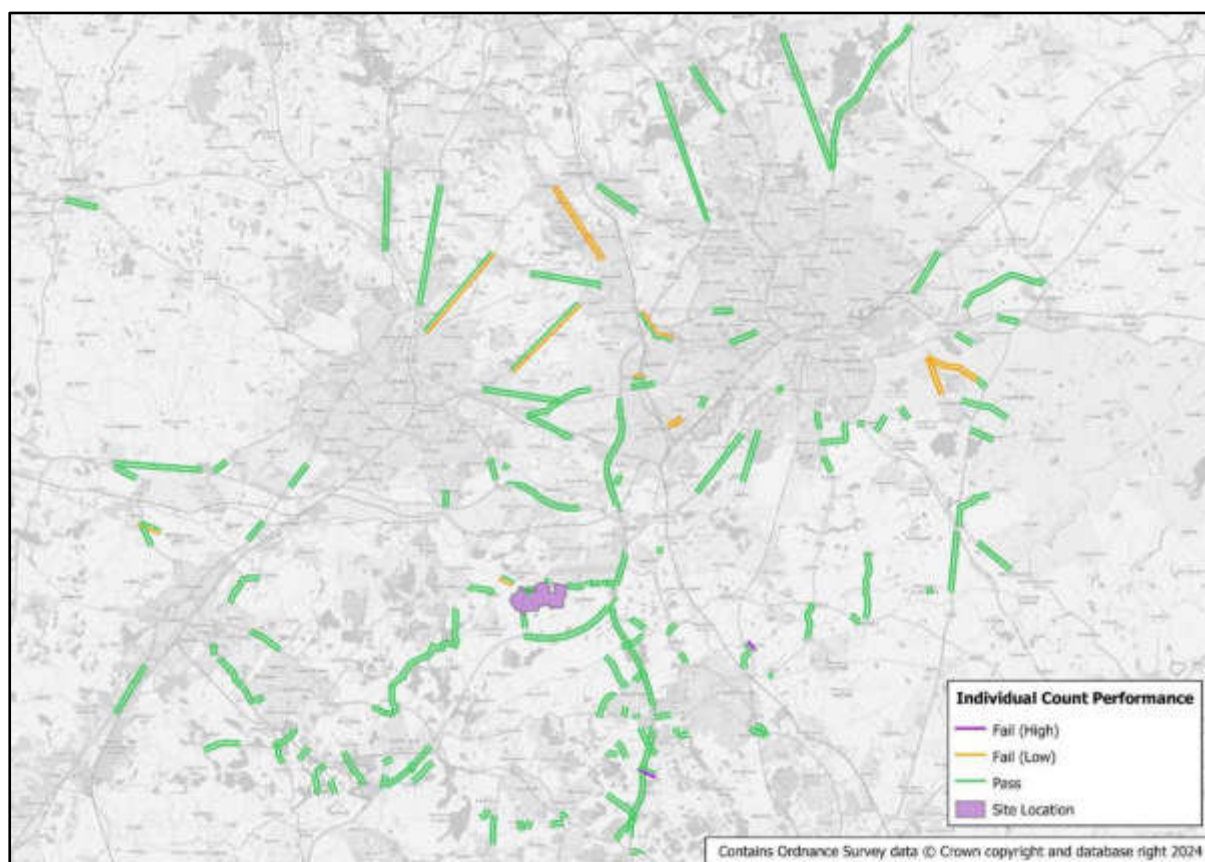


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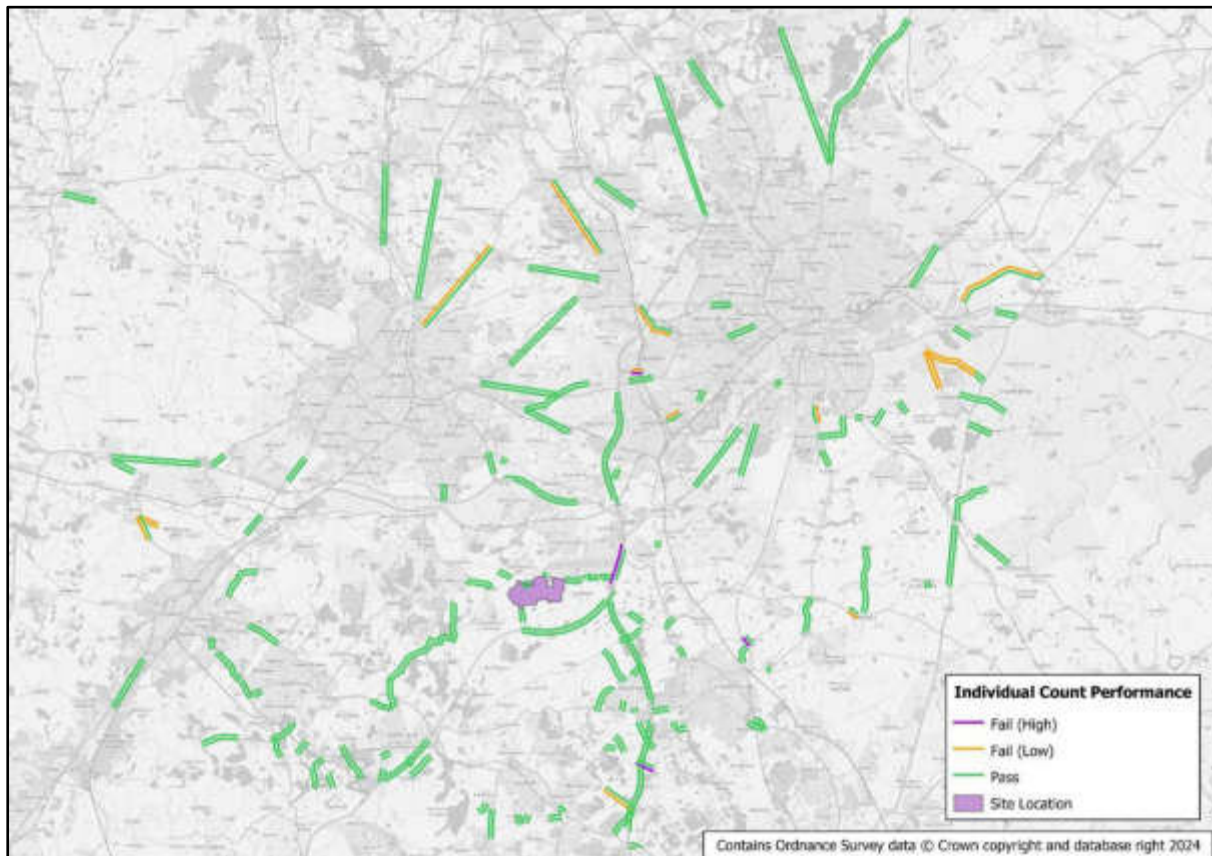
$$^2 GEH = \sqrt{\frac{(M-O)^2}{(M+O)/2}}, \text{ where } M \text{ is the modelled flow and } O \text{ is the observed flow}$$

Table 3.4: Link Flow Performance for the EMFM

Area	# Counts	All Vehicles		Car		LGV		HGV	
		AM	PM	AM	PM	AM	PM	AM	PM
Nottinghamshire	78	85.9%	85.9%	87.2%	85.9%	100.0%	100.0%	100.0%	100.0%
Leicestershire	112	97.3%	96.4%	97.3%	95.5%	100.0%	100.0%	100.0%	100.0%
Derbyshire	36	97.2%	97.2%	97.2%	97.2%	100.0%	100.0%	100.0%	100.0%
Staffordshire	16	93.8%	81.3%	93.8%	81.3%	100.0%	100.0%	100.0%	100.0%
Individual Counts	16	100.0%	93.8%	100.0%	93.8%	100.0%	100.0%	93.8%	100.0%
Total	258	93.8%	92.2%	94.2%	91.9%	100.0%	100.0%	99.6%	100.0%

Figure 3.4: Link Flow Performance for the EMFM in the AM Peak Hour

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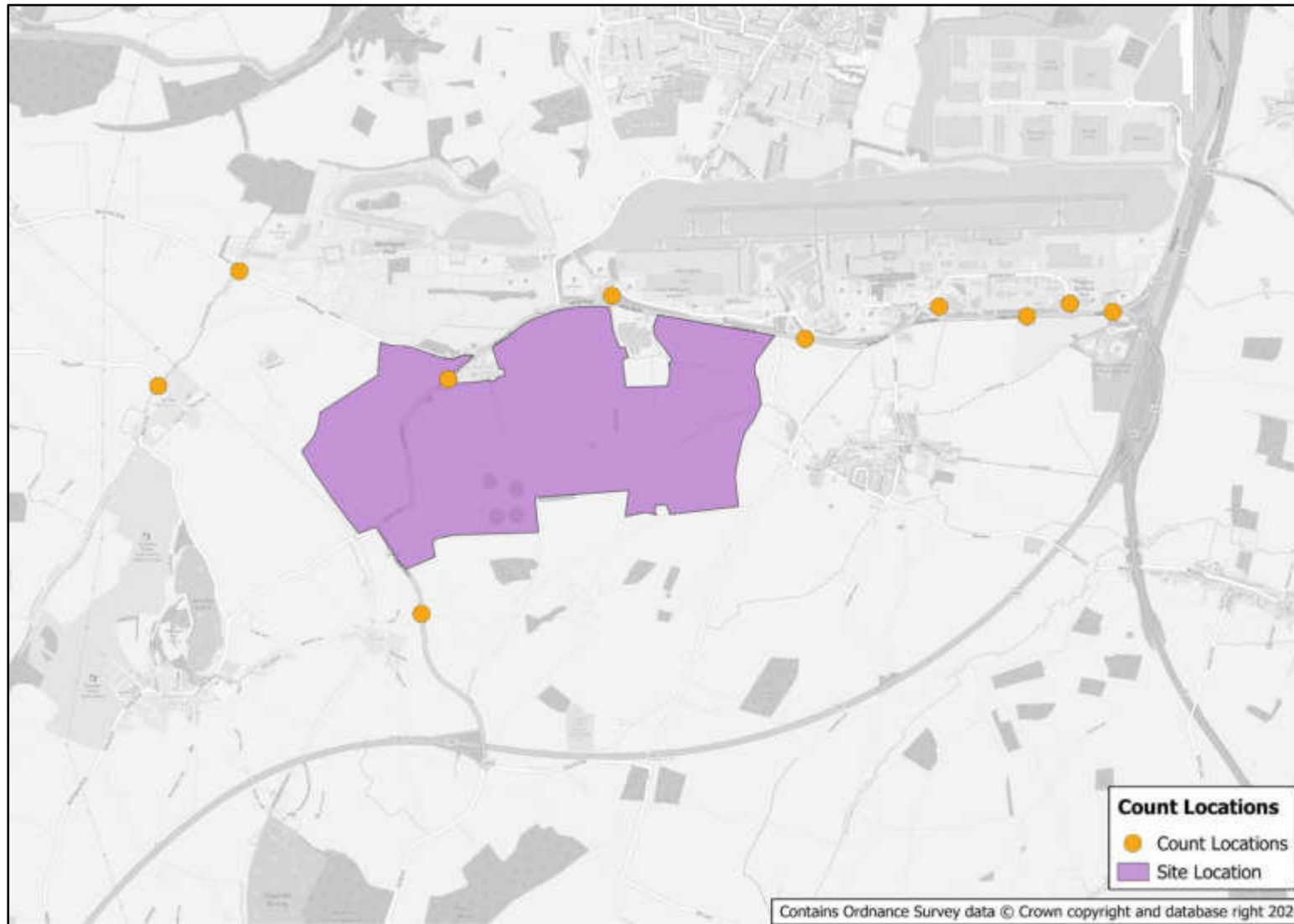
Figure 3.5: Link Flow Performance for the EMFM in the PM Peak Hour

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- 3.3.4 Near the proposed Isley Woodhouse development, the modelled link flow at the count sites on the A453 and East Midlands Airport access roads perform well. Table 3.5 shows that all modelled link flow on the A453 and East Midlands Airport access roads pass the TAG acceptability criteria in both directions for the PM Peak and all but one (Melbourne Road Westbound) pass in the AM Peak hour. Figure 3.6 show the observed count locations near the proposed development.
- 3.3.5 For the 14 counts considered for the SRN, the modelled link flow at the SRN count sites performs well. Table 3.6 shows that all pass in the AM Peak hour and all but one (M1 Northbound between Junction 23A and Junction 24) pass in the PM Peak hour. Figure 3.7 show the observed count locations on the SRN.

Table 3.5: Link Flow Performance – A453 and East Midlands Airport

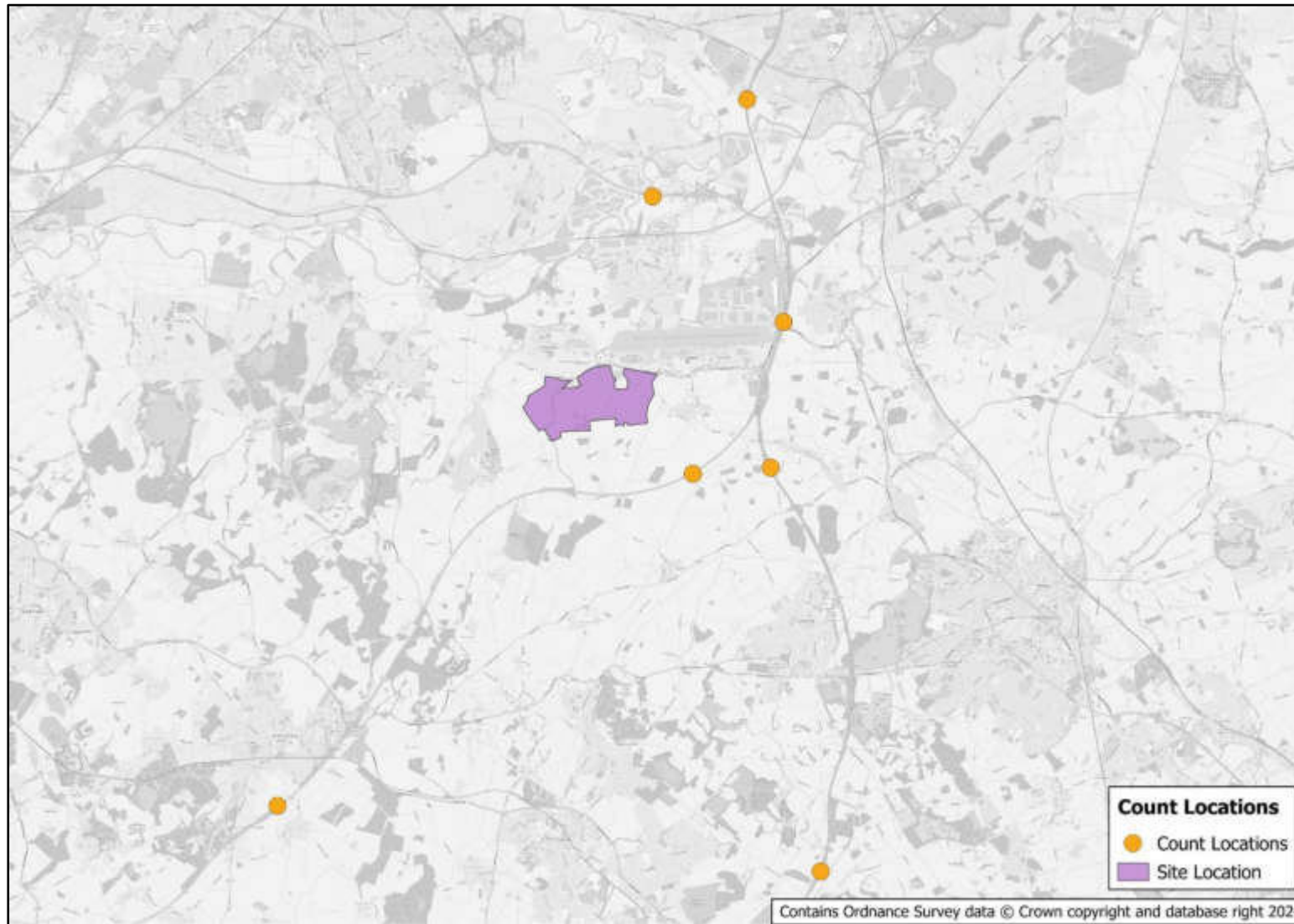
Location	AM Peak						PM Peak					
	Observed (veh)	Modelled (veh)	Abs Diff (veh)	% Diff	GEH	Pass?	Observed (veh)	Modelled (veh)	Abs Diff (veh)	% Diff	GEH	Pass?
Ashby Road E of EMA Eastbound	567	534	-33	-6%	1.4	✓	649	589	-60	-9%	2.4	✓
Ashby Road E of EMA Westbound	619	530	-89	-14%	3.7	✓	520	485	-35	-7%	1.6	✓
Ashby Road West of A453 Junction Eastbound	582	674	92	16%	3.7	✓	1,024	1,010	-13	-1%	0.4	✓
Ashby Road West of A453 Junction Westbound	1,084	1,104	20	2%	0.6	✓	589	606	17	3%	0.7	✓
Moor Lane Northbound	293	294	1	0%	0.1	✓	240	241	1	0%	0.1	✓
Moor Lane Southbound	224	220	-4	-2%	0.2	✓	289	288	-1	-0%	0.1	✓
A453 Walton Hill Eastbound	440	442	1	0%	0.1	✓	324	324	-0	-0%	0.0	✓
A453 Walton Hill Westbound	307	313	6	2%	0.3	✓	451	437	-14	-3%	0.7	✓
Ashby Road West of Grimes Gate Northbound	641	608	-33	-5%	1.3	✓	321	321	0	0%	0.0	✓
Ashby Road West of Grimes Gate Southbound	331	358	27	8%	1.4	✓	444	407	-37	-8%	1.8	✓
EMA Western Access Northbound	300	301	1	0%	0.0	✓	78	77	-1	-1%	0.1	✓
EMA Central Access Northbound	389	416	27	7%	1.3	✓	177	181	3	2%	0.2	✓
Hunter Road (Pegasus Park) Northbound	612	574	-38	-6%	1.6	✓	169	120	-49	-29%	4.0	✓
EMA Western Access Southbound	65	71	6	9%	0.7	✓	299	304	5	2%	0.3	✓
EMA Central Access Southbound	189	186	-2	-1%	0.2	✓	356	364	9	2%	0.5	✓
Hunter Road (Pegasus Park) Southbound	161	140	-21	-13%	1.7	✓	496	421	-74	-15%	3.5	✓
Melbourne Road Eastbound	144	161	18	12%	1.4	✓	318	241	-76	-24%	4.6	✓
Melbourne Road Westbound	423	275	-148	-35%	7.9	✗	128	127	-1	-0%	0.0	✓
Blackwell Lane Eastbound	57	60	3	6%	0.4	✓	71	74	3	4%	0.3	✓
Blackwell Lane Westbound	65	66	1	1%	0.1	✓	74	74	-0	-0%	0.0	✓

Figure 3.6: Observed Count Locations – A453 and East Midlands Airport

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Table 3.6: Link Flow Performance – Strategic Road Network

Location	AM Peak						PM Peak					
	Observed (veh)	Modelled (veh)	Abs Diff (veh)	% Diff	GEH	Pass?	Observed (veh)	Modelled (veh)	Abs Diff (veh)	% Diff	GEH	Pass?
A50 between Junction 1 and Junction 2 Eastbound	3,018	2,956	-62	-2%	1.1	✓	3,173	3,139	-34	-1%	0.6	✓
A50 between Junction 1 and Junction 2 Westbound	3,039	3,036	-3	-0%	0.0	✓	3,590	3,565	-25	-1%	0.4	✓
A42 between Junction 12 and Junction 13 Northbound	2,700	2,698	-3	-0%	0.1	✓	2,542	2,541	-0	-0%	0.0	✓
A42 between Junction 12 and Junction 13 Southbound	2,395	2,401	6	0%	0.1	✓	2,466	2,466	-1	-0%	0.0	✓
A42 between Junction 14 and M1 Northbound	2,175	2,074	-101	-5%	2.2	✓	2,027	2,033	6	0%	0.1	✓
A42 between Junction 14 and M1 Southbound	2,019	2,017	-1	-0%	0.0	✓	1,976	1,880	-96	-5%	2.2	✓
M1 between Junction 22 and Junction 23 Northbound	3,983	3,974	-9	-0%	0.1	✓	4,282	4,307	25	1%	0.4	✓
M1 between Junction 22 and Junction 23 Southbound	3,731	3,732	1	0%	0.0	✓	4,104	4,105	1	0%	0.0	✓
M1 between Junction 23 and 23A Northbound	3,974	3,989	15	0%	0.2	✓	4,521	4,507	-13	-0%	0.2	✓
M1 between Junction 23 and 23A Southbound	4,002	3,944	-58	-1%	0.9	✓	4,214	4,219	5	0%	0.1	✓
M1 between Junction 23A and 24 Northbound	3,658	3,961	303	8%	4.9	✓	4,301	4,839	537	12%	8.0	✗
M1 between Junction 23A and 24 Southbound	5,153	5,310	157	3%	2.2	✓	5,255	5,253	-2	-0%	0.0	✓
M1 between Junction 24 and Junction 25 Northbound	3,461	3,448	-12	-0%	0.2	✓	5,119	5,076	-43	-1%	0.6	✓
M1 between Junction 24 and Junction 25 Southbound	4,501	4,524	23	1%	0.3	✓	3,887	3,814	-73	-2%	1.2	✓

Figure 3.7: Observed Count Locations – Strategic Road Network

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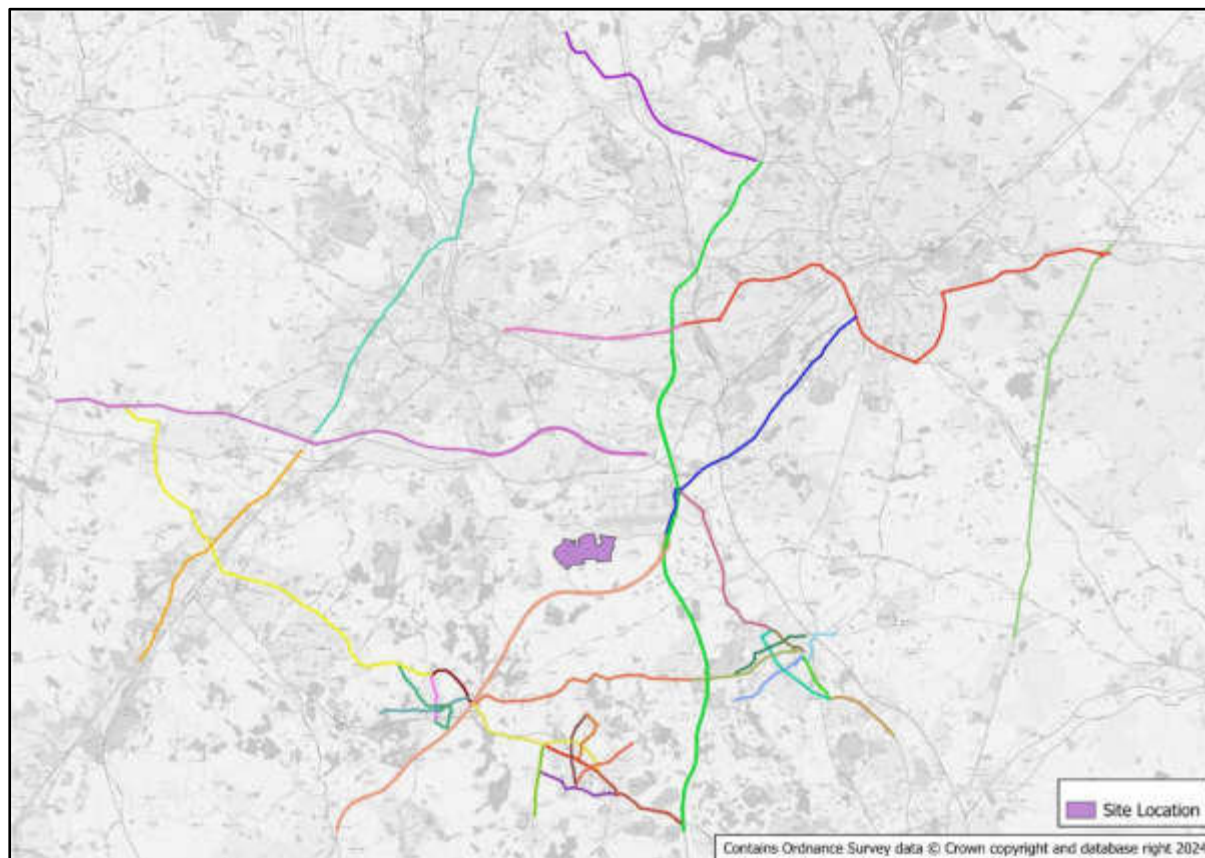
3.4 EMFM Highway Base Year Model Journey Time Performance

- 3.4.1 In terms of journey time routes, there are 32 routes (64 by direction) in the EMFM, as shown in Figure 3.8. The TAG acceptability criteria for journey time routes are for the modelled journey time to be within $\pm 15\%$ (or ± 1 minute) of the observed journey time. Table 3.7 provides a summary of the journey time performance by area. Overall, the EMFM base year model performs well and is above the 85% threshold of the routes required to pass against TAG.

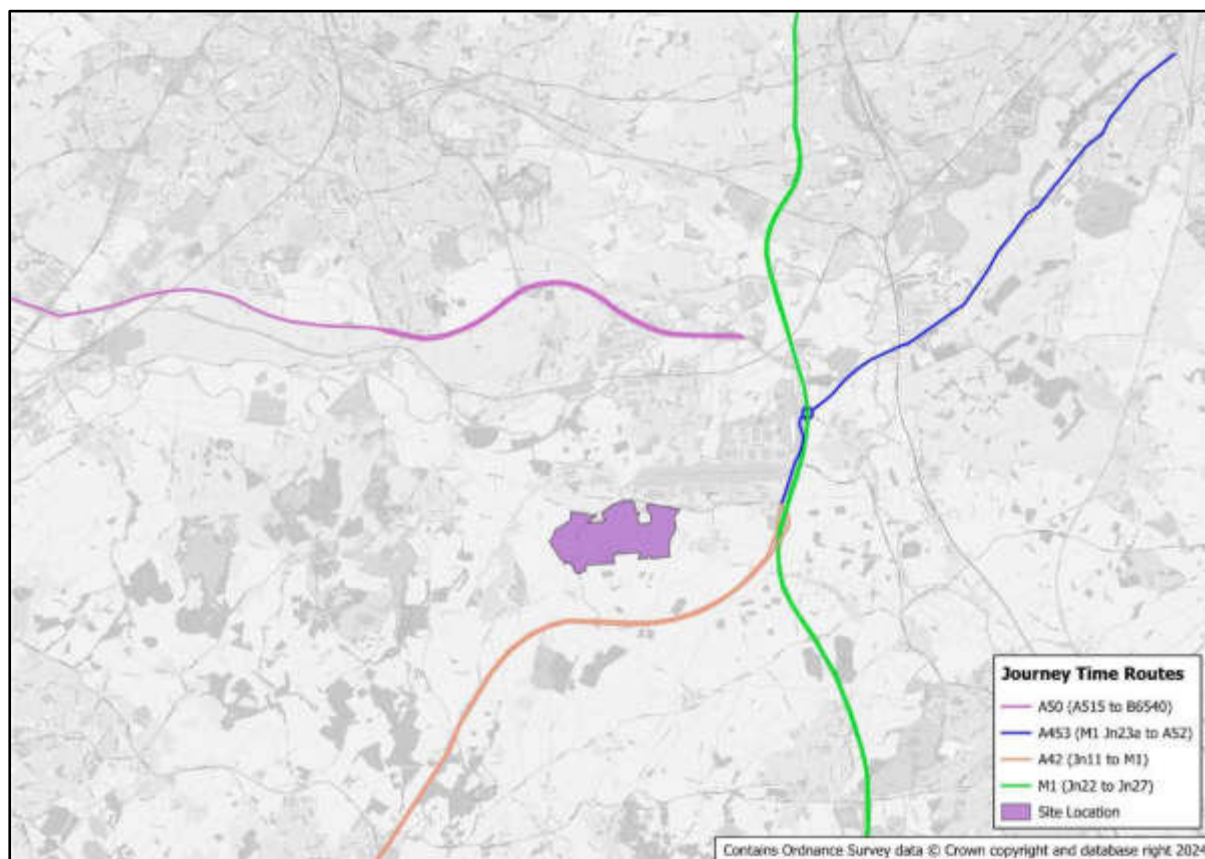
Table 3.7: Journey Time Performance for the EMFM

Area	# Routes	All Vehicles	
		AM	PM
Strategic	8	100.0%	100.0%
North-West Leicestershire	24	83.3%	91.7%
North Leicestershire	18	88.9%	94.4%
Nottinghamshire	6	83.3%	83.3%
Derbyshire & Staffordshire	8	87.5%	75.0%
Total	64	87.5%	90.6%

- 3.4.2 Four journey time routes (eight by direction) were selected in the vicinity of the proposed Isley Woodhouse development and are shown in Figure 3.9. Appendix A shows the comparison of modelled and observed journey times for these routes in distance-time graph format.
- 3.4.3 Table 3.8 shows that of the four journey time routes considered, all pass in both directions in the AM Peak hour and all but one route (A453 (M1 Jn23A to A52) Northbound) pass in the PM Peak hour. Review of the distance-time graph for this journey time route shows that the section of the A453 near the proposed development between M1 Junction 23A and M1 Junction 24 performs well, with the model overestimating journey time on the A453 approach to the A52 in Nottingham.

Figure 3.8: Journey Time Routes used in the EMFM

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Figure 3.9: Journey Time Routes in the Vicinity of the Proposed Development

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Table 3.8: Journey Time Performance in the Vicinity of the Proposed Development

Route	AM Peak					PM Peak				
	Observed	Modelled	Abs Diff	% Diff	Pass	Observed	Modelled	Abs Diff	% Diff	Pass
A453 (M1 Jn23A to A52) Northbound	13:29	14:58	01:28	10.9%	✓	11:45	14:15	02:31	21.4%	✗
A453 (M1 Jn23A to A52) Southbound	13:08	13:40	00:32	4.0%	✓	14:24	14:47	00:23	2.6%	✓
A50 (A515 to B6540) Eastbound	17:55	19:17	01:22	7.6%	✓	17:03	19:34	02:32	14.8%	✓
A50 (A515 to B6540) Westbound	17:57	19:17	01:19	7.3%	✓	18:20	19:23	01:02	5.6%	✓
M1 (Jn22 to 27) Northbound	20:30	22:27	01:57	9.5%	✓	21:20	23:43	02:23	11.2%	✓
M1 (Jn22 to 27) Southbound	22:15	23:52	01:37	7.3%	✓	20:52	22:53	02:00	9.6%	✓
A42 (Jn11 to M1) Northbound	14:27	15:48	01:21	9.4%	✓	13:27	15:27	02:00	14.8%	✓
A42 (Jn11 to M1) Southbound	13:59	15:19	01:20	9.5%	✓	13:33	15:07	01:34	11.5%	✓

Section 4 – Summary

- 4.1.1 The EMFM highway model represents an average weekday in April / May / June in 2019 for the AM Peak and PM Peak hours. This review is focused on the suitability of the model for the use in the strategic assessment of the proposed Isley Woodhouse development.
- 4.1.2 The review of the base year highway model has considered the zone system and network structure in the vicinity of the proposed development, and the network coding and for several key junctions in the area. It has also considered the performance of the base year model against the observed counts and journey time data collated as part of the model development.
- 4.1.3 In terms of the model zone system, the EMFM is considered to contain sufficient detail for a strategic assessment of the proposed development. The proposed development is located within one zone south-west of East Midlands Airport. To accurately represent the access points to the network for the proposed development, and to be able to isolate the trips generated by the development within the assignment, it is recommended that four to six 'development zones' are used to represent the proposed development.
- 4.1.4 A review of the coded highway network near the proposed development has shown the coding of the base year model is satisfactory and is representative of the 2019 road configuration.
- 4.1.5 A review of the performance of the base year highway model against observed counts and journey time data collated as part of the model development has been undertaken. The EMFM performs well and meets acceptability guidelines in terms of screenline and cordon performance, link flow performance, and journey time validation performance.
- 4.1.6 Near the proposed development, seven screenlines and cordons were reviewed in greater detail. Of these, all but one meets the acceptability criteria in the AM Peak hour (Leicestershire County Screenline (North) Inbound) and all but one (Nottingham Cordon Outbound) passes in the PM Peak hour.
- 4.1.7 Regarding link flow performance, the EMFM considers 258 observed counts in total, and the pass rates for all vehicles are 93.8% and 92.2% for the AM Peak hour and PM Peak hour respectively, exceeding the 85% TAG criteria guidelines. Near the proposed development, all counts on the A453 and East Midlands Airport links pass the acceptability criteria in the PM Peak hour, and all but one (Melbourne Road Outbound) pass in the AM Peak hour. For the 14 counts considered for the SRN, all pass in the AM Peak hour and all but one (M1 Northbound between Junction 23A and Junction 24) pass in the PM Peak hour.
- 4.1.8 In terms of the journey time validation performance, the EMFM considers 64 directional routes in total and the pass rates are 87.5% and 90.6% for the AM Peak hour and PM Peak hour respectively. For the eight directional routes considered in the vicinity of the proposed development which covers the A50, A453, A42 and M1, all pass in the AM Peak hour and all but one (A453 Northbound from M1 Junction 23A to A52) pass in the PM Peak hour. Review of the distance-time graph shows that the section of the A453 near the proposed development between M1 Junction 23A and M1 Junction 24 performs well, with the model overestimating journey time on the A453 approach to the A52 in Nottingham.
- 4.1.9 In summary, based on this base year model review, the EMFM is considered suitable for the strategic assessment of the proposed Isley Woodhouse development.

Appendix A Journey Time Route Performance

Figure A.1: M1 (Junction 22 to Junction 27) Journey Time Validation Graphs

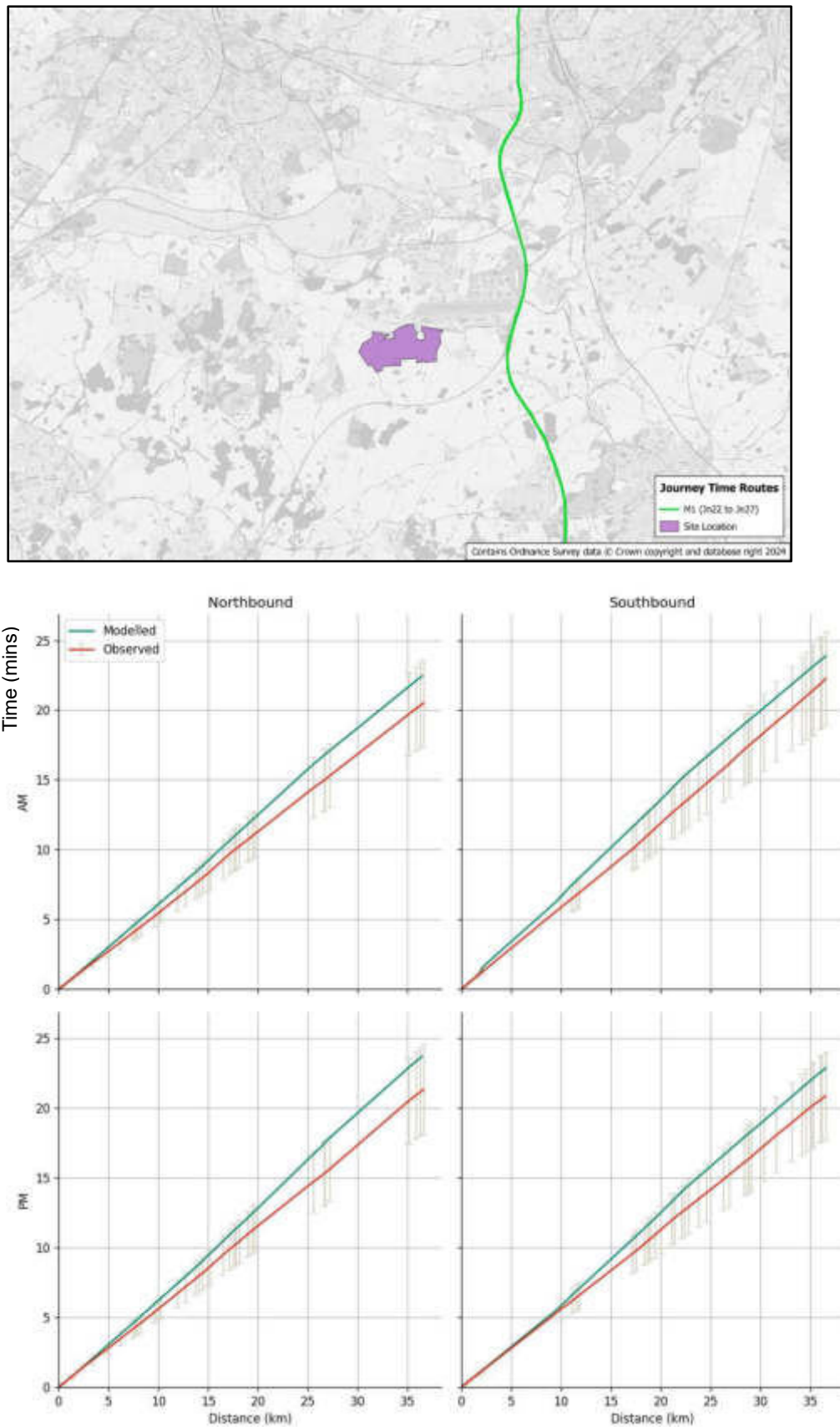


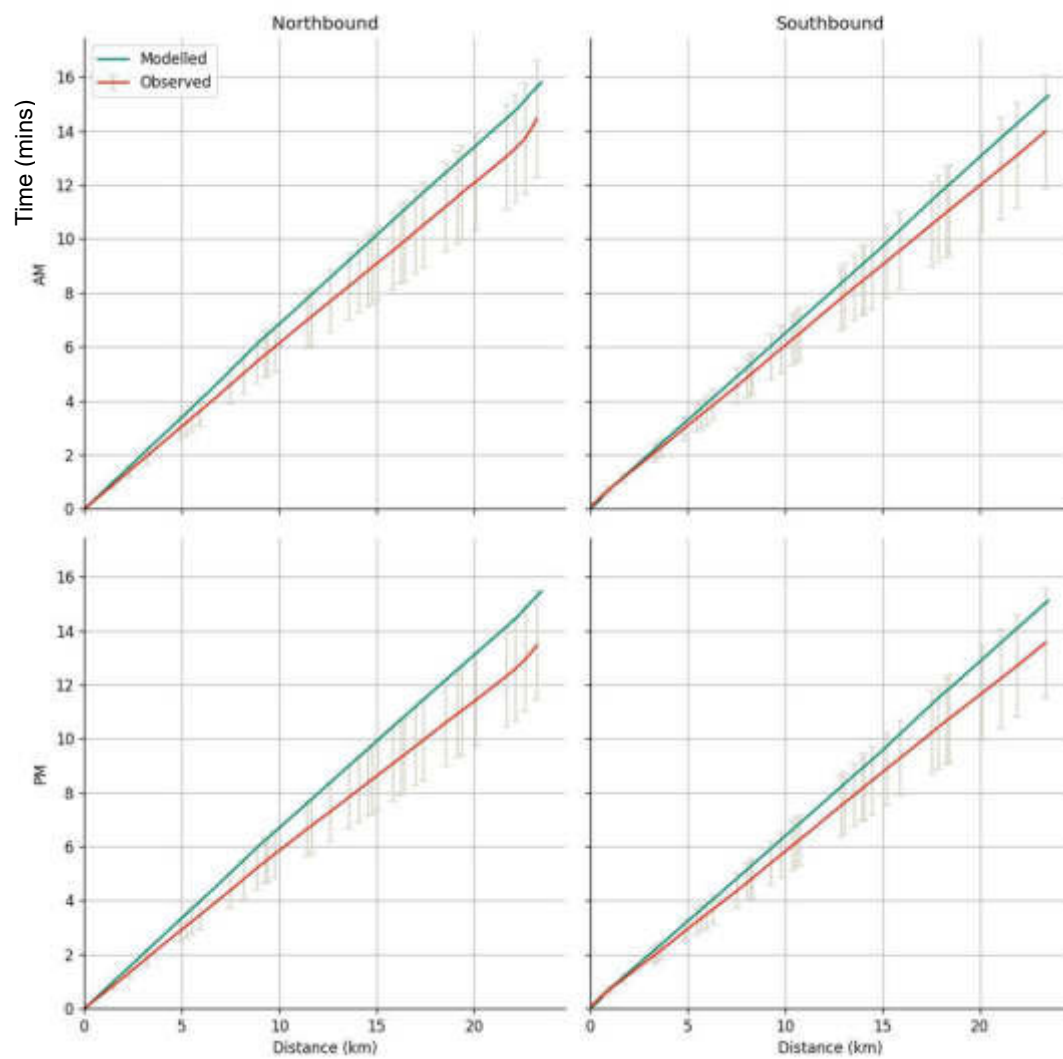
Figure A.2: A42 (Junction 11 to M1) Journey Time Validation Graphs

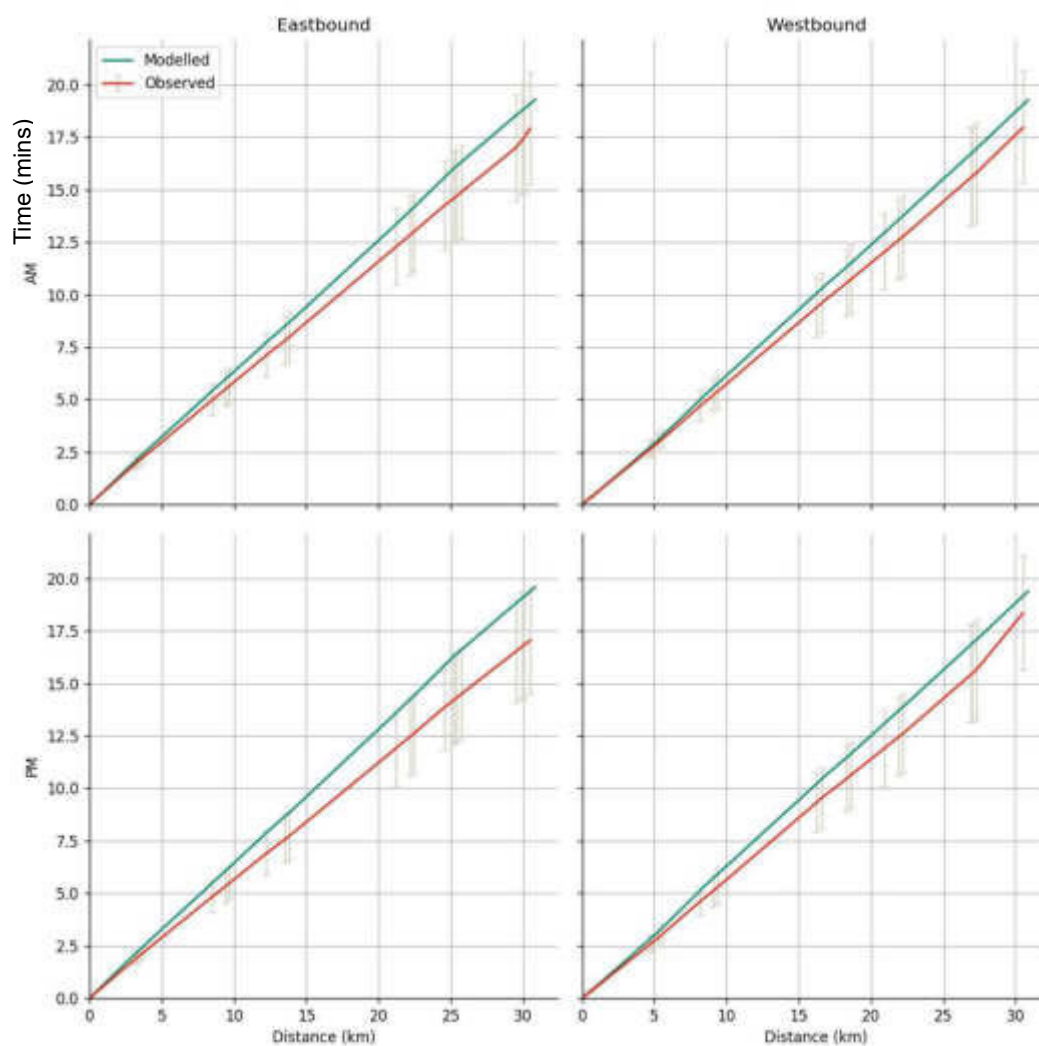
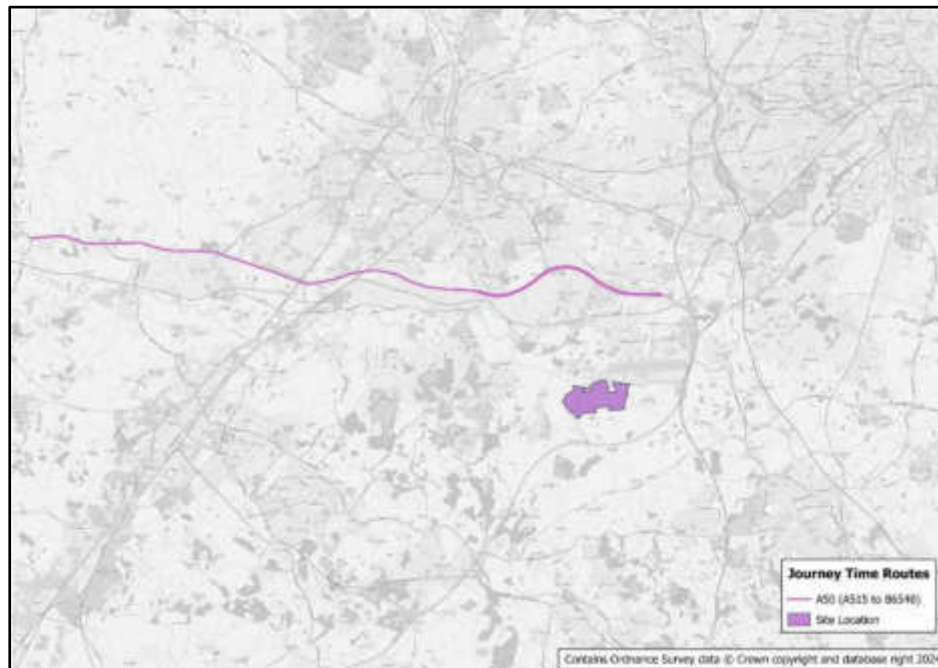
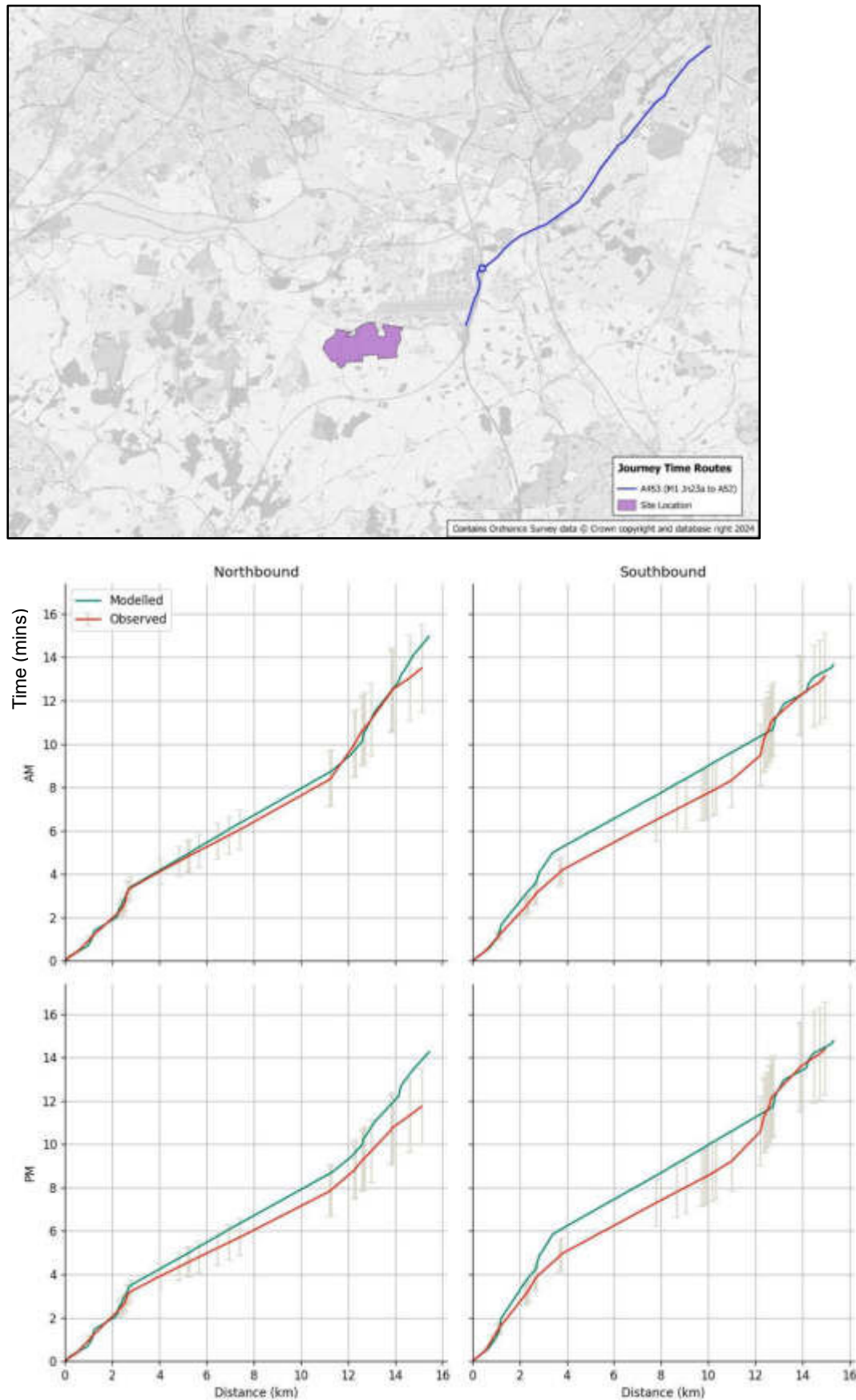
Figure A.3: A50 (A515 to B6540) Journey Time Validation Graphs

Figure A4: A453 (M1 Junction 23A to A52) Journey Time Validation Graphs

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APPENDIX 7

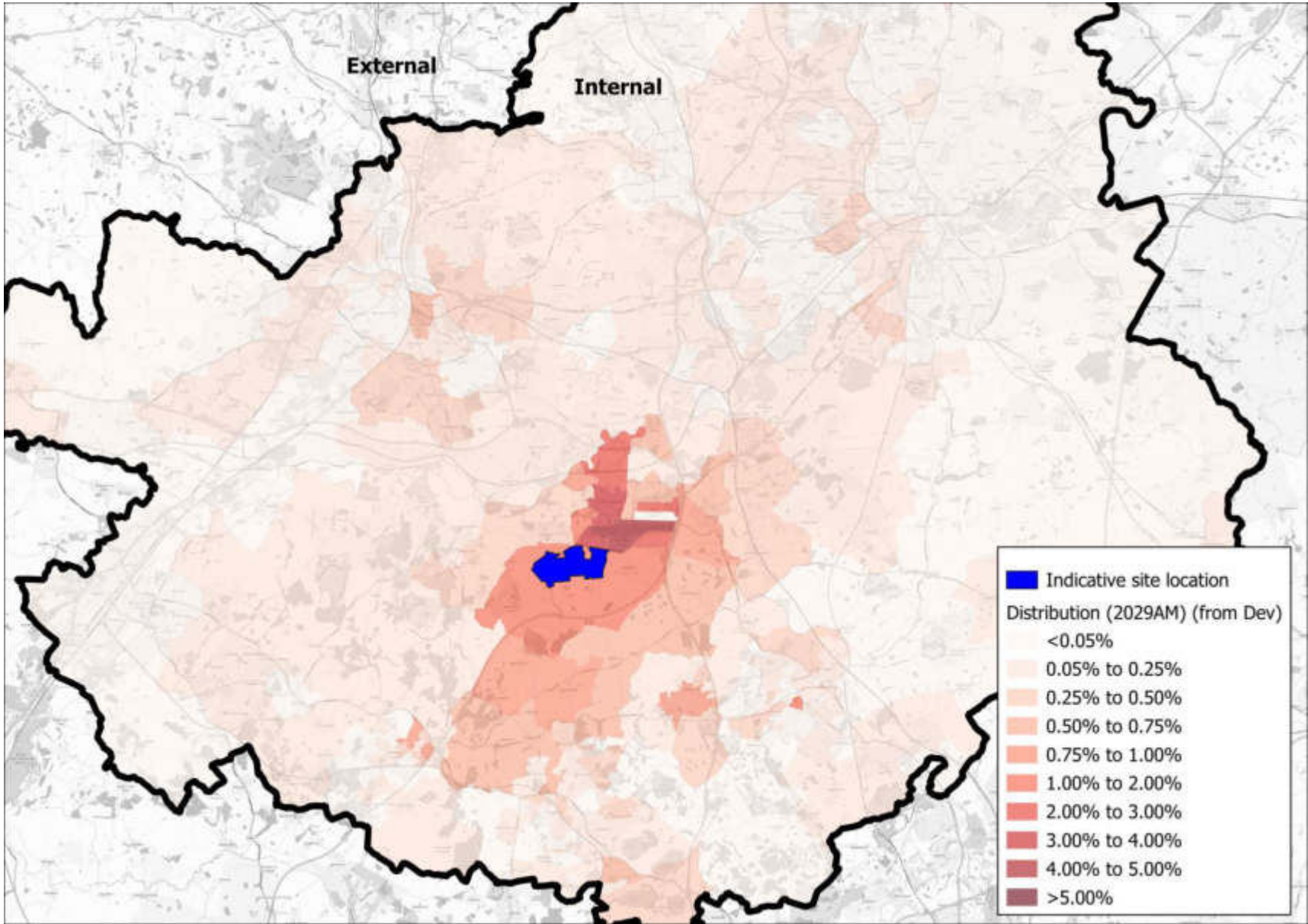
EMFM 2019: ISLEY WOODHOUSE DEVELOPMENT TRIP DISTRIBUTION (AECOM SLIDES V1.0)

East Midlands Freeport Model (EMFM 2019)

Isley Woodhouse Application
Development trip distribution

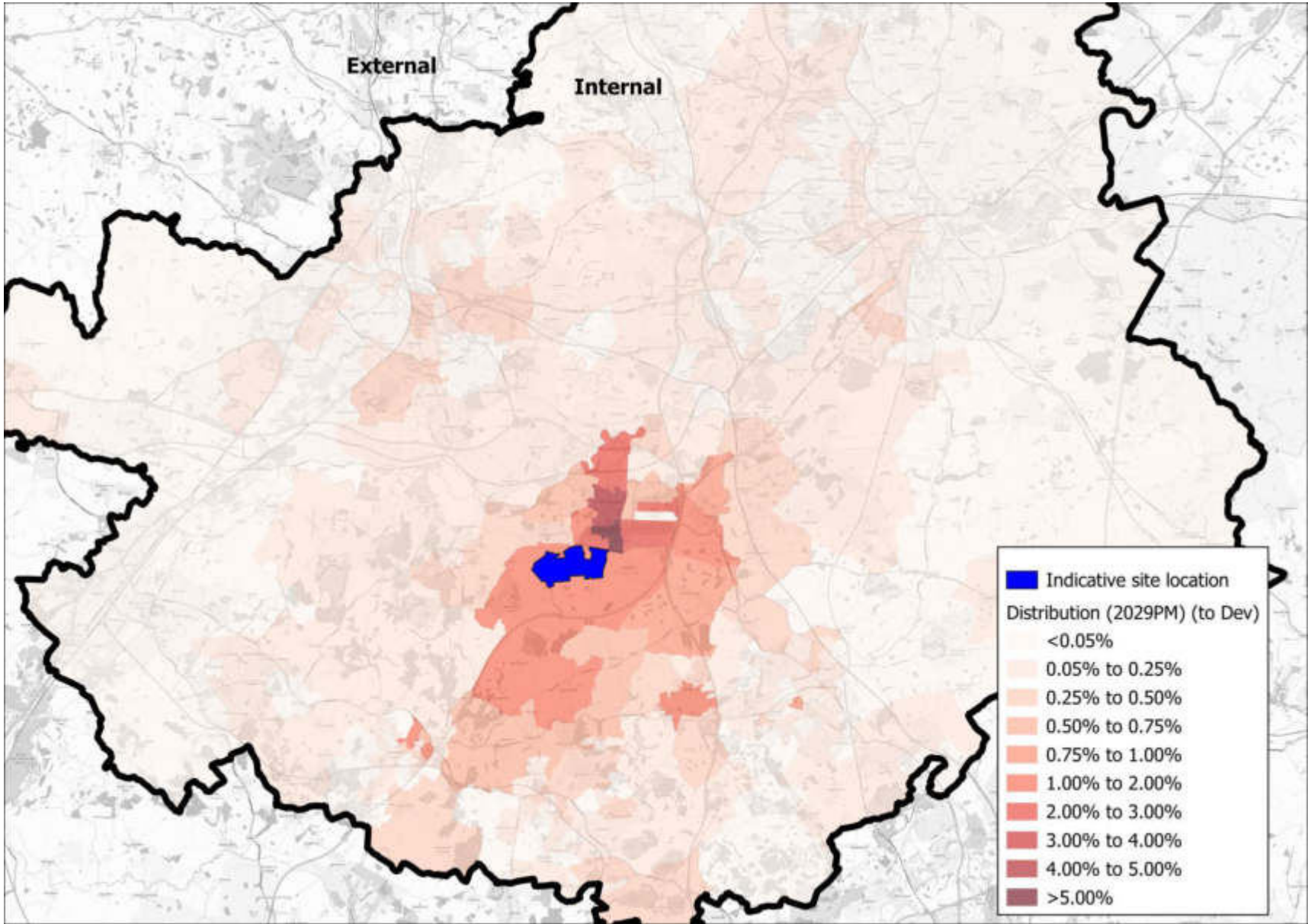
v1.0

2029 ‘With Development’ – AM Peak hour (from Development)



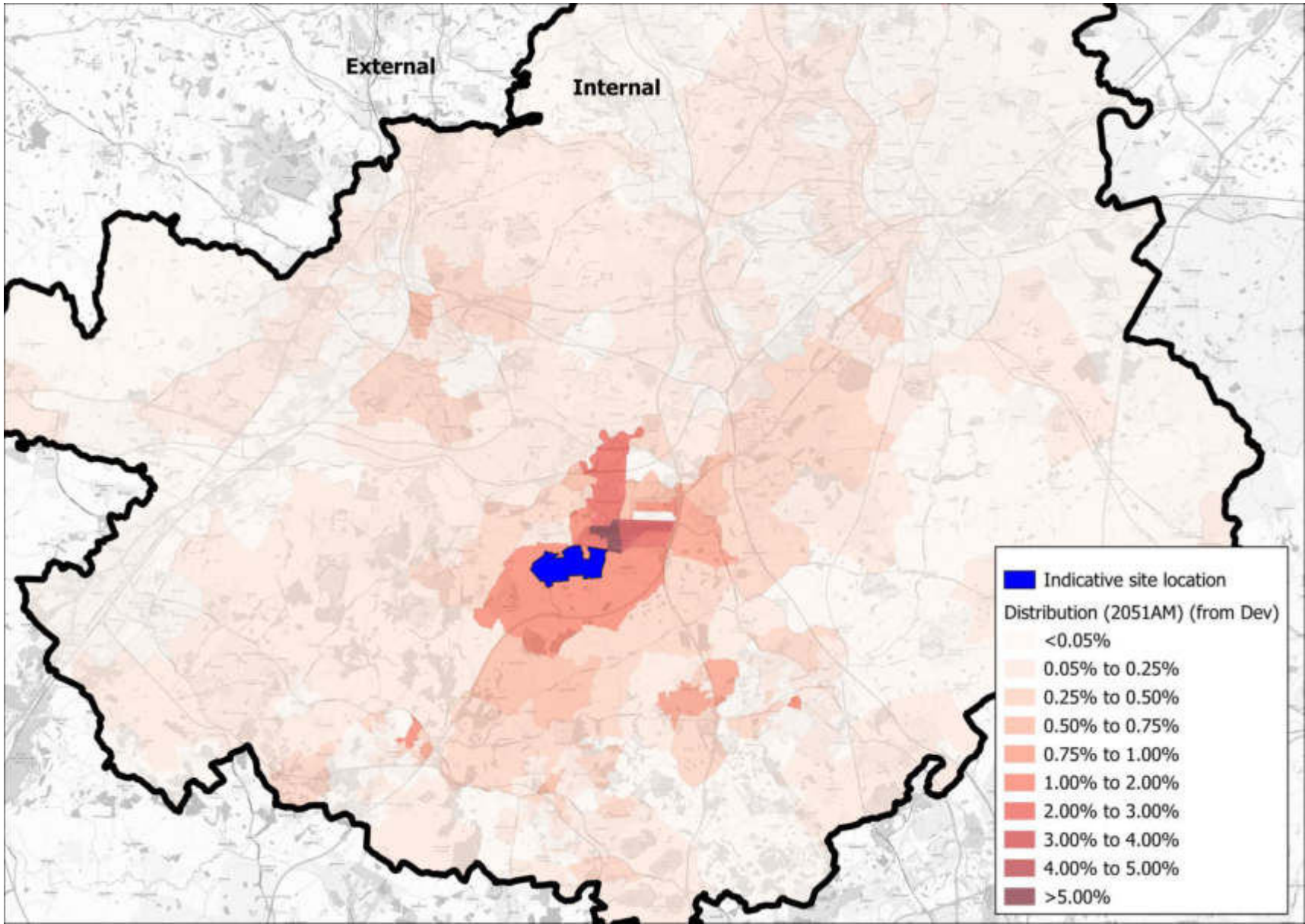
From Development	AM Peak
To internal zones	79.9%
To external zones	20.1%
Total	100.0%
-- External (M1(N))	1.4%
-- External (M1(S))	3.8%
-- External (A50)	0.4%
-- External (A42)	3.5%
-- External (other)	11.0%
-- External (total)	20.1%

2029 ‘With Development’ – PM Peak hour (to Development)



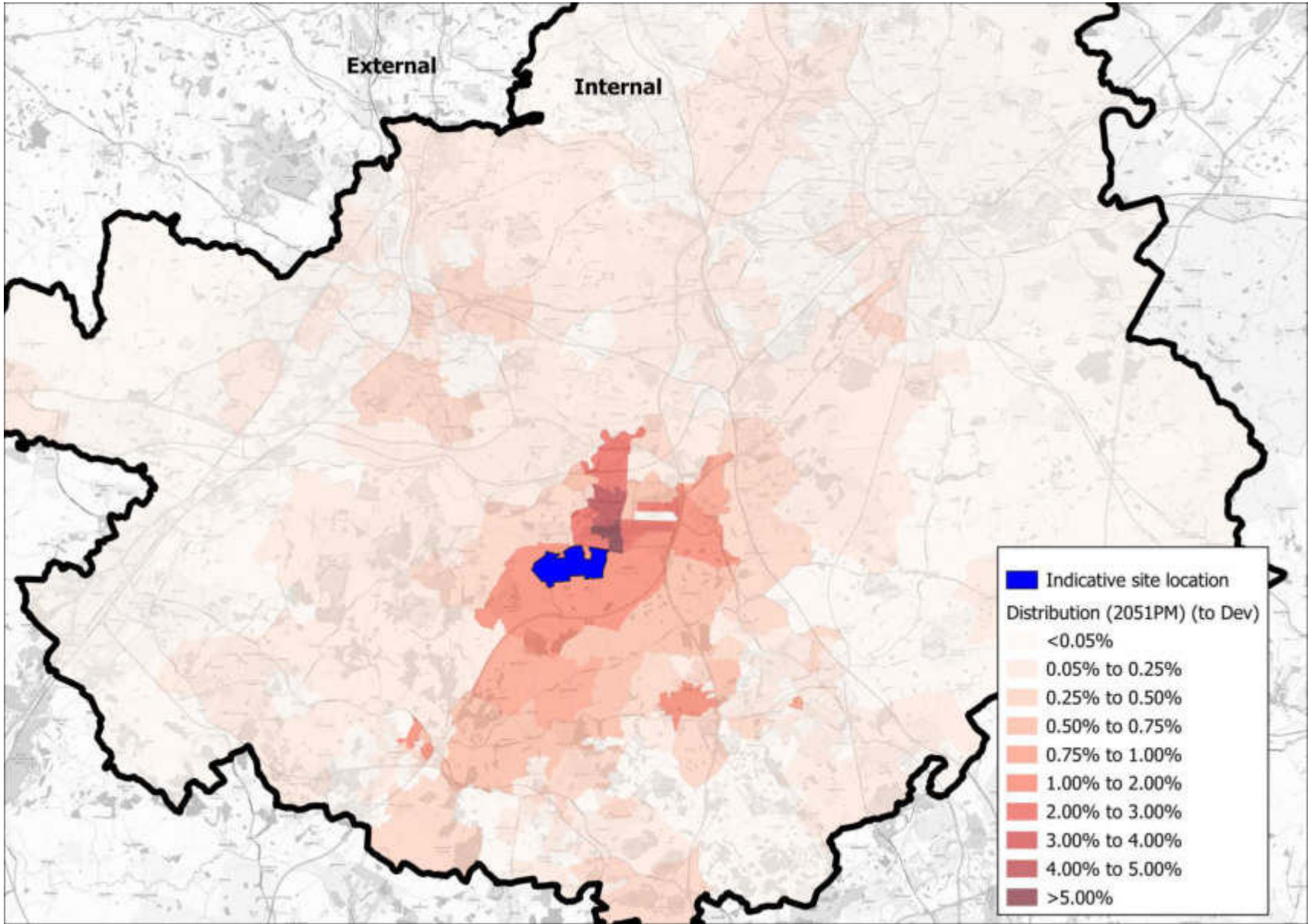
To Development	PM Peak
From internal zones	84.8%
From external zones	15.2%
Total	100.0%
-- External (M1(N))	0.8%
-- External (M1(S))	2.7%
-- External (A50)	0.3%
-- External (A42)	2.1%
-- External (other)	9.4%
-- External (total)	15.2%

2051 'With Development' – AM Peak hour (from Development)



From Development	AM Peak
To internal zones	79.0%
To external zones	21.0%
Total	100.0%
-- External (M1(N))	1.4%
-- External (M1(S))	3.3%
-- External (A50)	0.5%
-- External (A42)	3.4%
-- External (other)	12.4%
-- External (total)	21.0%

2051 ‘With Development’ – PM Peak hour (to Development)



To Development	PM Peak
From internal zones	84.2%
From external zones	15.8%
Total	100.0%
-- External (M1(N))	0.8%
-- External (M1(S))	2.3%
-- External (A50)	0.3%
-- External (A42)	1.9%
-- External (other)	10.4%
-- External (total)	15.8%

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APPENDIX 8

EMFM 2019: ISLEY WOODHOUSE FORECASTING REPORT (STAGE 1) (AECOM REPORT V1.0)

EMFM 2019

Isley Woodhouse: Forecasting Report (Stage 1)

Quality Information

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Revision History

Revision	Revision date	Details	Authorised	Name	Position
v1.0	2024-07-02	For Issue	Yes	Mark Dazeley	Regional Director
v2.0	2024-09-19	Updated following correction to trip ends at East Midlands Gateway Phase 1	Yes	Mark Dazeley	Regional Director

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Section 1 – Overview

1.1 Introduction

- 1.1.1 The Isley Woodhouse development is a proposed residential development comprising up to 4,250 dwellings, one secondary school, three primary schools, three day nurseries, local centres and an employment area (930 sqm Class E non-retail units and 22,294 sqm B2 / B8 employment).
- 1.1.2 The development site is located to the south of the A453, surrounding the village of Isley Walton, and to the south-west of the East Midlands Airport in Leicestershire. The proposed development is assumed to build out by 2051.
- 1.1.3 Figure 1.1 shows an indication of the location of the proposed development, denoted by the area shaded in purple, and Figure 1.2 shows the indicative masterplan of the proposed development.
- 1.1.4 It is proposed that the A453 will be realigned towards the west of the proposed development site boundary thus downgrading this road from A-road to local road within the development area. The development will access the highway network via four junctions along the A453:
- A new signalised T-junction located to the north-east of the proposed development site.
 - A four-arm roundabout, replacing the existing A453 Walton Hill signalised junction.
 - A new four-arm roundabout replacing the existing A453 / Melbourne Road T-junction that is located to the north-west of the proposed development site. This will connect the northern end of the realigned A453 with the existing A453 and Melbourne Road and provide access to the proposed development.
 - A new four-arm roundabout replacing the existing A453 / Moor Lane T-junction that is located to the south-west of the proposed development site. This will connect the southern end of the realigned A453 with Moor Lane and provide access to the proposed development.

Figure 1.1: Indicative Location of Proposed Development



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Figure 1.2: Indicative Masterplan¹

- 1.1.5 AECOM has been commissioned to undertake strategic modelling (Stage 1) to assess the potential traffic impacts of the proposed development using the East Midlands Freeport Model (EMFM) for the AM Peak (08:00 to 09:00) and PM Peak (17:00 to 18:00) hours.
- 1.1.6 As set out in the brief and proposal, it is envisaged that the strategic modelling assessment for the proposed Isley Woodhouse development will be undertaken in three stages, as follows:
- Stage 1 – initial strategic modelling. This stage includes the forecast ‘Without Development’ and ‘With Development’ scenarios, to provide an understanding of the highway impacts of the proposed development. No mitigation measures are included for any of the forecast scenarios for Stage 1.
 - Stage 2 – test the proposed mitigation measures. It is anticipated that this stage will include the forecast ‘With Development With Mitigation’ scenarios, and provide the forecast outputs to show the highway impact of the proposed mitigation measures.
 - Stage 3 – test the proposed phasing strategy for the proposed development. It is anticipated that this stage will include additional forecast scenarios to understand the highway impacts of the intermediate forecast years and potential triggers for the delivery of the mitigation measures.
- 1.1.7 This report documents the forecast model results for Stage 1.
- 1.1.8 Within this stage (i.e. Stage 1) of the assessment of the proposed Isley Woodhouse development, five forecast scenarios have been produced:
- 2022 ‘Without Development’;
 - 2029 ‘Without Development’;
 - 2029 ‘With Development’ (100% of the proposed development);
 - 2051 ‘Without Development; and
 - 2051 ‘With Development’ (100% of the proposed development).

¹ Drawing no. P18-1419 001M-01 - Masterplan (DRAFT 1) – provided as part of the brief package with the Proforma (30/11/2023)

- 1.1.9 The reader may wish to note that this Forecasting Report (Stage 1) follows the Isley Woodhouse Base Year Model Review Report²³ which details the calibrated 2019 base year model review and performance in the vicinity of the proposed development site.

1.2 Report Structure

- 1.2.1 Following the introduction, this report contains the following sections:

- Section 2 – Forecasting Approach and Assumptions: this section details the forecast assumptions applied within this assessment of the proposed development, including the assumed development trip generation and trip distribution.
- Section 3 – Forecast Model Results: this section details the forecast results requested as part of the brief.
- Section 4 – Summary of the EMFM Assessment: this section provides a summary of the assessment of the proposed development.

² EMFM2019 – Isley Woodhouse: Base Year Model Review v1.0 (*EMFM - Isley Woodhouse - Base Year Model Review v1.0.pdf*) (2024-01-26)

³ Additional Base Year information – Journey time comparison for A6 and A453: *20240321- Isley Woodhouse- EMFM performance - A453 JT Comparison.pdf* and *20240212- Isley Woodhouse- EMFM performance - additional.pdf*

Section 2 – Forecasting Approach and Assumptions

2.1 Introduction

- 2.1.1 This section discusses the forecasting assumptions applied for this application of the EMFM, and the methodology adopted to create the required model forecasts.
- 2.1.2 In addition to the calibrated 2019 base year model, the following forecast model scenarios have been produced:
- 2022 'Without Development';
 - 2029 'Without Development';
 - 2029 'With Development' (100% of the proposed development);
 - 2051 'Without Development'; and
 - 2051 'With Development' (100% of the proposed development).
- 2.1.3 The EMFM is a highway assignment model, linked to and derived from the PRTM (Pan-Regional Transport Model). For the development of the 2022, 2029 and 2051 'Without Development' scenarios, an existing process to take the highway demand growth from the wider PRTM has been applied. Section 2.2 provides the 'Without Development' assumptions applied.
- 2.1.4 To produce the 'With Development' forecasts, the highway demand for the proposed development has been added to the EMFM 2029 'Without Development' and 2051 'Without Development' highway demand matrices and assigned in the EMFM. To estimate the development trip distribution, the gravity model within the PRTM has been used. Sections 2.3 to 2.5 provide the highway network and demand assumptions for the proposed development.
- 2.1.5 For information, both the EMFM and PRTM use the November 2023 TAG data book which was the latest available TAG data book at the time of this application.

2.2 'Without Development' Assumptions

- 2.2.1 The forecast planning and infrastructure schemes, in the format of an uncertainty log⁴, were reviewed by the client and stakeholders.
- 2.2.2 Appendix A lists the planning data assumptions (residential and employment) within North West Leicestershire that have been incorporated in the forecast modelling. Given the number of developments in the uncertainty log, the reporting of the planning data is limited to residential sites with more than 500 dwellings and employment sites with more than 750 jobs. All available data that should be used in the modelling, irrespective of size, have been used in the model forecasts. The complete list of the planning assumptions is included in the uncertainty log.
- 2.2.3 Appendix B shows the forecast assumptions for the highway network for this application.
- 2.2.4 It should be noted that whilst the highway network assumptions are consistent between the PRTM and EMFM for the parts of their simulation areas which overlap, schemes that are located in the buffer network of the PRTM are not included in the PRTM forecast networks (e.g. the A38 grade-separated junctions). Similarly, schemes that are outside the EMFM highway network are included in the PRTM only, and not in the EMFM (e.g. schemes in Leicester City).
- 2.2.5 As discussed in Paragraph 2.1.3, the EMFM is a highway assignment model and an existing process to take the highway demand growth from the wider PRTM has been applied. Planning data assumptions (housing and employment) have been input into the PRTM and the full PRTM has been run for 2022, 2029 and 2051. Planning forecasts were unconstrained (NTEM minimum⁵) for this application as noted in the proposal⁶.

⁴ Isley Woodhouse Uncertainty Log v1.5.xlsx

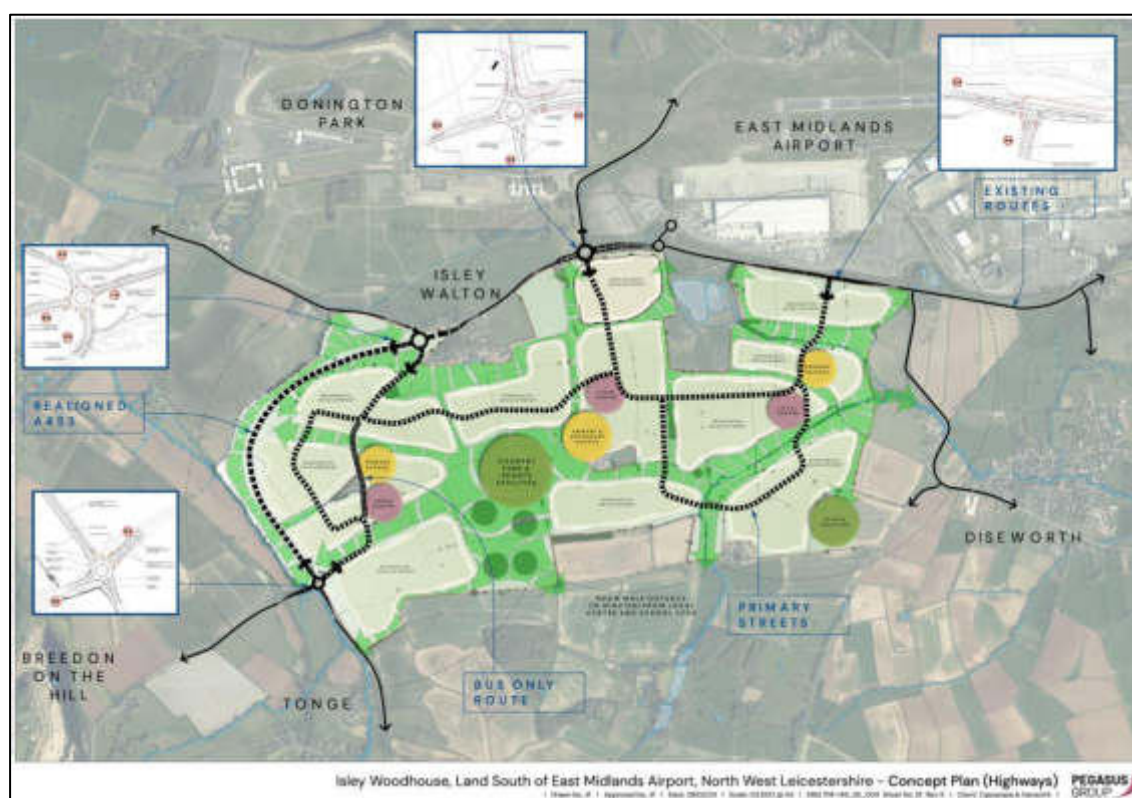
⁵ In the event that the planning data lead to below NTEM / TEMPro growth, the model reverts to NTEM / TEMPro as minimum.

⁶ EMFM2019 Fee Proposal – Isley Woodhouse v1.0 (2023-12-14)

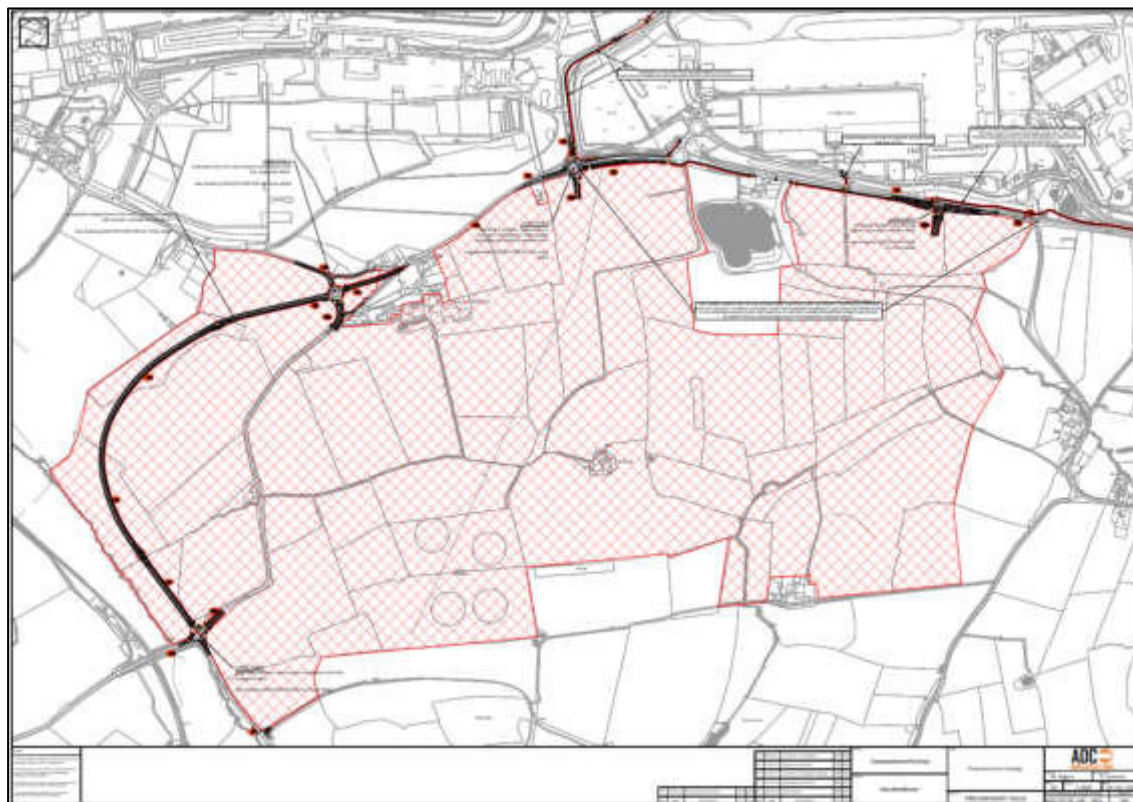
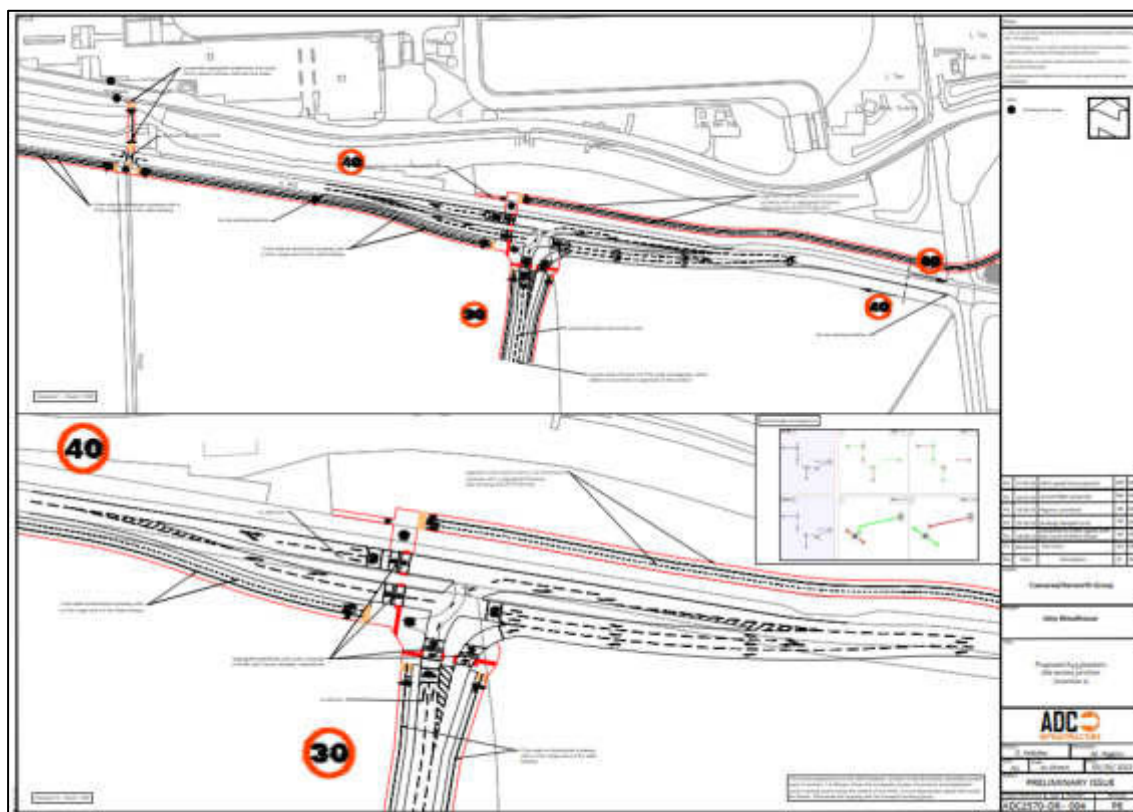
2.3 Proposed Development Highway Assumptions

- 2.3.1 To produce the 'With Development' networks for 2029 and 2051, the assumed site accesses and internal link roads for the development were added to the relevant 'Without Development' highway networks.
- 2.3.2 The proposed development includes four access junctions along the A453, as shown in Figure 2.2 to Figure 2.5. The A453 is proposed to be realigned towards the west of the proposed development site boundary, and the existing A453 is proposed to be 'bus only route' with a parallel development link road provided to the west of the existing A453, as shown in Figure 2.1.
- 2.3.3 Five development zones have been used to represent the proposed development. Figure 2.6 shows the coding assumptions for the proposed development, and Table 2.1 shows the quantum of development included in each development zone.

Figure 2.1: Development Highway Plan⁷



⁷ Drawing no. ADC2570-DR-001-P6 (ADC2570-DR-001-P6 (Road access strategy).pdf) – provided by ADC (11/04/2024)

Figure 2.2: Development Site Access – Overview⁸**Figure 2.3: Site Access – Junction 1 (Eastern Access Junction)⁹**

⁸ Drawing no. ADC2570-DR-001-P6 (ADC2570-DR-001-P6 (Road access strategy).pdf) – provided by ADC (11/04/2024)

⁹ Drawing no. ADC2570-DR-004-P6 (ADC2570-DR-004-P6 (A453 eastern access signals).pdf) – provided by ADC (11/04/2024)

Figure 2.4: Site Access – Junction 2 (Walton Hill Roundabout)¹⁰

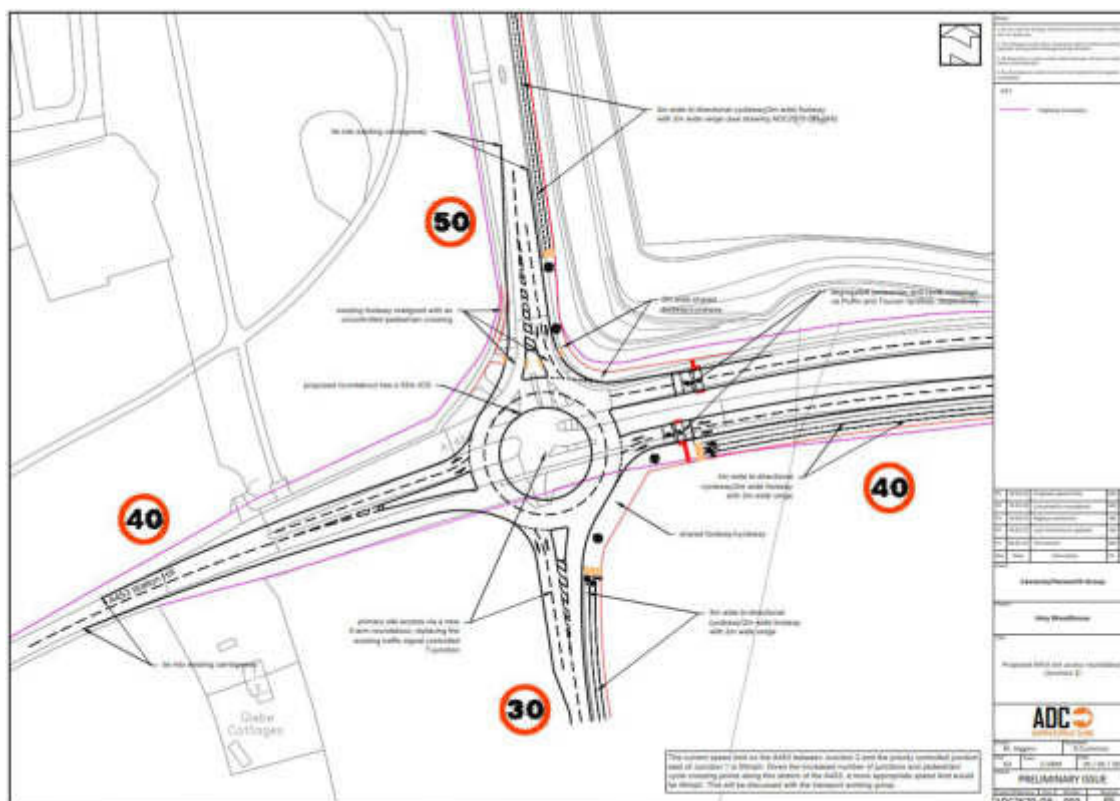
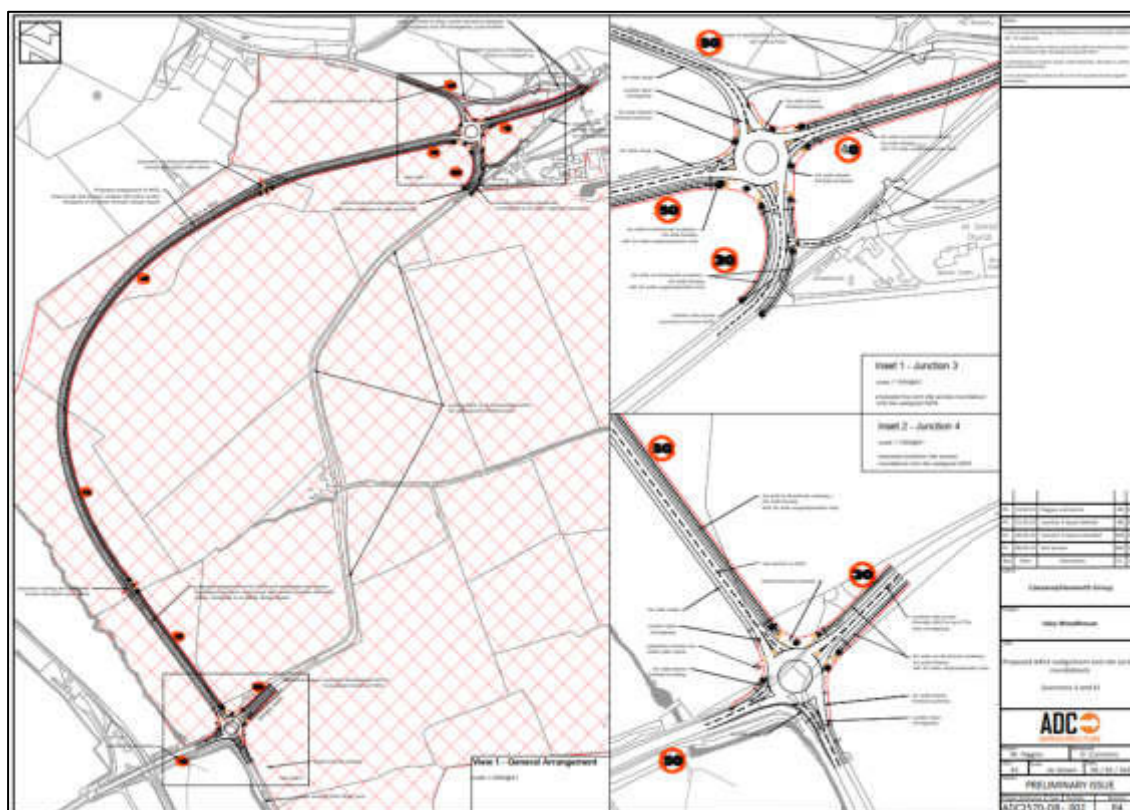
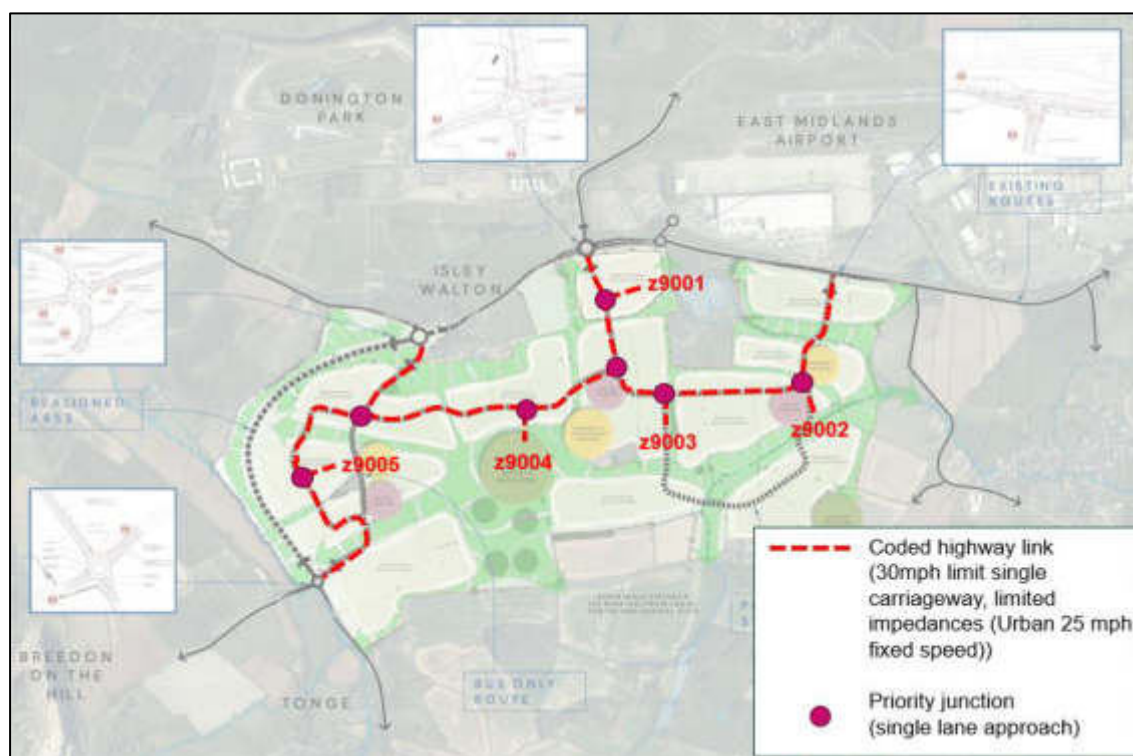


Figure 2.5: Site Access – Junction 3 and 4 (A453 / Melbourne Road Junction and A453 / Moor Lane Junction)¹¹



¹⁰ Drawing no. ADC2570-DR-003-P5 (ADC2570-DR-003-P5 (A453 roundabout junction).pdf) - provided by ADC (11/04/2024)

11 Drawing no. ADC2570-DR-002-P4 (ADC2570-DR-002-P4 (Realigned A453 and access roundabouts).pdf) - provided by ADC (14/03/2024)

Figure 2.6: 'With Development' Coding Assumptions and Development Zones**Table 2.1: Development Zones**

	z9001	z9002	z9003	z9004	z9005	Total
Residential	0 dwellings	1,650 dwellings	750 dwellings	350 dwellings	1,500 dwellings	4,250 dwellings
Employment area	✓	x	x	x	x	--
Secondary school	x	x	✓	x	x	--
Primary school (x3)	x	✓ 1 school	✓ 1 school	x	✓ 1 school	3 schools
Day nurseries (x3)	x	✓ 1 nursery	✓ 1 nursery	x	✓ 1 nursery	3 nurseries
Large local centre – local centre uses	x	x	✓	x	x	--
Large local centre – food store	x	x	✓	x	x	--
Neighbourhood centres – local centre uses	x	✓ 50%	x	x	✓ 50%	--

2.4 Proposed Development Trip Generation Assumptions

2.4.1 Development trip generation data for the proposed development were provided by the client which have been reproduced in Table 2.2 (in vehicles) and Table 2.3 (in PCUs (Passenger Car Units)). The PCU factor for HGV is 2.0 and the PCU factor for other assignment vehicle types (i.e. cars and LGVs) is 1.0.

Table 2.2: Development Trip Generation (External Trips) (in Vehicles)

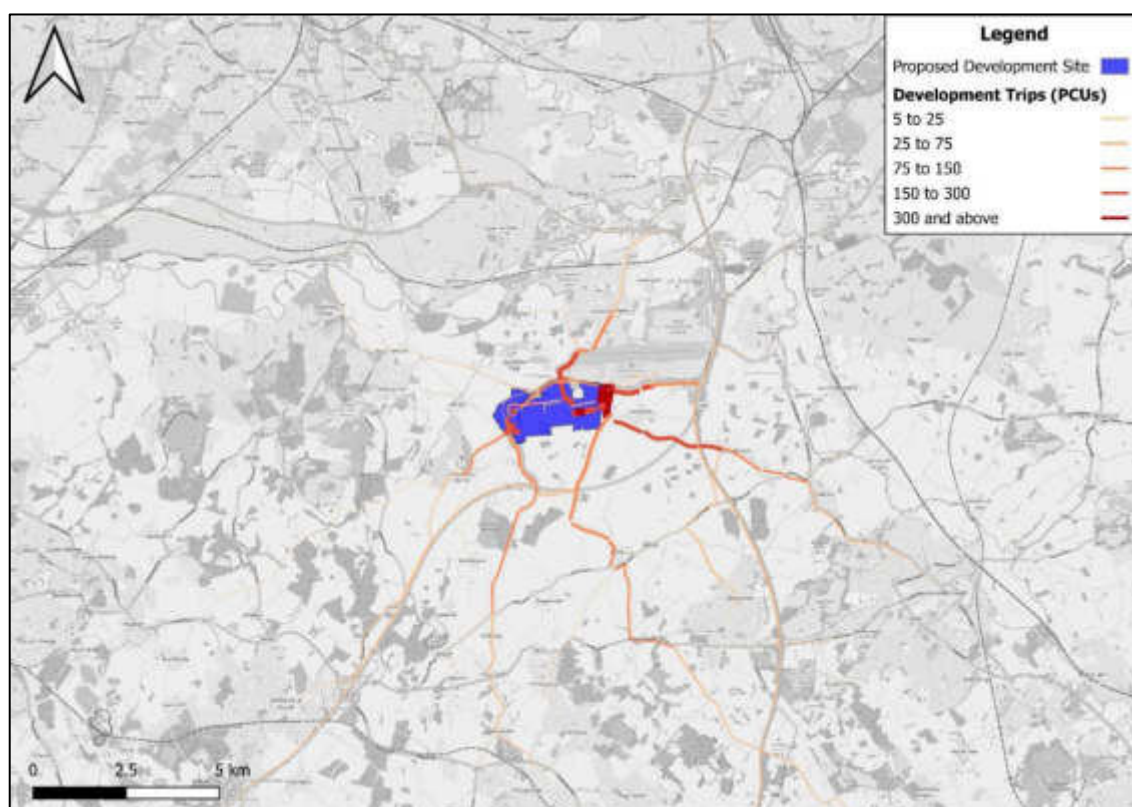
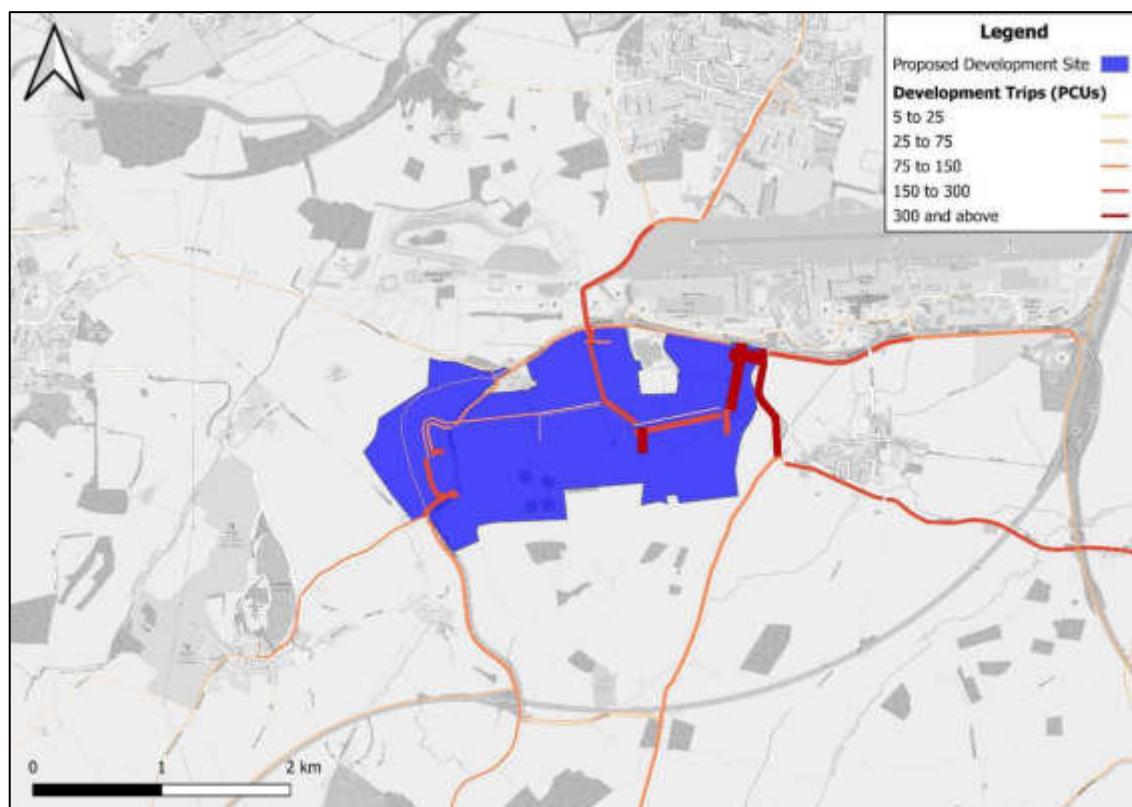
Area	Vehicle Type	Total External Trips					
		AM Peak hour (08:00 to 09:00)			PM Peak hour (17:00 to 18:00)		
		Depart (Out)	Arrive (In)	Total	Depart (Out)	Arrive (In)	Total
Residential	Car	1,509	536	2,045	625	1,386	2,011
Employment area	Car	49	92	141	77	30	107
	HGV	5	10	15	9	3	12
Secondary school	Car	48	65	113	13	10	23
Primary school (x3)	Car	82	101	183	13	7	20
Day nurseries (x3)	Car	11	16	27	12	8	20
Large local centre – local centre uses	Car	141	163	304	191	164	355
Large local centre – food store	Car	27	32	59	87	83	170
Neighbourhood centres – local centre uses	Car	14	16	30	19	16	35
Total	All	1,886	1,031	2,917	1,046	1,707	2,753

Table 2.3: Development Trip Generation (External Trips) (in PCUs)

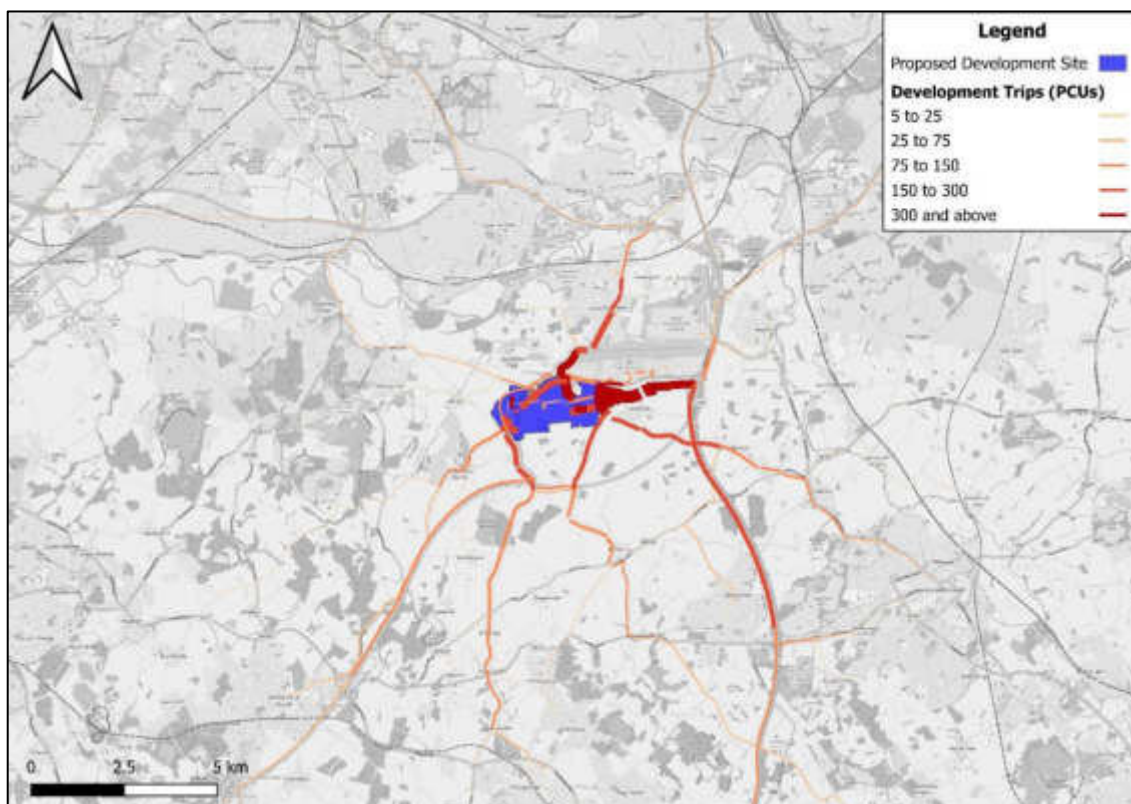
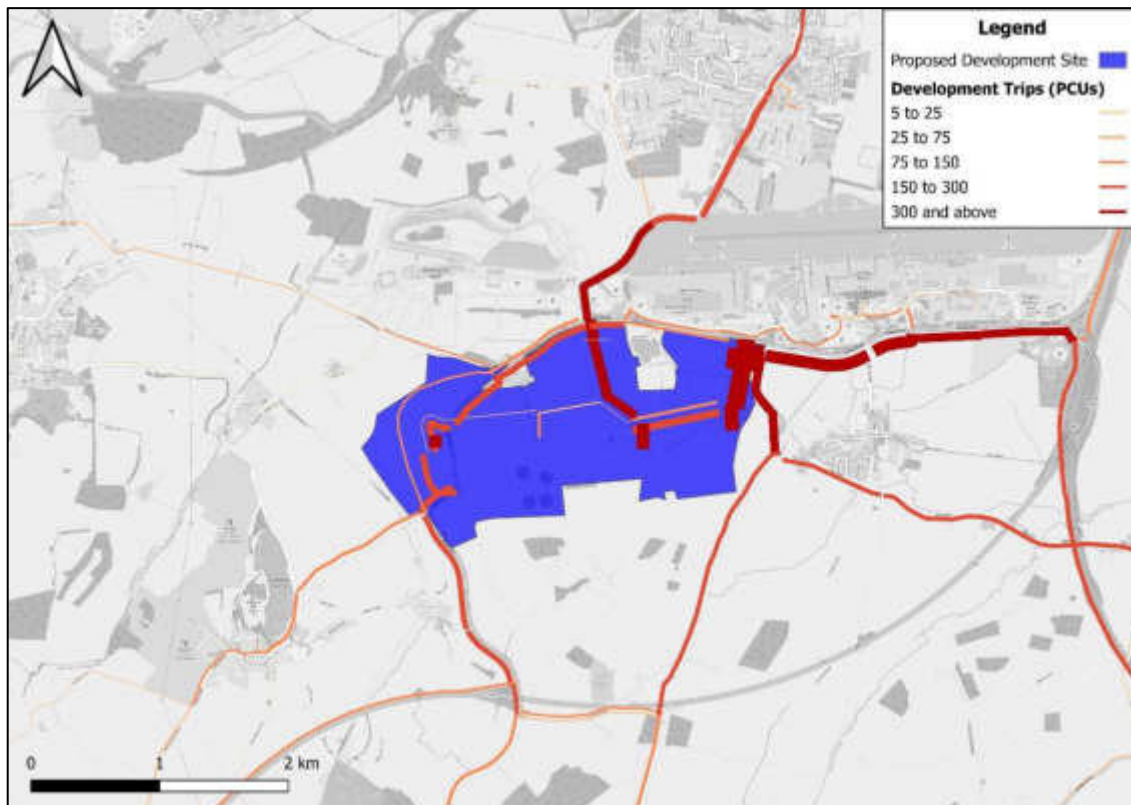
Area	Vehicle Type	Total External Trips					
		AM Peak hour (08:00 to 09:00)			PM Peak hour (17:00 to 18:00)		
		Depart (Out)	Arrive (In)	Total	Depart (Out)	Arrive (In)	Total
Residential	Car	1,509	536	2,045	625	1,386	2,011
Employment area	Car	49	92	141	77	30	107
	HGV	10	20	30	18	6	24
Secondary school	Car	48	65	113	13	10	23
Primary school (x3)	Car	82	101	183	13	7	20
Day nurseries (x3)	Car	11	16	27	12	8	20
Large local centre – local centre uses	Car	141	163	304	191	164	355
Large local centre – food store	Car	27	32	59	87	83	170
Neighbourhood centres – local centre uses	Car	14	16	30	19	16	35
Total	All	1,891	1,041	2,932	1,055	1,710	2,765

2.5 Proposed Development Trip Distribution Assumptions

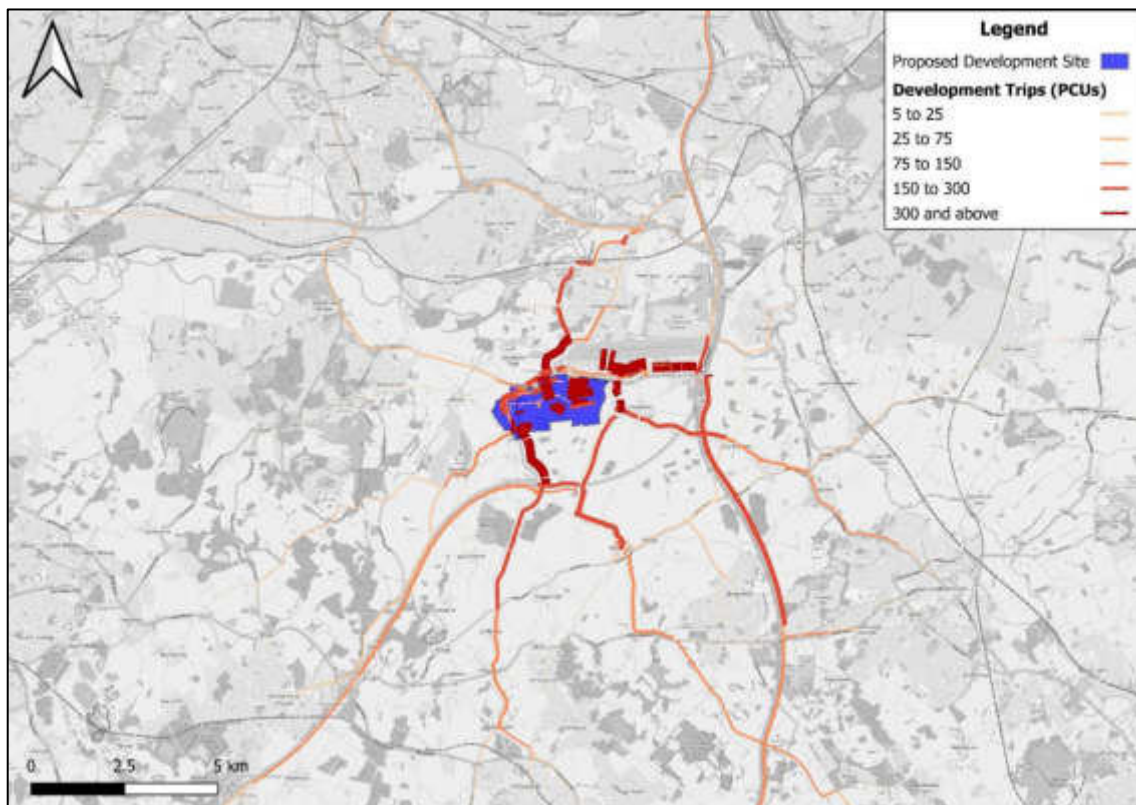
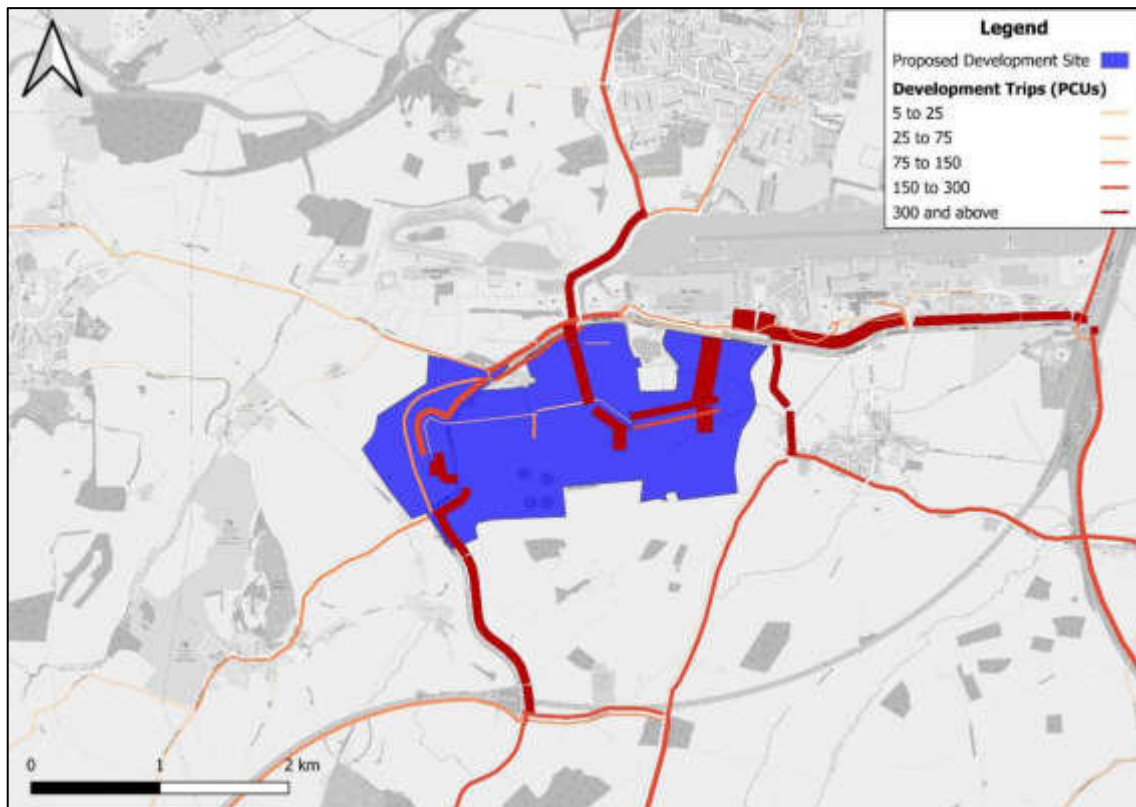
- 2.5.1 It was agreed that the development trip distributions are to be based on the PRTM 'gravity model' approach.
- 2.5.2 Figure 2.7 to Figure 2.14 show the forecast routeing of development trip for all vehicles on the highway network in the 2029 and 2051 'With Development' scenarios in PCUs.
- 2.5.3 These figures show that the forecast development traffic has a broadly similar forecast routeing pattern to and from the proposed development in the AM Peak and PM Peak hours, and in both forecast years (i.e. 2029 and 2051). The development traffic is forecast to route via the A453 to access the M1(S) and A42 to / from the south, and route via Castle Donington to access the A50 and M1(N) to / from the north. To access the urban areas to the south, such as Loughborough, Shepshed, Coalville and Ashby-de-la-Zouch, the model forecasts routeing via the local highway network to the south of the proposed development site, including via The Green, Mill Lane and Top Brand.
- 2.5.4 It is noted that the forecast route choice through Castle Donington is sensitive. For example, for 2029, the development traffic from the development site is forecast to route via the Castle Donington Western Bypass in the AM Peak hour (Figure 2.9), but the development traffic to the development site is forecast to route via Castle Donington High Street in the PM Peak hour (Figure 2.8).

Figure 2.7 2029 'With Development' Trips to the Proposed Development (AM Peak hour)

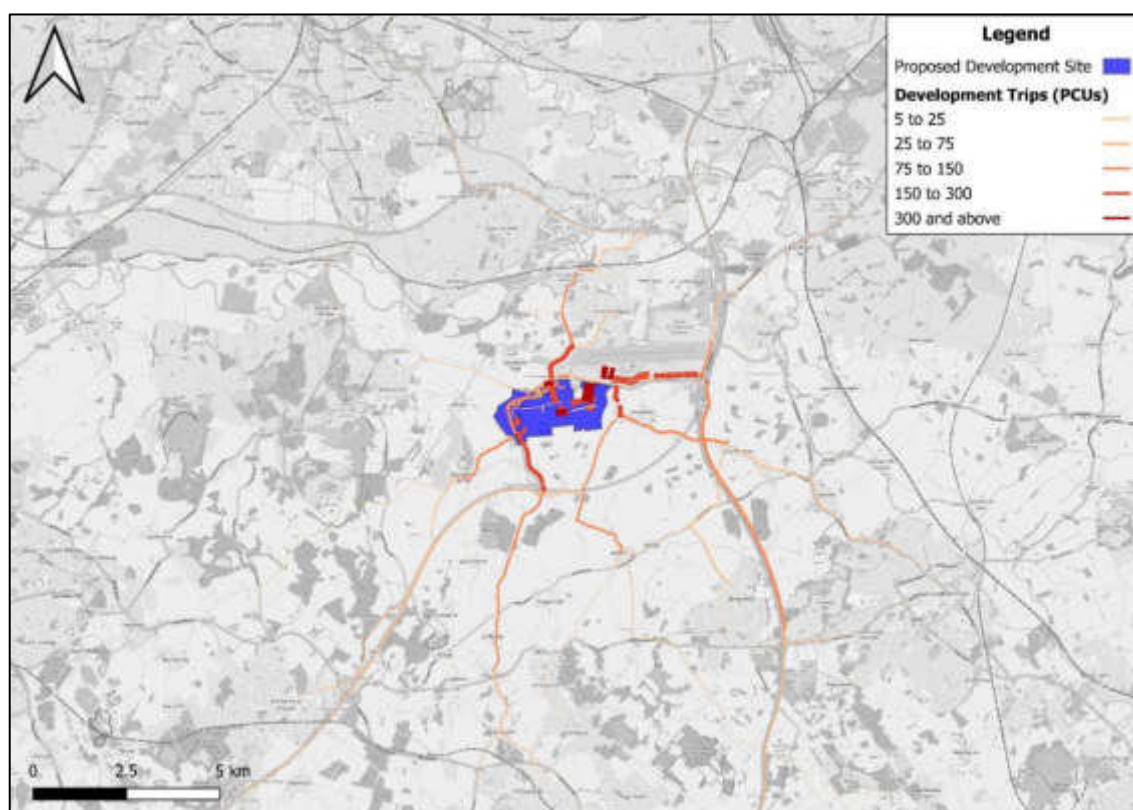
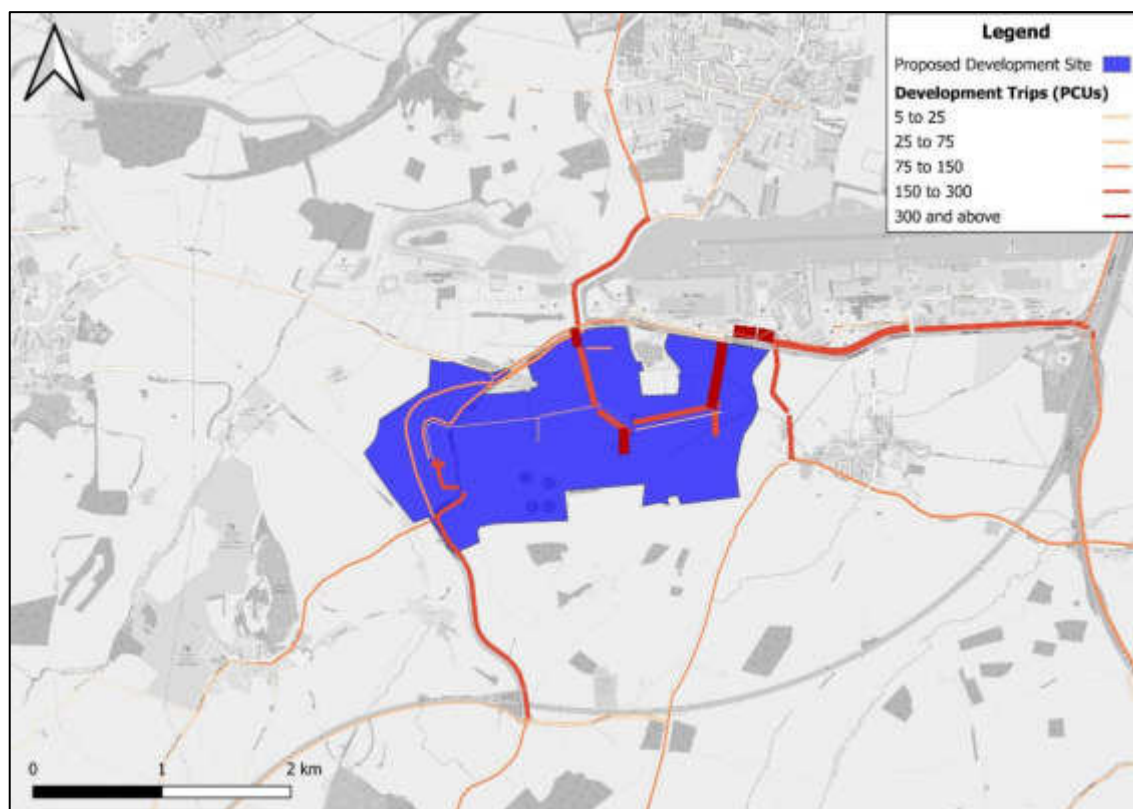
Contains OpenStreetMap data © OpenStreetMap contributors 2024

Figure 2.8 2029 'With Development' Trips to the Proposed Development (PM Peak hour)

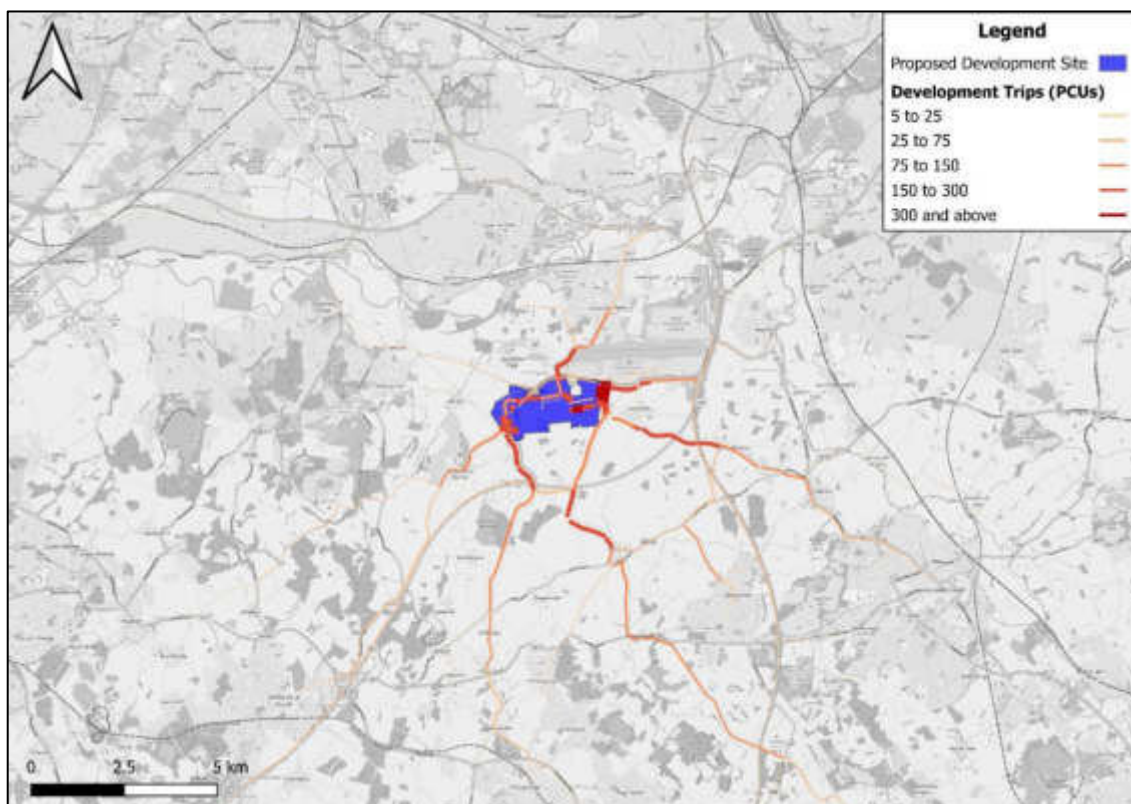
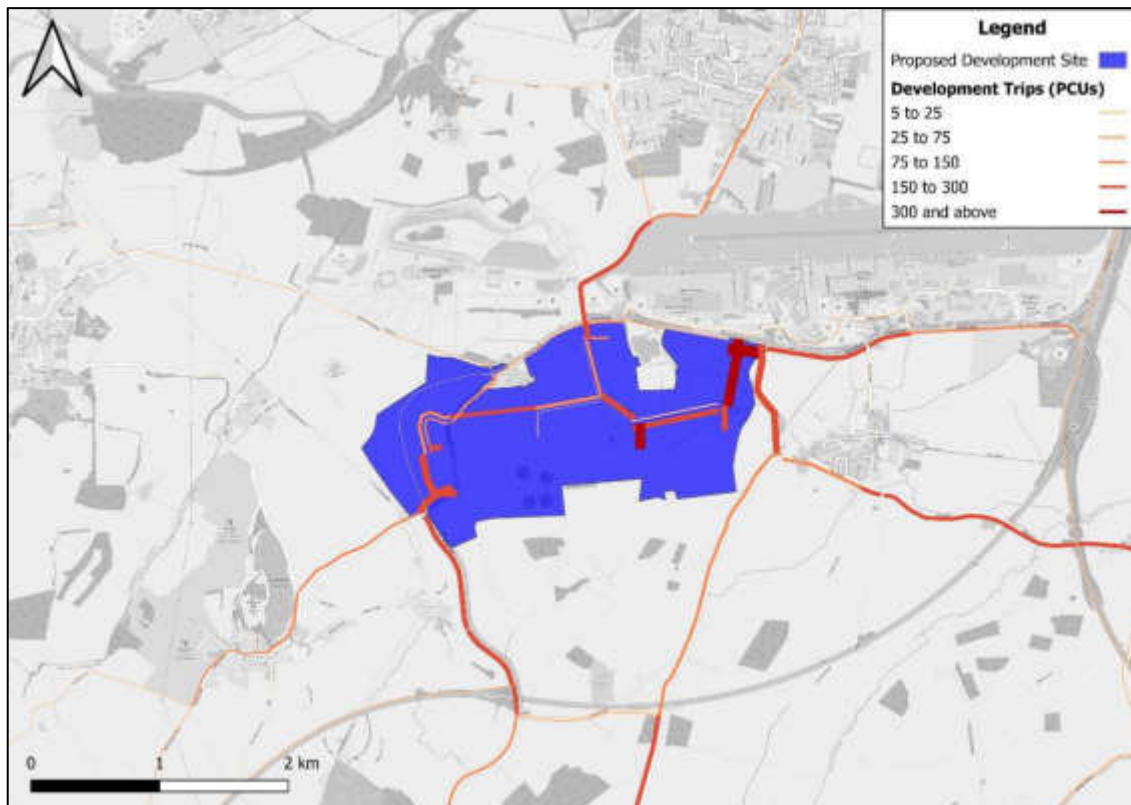
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Figure 2.9 2029 'With Development' Trips from the Proposed Development (AM Peak hour)

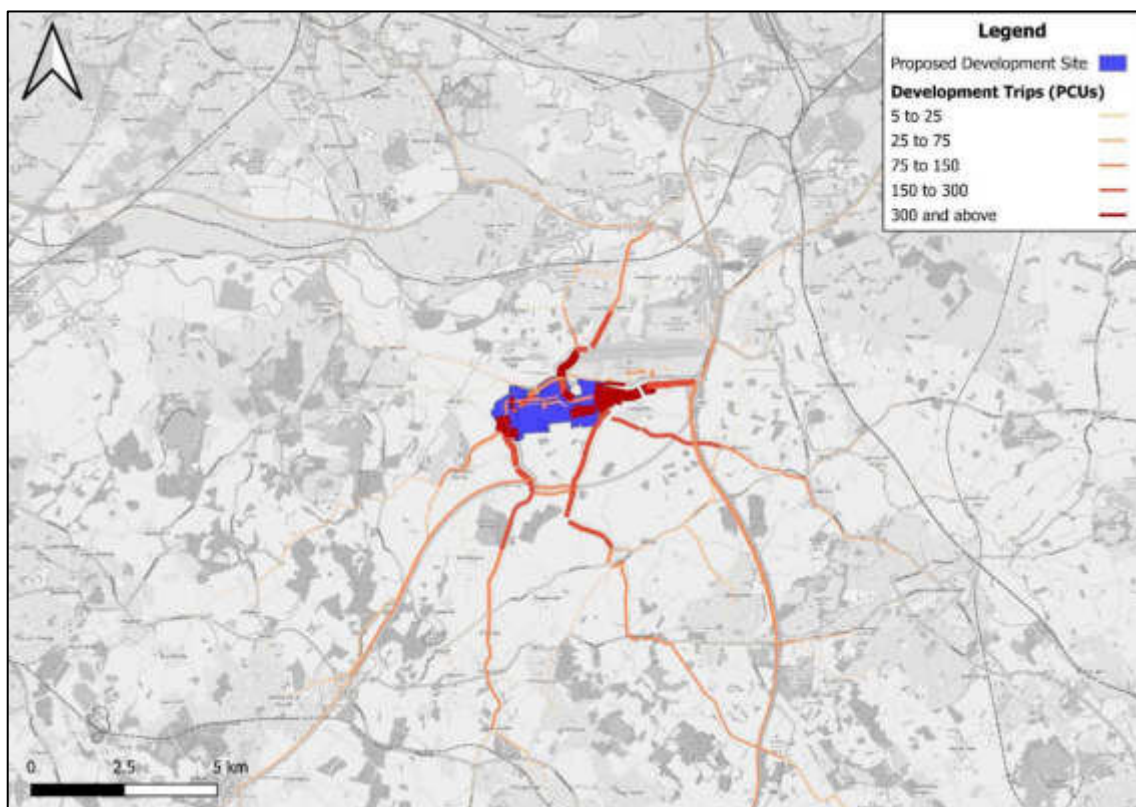
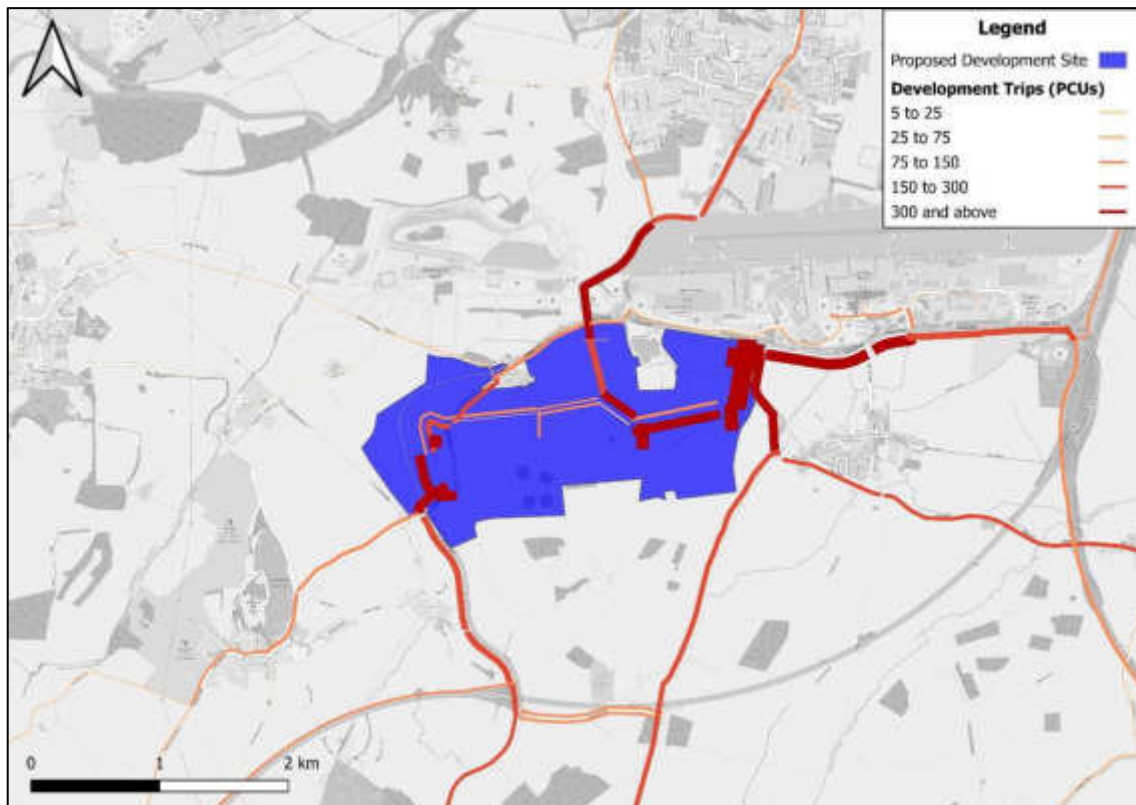
Contains OpenStreetMap data © OpenStreetMap contributors 2024

Figure 2.10 2029 'With Development' Trips from the Proposed Development (PM Peak hour)

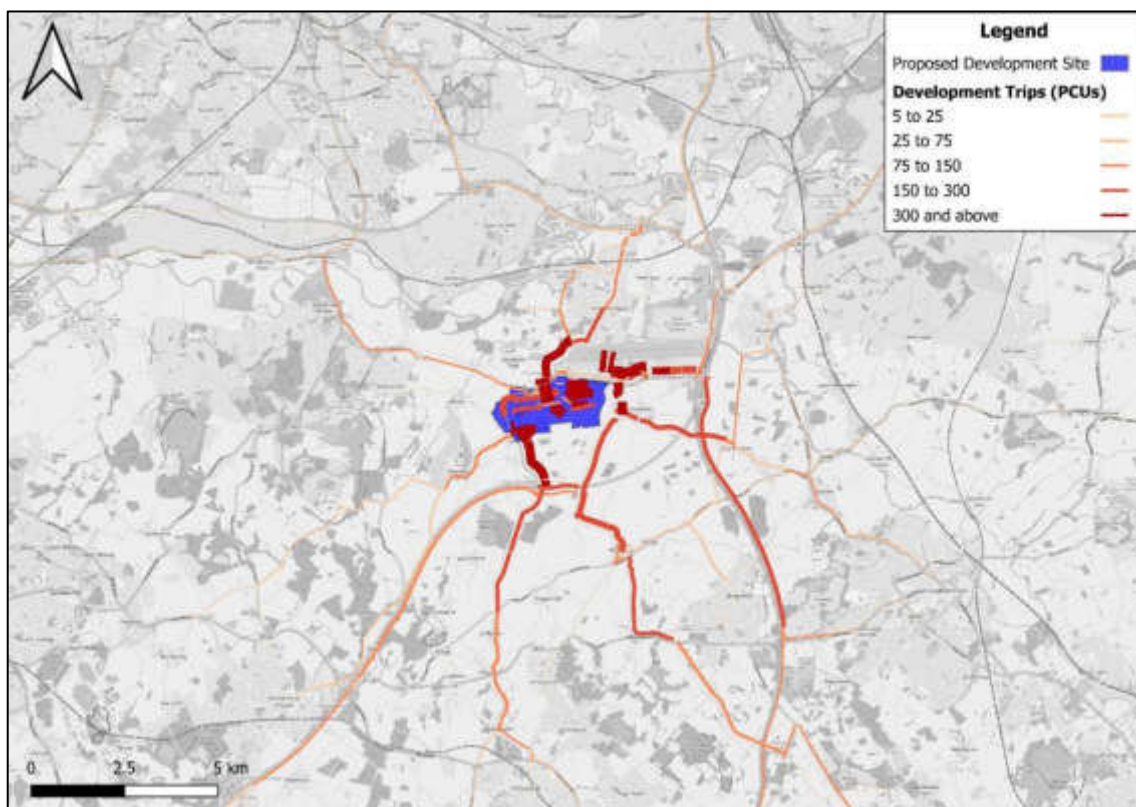
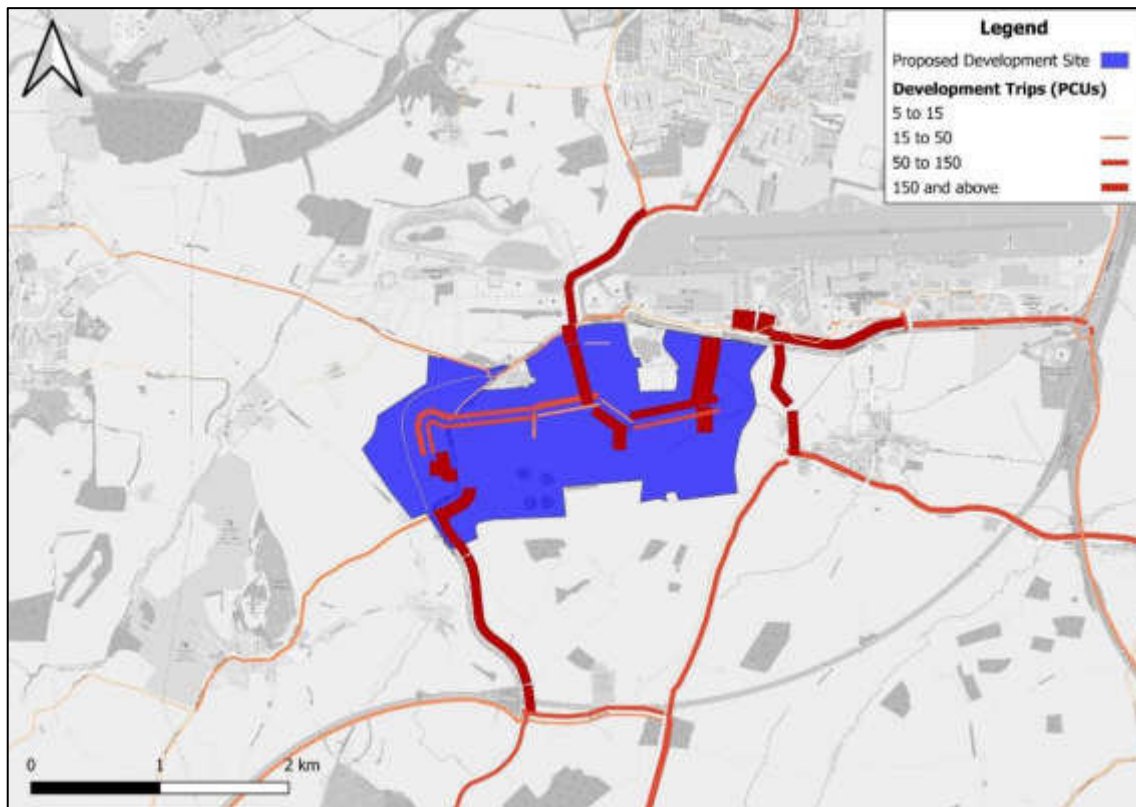
Contains OpenStreetMap data © OpenStreetMap contributors 2024

Figure 2.11 2051 'With Development' Trips to the proposed development (AM Peak hour)

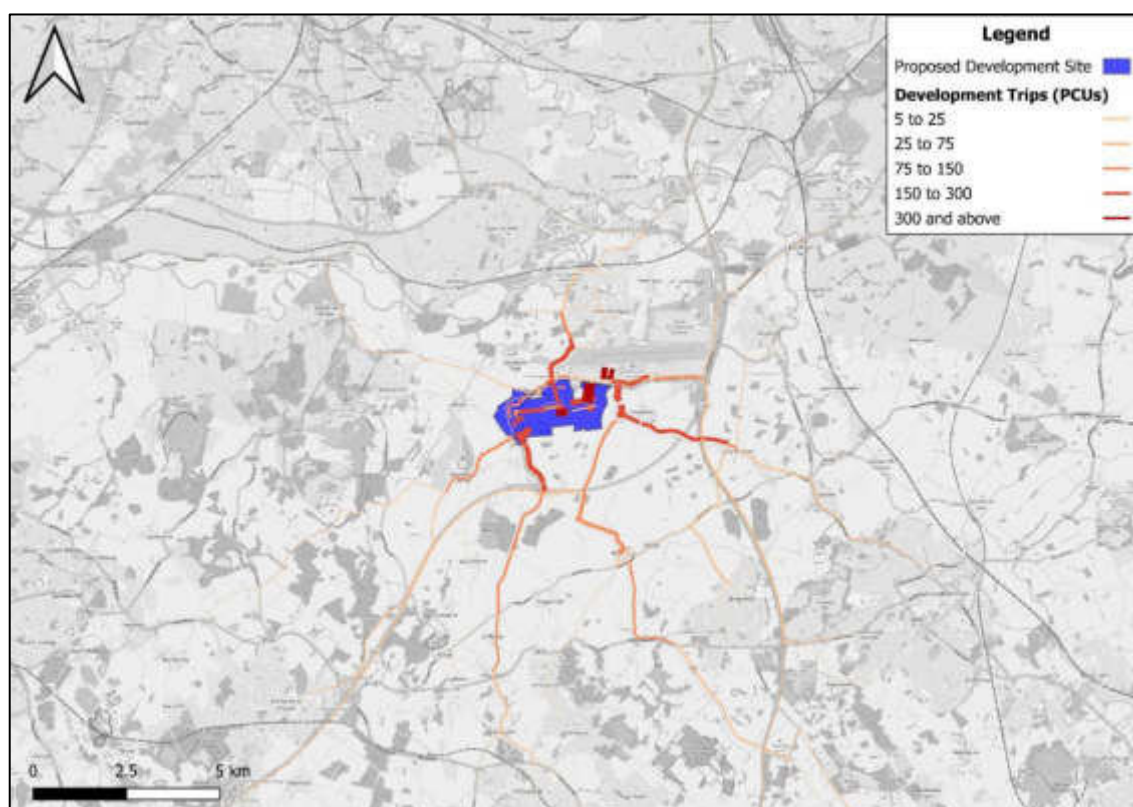
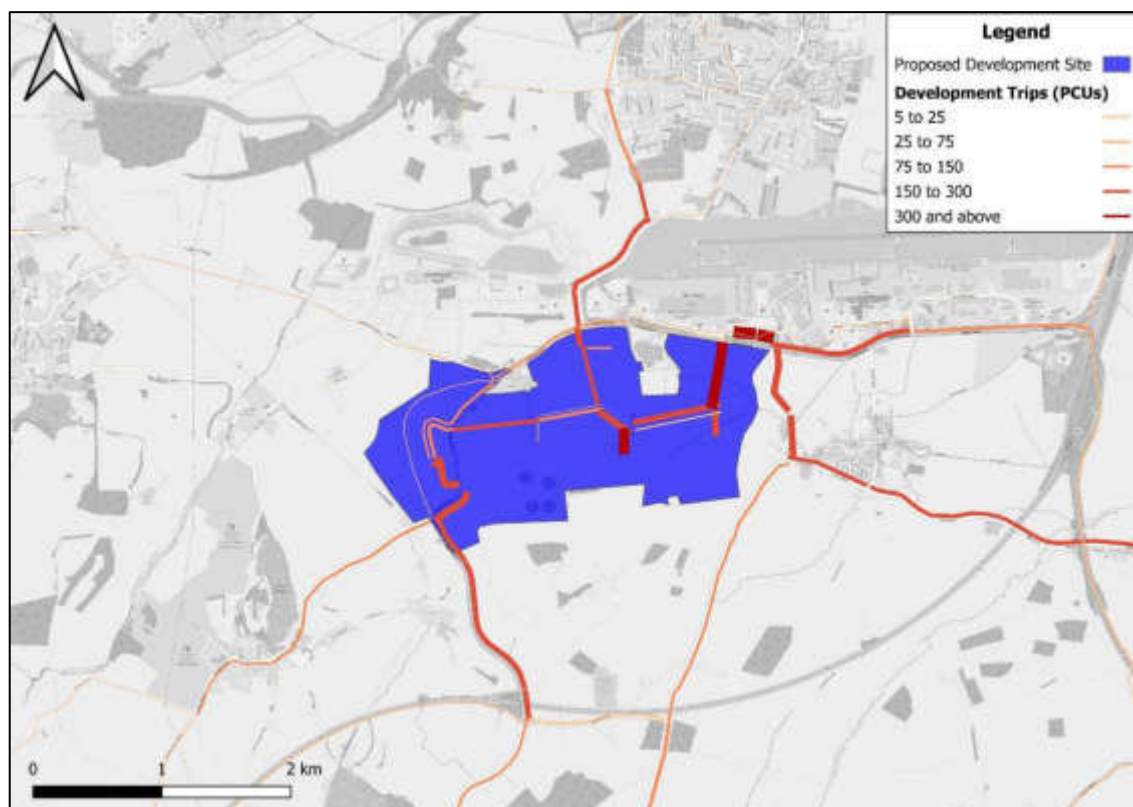
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Figure 2.12 2051 'With Development' Trips to the proposed development (PM Peak hour)

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Figure 2.13 2051 'With Development' Trips from the proposed development (AM Peak hour)

Contains OpenStreetMap data © OpenStreetMap contributors 2024

Figure 2.14 2051 'With Development' Trips from the proposed development (PM Peak hour)

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Section 3 – Forecast Model Results

3.1 Introduction

3.1.1 This section details the forecast model results for the proposed Isley Woodhouse development for the AM Peak (08:00 to 09:00) and PM Peak (17:00 to 18:00) hours. The analysis includes:

- routing of the forecast development traffic in 2029 and 2051 'With Development' scenarios (Section 2.5 and Section 3.2);
- forecast flow changes in 2029 and 2051 between the 'With Development' and 'Without Development' scenarios (Section 3.3);
- an assessment of the Area of Influence (Section 3.4);
- forecast delay changes in 2029 and 2051 between the 'With Development' and 'Without Development' scenarios (Section 3.5); and
- forecast maximum node volume-capacity ratios in 2029 and 2051 for the 'With Development' and 'Without Development' scenarios.

3.2 Forecast Development Traffic

3.2.1 Figure 2.7 to Figure 2.14 in Section 2.5 illustrate the assigned forecast routing to and from the proposed development in 2029 and 2051 for the AM Peak and PM Peak hours.

3.2.2 The modelling shows that the development traffic is forecast to:

- route to and from the Strategic Road Network (SRN) to the south, including the M1(S) and A42, via the A453;
- route to and from the SRN to the north, including the M1(N) and A50, through Castle Donington via A50 Junction 1;
- route towards Loughborough via The Green;
- route towards Shepshed via Mill Lane;
- route towards Coalville via Top Brand; and
- route towards Ashby-de-la-Zouch via Nottingham Road.

3.3 Forecast Flow Change

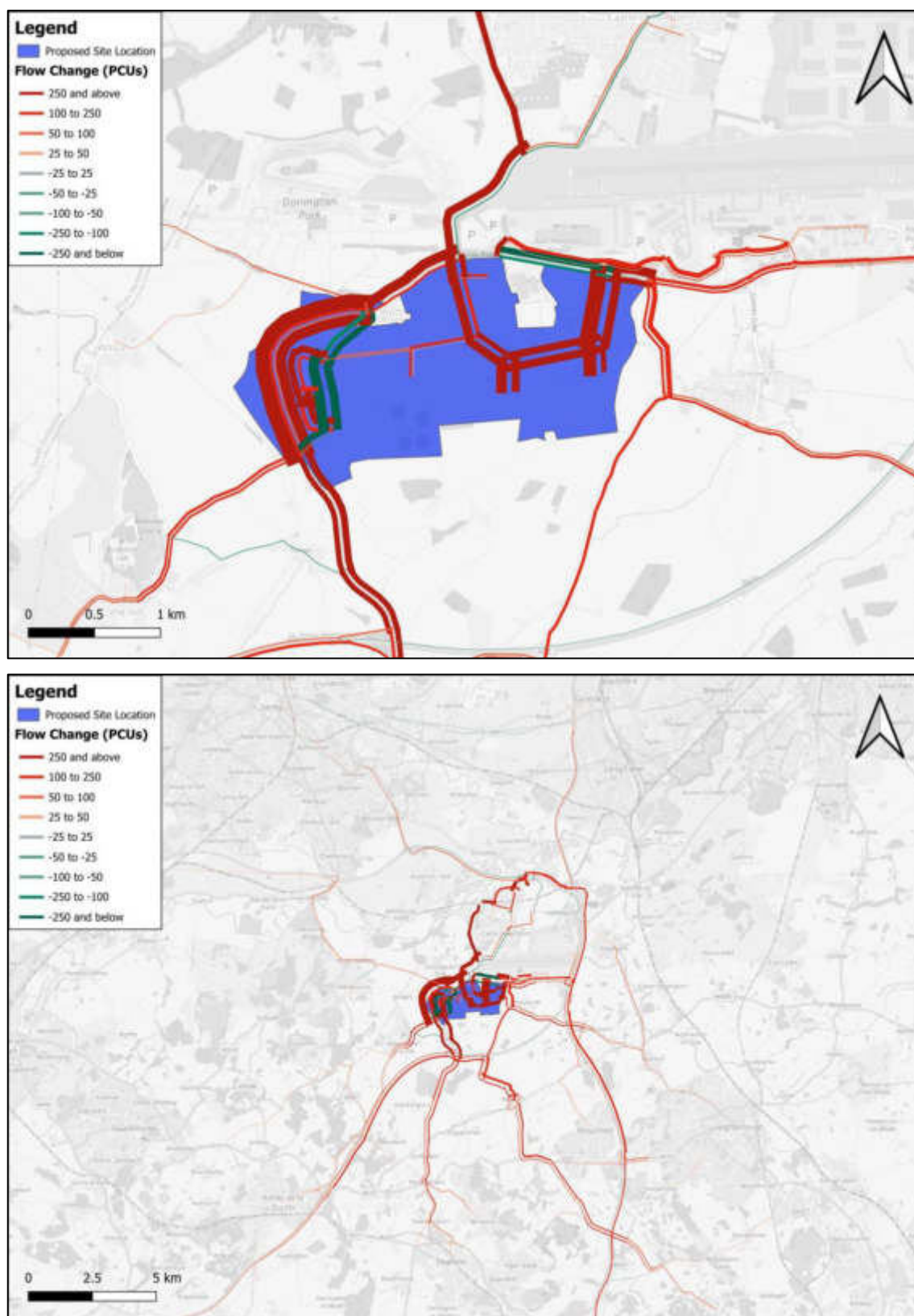
3.3.1 Figure 3.1 to Figure 3.4 show the forecast flow changes in 2029 and 2051 between the 'With Development' and 'Without Development' scenarios for the AM Peak and PM Peak hours. Red bandwidth represents an increase in traffic flow in the 'With Development' scenario and green bandwidth represents a decrease.

3.3.2 The largest increases in flows are forecast along the A453 in the immediate vicinity of the proposed development. The M1, A42, links through Castle Donington, as well as local links to the south of the proposed development site, are also forecast to experience increases in flow across all modelled forecast scenarios.

3.3.3 It should be noted that the forecast reductions in flow on the existing A453 between Melbourne Road and Moor Lane are a result of the A453 realignment in the 'With Development' scenarios.

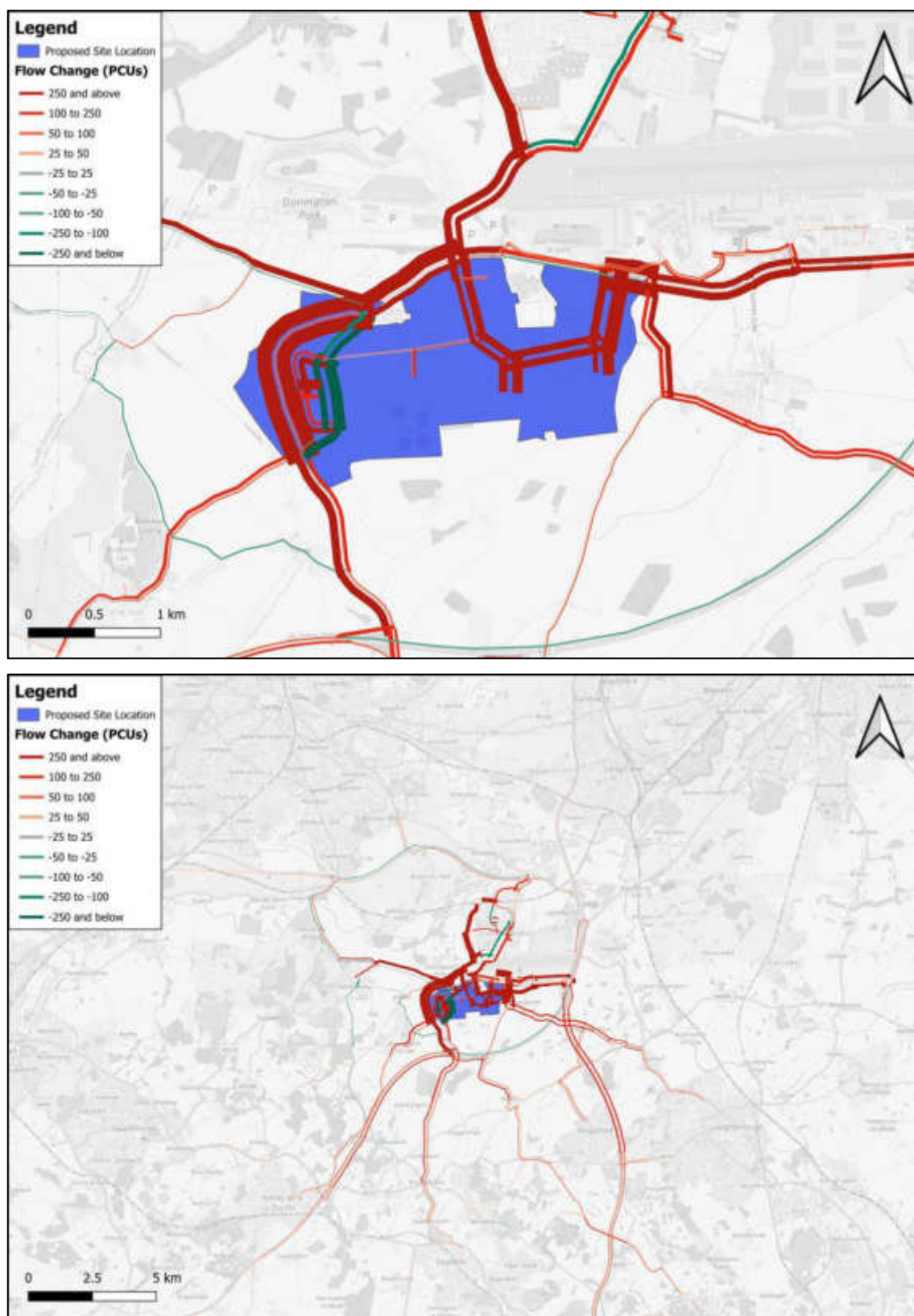
3.3.4 For the 2051 PM Peak hour, it is noted that the forecast flows reduce slightly on the A42 between the A42 Junction 14 Tonge Interchange and the M1 Junction 24, and the forecast flows increase slightly on the A453 in the 'With Development' scenario when compared with the 'Without Development' scenario. This seems to be due to the changes in forecast route choice for A42 eastbound trips that, in the 'With Development' scenario, are avoiding the M1 Junction 24 area and are routing via the A453 to access Castle Donington and through Castle Donington to access the Long Eaton area via the A6540.

Figure 3.1: Forecast Flow Change for 2029 'With Development' minus 'Without Development' (AM Peak hour)



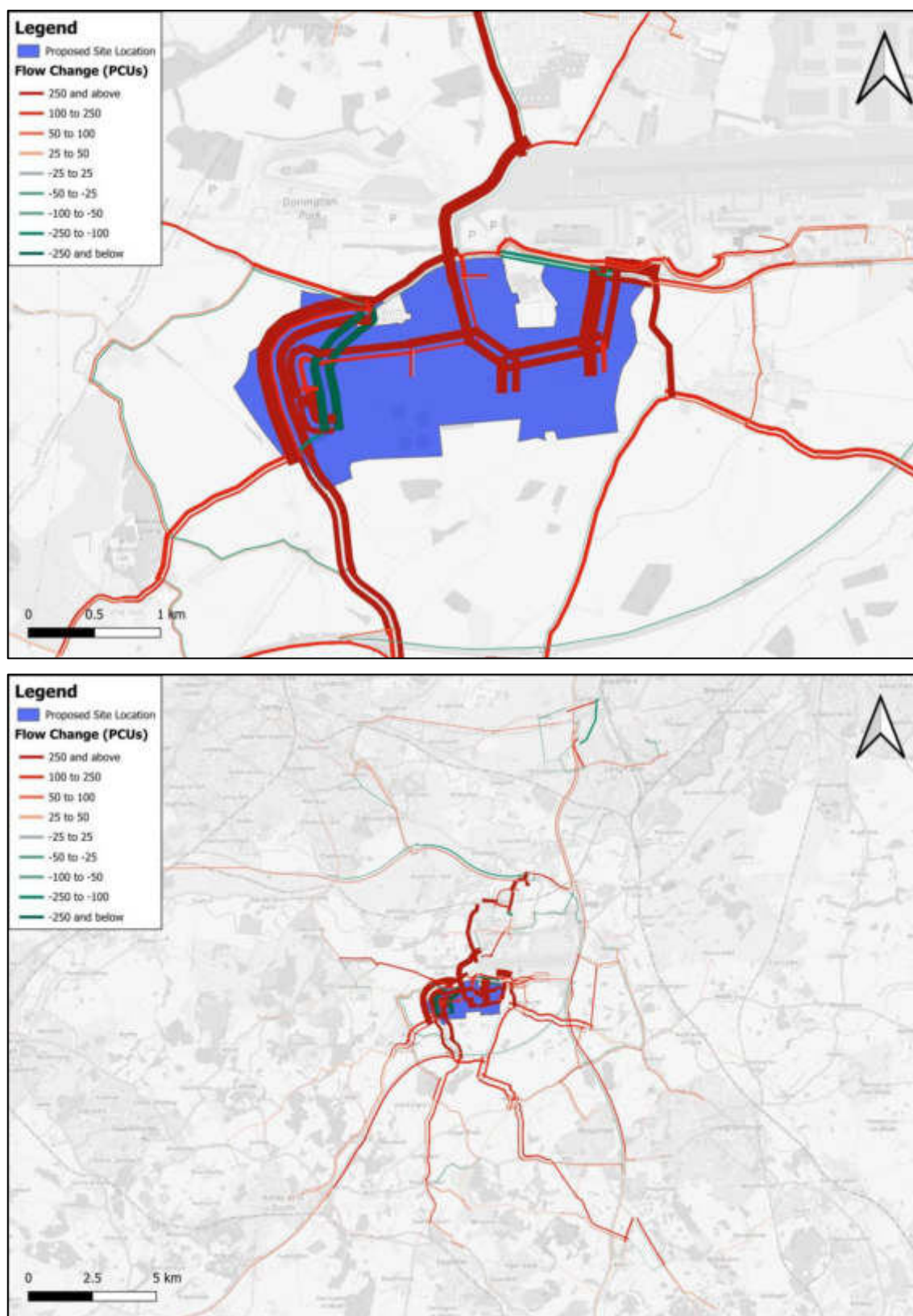
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Figure 3.2: Forecast Flow Change for 2029 'With Development' minus 'Without Development' (PM Peak hour)



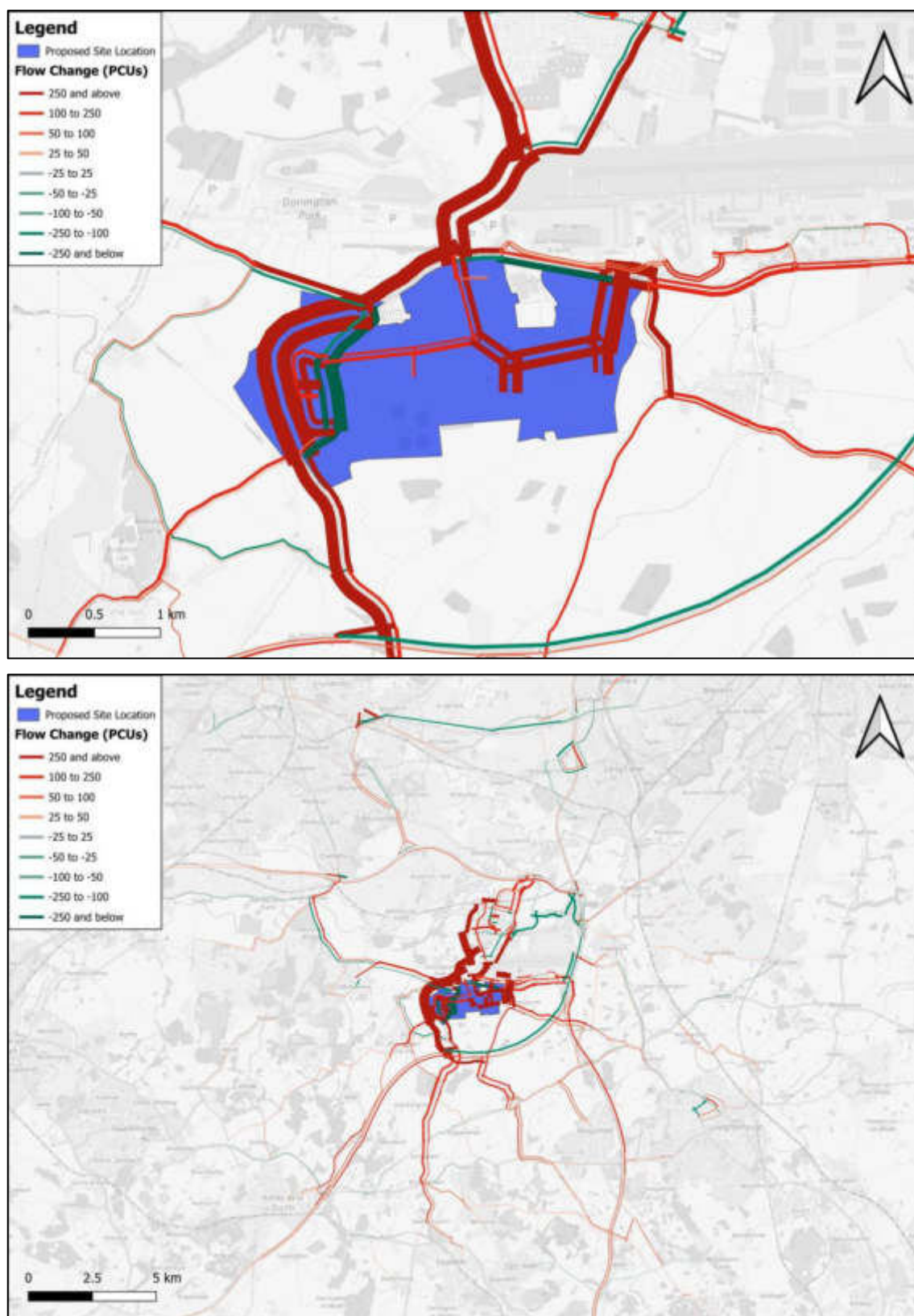
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Figure 3.3: Forecast Flow Change for 2051 'With Development' minus 'Without Development' (AM Peak hour)



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Figure 3.4: Forecast Flow Change for 2051 'With Development' minus 'Without Development' (PM Peak hour)



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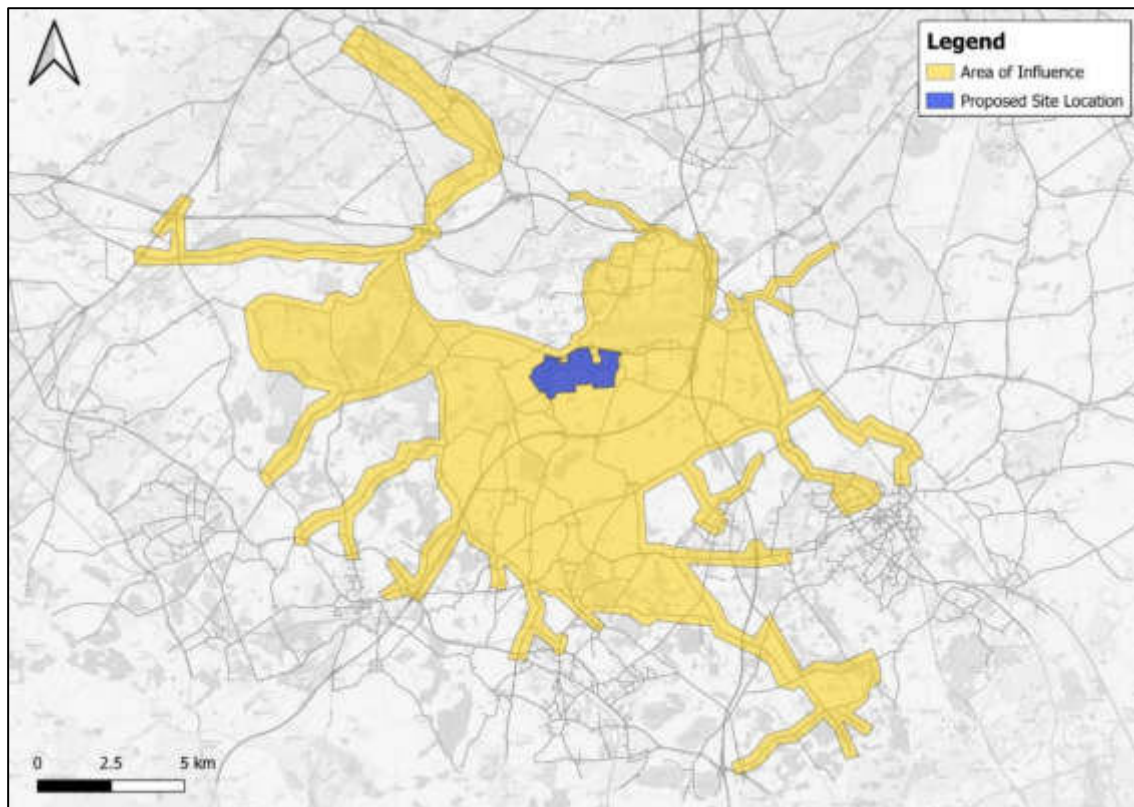
3.4 Area of Influence

3.4.1 Using the forecast flow changes between the 'With Development' and 'Without Development' scenarios, an indication of the Area of Influence has been defined. Figure 3.5 shows the Area of Influence for the proposed development.

3.4.2 For the proposed development, the Area of Influence has been defined by considering the links which are forecast to change flow by more than $\pm 5\%$ and ± 30 PCUs between the 2051 'With Development' and 'Without Development' scenarios in either the AM Peak or PM Peak hours. The links which are forecast to meet these criteria are included in the Area of Influence, as shown in Figure 3.5, and include the following areas / links:

- the A453 including the A42 Junction 14 Tonge Interchange and Finger Farm roundabout;
- the M1 between Junction 23 and Junction 24a;
- the A42 between Junction 13 and the M1;
- the A50 including A50 Junction 1, Junction 3 and Junction 4;
- local roads in / around Castle Donington and Kegworth; and
- local roads in / around the northern part of Loughborough, Shepshed, Coalville and Ashby-de-la-Zouch.

Figure 3.5: Area of Influence

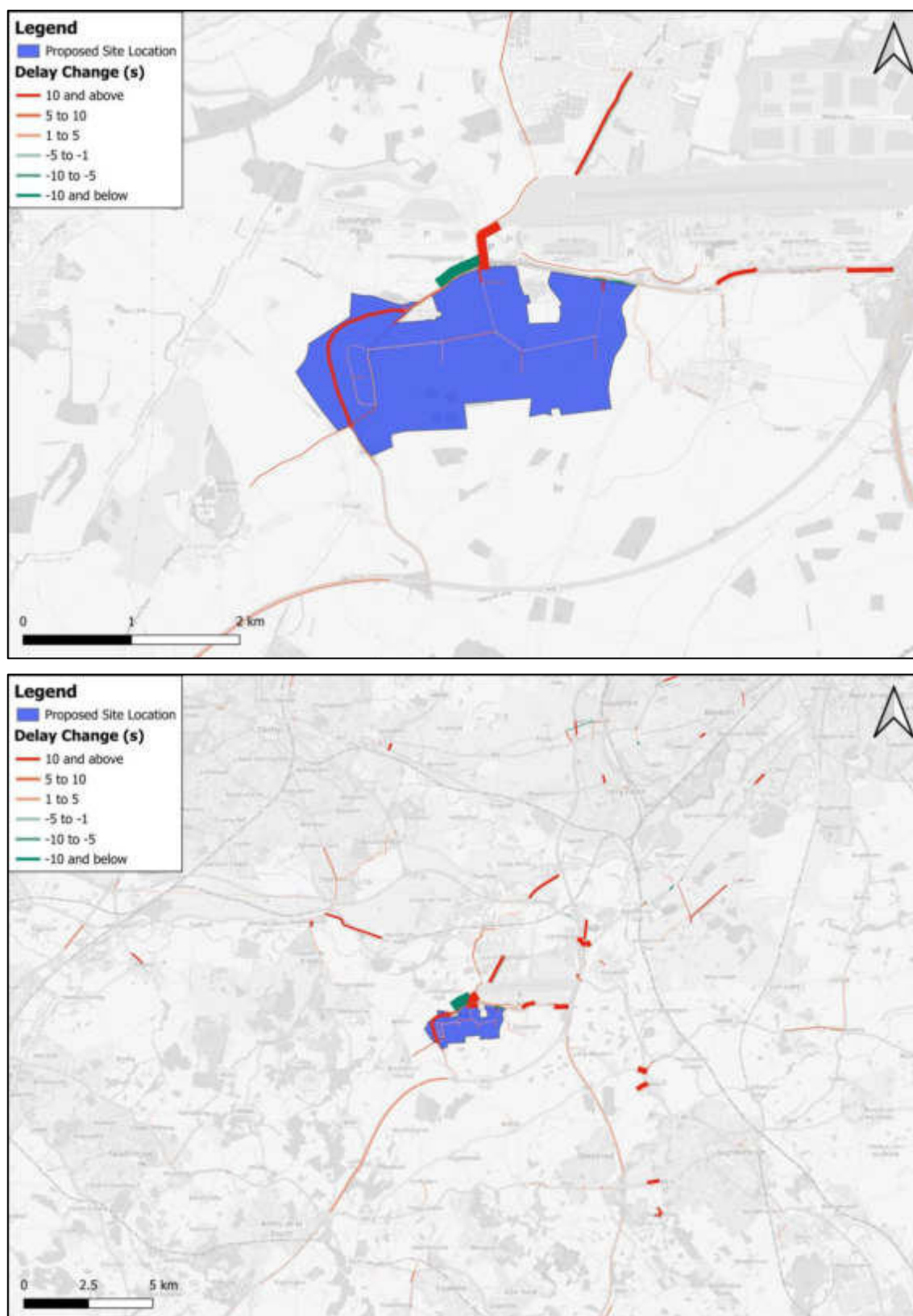


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3.5 Forecast Delay Change

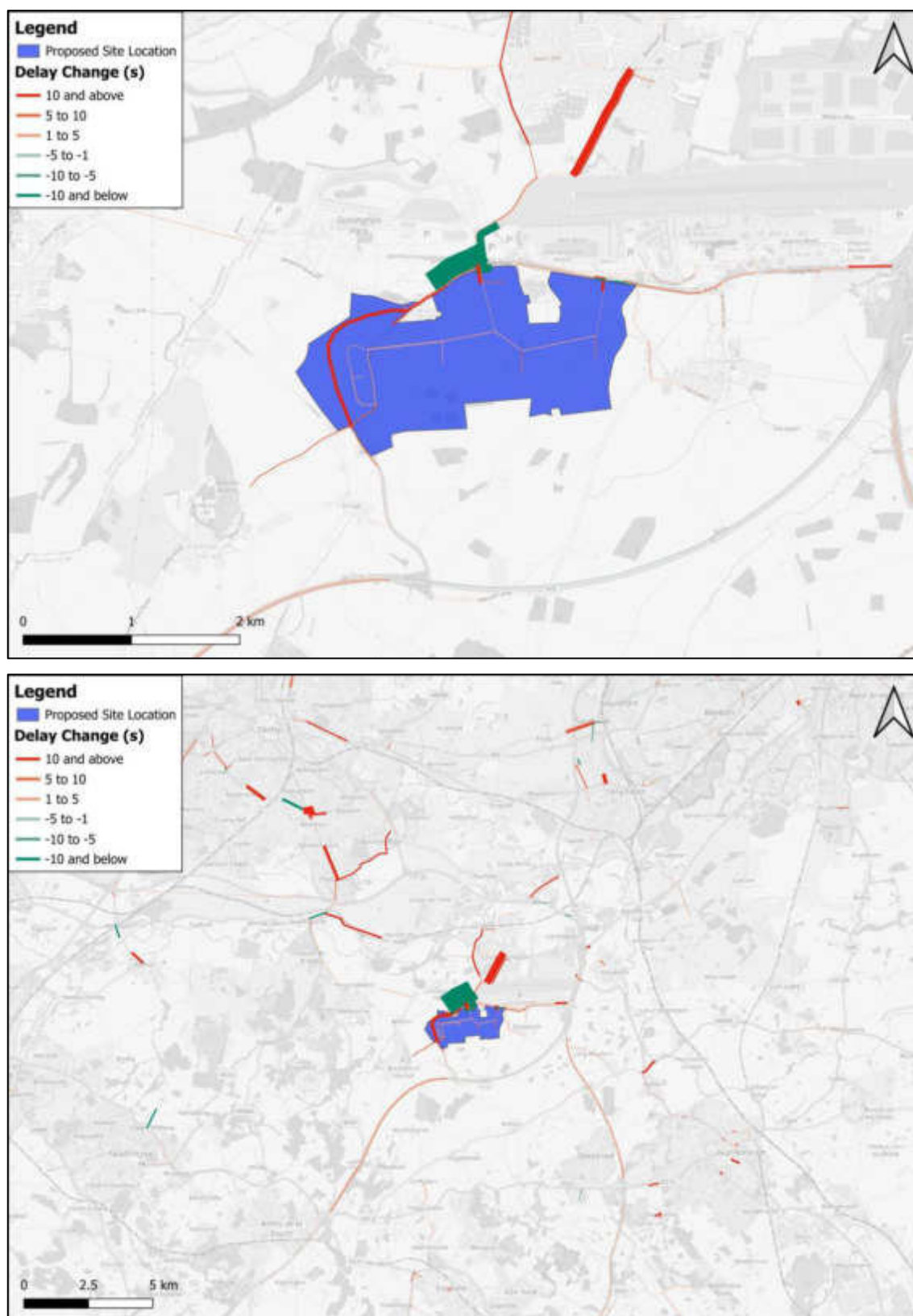
- 3.5.1 As a result of forecast flow changes in the 'With Development' scenario, there are also changes to the forecast delays on the highway network. These changes in delay can be generated from two sources: link delay based on the speed-flow curve applied to the link; and junction delay due to capacity constraints for individual turning movements. The analysis in this section combines the link and junction delays (taking a flow-weighted average of junction delays) to assess the changes in forecast delays with the proposed development traffic.
- 3.5.2 Figure 3.6 to Figure 3.9 show the forecast delay changes in 2029 and 2051 between the 'With Development' and 'Without Development' scenarios for the AM Peak and PM Peak hours.
- 3.5.3 In all forecast scenarios, the most significant forecast changes in delay occur at the proposed Walton Hill roundabout development access. In the AM Peak hours, there are forecast increases in delay on the southbound approach arm and forecast reductions in delay on the A453 eastbound approach arm. In the PM Peak hours, there are forecast reductions in delay on these arms. The Walton Hill junction is a signalised junction in the 'Without Development' scenarios and is proposed to change to a roundabout in the 'With Development' scenarios. This change in junction configuration has altered the forecast delays for different approach arms. In general, the change from a signalised junction to a roundabout is forecast to reduce delays for the A453 but increase delays for the southbound arm from Castle Donington.
- 3.5.4 Forecast delays are higher for the local network through Castle Donington. For the High Street northbound approach to the High Street / Park Lane / Delven Lane junction, the delays are forecast to increase by approximately 62 and 102 seconds in the 2051 'With Development' scenario when compared with the 2051 'Without Development' scenario in the AM Peak hour and PM Peak hour respectively.
- 3.5.5 For the SRN, the delay is forecast to increase for the M1 link to the south of Junction 23a and the A42 link to the west of A42 Junction 14 Tonge Interchange. For the M1 northbound link (south of Junction 23a), the forecast delays increase by approximately 20 seconds in the 'With Development' scenario when compared to the 'Without Development' scenario in the AM Peak hour. For the A42 link (in both directions), the forecast delays increase marginally by 5 to 10 seconds in the 'With Development' scenarios when compared with the 'Without Development' scenarios in both AM Peak and PM Peak hours.
- 3.5.6 For the M1 Junction 24 area, which is congested, the forecast delays are sensitive to small changes in forecast flows. The modelling also shows that the A514 Swarkstone Road / A5132 Barrow Lane junction is also sensitive to small increases in flow through the junction which are forecast to cause significant increases in delays in the AM Peak hour.

Figure 3.6: Forecast Delay Change for 2029 'With Development' minus 'Without Development' (AM Peak hour)



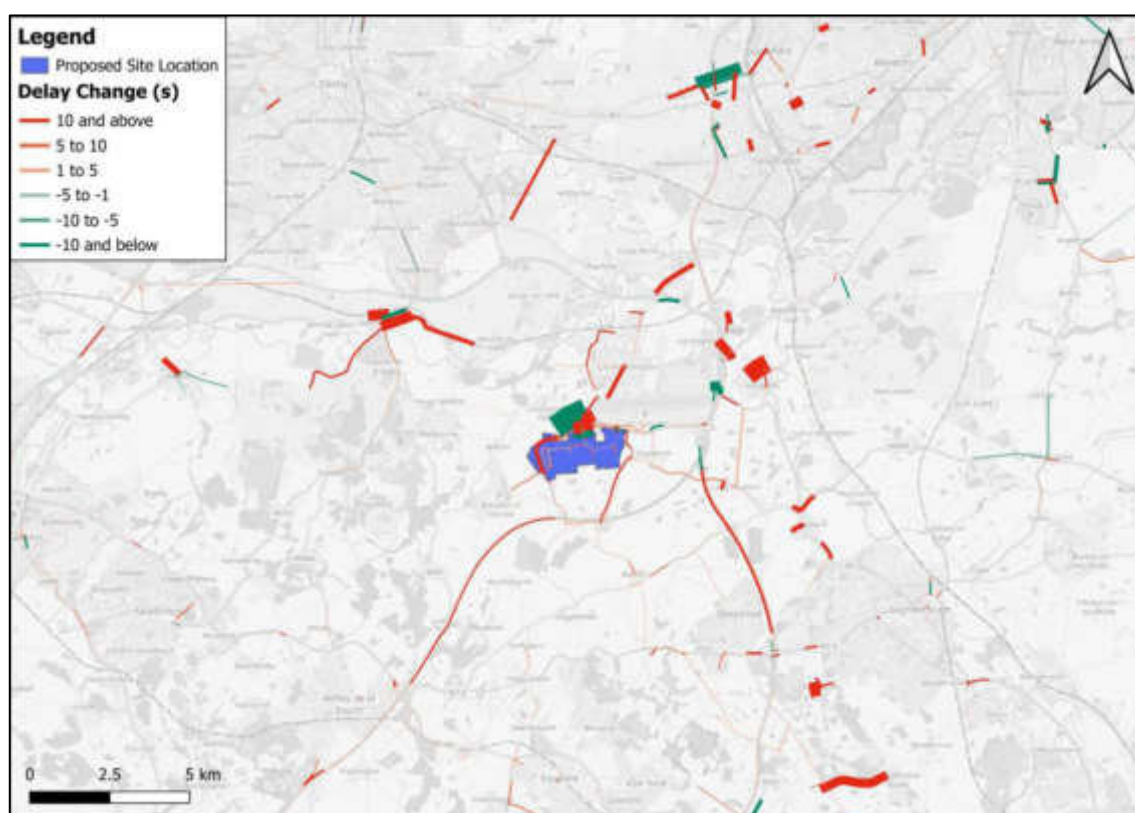
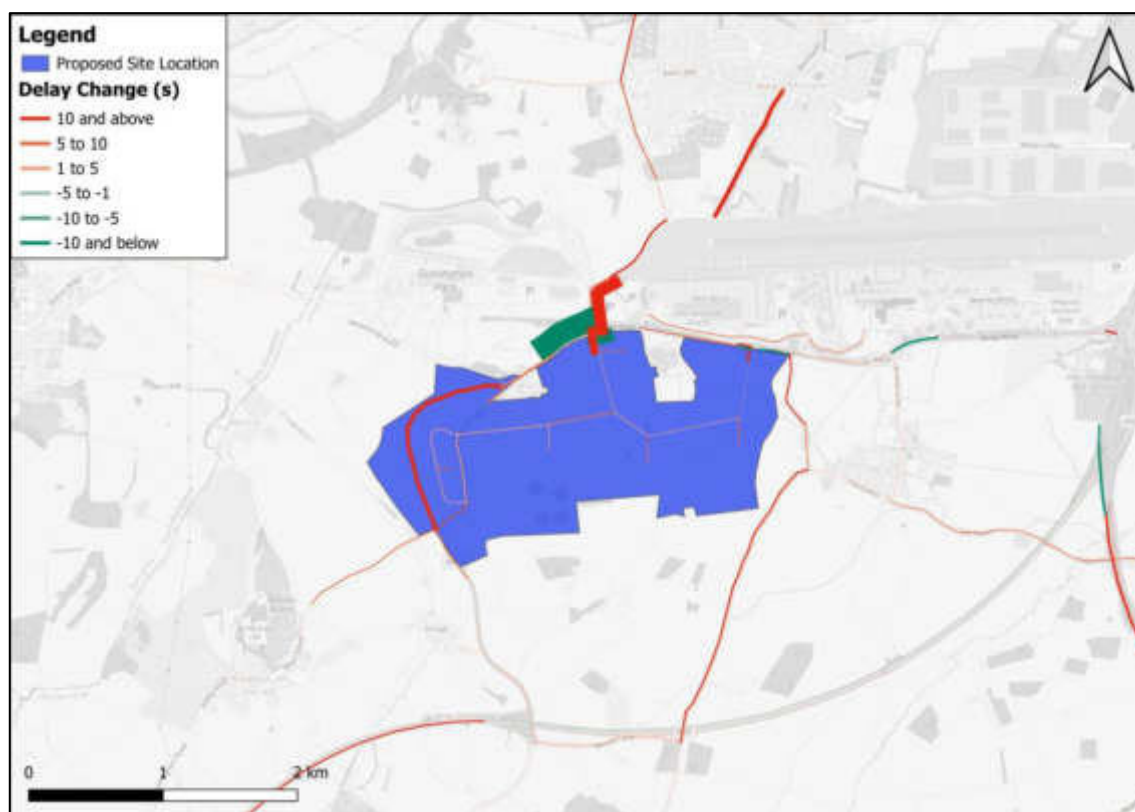
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Figure 3.7: Forecast Delay Change for 2029 'With Development' minus 'Without Development' (PM Peak hour)



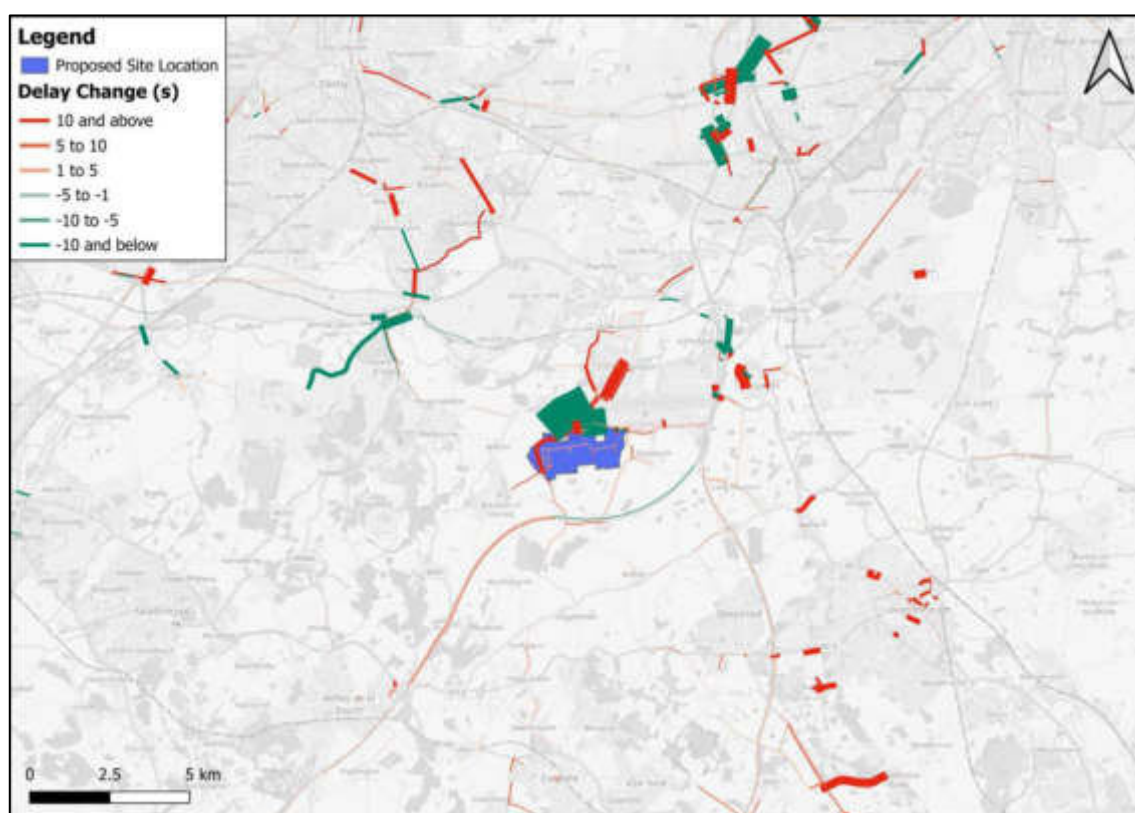
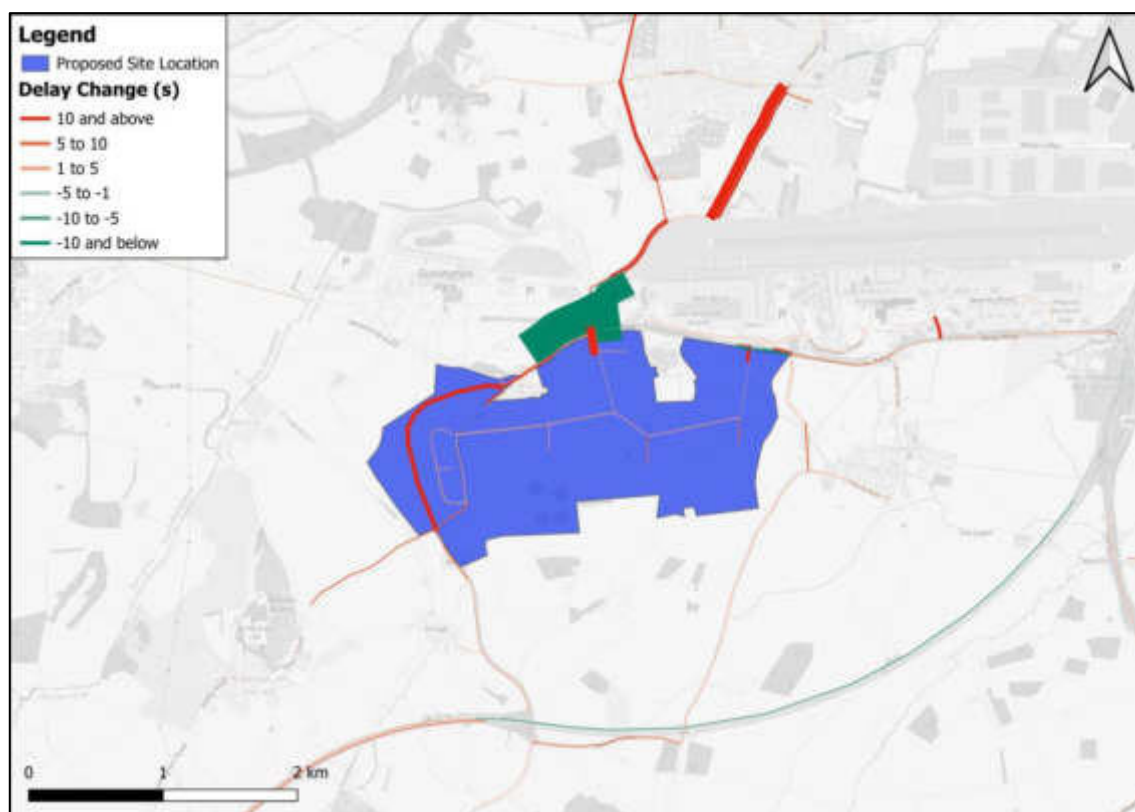
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Figure 3.8: Forecast Delay Change for 2051 'With Development' minus 'Without Development' (AM Peak hour)



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Figure 3.9: Forecast Delay Change for 2051 'With Development' minus 'Without Development' (PM Peak hour)

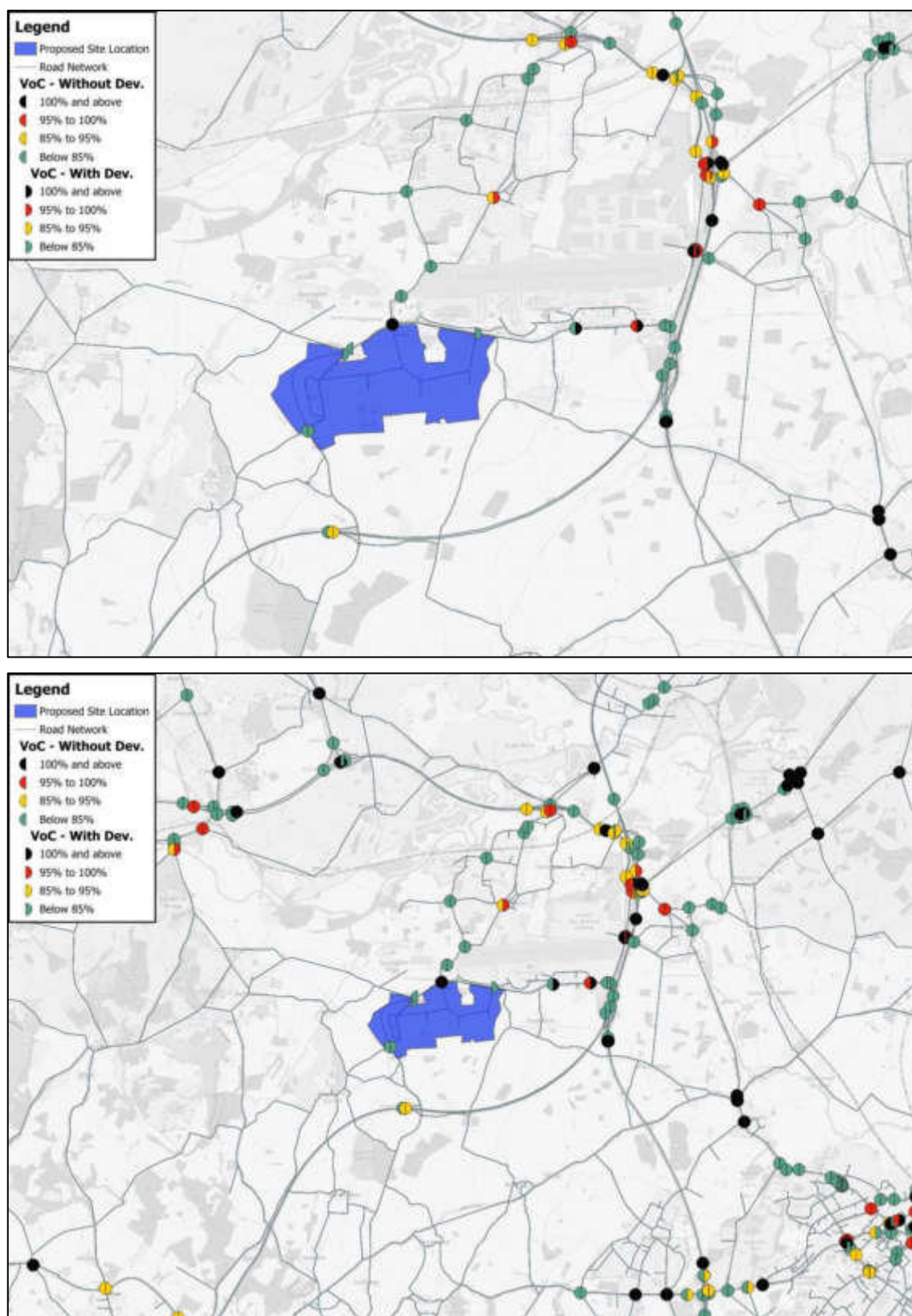


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3.6 Forecast Node Volume-Capacity Ratios

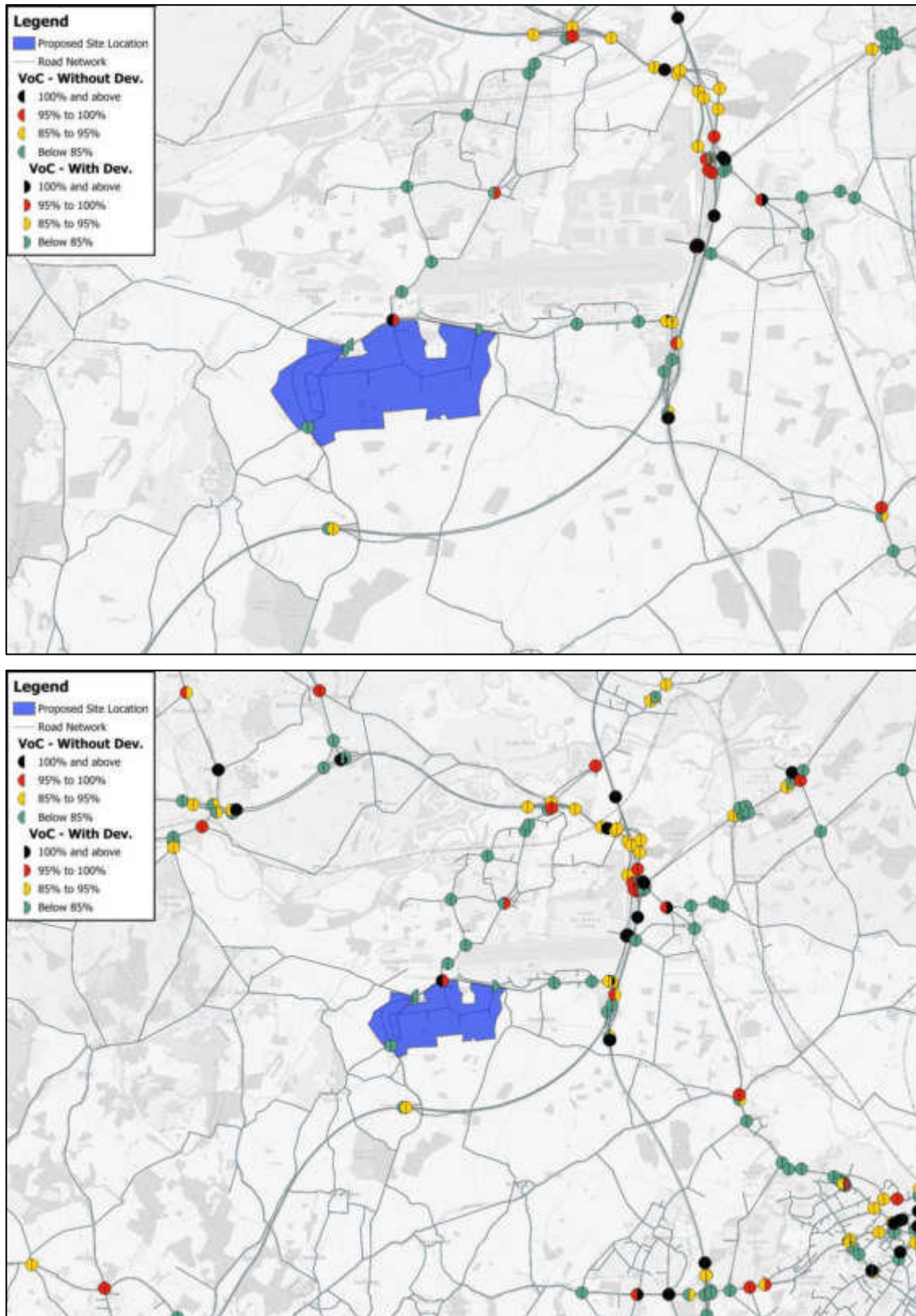
- 3.6.1 As a part of the forecast modelling, node / junction capacities are estimated for individual turning movements based on a number of factors including priority of the turn (for example, give-way or merge), the level of green-time at signalised junctions, and the amount of opposing traffic at the junction. Using these calculated capacities and the forecast traffic volumes, node volume-capacity ratios are estimated to identify locations where the forecast flows are approaching or exceeding the forecast capacity.
- 3.6.2 To summarise the forecast volume-capacity ratios for the individual turning movements at a node, there are two approaches. These are to calculate the flow-weighted average volume-capacity of the node, or to calculate the maximum volume-capacity ratio for all turns within a node. The average volume-capacity ratio provides an overview of how the individual node is performing but may not highlight locations where a limited number of movements at a node are approaching or exceeding capacity. To highlight these locations, the maximum volume-capacity ratio at each node has been used. Node volume-capacity ratios exceeding 85% indicate that the highway network is under stress, and there is likely to be a reduction in speed and increase in delay.
- 3.6.3 Figure 3.10 to Figure 3.13 show the forecast maximum node volume-capacity ratios for 2029 and 2051 'Without Development' and 'With Development' scenarios. For ease of comparison, the symbology has been designed to show the data for 'Without Development' and 'With Development' scenarios on the same plot.
- 3.6.4 The reader should note that Figure 3.10 to Figure 3.13 show a subset of all nodes within the EMFM. Nodes with maximum volume-capacity ratios below 85% in all forecast scenarios are not shown, except for nodes which are located at the proposed development site accesses on the A453.
- 3.6.5 The forecast maximum node volume-capacity ratio plots show that in the immediate vicinity of the proposed development site, the Walton Hill junction is congested with node volume-capacity ratio exceeding 100% in most forecast scenarios. For the 2029 PM Peak hour, the node volume-capacity ratio reduces slightly to 95% to 100% in the 'With Development' scenario as a result of the change of junction configuration from a signalised junction to roundabout. However, the node volume-capacity ratio remains high, and delays are forecast.
- 3.6.6 Other junctions along the A453, including the A453 / East Midlands Airport access junction and the Finger Farm roundabout, are also forecast to be affected by the proposed development with higher node volume-capacity ratios forecast in some of the 'With Development' scenarios when compared with the corresponding 'Without Development' scenarios.
- 3.6.7 For several junctions in Castle Donington, including the High Street / Park Lane / Delven Lane signalised junction and Broad Rushes / Station Road roundabout, higher node volume-capacity ratios are forecast in the 2051 'With Development' scenarios when compared with the 2051 'Without Development' scenarios.
- 3.6.8 For the M1 Junction 24 area, the node volume-capacity ratios are high for the 'Without Development' scenarios, with multiple nodes in this area exceeding 85%. For the 'With Development' scenarios, the node volume-capacity ratios remain high, exceeding 85%, showing that the M1 Junction 24 area is forecast to have high delays.
- 3.6.9 For the A50 Junction 1 and A42 Junction 14 Tonge Interchange, the node volume-capacity ratios are also high for the 'Without Development' scenarios, with several nodes exceeding 85%. For the 'With Development' scenarios, the node volume-capacity ratios remain high, exceeding 85%, showing that some movements are forecast to experience delays at these locations.

Figure 3.10: Forecast Node Volume-Capacity Ratio for 2029 'Without Development' and 'With Development' Scenarios (AM Peak hour)



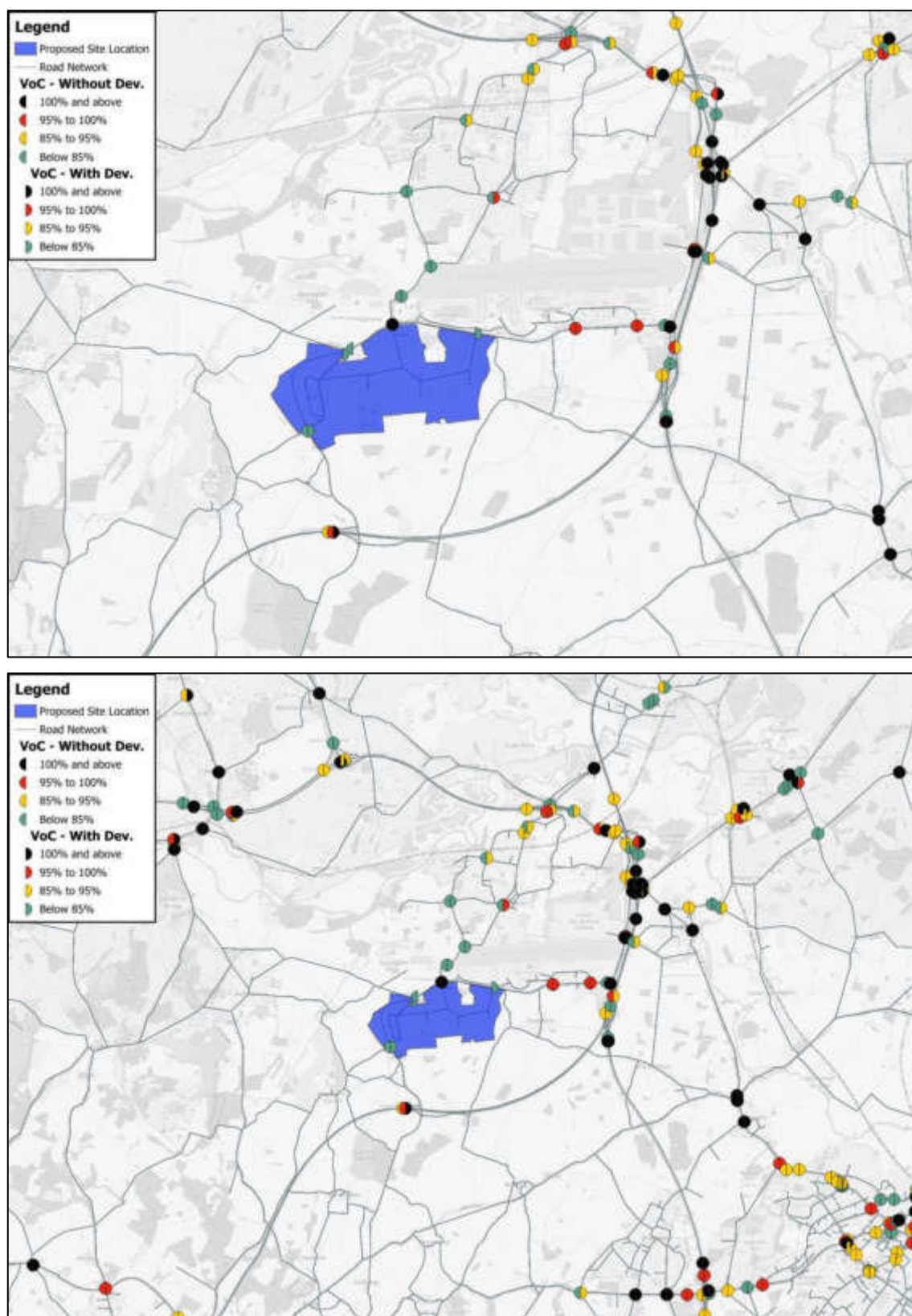
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Figure 3.11: Forecast Node Volume-Capacity Ratio for 2029 'Without Development' and 'With Development' Scenarios (PM Peak hour)



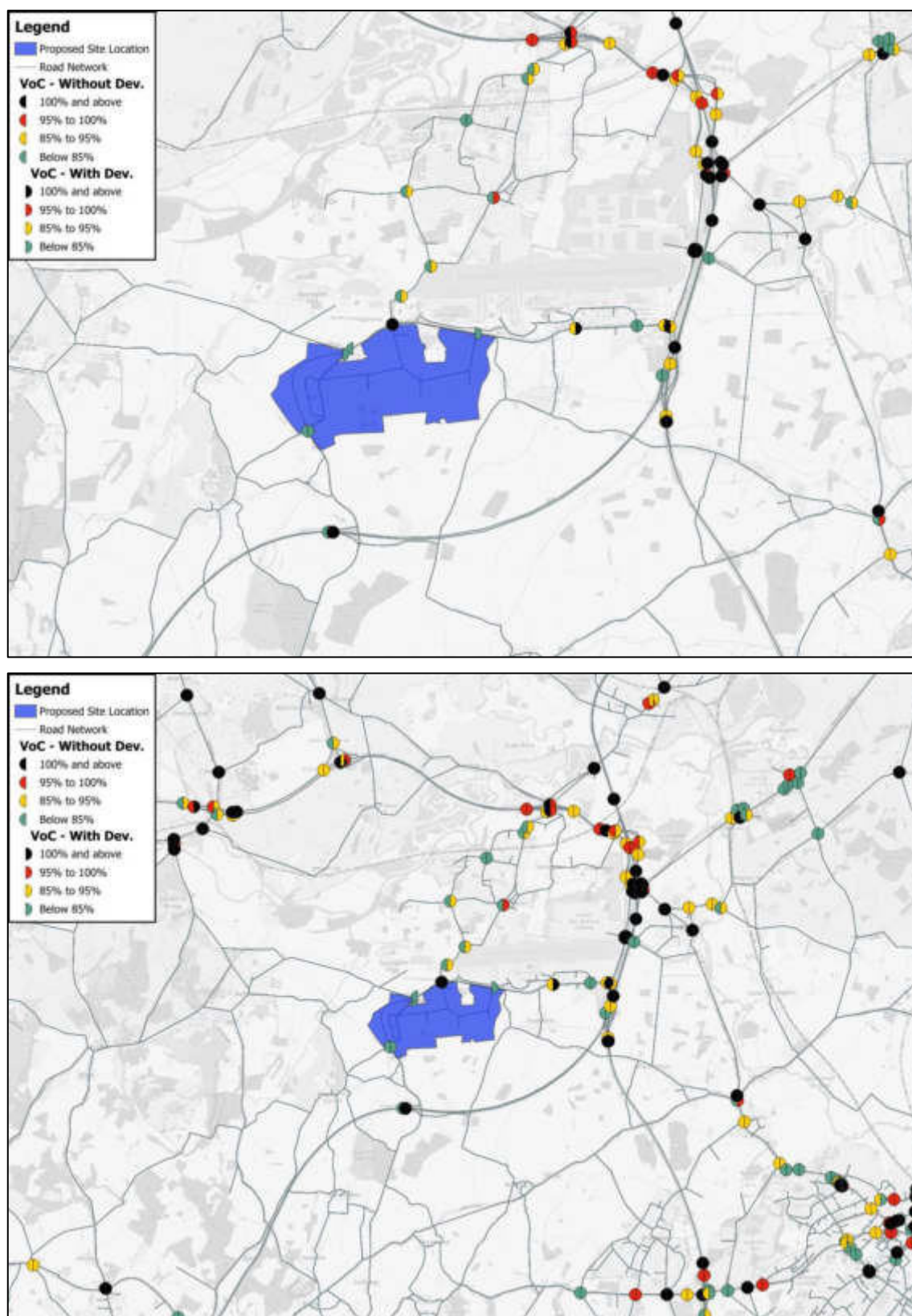
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Figure 3.12: Forecast Node Volume-Capacity Ratio for 2051 'Without Development' and 'With Development' Scenarios (AM Peak hour)



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Figure 3.13: Forecast Node Volume-Capacity Ratio for 2051 'Without Development' and 'With Development' Scenarios (PM Peak hour)



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3.7 Forecast Junction Turning Flows

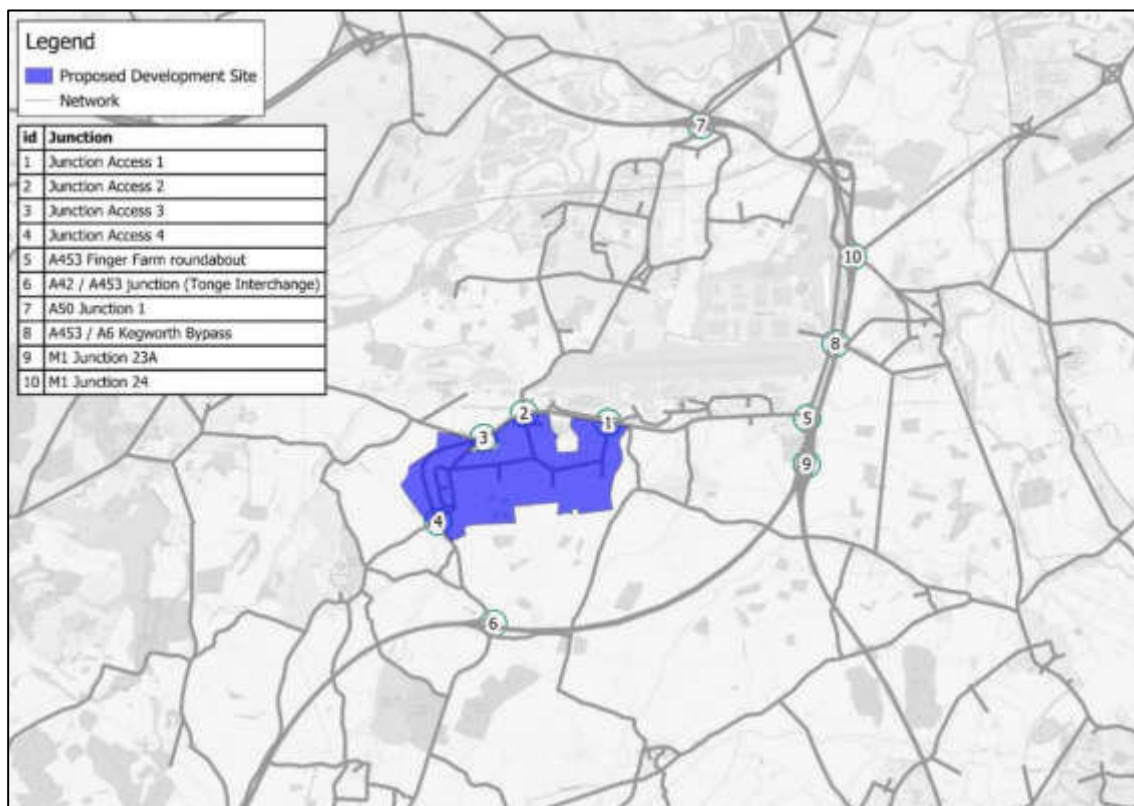
3.7.1 Forecast turning flows have been extracted for the following ten junctions (as shown in Figure 3.14) in the vicinity of the proposed development:

- Proposed development access - Junction 1;
- Proposed development access - Junction 2;
- Proposed development access - Junction 3;
- Proposed development access - Junction 4;
- A453 Finger Farm roundabout;
- A42 Junction 14 Tonge Interchange;
- A50 Junction 1;
- A453 / A6 Kegworth Bypass;
- M1 Junction 23A; and
- M1 Junction 24.

3.7.2 The data will be provided separately in MS Excel / spreadsheet format which contains the forecast turning flows for the AM Peak and PM Peak hours for light vehicles and HGVs. Data will be provided for the 2019 base year, 2022, 2029 and 2051 'Without Development', and 2029 and 2051 'With Development' scenarios. In addition to the turning flows, turn volume-capacity ratios will also be provided where available.

3.7.3 By design the EMFM highway model has not been calibrated or validated for individual turning movements, so care should be taken when using forecasts of flows and volume-capacity ratios at this level.

Figure 3.14: Location of Forecast Turning Flow Data



Section 4 – Summary of the EMFM Assessment

4.1 Summary of Assessment

- 4.1.1 Using the East Midlands Freeport Model (EMFM), forecasts have been undertaken to produce the 2029 and 2051 'Without Development' and 'With Development' scenarios for the AM Peak and PM Peak hours for the strategic assessment of the proposed Isley Woodhouse development.
- 4.1.2 Based on these model forecasts, the following is a summary of the key findings for the strategic assessment of the proposed development:
- Development trips have been forecast to route via the following roads:
 - the A453 to and from the M1(S) and A42;
 - local network of Castle Donington to and from M1(N) and A50; and
 - the local network to the south of the proposed development site (including The Green, Mill Lane, Top Brand and Nottingham Road) to and from the urban areas to the south (including Loughborough, Shepshed, Coalville and Ashby-de-la-Zouch).
 - The forecast flow changes in 2029 and 2051 between the 'With Development' and 'Without Development' scenarios show that the largest increases in flow are forecast along the A453. The M1, A42, links through Castle Donington, and local links to the south of the proposed development site, are also forecast to experience increases in flow.
 - An Area of Influence for the proposed development has been defined by identifying links which are forecast to change by more than $\pm 5\%$ and ± 30 PCUs between the 2051 'With Development' and 'Without Development' scenarios in either the AM Peak or PM Peak hours. The forecast AoI includes:
 - the A453 including the A42 Junction 14 Tonge Interchange and Finger Farm roundabout;
 - the M1 between Junction 23 and Junction 24a;
 - the A42 between the A42 Junction 13 and the M1;
 - the A50 including A50 Junction 1, Junction 3 and Junction 4;
 - local roads in / around Castle Donington and Kegworth; and
 - local roads in / around the northern part of Loughborough, Shepshed and Coalville.
 - The forecast delay changes in 2029 and 2051 between the 'With Development' and 'Without Development' scenarios show the proposed development is forecast to increase the delays on the A453, the local network through Castle Donington, the M1 links to the south of Junction 23a and the A42 links to the west of A42 Junction 14 Tonge Interchange.
 - The forecast maximum node volume-capacity ratios show that the proposed development is forecast to increase pressure for junctions along the A453 such as the East Midlands Airport access junction, and the junctions in Castle Donington. For the SRN, the M1 Junction 24 area, A50 Junction 1 and A42 Junction 14 Tonge Interchange, high node volume-capacity ratios are forecast for multiple nodes at these locations for both the 'Without Development' and 'With Development' scenarios, indicating that these areas are forecast to be congested with high delays.
- 4.1.3 The forecasts undertaken reflect the forecast strategic impact of the proposed Isley Woodhouse development. It should be noted that the results provided in this report are at a high level. Due to the strategic nature of the EMFM, not all roads are modelled, and the results should be interpreted with that in mind.
- 4.1.4 Although the EMFM modelling provides the forecast strategic impact and form part of the proposed Isley Woodhouse assessment evidence packs, the overall assessment should be complemented by local operational assessment and analysis.

Appendix A Planning Data Assumptions

Residential Development Assumptions (sites with more than 500 dwellings) (North West Leicestershire)

District	Location	Quantum	Timescale	Include
North West Leicestershire	Money Hill North of Nottingham Road	1,980	2020-2036	Y
North West Leicestershire	Land North and South of Park Lane (09/01226/OUTM)	879	2020-2032	Y
North West Leicestershire	Land North and South of Park Lane, Castle Donington (CD10)	1,076	2025-2034	Y
North West Leicestershire	Land off Grange Road (South East Coalville)	3,495	2020-2038	Y

Employment Development Assumptions (sites with more than 750 jobs) (North West Leicestershire)

District	Location	Quantum	Timescale	Include
North West Leicestershire	Mercia Park	350,000 sqm (floorspace)	2024-2027	Y
North West Leicestershire	Land at Sawley Crossroads	56,702sqm (floorspace)	2020	Y
North West Leicestershire	Strategic Rail Freight Interchange (SRFI) - Units 1-4	2,200 jobs	2021	Y
North West Leicestershire	Ashby-de-la-Zouch Former Lounge disposal point	74,976 sqm (floorspace)	2024-2026	Y
North West Leicestershire	Money Hill	16 ha (site area)	2027-2031	Y
North West Leicestershire	Castle Donington East Midlands Distribution Centre (EMDC)	105,104 sqm (floorspace)	2021-2023	Y
North West Leicestershire	Land East Of Regs Way Coalville Leicestershire	31,048 sqm (floorspace)	2024	Y
North West Leicestershire	East Midlands Gateway Phase 2	300,000 sqm (floorspace)	2025-2030	Y
North West Leicestershire	EMA Aviation expansion – Freeport status expansion	938 jobs	2026-2028	Y
North West Leicestershire	Land South Of Junction 1 Of The A50 Castle Donington Leicestershire	92,500 sqm (floorspace)	2024	Y
North West Leicestershire	Land West of Hilltop Farm, Castle Donington (EMP89)	17,850 sqm (floorspace)	2025-2034	Y

Appendix B Highway Network Assumptions

Location	Scheme Name	Forecast Year	Include
Leicestershire	A5 widening to dual carriageway near Hinckley	2026	N
Earl Shilton	Access arrangements for SUE (sustainable urban extension) / Highway improvements for SUE	2026	Y
Barwell	Access arrangements for SUE / Highway improvements for SUE	2026	Y
Lubbesthorpe	Access arrangements for SUE including strategic traffic link to the A563 Lubbesthorpe Way	2021	Y
Loughborough	A512 widening B591 to M1 J23, improvements to J23 and completion of dualling thereafter to either Snell's Nook Lane or Epinal Way junction	2021	Y
Coalville	Bardon Road Link: Southern section only	2026	Y
Castle Donington	Western Link Road from Back Lane to Tops Hill, NWLDC package of measures to help mitigate growth planned	2021	Y
Lubbesthorpe	Link across M69 to join North and South of the Lubbesthorpe development.	2031	Y
Earl Shilton & Barwell	Highway improvements for SUE	2026	Y
Lubbesthorpe	Highway improvements for SUE	2026	Y
Loughborough	West of Loughborough SUE (access from the north via the A6 roundabout)	2022	Y
Blaby	Desford Crossroads	2026	N
Harborough	Harborough Strategic Development Area	2021	Y
Charnwood	North of Birstall SUE	2026	Y
Charnwood	Mountsorrel Lane, Rothley Link Road	2021	Y
Charnwood	A512 junction improvements	2021	Y
North of East Leicester	North of East Leicester Development Network - Thorpebury (previously Thurmaston) SUE.	2026	Y
Leicester City	Traffic Calming Schemes (Phase 2)	2021	Y
Leicester City	Welford Road	2021	Y
Leicester City	Waterside Development	2026	Y
Leicester City	Belgrave Gate South	2020	Y
Leicester City	Lancaster Road	2020	Y
Leicester City	Mansfield Street & Church Gate	2021	Y
Leicester City	SMBS Access to Burleys Way	2021	Y
Leicester City	Vaughan Way	2020	Y
Leicester City	Ashton Green	2021	Y
Leicester City	LNW2 Ravensbridge Drive / Blackbird Road	2020	Y
Melton	Melton Mowbray Distributor Road Northern Section	2026	Y
Melton	Melton Mowbray Distributor Road Eastern Section	2026	Y
Melton	Melton Mowbray Distributor Road Southern Section	2026	Y
Melton	Gladman's Site (Leicester Road and Kirby Lane Access)	2021	Y
Leicester City	Beaumont Leys Anstey Lane Improvements	2021	Y
Hinckley	Hinckley Rugby Road Corridor Improvements - Phase 4	2023	Y
Leicester City	Putney Road West Improvement	2022	Y
Lutterworth	Frank Whittle Roundabout approaches	2021	Y
Lutterworth	Lutterworth East Development (Development Access (A4304, Gilmorton Road and A426))	2026	Y
Lutterworth	Lutterworth East Development associated mitigations	2031	Y

Lutterworth	Lutterworth East Development (Link Road between A4304 and A426)	2031	Y
Lutterworth	Lutterworth East Development (Gilmorton Road bridge bus restriction)	2026	Y
Bardon Hill	Bardon Hill Link Road North Section	2026	Y
Coalville	Hoo Ash Roundabout	2025	Y
Coalville	Thornborough Road Roundabout	2025	Y
Coalville	Dual Carriageway from Thornborough Road to Whitwick Road	2025	Y
Coalville	Whitwick Road Roundabout	2025	Y
Coalville	Broom Leys Road Junction	2025	Y
Coalville	Bardon Link Road Junction	2025	Y
Coalville	Birch Tree Roundabout	2025	Y
Coalville	Flying Horse Roundabout	2025	Y
Coalville	Fieldhead Roundabout	2025	Y
Hinckley	DPD A5 Access	2021	Y
Padge Hall	Padge Hall Development Access	2024	Y
Leicester City	Abbey Park Road Cycle Provision	2021	Y
Blaby	A47/Kirby Lane Tesco Express	2021	Y
Leicester City	Abbey Street	2021	Y
Leicester City	A50 Groby Road Bus Lane	2022	Y
Harborough	Magna Park Extension Access - Mere Lane, Lutterworth	2021	Y
Harborough	Magna Park Extension Access - A5, Lutterworth	2026	Y
Blaby	Highway improvements for Lubbesthorpe SUE	2021	Y
Blaby	Foxhunter Roundabout Eastbound Approach	2021	Y
Loughborough	West of Loughborough SUE (connection to the northern arm of the A512 roundabout)	2036	Y
Harborough	B4114/B581 Signalisation Improvement, Broughton Astley	2026	Y
Blaby	Blaby DPD Site Access	2026	Y
Blaby	West of St Johns (Blaby DPD) Site Access	2026	Y
Harborough	Wigston Direction for Growth Site Access	2026	Y
Blaby	Everard Way Closure, Fosse Park	2020	Y
Loughborough	Access connection for the Science Park via the A512 roundabout	2031	Y
NWL	Money Hill Site Access A511	2026	Y
Derbyshire	Wragley Way (South Derbyshire) SUE Access A50	2031	Y
Derbyshire	Clifton (Rushcliffe) SUE Access	2022	Y
Derbyshire	EMIP A50 (Freeport)	2030	Y
Derbyshire	Toton Innovation Hub (HS2)	2026	Y
Nottinghamshire	Ratcliffe Power Station A453 (Freeport)	2030	Y
Rugby	Rugby Radio Station - A5 Access	2022	Y
Leicester City	Buckminster Road/Brading Road Safer Streets	2022	Y
North West Leicestershire	Mercia Park	2020	Y
Leicester City	Western Park Golf Course	2029	Y
Harborough	Kettering Road Signalisation	2021	Y
Charnwood	Shuttle signals on Tickow Lane (over bridge)	2022	Y
Charnwood	Buttercup Lane in Shepshed	2022	Y
Blaby	Dans Lane (A47)	2023	Y

Hinckley	B582 / B585 signalisation	2023	Y
Hinckley	A47 roundabout between Wykin Rd and Outlands Dr	2021	Y
M6 J10-13	M54-Stafford ALR (All Lane Running)	2021	Y
M54-M6 Toll	New Link Road min 2 lane motorway	2024	Y
M6 J13-J16	Stafford South to Stoke ALR (All Lane Running)	2022	Y
M1 J13-16	MK South - J16 ALR (All Lane Running)	2022	Y
M40 M42	M40 J16-M42 J3 ALR (All Lane Running)	2026	Y
A46 Coventry	Remove Binley and Walsgrove roundabouts M40-M6 as 'expressway standard'(i.e. all grade separated junctions)	2026	Y
M6 J10	Walsall M6 Junction 10 issues	2014	Y
A46 Toll Bar End	Grade separated junction at Toll Bar End & Stonebridge Highway to 3 lanes	2021	Y
Newark N	Dualling Newark N bypass first stages now in RIS 2	2031	Y
Newark S	A1-A46 link South of Newark; part constructed.	2031	Y
Lincoln E	A15-A158; under construction	2021	Y
Lincoln S	A158-A46	2031	Y
Grantham S	A1-A52 link bypassing Grantham; under construction	2023	Y
Warwickshire	M6 J2 - J4 SMART motorway	2021	Y
Nuneaton and Bedworth Borough	Coton Arches	2021	Y
Nuneaton and Bedworth Borough	A4254b Eastboro Way P1	2024	Y
Nuneaton and Bedworth Borough	College Street / A444	2023	Y
Nuneaton and Bedworth Borough	Transforming Nuneaton	2026	Y
Nuneaton and Bedworth Borough	Croft Road/Greenmoor Road Priority	2031	Y
Nuneaton and Bedworth Borough	A47 Old Hinckley Road	2024	Y
Nuneaton and Bedworth Borough	Coventry Road / Gipsy Lane	2026	Y
Nuneaton and Bedworth Borough	A4254 / B4114 / Eastboro Way	2026	Y
Nuneaton and Bedworth Borough	Nuneaton Northern Sites Link Road	2026	Y
North Warwickshire	B5000 Market Street/Bridge St Signals	2026	Y
North Warwickshire	A5 Dualling between Grendon and Dordon Junction	2033	Y
Rugby Borough	A426/A4071 Avon Mill Roundabout/Newbold Road/Hunters Lane Priority Junction	2026	Y
Rugby Borough	Ashlawn Road/Hillmorton Road	2021	Y
Rugby Borough	A5 Northern Access to DIRFT III	2021	Y
Rugby Borough	A5/A428 Halfway House Roundabout	2026	Y
Rugby Borough	M1 Junction 18	2031	Y
Rugby Borough	M6 to Coton House	2021	Y
Rugby Borough	A5 Southern Access to DIRFT III	2021	Y

North Warwickshire	A5 dualling Grendon to Atherstone	2031	Y
Rugby Borough	M6 J2 Signalisation	2024	Y
Nuneaton and Bedworth Borough	Callendar Farm Phase 2	2031	Y
Nuneaton and Bedworth Borough	Bermuda Triangle Project	2026	Y
Rugby Borough	Ansty Park access	2020	Y
Castle Donington	Land South of A50 J1 Development Access	2024	Y
Blaby	B4114 Coventry Road south-westbound approach widening	2021	Y
Shepshed	A512 Ashby Rd Quarry access/signalised junction	2021	Y
Bardon	Tungsten Park, Bardon A511	2021	Y
NWL	EMAGIC Segro EMG Phase 2 Development Access	2025	Y
NWL	A50 J1 A50 J1 signalisation of two additional arms (Tamworth Road and Trent Lane)	2025	Y
Derbyshire	A38 grade-separated junctions (Kingsway Roundabout, Markeaton Island and Little Eaton Roundabout)*	2024	Y
Broxtowe	Toton Link Road*	2026	N

*Scheme is located in the buffer network of the PRTM2019 (and therefore not included for PRTM2019).

About AECOM

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APPENDIX 9

ROAD SAFETY AUDIT RESPONSE REPORT (ADC2570-RP-P-v2)



ROAD SAFETY AUDIT RESPONSE REPORT

ISLEY WOODHOUSE

DOCUMENT CONTROL

project number: ADC2570			report reference: ADC2570-RP-P	
version	date	author	reviewer	comments
1				internal draft
2	09/03/2025	Tim Cooke	David Cummins	first issued with the TA

Introduction

- Appendix 1** contains four Stage 1 Road Safety Audit reports on the proposed highway works that support the proposed Isley Woodhouse development. The audit reports include background information about the location and works proposed. This document is the Road Safety Audit Response Report. It has been prepared with reference to DMRB GG 119.
- The following drawings were the subject of each of the Road Safety Audits.

drawing number	drawing title
RSA report 1 – A453 Realignment	
ADC2570-DR-002-P4	Proposed A453 realignment and site access roundabouts (junction 3 and 4)
RSA report 2 – A453 Roundabout	
ADC2570-DR-003-P5	Proposed A453 site access roundabout (junction 2)
RSA report 3 – A453 Eastern Junction	
ADC2570-DR-004-P6	Proposed A453/eastern site access junction (junction 1)
ADC2570-DR-017-P2	Proposed A453/eastern site access junction - Phase 1 (junction 1)
RSA report 4 – Cycle interventions	
ADC2570-DR-006-P6	Cycle Network Overview Plan
ADC2570-DR-015-P2	A453 cycle connection to EMG
ADC2570-DR-016-P2	North cycle connections to EMG

- The representatives from the design organisation who prepared this RSA response report are named in the document control table above and in the statement below.

Key personnel

- GG 119 requires the Design Organisation to prepare a road safety audit response report in collaboration with the Overseeing Organisation. The key personnel are as follows:

Overseeing Organisation	Leicestershire County Council
RSA team	Sevenairs Consulting Ltd
Design Organisation	ADC Infrastructure

Decision Log

- The four Road Safety Audit reports noted various problems, combined and listed in the Decision Log below. The drawings listed above have been revised as described in the Decision Log, to address the problem raised.

Design organisation and Overseeing Organisation statement

- On behalf of the design organisation, I certify that:
 - the RSA actions identified in response to the road safety audit problems in this road safety audit have been discussed and agreed with the Overseeing Organisation

name	Tim Cooke		
position	Technical Director	organisation	ADC Infrastructure Limited
signed		date	

7. On behalf of the Overseeing Organisation, I certify that:
- a) the RSA actions identified in response to the road safety audit problems in this road safety audit have been discussed and agreed with the design organisation; and
 - b) the agreed RSA actions will be progressed.

name			
position		organisation	Leicestershire County Council
signed		date	

DECISION LOG

RSA REPORT 1 - A453 REALIGNMENT		Design Organisation Response	Overseeing Organisation response	Agreed RSA Action
A1-01	Location: Proposed A453 Realignment – Whole Length.	Agreed. Additional drawings have been prepared to show the vertical alignment and the earthworks necessary to deliver a DMRB standards compliant design, suitable for the current stage in the design process. Full details will come forward at the detailed design stage.		
	Summary: Forward Visibility – Insufficient forward visibility may increase the risk of shunt and head on type collisions.			
	At this early stage, no details have been provided on the forward visibility envelope for the proposed carriageways. Whilst connecting roads are likely to provide a noticeable reduced level of provision, it would be reasonable for drivers to expect high quality of provision along the proposed A453 realignment. The contours on Ordnance Survey mapping suggest the eastern part of the new alignment would fall vertically east to west by 20m over perhaps 700m, then flatten out as the curve develops towards the west and onwards to Moor Lane. There is a risk here that the topography of the mainline may compromise stopping sight distance, especially overtaking sight distance, at any crests, sags and roadside embankment areas. This may consequentially increase the risk of shunt and head on type collisions.			
	RECOMMENDATION			
	It is recommended that an assessment of the vertical and horizontal geometry is prepared to inform the next stage of design.			
A1-02	Location: Proposed Melbourne Road – T-junction north of the roundabout.	Not agreed. The eastern length of Melbourne Road is to be retained to provide access to one property and has been designed to be a private driveway. Adequate visibility splays will be provided to and from this driveway.		
	Summary: New / Existing Road Interface – Right turn into the eastern length of Melbourne Road may increase the risk of shunt type collisions.			
	The eastern most length of Melbourne Road is to be retained for access to frontage property and possibly also for statutory undertakers' equipment. Access to this length of road from the A453 is from the realigned Melbourne Road by means of a simple T-junction arrangement. However, there is a risk here that drivers leaving the roundabout northbound may not expect a vehicle slowing to turn right into the T-junction. Also, vehicles heading eastbound towards the roundabout are likely to be taking a vehicle path closely aligned to the carriageway centreline marking. This may increase the risk of shunt type or junction related collisions here.			
	RECOMMENDATION			
	It is recommended that a ghost island right turn is provided with a protective central refuge.			
A1-03	Location: Proposed Melbourne Road	Agreed. Additional drawings have been prepared to show the vertical alignment and the earthworks necessary to deliver a DMRB standards compliant design, suitable for the current stage in the design process. Full details will come forward at the detailed design stage.		
	Summary: Vertical Alignment – Proposed vertical alignment may increase the risk of shunt type collisions.			
	There is a noticeable difference in levels between the existing Melbourne Road and the land immediately to the south of the road at the point where the realignment is proposed. The audit team note some degree of horizontal shift in the proposed carriageway to the north of the roundabout which may accommodate some of the level differences. However, it is unclear as to how and where the vertical level difference will be accommodated and what influence this may have on the adjacent verge areas. Any accommodation of level difference here may have a consequential influence on forward visibility, particularly over any crest, westbound departing the roundabout and eastbound on the approach to any queueing traffic at the roundabout. This may consequentially increase the risk of shunt type collisions.			
	RECOMMENDATION			
	It is recommended that an assessment of the vertical and horizontal geometry is prepared to inform the next stage of design.			
A1-04	Location: Unnamed Road west of Moor Lane – Over existing bridge.	Agreed. Current modelling identifies that the queue from the roundabout does not extend back along the unnamed road. However, this will be reviewed in the next stage of the modelling.		
	Summary: Vertical Alignment – Change of road environment may increase the risk of shunt type collisions.			
	An existing bridge over the Cloud Trail long distance route is to be retained. The existing alignment eastbound has a crest in the mainline over the bridge followed by a side road to the right. Right turning traffic into Moor Lane currently has priority over traffic from Moor Lane. This will change in the proposed arrangement, where traffic on the unnamed road will need to give way to traffic from Moor Lane. There			

	is a risk here that, with an expected increase in traffic on Moor Lane, queueing may occur on the unnamed road on the section of carriageway that is masked by the crest over the bridge. This change of road environment may increase the risk of shunt type collisions.	The next stage of design will also include a review of the vertical geometry.		
	RECOMMENDATION			
	It is recommended that an assessment of the potential for queueing and the vertical geometry is prepared to inform the next stage of design. This could seek to include mitigations around speed limits and improvements to traffic signs on the approach.			
A1-05	Location: Proposed A453 Realignment and Roundabouts – Whole Length.	Agreed. Any required relaxations and departures will be identified at the next stage of design.		
	Summary: Departures from Standards – Relaxations and departures from standards may have a detrimental influence on the safe operation of the proposed roads.			
	At this early stage, it is unlikely that a full geometric design has been considered in any depth. There are likely to be some design parameters that require agreement from the local highway authority in terms of relaxations and departures from standard that may have an influence on the safe operation on the proposed carriageways. It is acknowledged that a formal system of managing relaxations and departures may not be in place with the local authority as it would be for a trunk road. However, relaxations and departures from standards may have a detrimental influence on the safe operation of the proposed carriageways, in particular the high-speed roads and interfaces between new and existing carriageway areas. This may increase the risk of head on and shunt type collisions.			
	RECOMMENDATION			
	It is recommended that relaxations and departures from standards are identified to inform the next stage of design and highlight the need for any safety risk assessments and mitigations.			
A1-06	Location: Proposed A453 Realignment east of Melbourne Road.	Agreed. The cross section has been revised. NMU provision east of the Melbourne Road roundabout has been removed to ensure consistency with the cross section further east. NMUs will be provided for by internal routes.		
	Summary: Cross Sections and Cross-sectional Variation – Change in the quality of road provision may increase the risk of collisions.			
	A new alignment is proposed for the A453 to the east of Melbourne Road. This link appears to have a similar cross section to the mainline of the A453 realignment to the west, with hard strips either side. The proposed footways and cycleways also give a wide open environment more akin to a higher speed of road. Beyond the new alignment, in particular for eastbound traffic, the quality of road environment drops significantly to a more typical rural environment with some residential frontage, driveways and other access provision. This change in road environment may not be immediately obvious and may increase the risk of higher speeds eastbound from the roundabout, through the tie-in and beyond. This change in the quality of road provision may increase the risk of speed related collisions on the existing carriageway.			
	RECOMMENDATION			
	It is recommended that the proposed A453 carriageway to the east of Melbourne Road is given a similar highway cross section to the existing carriageway beyond. This could include omitting the hard strips, NMU provision on one side only and introducing roadside landscaping to give a more enclosed feel to the new road.			
A1-07	Location: New verge areas generally.	Agreed. Detailed landscaping proposals will be part of the detailed highway design process and it will be ensured that visibility splays are kept clear of vegetation and their extent is marked to aid future maintenance.		
	Summary: Landscaping – Future growth from trees and bushes may obstruct visibility consequentially increasing the risk of junction related collisions.			
	At this early stage, landscaping proposals are unlikely to have been considered. However, there is a risk that the visibility envelope for junctions, crossings and curves in the main alignments may not continue to be met if any proposed landscaping is left unmanaged. Should the visibility requirements not be maintained clear of obstruction, there may be an increased risk of collisions linked to insufficient visibility.			
	RECOMMENDATION			
	It is recommended that the extents of visibility at junctions, crossings and bends is kept clear of any obstruction that may grow or mature in future years and that the extents of the visibility are clearly marked to aid future maintenance.			

A1-08	Location: New carriageway areas generally.	Agreed. The vertical design undertaken to demonstrate deliverability shows that there will be superelevation and an initial drainage strategy has been produced. Further drainage details including gulley positions will be provided at the detailed design stage and will be subject to a stage 2 road safety audit.		
	Summary: Drainage – Insufficient surface water drainage may increase the risk of loss of control or skidding type collisions as well as slips and falls by pedestrians and cyclists.			
	At this early stage, no details have been provided on the proposed drainage arrangements. The audit team noted that the main carriageway and associated linking carriageway areas are likely to have superelevation and crossfall changes in places. Also, there are areas at roundabouts where surface water may collect. As such, this may require measures to manage surface water around these areas in order to reduce the risk of surface water or standing water and detritus in these areas that may consequently cause loss of control or skidding type collisions as well as slips and falls by pedestrians and cyclists.			
	RECOMMENDATION			
	It is recommended that all areas are provided with suitable surface water drainage measures to minimise the risk of standing water and detritus. It is also recommended that details of these are provided at the next stage of road safety audit including gully locations, levels and contours.			
A1-09	Location: Proposed A453 Realignment.	Partially agreed. No bus stops are proposed along the A453. The Transport Assessment includes a public transport strategy that details how bus services will be provided within the Isley Woodhouse development where high quality pedestrian and bus infrastructure will be provided.		
	Summary: Lay-Bys – Lack of provision for bus services may increase the risk of shunts and overtaking type collisions.			
	There are currently two bus services along the A453. One provides an hourly service whilst the other provides two buses per day. Whilst new local services may be provided through the residential areas of the wider development, the Airway 9 service is likely to use the realigned A453 as a limited stop, express type service. Also, with the size of the development, there may also be additional express service provision on the A453. The current proposals do not indicate any specific provision for buses on the A453 realignment. Lack of provision for bus services may increase the risk of shunts and overtaking type collisions.			
	RECOMMENDATION It is recommended that the need for bus layby provision is established and, where necessary, provided near to footway access points to the residential areas.			
A1-10	Location: Proposed A453 Realignment.	Agreed. The need for any changes to statutory undertakers equipment will be identified at the detailed design stage.		
	Summary: Public Utilities / Services Apparatus – Lack of provision for access and maintenance may increase the risk of shunts and overtaking type collisions.			
	Noting the specific needs for a large development such as Isley Woodhouse, along with the existing needs of East Midlands Airport and surrounding supporting industries, there may be requirements to reroute specific statutory undertakers' equipment alongside the proposed A453. This is likely to include not only, electricity, gas, water and telecommunications, but also potentially aviation fuel and carbon capture pipelines which may have specific access needs from the A453 realignment. A lack of provision for access and maintenance may increase the risk of shunts and overtaking type collisions where regular access is required from the proposed A453.			
	RECOMMENDATION It is recommended that the need for any specific statutory undertakers' provision is established and, where necessary, provided for.			
A1-11	Location: Proposed A453 Realignment.	Agreed. At this stage it has not been determined what form of access provision will be required to the land to the west of the A453. However, the drawing shows potential crossing points and the location of these can be amended as required. Field access will be provided where necessary, following an examination of ownership and existing accesses. Details will be prepared at the detailed design stage.		
	Summary: Access – Lack of provision for access to land north and west of the A453 may increase the risk of shunts and overtaking type collisions.			
	The development proposals indicate that land to the north and west will remain as public open space. At this early stage, it is unclear as to the degree of access for pedestrians and cyclists in these areas and if there will be any need for access for maintenance. It is anticipated that footways, cycleways and new public rights of way will be established which may require access for grass cutting and other maintenance activities. A lack of provision for access and maintenance may increase the risk of shunts and overtaking type collisions where regular access is required from the proposed A453.			
	RECOMMENDATION It is recommended that the need for any specific access provision is established and, where necessary, provided for.			

A1-12	Location: Moor Lane – At agricultural access points.	Partially agreed. The existing field access points on Moor Lane along the site frontage will be closed as a result of the development proposals. Nevertheless, as with A1-11, a field access strategy will be part of the detailed design stage.		
	Summary: Agriculture – Provision at existing access points may increase the risk of head on or shunt collisions on the main carriageway.			
	There are a number of existing agricultural access points along Moor Lane. Whilst these are existing access points, the increase in traffic as a result of the development may increase the risk of head on or shunt type collisions at these access points, particularly where an access is used by a large vehicle or tractor/trailer combination that may have previously stopped in the main carriageway whilst an access gate is locked or unlocked.			
	RECOMMENDATION			
	It is recommended that, where existing vehicle gates are provided, there should be sufficient depth between the gate and the existing carriageway to accommodate vehicles that will typically use the access. It is also recommended that the potential for removing, relocating or reducing the number access points is established and, where practicable, mitigation is provided in the next stage of design.			
A1-13	Location: Proposed A453 Realignment and associated other roads.	Agreed. The need for vehicle restraint systems will be identified at the detailed design stage.		
	Summary: Fences and Road Restraint Systems – Insufficient protection of roadside hazards may increase the risk of slips and falls by pedestrians into water.			
	The main carriageway and other carriageways pass over a number of water courses which will need to be culverted. There is, however, no indication of the extents or type of culvert, indication of any vehicle restraint system or other guardrail for the water course. There is a risk here of errant vehicles entering the water course as well as slips and falls by pedestrians down into the gully formed by the water course. Insufficient protection of roadside hazards may result in increased injury severity for errant vehicle occupants and increase the risk of slips and falls by pedestrians into water consequently causing injury or drowning.			
	RECOMMENDATION			
	It is recommended that risk assessments are completed and, where necessary, a suitable form of vehicle restraint system and pedestrian guardrail are provided.			
A1-14	Location: Proposed A453 Realignment and associated other roads.	Partially agreed. The “Red Route” clearway markings currently end to the east of Isley Walton but could be extended along the new sections of the A453. This point will be discussed with LCC and will be included in the detailed design stage.		
	Summary: Network Management – Lack of restrictions on use may increase the risk of collisions linked to inconsiderate parking.			
	An existing “Red Route” clearway is in place along the A453 and the airport perimeter roads. This system of clearway ends at the eastern extents of these proposals. Whilst the red route clearway is provided to manage a specific problem caused by airport passengers for pick up, a lack of any restriction on stopping may increase the risk of collisions on the proposed A453 realignment and associated other roads. Without provision, there may be an increased the risk of collisions linked to inconsiderate parking.			
	RECOMMENDATION			
	It is recommended that a clearway system is extended along the entirety of the A453 realignment, into key side roads and along Moor Lane to the A42 junction.			
A1-15	Location: Roundabouts on the A453 realignment.	Agreed. The geometries of the roundabouts will need to comply with the DMRB as well as being suitable to provide the appropriate capacity. Geometries will be provided at the detail design stage.		
	Summary: Roundabouts – Geometry at the roundabouts may increase the risk of collisions at the junction.			
	At this early stage, the roundabout geometry is likely to be indicative and require further refinement into the detailed design. There are a number of concerns around geometric design features that may have an influence on the safe operation of the roundabouts. Specifically, but not limited to widths, deflection, gradients, visibility, entry paths etc. Whilst the audit team would not complete a design check, some features are difficult to assess without detail. As a result, deficiencies in the geometry may increase the risk of junction related collisions.			
	RECOMMENDATION			
	It is recommended that details of the geometry checks are provided at the next stage of road safety audit.			

A1-16	Location: Proposed A453 Realignment and associated other roads.	Partially agreed. The access junctions and associated pedestrian and cycle infrastructure have been designed to accommodate the forecast demand resulting from the development and this is detailed in the pedestrian and cycle strategies included within the Transport Assessment report. There is no public access to the Cloud Trail in the vicinity of the A453/Moor Lane roundabout, and no intent to provide petrol stations or other such facilities adjacent to the A453. Nevertheless, there is plenty of land in the control of the applicants surrounding the crossings, which would not preclude later provision should it arise.		
	Summary: Traffic Signals – Lack of provision may increase the risk of collisions involving pedestrians and cyclists.			
	There are a number of uncontrolled pedestrian and cycle crossings indicated on the proposals along both the A543 realignment, at roundabouts and on associated other roads. Whilst there is unlikely to be an early need for more formalised traffic signal-controlled crossings at these crossing points, as the development progresses this may change. There are a number of potential locations where pedestrian and cycle use may become more prevalent as development progresses. In particular, access to the Cloud Trail near the Moor Lane roundabout and any potential for third party development of food retail or petrol filling stations near either of the roundabouts. Lack of provision may increase the risk of collisions involving pedestrians and cyclists.			
	RECOMMENDATION It is recommended that future potential for traffic signal-controlled crossings is established and that the design going forward does not preclude later provision.			
A1-17	Location: Proposed A453 Realignment and associated other roads.	Partially agreed. The access junctions and associated pedestrian and cycle infrastructure have been designed to accommodate the proposed demand resulting from the development and this is detailed in the pedestrian and cycle strategies included within the Transport Assessment report. With regards to the specific recommendations: • An off carriageway shared footway cycleway is being provided on the eastern side of the A453 south of the Moor Lane roundabout up to Moor Lane where it leads into Tonge, including a proposed crossing of the A453. • The pedestrian demand between Isley Woodhouse and Tonge will be low, most likely to be Tonge residents accessing Isley Woodhouse. There is no existing footway provision along Moor Lane to tie into, the traffic volumes will remain low. The provision of new footways would be disproportionate to the demand. • The cycle demand between Tonge, and its Cloud Rail connection, and Isley Woodhouse would be catered for by the shared footway cycleway mentioned above, and within Tonge cyclists would be able to travel on the carriageway. • Pedestrian and cycle infrastructure will be provided within Isley Woodhouse to provide a route between Isley Walton and the Walton Hill junction (A453/central access roundabout). The masterplan includes a comprehensive movement strategy to cater for pedestrian, cycle, and equestrian journeys in all directions away from the A453 where journeys will be safer and pleasanter.		
	Summary: Pedestrians, Cycles & Equestrians – Lack of provision may increase the risk of collisions involving these users.			
	The proposals indicate a number of uncontrolled crossing points along the A453 Realignment and associated other roads. However, there appears to be a lack of connectivity onwards in particular at Isley Walton as well as at the Moor Lane Roundabout. Of particular concern is that cyclists are accommodated on carriageway between Isley Walton and the Walton Hill junction with no other provision for pedestrians. Also, there appears to be limited connectivity at the Moor Lane roundabout to both the Cloud Trail and Tonge. The latter also accommodates cyclists on carriageway without provision for pedestrians. Lack of provision may increase the risk of collisions involving pedestrians, cycles and equestrians.			
	RECOMMENDATION It is recommended that a wider review of the needs of pedestrians, cyclists and equestrians is completed that looks specifically at connectivity. This would ideally look at the potential for, but should not be limited to; • An off-carriageway footway / cycleway link between Moor Lane roundabout and south to Old Moor Lane for access into the village of Tonge. • An off-carriageway footway / cycleway link between Moor Lane roundabout and west to the Cloud Trail. • An off-carriageway footway / cycleway link between Isley Walton roundabout and east to the Walton Hill junction.			
A1-18	Location: Proposed A453 Realignment and associated other roads.	Agreed. A signage strategy will be provided at the detailed design stage.		
	Summary: Direction Signs – Placement may increase the risk of collisions linked to insufficient conspicuity or obstruction of inter-visibility.			
	At this early stage, no details have been provided of direction signs on the approaches to junctions along the A453 Realignment and associated other roads. Some of these roads have a 50mph approach speed for vehicles and are likely to have map type direction signs several metres wide and tall. Conspicuity to these large signs may be obscured by earth works or roadside vegetation and may also form an			

	obstruction to inter-visibility, in particular for pedestrian crossing points. A lack of consideration to placement may increase the risk of collisions linked to insufficient conspicuity or obstruction of inter-visibility.			
	RECOMMENDATION			
	It is recommended that the extents of visibility are established to inform the next stage of design.			
A1-19	Location: Proposed A453 Realignment and associated other roads.	Agreed. A lighting strategy will be provided at the detailed design stage.		
	Summary: Lighting – Insufficient carriageway surface illumination may increase the risk of collisions involving pedestrians during the hours of darkness.			
	There is currently no street lighting provision in the vicinity of the proposed works. The introduction of the development and associated footways, cycleways and crossing points will focus pedestrians to cross at specific locations where they may not be sufficiently illuminated. Insufficient carriageway surface illumination at crossing points may increase the risk of collisions involving pedestrians during the hours of darkness.			
	RECOMMENDATION			
	It is recommended that a system of carriageway illumination is provided that is contiguous with the provision within the wider development.			
A1-20	Location: Proposed A453 Realignment and associated other roads.	Agreed. A review of passive safety measures will be undertaken at the detailed design stage.		
	Summary: Poles / Columns – Lack of provision for passively safe posts and columns may increase the injury severity in the event of a collision by an errant vehicle.			
	The proposals outline a system of roads that have 40mph and 50mph speed limits. Collisions on higher speed roads often involve a secondary impact with street furniture that increases the injury severity of the vehicle occupants in the errant vehicle. Without consideration of a broader view towards passive safety that, not only considers passively safe sign structures, but also the reduction of sign clutter and the placement of signs, there is a risk of increased injury severity. Lack of provision for passively safe posts and columns may increase the injury severity in the event of a collision by an errant vehicle.			
	RECOMMENDATION			
	It is recommended that a broad view towards passive safety is implemented including passively safe sign structures, reduction of sign clutter and placement.			

RSA REPORT 2 - A453 CENTRAL ROUNDABOUT		Design Organisation Response	Overseeing Organisation response	Agreed RSA Action
A2-01	Location: At the proposed roundabout and the westbound approach.	Agreed. The vertical visibility will be assessed as part of the detailed design stage for the junction and if required suitable mitigation measures will be provided. However, the A453 in this location was previously subject to the national speed limit, and the speed limit was reduced to 50mph in 2023. The junction proposals include a further reduction in the speed limit to 40mph, which will further reduce the visibility splay requirements.		
	Summary: Visibility – Insufficient forward stopping sight distance may increase the risk of shunt type collisions.			
	The proposed roundabout is located on a crest in the existing alignment. The existing junction appears to have been introduced sometime around 2002 within the geometry of an existing legacy priority junction that may have been built decades earlier. Visibility on the westbound approach is compromised by a crest in the main carriageway and there is a concern here that forward visibility may be already compromised and may be worsened by the change of configuration that places a traffic signal-controlled junction in advance of a roundabout give way that is closer to the crest than the existing stop line. Insufficient forward stopping sight distance may increase the risk of shunt type collisions.			
	RECOMMENDATION			
	It is recommended that the visibility envelope is assessed for the proposed westbound carriageway and, if necessary, suitable mitigations provided.			
A2-02	Location: Verge areas generally.	Agreed. The visibility splays will be kept clear of vegetation and will be marked to aid future maintenance. Details will be provided at the detailed design stage.		
	Summary: Landscaping – Future growth from trees and bushes may obstruct visibility, consequentially increasing the risk of junction related collisions.			
	At this early stage, landscaping proposals are unlikely to have been considered. However, there is a risk that the visibility envelope for the roundabout may not continue to be met if any proposed landscaping is left unmanaged. Should the visibility requirements not be maintained clear of obstruction, there may be an increased risk of collisions linked to insufficient visibility.			
	RECOMMENDATION			
	It is recommended that the extents of visibility at the roundabout is kept clear of any obstruction that may grow or mature in future years and that the extents of the visibility are clearly marked to aid future maintenance.			
A2-03	Location: New carriageway areas generally.	Agreed. Drainage details will be provided at the detailed design stage and will be subject to a stage 2 road safety audit.		
	Summary: Drainage – Insufficient surface water drainage may increase the risk of loss of control or skidding type collisions as well as slips and falls by pedestrians and cyclists.			
	At this early stage, no details have been provided on the proposed drainage arrangements. The audit team noted that the roundabout is located on a crest and there are areas where surface water may collect. As such, this may require measures to manage surface water around these areas in order to reduce the risk of surface water or standing water and detritus in these areas that may consequently cause loss of control or skidding type collisions as well as slips and falls by pedestrians and cyclists.			
	RECOMMENDATION			
	It is recommended that all areas are provided with suitable surface water drainage measures to minimise the risk of standing water and detritus. It is also recommended that details of these are provided at the next stage of road safety audit including gully locations, levels and contours.			
A2-04	Location: At the proposed roundabout and the eastern arm.	Partially agreed. Access to the field to the north of the carriageway will be retained as per the existing situation. Currently, drivers turning right into Glebe Cottages wait to turn on the end of the central hatching markings. This is not a formal ghost island turning lane and vehicles waiting to turn right block the mainline carriageway. The proposals remove this hatching area, but this will not materially change the existing situation. However, at the detailed design stage,		
	Summary: Access – Changes to the carriageway at existing access points may increase the risk of collisions at these access points.			
	The eastern arm of the proposed roundabout changes the existing geometry for a number of access points. Two on the northern side appear to be field accesses that may give additional access to car parking at the Donnington Park Circuit. A third provides access to Glebe Cottages to the south. The geometry changes appear to move the carriageway marginally closer to Glebe Cottages, removes the ghost island space for the right turn into Glebe Cottages and also makes access to the two northern field access points. Changes to the carriageway at existing access points may increase the risk of collisions at these access points.			
	RECOMMENDATION			

	It is recommended that, where possible, access points are closed up. It is also recommended that the access to Glebe Cottages is made no worse than the existing arrangement.	consideration will be given to potentially extending the hatching area to provide a right turn facility for Glebe Cottages.		
A2-05	Location: At the proposed roundabout and approaches.	Agreed The gradient on the road and the surfacing to be used will be set out and agreed at the detailed design stage.		
	Summary: Skidding Resistance – Carriageway surfacing across part lane widths may increase the risk of loss of control type collisions.			
	The drawings indicate that carriageway widening is to be provided with no indication of resurfacing of the existing carriageway nor what skidding resistance is to be provided. There is also a risk here that, if widening is provided by means of haunching the carriageway width into the verge, a differential skidding resistance is introduced between the new and old carriageway surfacing. This difference in skidding resistance may increase the risk of loss of control type collisions, especially when the carriageway surface is wet.			
	RECOMMENDATION			
	It is recommended that the new carriageway areas are provided with a skidding resistance commensurate to DMRB CD 236, Table 3.3a or Table 3.3b based on the relevant site categories and traffic levels, that the new surfacing provided is done so in full lane widths and the revised crown of the road is located such to avoid the application of any adverse camber.			
A2-06	Location: Development access road to the south.	Partially agreed. The potential extension of the “Red Route” restrictions will be discussed with LCC. However, it may be more appropriate to provide the standard parking/waiting restrictions on the access road and this will be identified at the detailed design stage.		
	Summary: Network Management – Lack of restrictions on use may increase the risk of collisions linked to inconsiderate parking.			
	An existing “Red Route” clearway is in place along the A453 and the airport perimeter roads. Whilst the red route clearway is provided to manage a specific problem caused by airport passengers for pick up, a lack of any restriction on stopping may increase the risk of collisions on the development access to the south. Without provision, there may be an increased the risk of collisions linked to inconsiderate parking.			
	RECOMMENDATION			
	It is recommended that a clearway system is extended into the development access to the south.			
A2-07	Location: At the proposed roundabout.	Agreed. The roundabout will be designed to meet the standards in the DMRB, and provide adequate capacity. The geometry of the roundabout will be provided at the detail design stage.		
	Summary: Roundabouts – Geometry at the roundabout may increase the risk of collisions at the junction.			
	At this early stage, the roundabout geometry is likely to be indicative and require further refinement into the detailed design. There are a number of concerns around geometric design features that may have an influence on the safe operation of the roundabout. Specifically, but not limited to widths, deflection, gradients, visibility, entry paths etc. Whilst the audit team would not complete a design check, some features are difficult to assess without detail. As a result, deficiencies in the geometry may increase the risk of junction related collisions.			
	RECOMMENDATION			
	It is recommended that details of the geometry checks are provided at the next stage of road safety audit.			
A2-08	Location: At the proposed roundabout and approaches.	Agreed. A signage strategy will be provided at the detailed design stage.		
	Summary: Direction Signs – Placement may increase the risk of collisions linked to insufficient conspicuity or obstruction of inter-visibility.			
	At this early stage, no details have been provided of direction signs on the approaches to the roundabout. Some of these roads have a 50mph approach speed for vehicles and are likely to have map type direction signs several metres wide and tall. Conspicuity to these large signs may be obscured by earth works or roadside vegetation and may also form an obstruction to inter-visibility in particular for pedestrian crossing points and the traffic signals to the east. A lack of consideration to placement may increase the risk of collisions linked to insufficient conspicuity or obstruction of inter-visibility.			
	RECOMMENDATION			
	It is recommended that the extents of visibility are established to inform the next stage of design.			

A2-09	Location: At the proposed roundabout and approaches.	Agreed. A review of passive safety measures will be undertaken at the detailed design stage.		
	Summary: Poles / Columns – Lack of provision for passively safe posts and columns may increase the injury severity in the event of a collision by an errant vehicle.			
	The proposals outline approach roads that have 40mph and 50mph speed limits. Collisions on higher speed roads often involve a secondary impact with street furniture that increases the injury severity of the vehicle occupants in the errant vehicle. Without consideration towards a broader view of passive safety that not only considers passively safe sign and traffic signal structures, but also the reduction of sign clutter and the placement of signs, there is a risk of increased injury severity. Lack of provision for passively safe posts and columns may increase the injury severity in the event of a collision by an errant vehicle.			
	RECOMMENDATION			
	It is recommended that a broad view towards passive safety is implemented including passively safe sign and traffic signal structures, reduction of sign clutter and placement.			

RSA REPORT 3 - A453 EASTERN JUNCTION		Design Organisation Response	Overseeing Organisation response	Agreed RSA Action
A3-01	Location: A453 – At the Proposed Junction.	Agreed. The vertical visibility will be assessed as part of the detailed design stage for the junction and if required suitable mitigation measures will be provided. However, the A453 in this location was previously subject to the national speed limit, and this was reduced to 50mph in 2023. The junction proposals include for a further reduction in the speed limit to 40mph, which will further reduce the visibility splay requirements.		
	Summary: Visibility – Insufficient forward stopping sight distance may increase the risk of shunt type collisions.			
	The proposed junction is located west of a crest in the existing alignment. Visibility on the westbound approach is compromised by the crest in the main carriageway and there is a concern here that forward visibility may already be compromised and then may be worsened by the change of configuration that places a traffic signal-controlled junction close to the crest. Insufficient forward stopping sight distance may increase the risk of shunt type collisions.			
	RECOMMENDATION			
	It is recommended that the visibility envelope is assessed for the proposed westbound carriageway and, if necessary, suitable mitigations are provided.			
A3-02	Location: A453 – Verges at the Proposed Junction.	Agreed. Detailed landscape proposals will be part of the detailed highway design. The visibility splays will be kept clear of vegetation and will be marked to aid maintenance.		
	Summary: Landscaping – Future growth from trees and bushes may obstruct visibility, consequentially increasing the risk of junction related collisions.			
	At this early stage, landscaping proposals are unlikely to have been considered. However, there is a risk that the visibility envelope for the junction may not continue to be met if any proposed landscaping is left unmanaged. Should the visibility requirements not be maintained clear of obstruction, there may be an increased risk of collisions linked to insufficient visibility.			
	RECOMMENDATION			
	It is recommended that the extents of visibility at the junction are kept clear of any obstruction that may grow or mature in future years and that the extents of the visibility are clearly marked to aid future maintenance.			
A3-03	Location: New carriageway areas generally.	Agreed. Drainage details will be provided at the detailed design stage and will be subject to a further safety audit.		
	Summary: Drainage – Insufficient surface water drainage may increase the risk of loss of control or skidding type collisions as well as slips and falls by pedestrians and cyclists.			
	At this early stage, no details have been provided on the proposed drainage arrangements. The audit team noted that the junction is located partly on a crest and there are areas where surface water may collect. As such, this may require measures to manage surface water around these areas in order to reduce the risk of surface water or standing water and detritus in these areas that may consequently cause loss of control or skidding type collisions as well as slips and falls by pedestrians and cyclists.			
	RECOMMENDATION			
	It is recommended that all areas are provided with suitable surface water drainage measures to minimise the risk of standing water and detritus. It is also recommended that details of these are provided at the next stage of road safety audit including gully locations, levels and contours.			
A3-04	Location: A453 – At the Proposed Junction	Agreed The gradient on the road and the surfacing to be used will be set out and agreed at the detailed design stage.		
	Summary: Skidding Resistance – Carriageway surfacing across part lane widths may increase the risk of loss of control type collisions.			
	The drawings indicate that carriageway widening is to be provided with no indication of resurfacing of the existing carriageway nor what skidding resistance is to be provided. There is also a risk here that, if widening is provided by means of haunching the carriageway width into the verge, a differential skidding resistance is introduced between the new and old carriageway surfacing. This difference in skidding resistance may increase the risk of loss of control type collisions, especially when the carriageway surface is wet.			
	RECOMMENDATION			
	It is recommended that the new carriageway areas are provided with a skidding resistance commensurate to DMRB CD 236, Table 3.3a or Table 3.3b based on the relevant site categories and traffic levels, that the new surfacing provided is done so in full lane widths and the revised crown of the road is located such to avoid the application of any adverse camber.			

A3-05	Location: Development access road to the south.	Partially agreed. The potential extension of the “Red Route” restrictions will be discussed with LCC. However, it may be more appropriate to provide the standard parking/waiting restrictions on the access road and this will be identified at the detailed design stage.		
	Summary: Network Management – Lack of restrictions on use may increase the risk of collisions linked to inconsiderate parking.			
	An existing “Red Route” clearway is in place along the A453 and the airport perimeter roads. Whilst the red route clearway is provided to manage a specific problem caused by airport passengers for pick up, a lack of any restriction on stopping may increase the risk of collisions on the development access to the south. Without provision, there may be an increased the risk of collisions linked to inconsiderate parking.			
	RECOMMENDATION			
	It is recommended that a clearway system is extended into the development access to the south.			
A3-06	Location: A453 – At the Proposed Junction	Agreed. Transport modelling work is being undertaken to ascertain whether the proposed development traffic will result in capacity concerns at the A453/The Green and A453/The Grimes junctions. If required, mitigation measures will be developed at these junctions that will take into consideration the potential safety concerns associated with increased queueing.		
	Summary: Junctions – Queueing vehicles may increase the risk of a shunt type collision eastbound as well as increase the risk of junction related collisions.			
	There are two existing junctions to the east of the proposed junction that provide access to the village of Diseworth. The audit team noted legacy additional warning signs at the junction closest to the proposals, located in the hidden dip, which suggests a legacy collision problem. There is a risk here that the increased traffic generated by the wider development may increase the risk at these two junctions for queueing whilst waiting to turn right into the side roads. This may also reduce gap opportunities and lead to a reduction in gap acceptance when turning. These queueing vehicles may increase the risk of a shunt type collision eastbound as well as increase the risk of junction related collisions.			
	RECOMMENDATION			
	It is recommended that the influence of the development is assessed and, where necessary, mitigations provided. These mitigations could range from additional warning signs up to a ghost island provision.			
A3-07	Location: A453 – On the western arm.	Agreed. The junction has been designed to physically restrict vehicles from turning left out of the site access road. Large events at Donington Park Circuit are infrequent. However, a stop line and traffic signals could be provided and this will be explored at the detailed design stage.		
	Summary: Traffic Signals – Lack of stop line and traffic signals here may increase the risk of collisions involving pedestrians and cyclists.			
	In the later phase configuration, a combined pedestrian and cyclist crossing facility is provided across the western arm of the junction. Noting the removal of the left turn from the development in this phase, no specific stop line is provided for this crossing. There is a risk however, that vehicles leaving the development turn left by mistake. Also at congested times, traffic heading westbound may be queueing for the merge beyond. This could be further exacerbated when large events are held at Donnington Park Circuit. A lack of stop line and traffic signals here may increase the risk of collisions involving pedestrians and cyclists using the crossing facility.			
	RECOMMENDATION			
	It is recommended that a stop line and traffic signals are provided.			
A3-08	Location: A453 – Exit from Development Access.	Not agreed. There will be a clear distinction between the two junction designs which will be reinforced through signage and physical works, so that drivers will not be confused by the changes to the junction.		
	Summary: Junctions – Traffic Signals – Provide two lanes right from start.			
	In the initial configuration of the junction, traffic can turn left and right from the development access using lanes 1 and 2 respectively. This is revised in the later configuration to lanes 1 and 2 both turning right from the development access. There is a concern here that initially drivers turning right will become accustomed to merging into lane 1 of the A453 eastbound, but that in the later configuration, there will be two lanes of traffic turning right seeking to merge heading eastbound. This may increase the risk of side swipe, shunt and merge type collisions.			
	RECOMMENDATION			
	It is recommended that, in the initial configuration, traffic is directed to use both lanes for turning right. i.e. so that lane 1 is for turning both left and right and lane 2 is for turning right. This will require the later state arrangement on the exit eastbound to be used in initial works.			
A3-09	Location: A453 – At the Proposed Junction	Agreed.		
	Summary: Direction Signs – Placement may increase the risk of collisions linked to insufficient conspicuity or obstruction of inter-visibility.			

	At this early stage, no details have been provided of direction signs on the approaches to the junction. Some of these roads have a 40mph approach speed for vehicles and could have map type direction signs several metres wide and tall. Conspicuity to these large signs may be obscured by earth works or roadside vegetation and may also form an obstruction to inter-visibility, in particular for pedestrian crossing points and the traffic signals. A lack of consideration to placement may increase the risk of collisions linked to insufficient conspicuity or obstruction of inter-visibility. RECOMMENDATION It is recommended that the extents of visibility are established to inform the next stage of design.	A signage strategy will be provided at the detailed design stage.		
A3-10	Location: A453 – At the Proposed Junction Summary: Lighting – Insufficient carriageway surface illumination may increase the risk of collisions involving pedestrians during the hours of darkness. There is currently no street lighting provision in the vicinity of the proposed works. The introduction of the development and associated footways, cycleways and crossing points will focus pedestrians to cross at specific locations where they may not be sufficiently illuminated. Insufficient carriageway surface illumination at crossing points may increase the risk of collisions involving pedestrians during the hours of darkness. RECOMMENDATION It is recommended that a system of carriageway illumination is provided and is contiguous with the provision within the wider development.	Agreed. A lighting strategy will be provided at the detailed design stage.		
A3-11	Location: A453 – At the Proposed Junction Summary: Poles / Columns – Lack of provision for passively safe posts and columns may increase the injury severity in the event of a collision by an errant vehicle. The proposals outline approached roads that have 40mph and 50mph speed limits. Collisions on higher speed roads often involve a secondary impact with street furniture that increases the injury severity of the vehicle occupants in the errant vehicle. Without consideration of a broader view towards passive safety that not only considers passively safe sign and traffic signal structures, but also the reduction of sign clutter and the placement of signs, there is a risk of increased injury severity. Lack of provision for passively safe posts and columns may increase the injury severity in the event of a collision by an errant vehicle. RECOMMENDATION It is recommended that a broad view towards passive safety is implemented, including passively safe sign and traffic signal structures, reduction of sign clutter and placement.	Agreed. A review of passive safety measures will be undertaken at the detailed design stage		

RSA REPORT 4 - CYCLE INTERVENTIONS		Design Organisation Response	Overseeing Organisation response	Agreed RSA Action
A4-01	Location: Along the various footway / cycleway routes.	Agreed. Detailed landscaping proposals will be part of the detailed design process. The visibility splays will be kept clear of vegetation and will be marked to aid maintenance.		
	Summary: Landscaping – Future growth from trees and bushes may obstruct visibility consequentially increasing the risk of collisions involving pedestrians and cyclists.			
	At this early stage, landscaping proposals are unlikely to have been considered. The audit team noted that considerable lengths of the proposed and improved routes were either through or adjacent to existing vegetation. There is a risk that the visibility envelope may not continue to be met if any proposed landscaping is left unmanaged. Should the visibility requirements not be maintained clear of obstruction, there may be an increased risk of collisions linked to insufficient visibility.			
	RECOMMENDATION			
	It is recommended that the extents of visibility along the route and at the various interfaces is kept clear of any obstruction that may grow or mature in future years and that the extents of the visibility are clearly marked to aid future maintenance.			
A4-02	Location: Along the various footway / cycleway routes.	Agreed. The need for any restraint systems will be identified at the detailed design stage.		
	Summary: Fences and Road Restraint Systems – Insufficient protection of watercourse hazards may increase the risk of slips and falls by pedestrians and cyclists into water.			
	The various routes pass over and adjacent to a number of water courses and pond areas. There is, however, no indication of any guardrail for these water hazards. There is a risk here of pedestrians or cyclists entering the water course or slips and falls down the embankments. Insufficient protection of watercourse hazards may result in slips and falls by pedestrians and cyclists into water consequently causing injury or drowning.			
	RECOMMENDATION			
	It is recommended that risk assessments are completed and, where necessary, a suitable form of restraint system or guardrails are provided to protect hazards.			
A4-03	Location: Side roads off the A453.	Agreed. The A453/airport access junction will be reconfigured to include for the proposed pedestrian and cycle crossing and it will be incorporated within the signal operation to provide a dedicated pedestrian/cyclist crossing phase. The details of the crossings on Beverley Road and on the A453 at the Finger Farm roundabout will be developed further in co-ordination with the highway works proposed for EMG2 and the Growth Point scheme.		
	Summary: Basic Design Principles – Close association of crossings and junctions may increase the risk of collisions involving pedestrians and cyclists.			
	The proposals indicate new crossings across side roads along the A453. In particular, near Donington MSA, at Beverley Road and at the main airport access. These appear to be located close to the associated junctions with limited detail on how these will operate in conjunction with the associated junctions. There is a risk here that the safe operation of these crossings may be compromised by the close proximity of the crossings to junctions. Close association of crossings and junctions may increase the risk of collisions involving pedestrians and cyclists.			
	RECOMMENDATION			
	It is recommended that the airport access junction is reconfigured to ensure safe operation of the crossing. It is also recommended that the crossing near Donington MSA as well as at Beverley Road are located sufficiently far enough from the roundabouts to ensure safe operation.			
A4-04	Location: Airport Eastern Perimeter Road.	Agreed. The proposals for the footway/cycleway along the Airport Perimeter Road have been developed taking into consideration the known constraints and the third party land boundaries. As the designs progress and further constraints are identified the designs will be adapted as required.		
	Summary: Basic Design Principles – Insufficient width provision may increase the risk of collisions between pedestrians and cyclists.			
	New and improved shared use footway / cycleway infrastructure is indicated along the airport eastern perimeter road. This is provided in two forms, a shared use 4m wide route and a segregated 6m wide route. It is unclear in areas how this will be accommodated within the existing verge width, particularly adjacent to the hedgerow to the south, the retaining wall near the end of the airport runway, at bus stops, across roundabout splitter islands and around other constraints. Insufficient width provision may increase the risk of collisions between pedestrians and cyclists.			
	RECOMMENDATION			
	It is recommended that the extents of where full-width provision cannot be provided are established and, where necessary, suitable mitigations are provided.			

A4-05	Location: Diseworth Road.	Agreed. It is an aspiration that the PRoW will be upgraded to provide a pedestrian and cycle route, and this could include alteration to the bridge if it is required. Alternatively, if it is not possible to upgrade the PRoW, an alternative cycle route is available via Hill Top and Diseworth Road.		
	Summary: Basic Design Principles – Insufficient width provision may increase the risk of collisions between pedestrians and cyclists.			
	An existing public right of way is to be improved adjacent to East Midlands Aeropark. Part of this route crosses a watercourse with a narrow timber footbridge. It is unclear from the drawings provided if this element of the route would be upgraded. Insufficient width provision may increase the risk of collisions between pedestrians and cyclists.			
	RECOMMENDATION			
	It is recommended that any structures over watercourses are sufficiently wide enough for two-way use by pedestrians and cyclists.			
A4-06	Location: A453 and associated side roads.	Agreed. Appropriate visibility splays will be provided to the proposed crossing points.		
	Summary: Traffic Signals – Insufficient conspicuity may increase the risk of collisions involving pedestrians and cyclists on the crossings.			
	A number of traffic signal-controlled crossings are to be provided. The audit team note that some of these are located such that conspicuity to the crossing for approaching traffic may be compromised. In particular, but not limited to, the crossing near Grimes Gate and the sites mentioned in Problem A4-03. Insufficient conspicuity may increase the risk of collisions involving pedestrians and cyclists on the crossings.			
	RECOMMENDATION			
	It is recommended that sufficient conspicuity is provided on the approach to these crossings.			
A4-07	Location: All crossing locations	Agreed The gradient on the road and the surfacing to be used will be set out and agreed at the detailed design stage.		
	Summary: Skidding Resistance – Insufficient skidding resistance may increase the risk of collisions involving skidding.			
	The provision of new controlled and uncontrolled crossings will change the site categories in terms of the definitions within DMRB CD 236. The existing carriageway surface across the cycle element proposals generally appears to be in good condition but may not offer a sufficient level of skidding resistance for a new hazard such as a crossing. Insufficient provision, especially in higher risk areas such as at pedestrian crossings, may increase the risk that collisions involving skidding occur.			
	RECOMMENDATION			
	It is recommended that the carriageways on and through any proposed crossing are provided with a skidding resistance commensurate to DMRB CD 236, Table 3.3a or Table 3.3b based on the relevant site categories and traffic levels.			
A4-08	Location: All cycle routes	Agreed An appropriate lighting strategy for the cycles routes will be set out at the detailed design stage.		
	Summary: Lighting – Insufficient carriageway surface illumination may increase the risk of collisions involving pedestrians during the hours of darkness.			
	There is currently some street lighting provision in the vicinity of the proposed works, but also other links where no lighting is provided. The introduction of the footways, cycleways and crossing points will focus pedestrians to cross at specific locations where they may not be sufficiently illuminated. Insufficient carriageway surface illumination at crossing points may increase the risk of collisions involving pedestrians during the hours of darkness. Also, there is also a risk of trips and falls away from junctions on any unlit sections of route between areas where lighting is provided.			
	RECOMMENDATION			
	It is recommended that, where practicable, carriageway lighting is provided. The audit team acknowledge that providing illumination along the improved route to the north of the airport runway may compromise safe operations on the airport. The audit team also acknowledge that less intrusive alternative solutions like low level lighting, solar road studs etc. may be more appropriate in some areas.			

APPENDIX 1

ROAD SAFETY AUDIT REPORTS



Sevenairs Consulting Ltd

A453 Realignment, Isley Woodhouse, Leicestershire

Road Safety Audit Stage 1

February 2025



Document Control

Report Title:

A453 Realignment, Isley Woodhouse, Leicestershire – Road Safety Audit Stage 1

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Leicestershire County Council

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Introduction

Commissioning and Scope

This report results from a Stage 1 Road Safety Audit carried out at the site of a large development referred to as Isley Woodhouse, in Leicestershire. The audit was carried out at the request of Tim Cooke, Technical Director, ADC Infrastructure on behalf of the developer of the site.

The Road Safety Audit team membership was as follows:

The Audit Team	Haydn Vernals FCIHT FIHE CMILT MSoRSA Directive 2008/96/EC (Certificate of Competency), Road Safety Team Leader in accordance with GG119 Sarah Vernals BAHonsQTS NPQH, Road Safety Team Member in accordance with GG119
Audit Observers	None

The main project comprises of 4,250 new dwellings, one local centre, two neighbourhood centres, a sport, leisure and community hub, two new primary schools, a secondary school, employment land, and green infrastructure including sports facilities. Highway works in this A453 Realignment element include a new alignment for the A453 between Melbourne Road and Moor Lane, roundabouts at both ends with associated carriageway connections, shared use footway/cycleway and related works. The scope of this Road Safety Audit is to review the proposed highway works.

The audit has been carried out in accordance with the principles of the National Highways document GG 119 Road Safety Audit. A formal Road Safety Audit Brief was not provided to the Audit Team. However, information regarding the site was provided via email alongside the relevant scheme documents and drawings. This was considered by the Audit Team to provide sufficient detail to undertake the appropriate stage of audit.

The audit also comprised of a desk-top study where all documents and plans provided by the Design Team were reviewed. No departures from standard have been brought to the attention of the RSA team with regard to the scheme as designed.

Site Visit Attendance

A site visit took place comprising of the RSA team of all elements on Tuesday 4th February 2025 between 10:00 and 12:00 hours during which the weather was sunny and the road surface damp. Traffic conditions were generally light and free flowing with pedestrians and cyclists observed across the various elements of the wider project.

Documents Supplied

- Email proposal background
- ADC2570-DR-002-P4 - Proposed A453 realignment and site access roundabouts (Junctions 3 and 4)

Terms of Reference

The terms of reference of this Road Safety Audit are as described in the National Highways document GG119 Road Safety Audit. The Audit Team has examined and reported only on the road safety implications of the scheme as presented and has not examined or verified the compliance of the designs to any other criteria. No member of the Audit Team has been directly linked to the scheme design.

Each of the auditors' responses is classified as a 'Problem' that is likely to result in a significant road safety hazard. All comments and recommendations are referenced to the detailed design drawings and the locations have been indicated on the plan at the end of the report.

Where recommendations are made, these do not comprise design decisions, and it remains the responsibility of the Design Team to incorporate any changes into the scheme and consider any interactions between design elements.

Previous Road Safety Audits

The audit team have not been made aware of any previous Road Safety Audits.

Problems Raised at this Stage 1 RSA

PROBLEM – A1-01

Location: Proposed A453 Realignment – Whole Length.

Summary: Forward Visibility – Insufficient forward visibility may increase the risk of shunt and head on type collisions.

At this early stage, no details have been provided on the forward visibility envelope for the proposed carriageways. Whilst connecting roads are likely to provide a noticeable reduced level of provision, it would be reasonable for drivers to expect high quality of provision along the proposed A453 realignment. The contours on Ordnance Survey mapping suggest the eastern part of the new alignment would fall vertically east to west by 20m over perhaps 700m, then flatten out as the curve develops towards the west and onwards to Moor Lane. There is a risk here that the topography of the mainline may compromise stopping sight distance, especially overtaking sight distance, at any crests, sags and roadside embankment areas. This may consequentially increase the risk of shunt and head on type collisions.

RECOMMENDATION

It is recommended that an assessment of the vertical and horizontal geometry is prepared to inform the next stage of design.

PROBLEM – A1-02

Location: Proposed Melbourne Road – T-junction north of the roundabout.

Summary: New / Existing Road Interface – Right turn into the eastern length of Melbourne Road may increase the risk of shunt type collisions.

The eastern most length of Melbourne Road is to be retained for access to frontage property and possibly also for statutory undertakers' equipment. Access to this length of road from the A453 is from the realigned Melbourne Road by means of a simple T-junction arrangement. However, there is a risk here that drivers leaving the roundabout northbound may not expect a vehicle slowing to turn right into the T-junction. Also, vehicles heading eastbound towards the roundabout are likely to be taking a vehicle path closely aligned to the carriageway centreline marking. This may increase the risk of shunt type or junction related collisions here.

RECOMMENDATION

It is recommended that a ghost island right turn is provided with a protective central refuge.

PROBLEM – A1-03

Location: Proposed Melbourne Road

Summary: Vertical Alignment – Proposed vertical alignment may increase the risk of shunt type collisions.

There is a noticeable difference in levels between the existing Melbourne Road and the land immediately to the south of the road at the point where the realignment is proposed. The audit team note some degree of horizontal shift in the proposed carriageway to the north of the roundabout which may accommodate some of the level differences. However, it is unclear as to how and where the vertical level difference will be accommodated and what influence this may have on the adjacent verge areas. Any accommodation of level difference here may have a consequential influence on forward visibility, particularly over any crest, westbound departing the roundabout and eastbound on the approach to any queueing traffic at the roundabout. This may consequentially increase the risk of shunt type collisions.

RECOMMENDATION

It is recommended that an assessment of the vertical and horizontal geometry is prepared to inform the next stage of design.

PROBLEM – A1-04

Location: Unnamed Road west of Moor Lane – Over existing bridge.

Summary: Vertical Alignment – Change of road environment may increase the risk of shunt type collisions.

An existing bridge over the Cloud Trail long distance route is to be retained. The existing alignment eastbound has a crest in the mainline over the bridge followed by a side road to the right. Right turning traffic into Moor Lane currently has priority over traffic from Moor Lane. This will change in the proposed arrangement, where traffic on the unnamed road will need to give way to traffic from Moor Lane. There is a risk here that, with an expected increase in traffic on Moor Lane, queueing may occur on the unnamed road on the section of carriageway that is masked by the crest over the bridge. This change of road environment may increase the risk of shunt type collisions.

RECOMMENDATION

It is recommended that an assessment of the potential for queueing and the vertical geometry is prepared to inform the next stage of design. This could seek to include mitigations around speed limits and improvements to traffic signs on the approach.

PROBLEM – A1-05

Location: Proposed A453 Realignment and Roundabouts – Whole Length.

Summary: Departures from Standards – Relaxations and departures from standards may have a detrimental influence on the safe operation of the proposed roads.

At this early stage, it is unlikely that a full geometric design has been considered in any depth. There are likely to be some design parameters that require agreement from the local highway authority in terms of relaxations and departures from standard that may have an influence on the safe operation on the proposed carriageways. It is acknowledged that a formal system of managing relaxations and departures may not be in place with the local authority as it would be for a trunk road. However, relaxations and departures from standards may have a detrimental influence on the safe operation of the proposed carriageways, in particular the high-speed roads and interfaces between new and existing carriageway areas. This may increase the risk of head on and shunt type collisions.

RECOMMENDATION

It is recommended that relaxations and departures from standards are identified to inform the next stage of design and highlight the need for any safety risk assessments and mitigations.

PROBLEM – A1-06

Location: Proposed A453 Realignment east of Melbourne Road.

Summary: Cross Sections and Cross-sectional Variation – Change in the quality of road provision may increase the risk of collisions.

A new alignment is proposed for the A453 to the east of Melbourne Road. This link appears to have a similar cross section to the mainline of the A453 realignment to the west, with hard strips either side. The proposed footways and cycleways also give a wide open environment more akin to a higher speed of road. Beyond the new alignment, in particular for eastbound traffic, the quality of road environment drops significantly to a more typical rural environment with some residential frontage, driveways and other access provision. This change in road environment may not be immediately obvious and may increase the risk of higher speeds eastbound from the roundabout, through the tie-in and beyond. This change in the quality of road provision may increase the risk of speed related collisions on the existing carriageway.

RECOMMENDATION

It is recommended that the proposed A453 carriageway to the east of Melbourne Road is given a similar highway cross section to the existing carriageway beyond. This could include omitting the hard strips, NMU provision on one side only and introducing roadside landscaping to give a more enclosed feel to the new road.

PROBLEM – A1-07

Location: New verge areas generally.

Summary: Landscaping – Future growth from trees and bushes may obstruct visibility consequentially increasing the risk of junction related collisions.

At this early stage, landscaping proposals are unlikely to have been considered. However, there is a risk that the visibility envelope for junctions, crossings and curves in the main alignments may not continue to be met if any proposed landscaping is left unmanaged. Should the visibility requirements not be maintained clear of obstruction, there may be an increased risk of collisions linked to insufficient visibility.

RECOMMENDATION

It is recommended that the extents of visibility at junctions, crossings and bends is kept clear of any obstruction that may grow or mature in future years and that the extents of the visibility are clearly marked to aid future maintenance.

PROBLEM – A1-08

Location: New carriageway areas generally.

Summary: Drainage – Insufficient surface water drainage may increase the risk of loss of control or skidding type collisions as well as slips and falls by pedestrians and cyclists.

At this early stage, no details have been provided on the proposed drainage arrangements. The audit team noted that the main carriageway and associated linking carriageway areas are likely to have superelevation and crossfall changes in places. Also, there are areas at roundabouts where surface water may collect. As such, this may require measures to manage surface water around these areas in order to reduce the risk of surface water or standing water and detritus in these areas that may consequently cause loss of control or skidding type collisions as well as slips and falls by pedestrians and cyclists.

RECOMMENDATION

It is recommended that all areas are provided with suitable surface water drainage measures to minimise the risk of standing water and detritus. It is also recommended that details of these are provided at the next stage of road safety audit including gully locations, levels and contours.

PROBLEM – A1-09

Location: Proposed A453 Realignment.

Summary: Lay-Bys – Lack of provision for bus services may increase the risk of shunts and overtaking type collisions.

There are currently two bus services along the A453. One provides an hourly service whilst the other provides two buses per day. Whilst new local services may be provided through the residential areas of the wider development, the Airway 9 service is likely to use the realigned A453 as a limited stop, express type service. Also, with the size of the development, there may also be additional express service provision on the A453. The current proposals do not indicate any specific provision for buses on the A453 realignment. Lack of provision for bus services may increase the risk of shunts and overtaking type collisions.

RECOMMENDATION

It is recommended that the need for bus layby provision is established and, where necessary, provided near to footway access points to the residential areas.

PROBLEM – A1-10

Location: Proposed A453 Realignment.

Summary: Public Utilities / Services Apparatus – Lack of provision for access and maintenance may increase the risk of shunts and overtaking type collisions.

Noting the specific needs for a large development such as Isley Woodhouse, along with the existing needs of East Midlands Airport and surrounding supporting industries, there may be requirements to reroute specific statutory undertakers' equipment alongside the proposed A453. This is likely to include not only, electricity, gas, water and telecommunications, but also potentially aviation fuel and carbon capture pipelines which may have specific access needs from the A453 realignment. A lack of provision for access and maintenance may increase the risk of shunts and overtaking type collisions where regular access is required from the proposed A453.

RECOMMENDATION

It is recommended that the need for any specific statutory undertakers' provision is established and, where necessary, provided for.

PROBLEM – A1-11

Location: Proposed A453 Realignment.

Summary: Access – Lack of provision for access to land north and west of the A453 may increase the risk of shunts and overtaking type collisions.

The development proposals indicate that land to the north and west will remain as public open space. At this early stage, it is unclear as the degree of access for pedestrians and cyclists in these areas and if there will be any need for access for maintenance. It is anticipated that footways, cycleways and new public rights of way will be established which may require access for grass cutting and other maintenance activities. A lack of provision for access and maintenance may increase the risk of shunts and overtaking type collisions where regular access is required from the proposed A453.

RECOMMENDATION

It is recommended that the need for any specific access provision is established and, where necessary, provided for.

PROBLEM – A1-12

Location: Moor Lane – At agricultural access points.

Summary: Agriculture – Provision at existing access points may increase the risk of head on or shunt collisions on the main carriageway.

There are a number of existing agricultural access points along Moor Lane. Whilst these are existing access points, the increase in traffic as a result of the development may increase the risk of head on or shunt type collisions at these access points, particularly where an access is used by a large vehicle or tractor/trailer combination that may have previously stopped in the main carriageway whilst an access gate is locked or unlocked.

RECOMMENDATION

It is recommended that, where existing vehicle gates are provided, there should be sufficient depth between the gate and the existing carriageway to accommodate vehicles that will typically use the access.

It is also recommended that the potential for removing, relocating or reducing the number access points is established and, where practicable, mitigation is provided in the next stage of design.

PROBLEM – A1-13

Location: Proposed A453 Realignment and associated other roads.

Summary: Fences and Road Restraint Systems – Insufficient protection of roadside hazards may increase the risk of slips and falls by pedestrians into water.

The main carriageway and other carriageways pass over a number of water courses which will need to be culverted. There is however, no indication of the extents or type of culvert, indication of any vehicle restraint system or other guardrail for the water course. There is a risk here of errant vehicles entering the water course as well as slips and falls by pedestrians down into the gully formed by the water course. Insufficient protection of roadside hazards may result in increased injury severity for errant vehicle occupants and increase the risk of slips and falls by pedestrians into water consequently causing injury or drowning.

RECOMMENDATION

It is recommended that risk assessments are completed and, where necessary, a suitable form of vehicle restraint system and pedestrian guardrail are provided.

PROBLEM – A1-14

Location: Proposed A453 Realignment and associated other roads.

Summary: Network Management – Lack of restrictions on use may increase the risk of collisions linked to inconsiderate parking.

An existing “Red Route” clearway is in place along the A453 and the airport perimeter roads. This system of clearway ends at the eastern extents of these proposals. Whilst the red route clearway is provided to manage a specific problem caused by airport passengers for pick up, a lack of any restriction on stopping may increase the risk of collisions on the proposed A453 realignment and associated other roads. Without provision, there may be an increased the risk of collisions linked to inconsiderate parking.

RECOMMENDATION

It is recommended that a clearway system is extended along the entirety of the A453 realignment, into key side roads and along Moor Lane to the A42 junction.

PROBLEM – A1-15

Location: Roundabouts on the A453 realignment.

Summary: Roundabouts – Geometry at the roundabouts may increase the risk of collisions at the junction.

At this early stage, the roundabout geometry is likely to be indicative and require further refinement into the detailed design. There are a number of concerns around geometric design features that may have an influence on the safe operation of the roundabouts. Specifically, but not limited to widths, deflection, gradients, visibility, entry paths etc. Whilst the audit team would not complete a design check, some features are difficult to assess without detail. As a result, deficiencies in the geometry may increase the risk of junction related collisions.

RECOMMENDATION

It is recommended that details of the geometry checks are provided at the next stage of road safety audit.

PROBLEM – A1-16

Location: Proposed A453 Realignment and associated other roads.

Summary: Traffic Signals – Lack of provision may increase the risk of collisions involving pedestrians and cyclists.

There are a number of uncontrolled pedestrian and cycle crossings indicated on the proposals along both the A543 realignment, at roundabouts and on associated other roads. Whilst there is unlikely to be an early need for more formalised traffic signal-controlled crossings at these crossing points, as the development progresses this may change. There are a number of potential locations where pedestrian and cycle use may become more prevalent as development progresses. In particular, access to the Cloud Trail near the Moor Lane roundabout and any potential for third party development of food retail or petrol filling stations near either of the roundabouts. Lack of provision may increase the risk of collisions involving pedestrians and cyclists.

RECOMMENDATION

It is recommended that future potential for traffic signal-controlled crossings is established and that the design going forward does not preclude later provision.

PROBLEM – A1-17

Location: Proposed A453 Realignment and associated other roads.

Summary: Pedestrians, Cycles & Equestrians – Lack of provision may increase the risk of collisions involving these users.

The proposals indicate a number of uncontrolled crossing points along the A453 Realignment and associated other roads. However, there appears to be a lack of connectivity onwards in particular at Isley Walton as well as at the Moor Lane Roundabout. Of particular concern is that cyclists are accommodated on carriageway between Isley Walton and the Walton Hill junction with no other provision for pedestrians. Also, there appears to be limited connectivity at the Moor Lane roundabout to both the Cloud Trail and Tonge. The latter also accommodates cyclists on carriageway without provision for pedestrians. Lack of provision may increase the risk of collisions involving pedestrians, cycles and equestrians.

RECOMMENDATION

It is recommended that a wider review of the needs of pedestrians, cyclists and equestrians is completed that looks specifically at connectivity.

This would ideally look at the potential for, but should not be limited to;

- An off-carriageway footway / cycleway link between Moor Lane roundabout and south to Old Moor Lane for access into the village of Tonge.
- An off-carriageway footway / cycleway link between Moor Lane roundabout and west to the Cloud Trail.
- An off-carriageway footway / cycleway link between Isley Walton roundabout and east to the Walton Hill junction.

PROBLEM – A1-18

Location: Proposed A453 Realignment and associated other roads.

Summary: Direction Signs – Placement may increase the risk of collisions linked to insufficient conspicuity or obstruction of inter-visibility.

At this early stage, no details have been provided of direction signs on the approaches to junctions along the A453 Realignment and associated other roads. Some of these roads have a 50mph approach speed for vehicles and are likely to have map type direction signs several metres wide and tall. Conspicuity to these large signs may be obscured by earth works or roadside vegetation and may also form an obstruction to inter-visibility, in particular for pedestrian crossing points. A lack of consideration to placement may increase the risk of collisions linked to insufficient conspicuity or obstruction of inter-visibility.

RECOMMENDATION

It is recommended that the extents of visibility are established to inform the next stage of design.

PROBLEM – A1-19

Location: Proposed A453 Realignment and associated other roads.

Summary: Lighting – Insufficient carriageway surface illumination may increase the risk of collisions involving pedestrians during the hours of darkness.

There is currently no street lighting provision in the vicinity of the proposed works. The introduction of the development and associated footways, cycleways and crossing points will focus pedestrians to cross at specific locations where they may not be sufficiently illuminated. Insufficient carriageway surface illumination at crossing points may increase the risk of collisions involving pedestrians during the hours of darkness.

RECOMMENDATION

It is recommended that a system of carriageway illumination is provided that is contiguous with the provision within the wider development.

PROBLEM – A1-20

Location: Proposed A453 Realignment and associated other roads.

Summary: Poles / Columns – Lack of provision for passively safe posts and columns may increase the injury severity in the event of a collision by an errant vehicle.

The proposals outline a system of roads that have 40mph and 50mph speed limits. Collisions on higher speed roads often involve a secondary impact with street furniture that increases the injury severity of the vehicle occupants in the errant vehicle. Without consideration of a broader view towards passive safety that, not only considers passively safe sign structures, but also the reduction of sign clutter and the placement of signs, there is a risk of increased injury severity. Lack of provision for passively safe posts and columns may increase the injury severity in the event of a collision by an errant vehicle.

RECOMMENDATION

It is recommended that a broad view towards passive safety is implemented including passively safe sign structures, reduction of sign clutter and placement.

Audit Team Statement

We certify that this Road Safety Audit has been carried out in accordance with GG119 Revision 2.

Road Safety Audit Team Leader

FCIHT FIHE CMILT MSoRSA
Directive 2008/96/EC (Certificate of Competency)

Sevenairs Consulting Ltd
20 High Bank, Thurlstone, Sheffield,
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Signed:



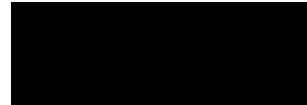
Date: 9th February 2025

Road Safety Audit Team Member

BAHonsQTS NPQH

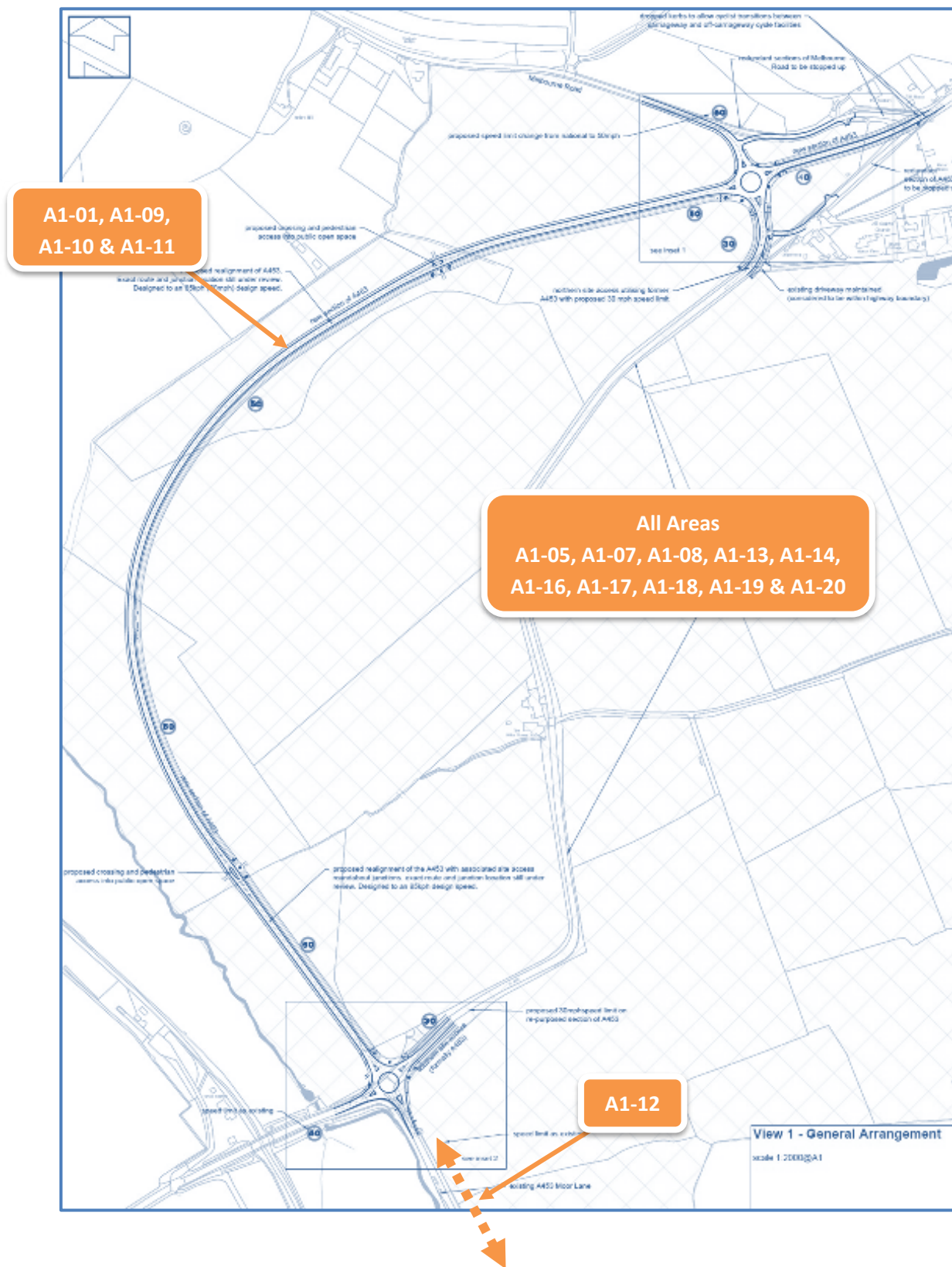
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Signed:



Date: 9th February 2025

Problem Location Plan





Sevenairs Consulting Ltd

A453 Roundabout, Isley Woodhouse, Leicestershire

Road Safety Audit Stage 1

February 2025



Document Control

Report Title:

A453 Roundabout, Isley Woodhouse, Leicestershire – Road Safety Audit Stage 1

Date of Site Visit

4th February 2025

Document Reference

2025-02 Isley Woodhouse RSA1 (Roundabout) – Revision 0

Report Prepared By:

Haydn Vernals FCIHT FIHE CMILT MSoRSA, Sevenairs Consulting Ltd

Sevenairs Consulting Ltd, [REDACTED]

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On behalf of

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Highway Authority / Overseeing Organisation

Leicestershire County Council

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Document History:

Revision	Date	Description	By
0	09.02.2025	For Issue	HV

Introduction

Commissioning and Scope

This report results from a Stage 1 Road Safety Audit carried out at the site of a large development referred to as Isley Woodhouse, in Leicestershire. The audit was carried out at the request of Tim Cooke, Technical Director, ADC Infrastructure on behalf of the developer of the site.

The Road Safety Audit team membership was as follows:

The Audit Team	Haydn Vernals FCIHT FIHE CMILT MSoRSA Directive 2008/96/EC (Certificate of Competency), Road Safety Team Leader in accordance with GG119
	Sarah Vernals BAHonsQTS NPQH, Road Safety Team Member in accordance with GG119
Audit Observers	None

The main project comprises of 4,250 new dwellings, one local centre, two neighbourhood centres, a sport, leisure and community hub, two new primary schools, a secondary school, employment land, and green infrastructure including sports facilities. Highway works in this A453 Roundabout element includes changing an existing signal-controlled junction to a four-arm roundabout with associated carriageway connections, shared use footway/cycleway and related works. The scope of this Road Safety Audit is to review the proposed highway works.

The audit has been carried out in accordance with the principles of the National Highways document GG 119 Road Safety Audit. A formal Road Safety Audit Brief was not provided to the Audit Team. However, information regarding the site was provided via email alongside the relevant scheme documents and drawings. This was considered by the Audit Team to provide sufficient detail to undertake the appropriate stage of audit.

The audit also comprised of a desk-top study where all documents and plans provided by the Design Team were reviewed. No departures from standard have been brought to the attention of the RSA team with regard to the scheme as designed.

Site Visit Attendance

A site visit took place comprising of the RSA team of all elements on Tuesday 4th February 2025 between 10:00 and 12:00 hours during which the weather was sunny and the road surface damp. Traffic conditions were generally light and free flowing with pedestrians and cyclists observed across the various elements of the wider project.

Documents Supplied

- Email proposal background
- ADC2570-DR-003-P5 - Proposed A453 site access roundabout (Junction 2)

Terms of Reference

The terms of reference of this Road Safety Audit are as described in the National Highways document GG119 Road Safety Audit. The Audit Team has examined and reported only on the road safety implications of the scheme as presented and has not examined or verified the compliance of the designs to any other criteria. No member of the Audit Team has been directly linked to the scheme design.

Each of the auditors' responses is classified as a 'Problem' that is likely to result in a significant road safety hazard. All comments and recommendations are referenced to the detailed design drawings and the locations have been indicated on the plan at the end of the report.

Where recommendations are made, these do not comprise design decisions, and it remains the responsibility of the Design Team to incorporate any changes into the scheme and consider any interactions between design elements.

Previous Road Safety Audits

The audit team have not been made aware of any previous Road Safety Audits.

Problems Raised at this Stage 1 RSA

PROBLEM – A2-01

Location: At the proposed roundabout and the westbound approach.

Summary: Visibility – Insufficient forward stopping sight distance may increase the risk of shunt type collisions.

The proposed roundabout is located on a crest in the existing alignment. The existing junction appears to have been introduced sometime around 2002 within the geometry of an existing legacy priority junction that may have been built decades earlier. Visibility on the westbound approach is compromised by a crest in the main carriageway and there is a concern here that forward visibility may be already compromised and may be worsened by the change of configuration that places a traffic signal-controlled junction in advance of a roundabout give way that is closer to the crest than the existing stop line. Insufficient forward stopping sight distance may increase the risk of shunt type collisions.

RECOMMENDATION

It is recommended that the visibility envelope is assessed for the proposed westbound carriageway and, if necessary, suitable mitigations provided.

PROBLEM – A2-02

Location: Verge areas generally.

Summary: Landscaping – Future growth from trees and bushes may obstruct visibility, consequentially increasing the risk of junction related collisions.

At this early stage, landscaping proposals are unlikely to have been considered. However, there is a risk that the visibility envelope for the roundabout may not continue to be met if any proposed landscaping is left unmanaged. Should the visibility requirements not be maintained clear of obstruction, there may be an increased risk of collisions linked to insufficient visibility.

RECOMMENDATION

It is recommended that the extents of visibility at the roundabout is kept clear of any obstruction that may grow or mature in future years and that the extents of the visibility are clearly marked to aid future maintenance.

PROBLEM – A2-03

Location: New carriageway areas generally.

Summary: Drainage – Insufficient surface water drainage may increase the risk of loss of control or skidding type collisions as well as slips and falls by pedestrians and cyclists.

At this early stage, no details have been provided on the proposed drainage arrangements. The audit team noted that the roundabout is located on a crest and there are areas where surface water may collect. As such, this may require measures to manage surface water around these areas in order to reduce the risk of surface water or standing water and detritus in these areas that may consequently cause loss of control or skidding type collisions as well as slips and falls by pedestrians and cyclists.

RECOMMENDATION

It is recommended that all areas are provided with suitable surface water drainage measures to minimise the risk of standing water and detritus. It is also recommended that details of these are provided at the next stage of road safety audit including gully locations, levels and contours.

PROBLEM – A2-04

Location: At the proposed roundabout and the eastern arm.

Summary: Access – Changes to the carriageway at existing access points may increase the risk of collisions at these access points.

The eastern arm of the proposed roundabout changes the existing geometry for a number of access points. Two on the northern side appear to be field accesses that may give additional access to car parking at the Donnington Park Circuit. A third provides access to Glebe Cottages to the south. The geometry changes appear to move the carriageway marginally closer to Glebe Cottages, removes the ghost island space for the right turn into Glebe Cottages and also makes access to the two northern field access points. Changes to the carriageway at existing access points may increase the risk of collisions at these access points.

RECOMMENDATION

It is recommended that, where possible, access points are closed up.

It is also recommended that the access to Glebe Cottages is made no worse than the existing arrangement.

PROBLEM – A2-05

Location: At the proposed roundabout and approaches.

Summary: Skidding Resistance – Carriageway surfacing across part lane widths may increase the risk of loss of control type collisions.

The drawings indicate that carriageway widening is to be provided with no indication of resurfacing of the existing carriageway nor what skidding resistance is to be provided. There is also a risk here that, if widening is provided by means of haunching the carriageway width into the verge, a differential skidding resistance is introduced between the new and old carriageway surfacing. This difference in skidding resistance may increase the risk of loss of control type collisions, especially when the carriageway surface is wet.

RECOMMENDATION

It is recommended that the new carriageway areas are provided with a skidding resistance commensurate to DMRB CD 236, Table 3.3a or Table 3.3b based on the relevant site categories and traffic levels, that the new surfacing provided is done so in full lane widths and the revised crown of the road is located such to avoid the application of any adverse camber.

PROBLEM – A2-06

Location: Development access road to the south.

Summary: Network Management – Lack of restrictions on use may increase the risk of collisions linked to inconsiderate parking.

An existing “Red Route” clearway is in place along the A453 and the airport perimeter roads. Whilst the red route clearway is provided to manage a specific problem caused by airport passengers for pick up, a lack of any restriction on stopping may increase the risk of collisions on the development access to the south. Without provision, there may be an increased the risk of collisions linked to inconsiderate parking.

RECOMMENDATION

It is recommended that a clearway system is extended into the development access to the south.

PROBLEM – A2-07

Location: At the proposed roundabout.

Summary: Roundabouts – Geometry at the roundabout may increase the risk of collisions at the junction.

At this early stage, the roundabout geometry is likely to be indicative and require further refinement into the detailed design. There are a number of concerns around geometric design features that may have an influence on the safe operation of the roundabout. Specifically, but not limited to widths, deflection, gradients, visibility, entry paths etc. Whilst the audit team would not complete a design check, some features are difficult to assess without detail. As a result, deficiencies in the geometry may increase the risk of junction related collisions.

RECOMMENDATION

It is recommended that details of the geometry checks are provided at the next stage of road safety audit.

PROBLEM – A2-08

Location: At the proposed roundabout and approaches.

Summary: Direction Signs – Placement may increase the risk of collisions linked to insufficient conspicuity or obstruction of inter-visibility.

At this early stage, no details have been provided of direction signs on the approaches to the roundabout. Some of these roads have a 50mph approach speed for vehicles and are likely to have map type direction signs several metres wide and tall. Conspicuity to these large signs may be obscured by earth works or roadside vegetation and may also form an obstruction to inter-visibility in particular for pedestrian crossing points and the traffic signals to the east. A lack of consideration to placement may increase the risk of collisions linked to insufficient conspicuity or obstruction of inter-visibility.

RECOMMENDATION

It is recommended that the extents of visibility are established to inform the next stage of design.

PROBLEM – A2-09

Location: At the proposed roundabout and approaches.

Summary: Poles / Columns – Lack of provision for passively safe posts and columns may increase the injury severity in the event of a collision by an errant vehicle.

The proposals outline approach roads that have 40mph and 50mph speed limits. Collisions on higher speed roads often involve a secondary impact with street furniture that increases the injury severity of the vehicle occupants in the errant vehicle. Without consideration towards a broader view of passive safety that not only considers passively safe sign and traffic signal structures, but also the reduction of sign clutter and the placement of signs, there is a risk of increased injury severity. Lack of provision for passively safe posts and columns may increase the injury severity in the event of a collision by an errant vehicle.

RECOMMENDATION

It is recommended that a broad view towards passive safety is implemented including passively safe sign and traffic signal structures, reduction of sign clutter and placement.

Audit Team Statement

We certify that this Road Safety Audit has been carried out in accordance with GG119 Revision 2.

Road Safety Audit Team Leader

FCIHT FIHE CMILT MSoRSA
Directive 2008/96/EC (Certificate of Competency)

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South Yorkshire, S36 9QH

Signed:



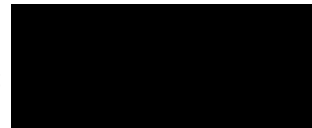
Date: 9th February 2025

Road Safety Audit Team Member

BAHonsQTS NPQH

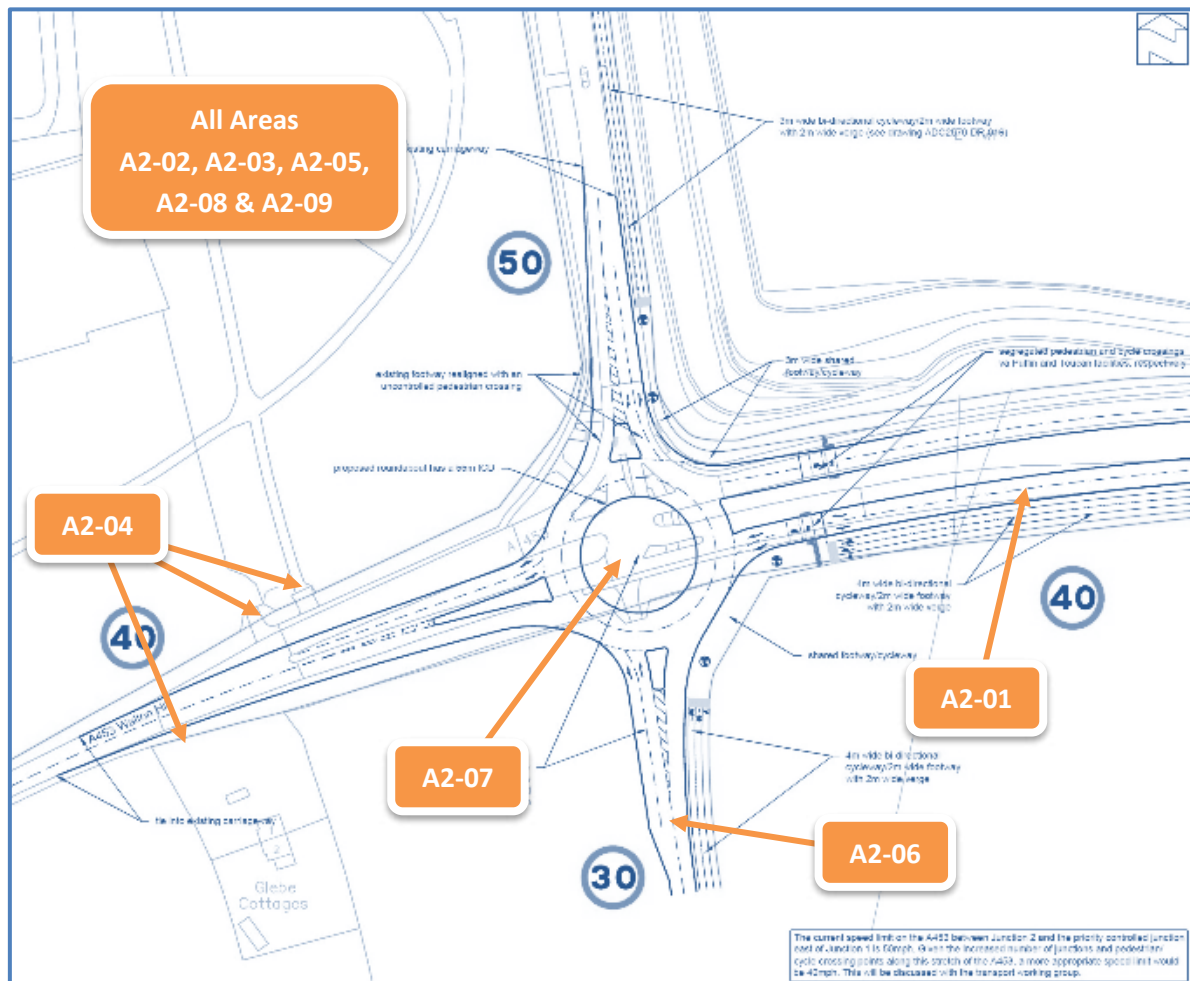
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Signed:



Date: 9th February 2025

Problem Location Plan





Sevenairs Consulting Ltd

A453 Eastern Junction, Isley Woodhouse, Leicestershire

Road Safety Audit Stage 1

February 2025



Document Control

Report Title:

A453 Eastern Junction, Isley Woodhouse, Leicestershire – Road Safety Audit Stage 1

Date of Site Visit

4th February 2025

Document Reference

2025-02 Isley Woodhouse RSA1 (Eastern) – Revision 0

Report Prepared By:

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Highway Authority / Overseeing Organisation

Leicestershire County Council

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Document History:

Revision	Date	Description	By
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Introduction

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Audit Observers	None

The main project comprises of 4,250 new dwellings, one local centre, two neighbourhood centres, a sport, leisure and community hub, two new primary schools, a secondary school, employment land, and green infrastructure including sports facilities. Highway works in this A453 Eastern Junction element include a new traffic signal-controlled junction as a development access with associated carriageway connections, shared use footway/cycleway and related works. This junction takes the form of an early all access arrangement and a later arrangement that removes access to and from the west for all traffic. The scope of this Road Safety Audit is to review the proposed highway works.

The audit has been carried out in accordance with the principles of the National Highways document GG 119 Road Safety Audit. A formal Road Safety Audit Brief was not provided to the Audit Team. However, information regarding the site was provided via email alongside the relevant scheme documents and drawings. This was considered by the Audit Team to provide sufficient detail to undertake the appropriate stage of audit.

The audit also comprised of a desk-top study where all documents and plans provided by the Design Team were reviewed. No departures from standard have been brought to the attention of the RSA team with regard to the scheme as designed.

Site Visit Attendance

A site visit took place comprising of the RSA team of all elements on Tuesday 4th February 2025 between 10:00 and 12:00 hours during which the weather was sunny and the road surface damp. Traffic conditions were generally light and free flowing with pedestrians and cyclists observed across the various elements of the wider project.

Documents Supplied

- Email proposal background
- ADC2570-DR-004-P6 – Proposed A453/eastern site access junction (Junction 1)
- ADC2570-DR-017-P2 – Proposed A453/eastern site access junction - Phase 1 (Junction 1)

Terms of Reference

The terms of reference of this Road Safety Audit are as described in the National Highways document GG119 Road Safety Audit. The Audit Team has examined and reported only on the road safety implications of the scheme as presented and has not examined or verified the compliance of the designs to any other criteria. No member of the Audit Team has been directly linked to the scheme design.

Each of the auditors' responses is classified as a 'Problem' that is likely to result in a significant road safety hazard. All comments and recommendations are referenced to the detailed design drawings and the locations have been indicated on the plan at the end of the report.

Where recommendations are made, these do not comprise design decisions, and it remains the responsibility of the Design Team to incorporate any changes into the scheme and consider any interactions between design elements.

Previous Road Safety Audits

The audit team have not been made aware of any previous Road Safety Audits.

Problems Raised at this Stage 1 RSA

PROBLEM – A3-01

Location: A453 – At the Proposed Junction.

Summary: Visibility – Insufficient forward stopping sight distance may increase the risk of shunt type collisions.

The proposed junction is located west of a crest in the existing alignment. Visibility on the westbound approach is compromised by the crest in the main carriageway and there is a concern here that forward visibility may already be compromised and then may be worsened by the change of configuration that places a traffic signal-controlled junction close to the crest. Insufficient forward stopping sight distance may increase the risk of shunt type collisions.

RECOMMENDATION

It is recommended that the visibility envelope is assessed for the proposed westbound carriageway and, if necessary, suitable mitigations are provided.

PROBLEM – A3-02

Location: A453 – Verges at the Proposed Junction.

Summary: Landscaping – Future growth from trees and bushes may obstruct visibility, consequentially increasing the risk of junction related collisions.

At this early stage, landscaping proposals are unlikely to have been considered. However, there is a risk that the visibility envelope for the junction may not continue to be met if any proposed landscaping is left unmanaged. Should the visibility requirements not be maintained clear of obstruction, there may be an increased risk of collisions linked to insufficient visibility.

RECOMMENDATION

It is recommended that the extents of visibility at the junction are kept clear of any obstruction that may grow or mature in future years and that the extents of the visibility are clearly marked to aid future maintenance.

PROBLEM – A3-03

Location: New carriageway areas generally.

Summary: Drainage – Insufficient surface water drainage may increase the risk of loss of control or skidding type collisions as well as slips and falls by pedestrians and cyclists.

At this early stage, no details have been provided on the proposed drainage arrangements. The audit team noted that the junction is located partly on a crest and there are areas where surface water may collect. As such, this may require measures to manage surface water around these areas in order to reduce the risk of surface water or standing water and detritus in these areas that may consequently cause loss of control or skidding type collisions as well as slips and falls by pedestrians and cyclists.

RECOMMENDATION

It is recommended that all areas are provided with suitable surface water drainage measures to minimise the risk of standing water and detritus. It is also recommended that details of these are provided at the next stage of road safety audit including gully locations, levels and contours.

PROBLEM – A3-04

Location: A453 – At the Proposed Junction

Summary: Skidding Resistance – Carriageway surfacing across part lane widths may increase the risk of loss of control type collisions.

The drawings indicate that carriageway widening is to be provided with no indication of resurfacing of the existing carriageway nor what skidding resistance is to be provided. There is also a risk here that, if widening is provided by means of haunching the carriageway width into the verge, a differential skidding resistance is introduced between the new and old carriageway surfacing. This difference in skidding resistance may increase the risk of loss of control type collisions, especially when the carriageway surface is wet.

RECOMMENDATION

It is recommended that the new carriageway areas are provided with a skidding resistance commensurate to DMRB CD 236, Table 3.3a or Table 3.3b based on the relevant site categories and traffic levels, that the new surfacing provided is done so in full lane widths and the revised crown of the road is located such to avoid the application of any adverse camber.

PROBLEM – A3-05

Location: Development access road to the south.

Summary: Network Management – Lack of restrictions on use may increase the risk of collisions linked to inconsiderate parking.

An existing “Red Route” clearway is in place along the A453 and the airport perimeter roads. Whilst the red route clearway is provided to manage a specific problem caused by airport passengers for pick up, a lack of any restriction on stopping may increase the risk of collisions on the development access to the south. Without provision, there may be an increased the risk of collisions linked to inconsiderate parking.

RECOMMENDATION

It is recommended that a clearway system is extended into the development access to the south.

PROBLEM – A3-06

Location: A453 – At the Proposed Junction

Summary: Junctions – Queueing vehicles may increase the risk of a shunt type collision eastbound as well as increase the risk of junction related collisions.

There are two existing junctions to the east of the proposed junction that provide access to the village of Diseworth. The audit team noted legacy additional warning signs at the junction closest to the proposals, located in the hidden dip, which suggests a legacy collision problem. There is a risk here that the increased traffic generated by the wider development may increase the risk at these two junctions for queueing whilst waiting to turn right into the side roads. This may also reduce gap opportunities and lead to a reduction in gap acceptance when turning. These queueing vehicles may increase the risk of a shunt type collision eastbound as well as increase the risk of junction related collisions.

RECOMMENDATION

It is recommended that the influence of the development is assessed and, where necessary, mitigations provided. These mitigations could range from additional warning signs up to a ghost island provision.

PROBLEM – A3-07

Location: A453 – On the western arm.

Summary: Traffic Signals – Lack of stop line and traffic signals here may increase the risk of collisions involving pedestrians and cyclists.

In the later phase configuration, a combined pedestrian and cyclist crossing facility is provided across the western arm of the junction. Noting the removal of the left turn from the development in this phase, no specific stop line is provided for this crossing. There is a risk however, that vehicles leaving the development turn left by mistake. Also at congested times, traffic heading westbound may be queueing for the merge beyond. This could be further exacerbated when large events are held at Donnington Park Circuit. A lack of stop line and traffic signals here may increase the risk of collisions involving pedestrians and cyclists using the crossing facility.

RECOMMENDATION

It is recommended that a stop line and traffic signals are provided.

PROBLEM – A3-08

Location: A453 – Exit from Development Access.

Summary: Junctions – Traffic Signals – Provide two lanes right from start.

In the initial configuration of the junction, traffic can turn left and right from the development access using lanes 1 and 2 respectively. This is revised in the later configuration to lanes 1 and 2 both turning right from the development access. There is a concern here that initially drivers turning right will become accustomed to merging into lane 1 of the A453 eastbound, but that in the later configuration, there will be two lanes of traffic turning right seeking to merge heading eastbound. This may increase the risk of side swipe, shunt and merge type collisions.

RECOMMENDATION

It is recommended that, in the initial configuration, traffic is directed to use both lanes for turning right. i.e. so that lane 1 is for turning both left and right and lane 2 is for turning right. This will require the later state arrangement on the exit eastbound to be used in initial works.

PROBLEM – A3-09

Location: A453 – At the Proposed Junction

Summary: Direction Signs – Placement may increase the risk of collisions linked to insufficient conspicuity or obstruction of inter-visibility.

At this early stage, no details have been provided of direction signs on the approaches to the junction. Some of these roads have a 40mph approach speed for vehicles and could have map type direction signs several metres wide and tall. Conspicuity to these large signs may be obscured by earth works or roadside vegetation and may also form an obstruction to inter-visibility, in particular for pedestrian crossing points and the traffic signals. A lack of consideration to placement may increase the risk of collisions linked to insufficient conspicuity or obstruction of inter-visibility.

RECOMMENDATION

It is recommended that the extents of visibility are established to inform the next stage of design.

PROBLEM – A3-10

Location: A453 – At the Proposed Junction

Summary: Lighting – Insufficient carriageway surface illumination may increase the risk of collisions involving pedestrians during the hours of darkness.

There is currently no street lighting provision in the vicinity of the proposed works. The introduction of the development and associated footways, cycleways and crossing points will focus pedestrians to cross at specific locations where they may not be sufficiently illuminated. Insufficient carriageway surface illumination at crossing points may increase the risk of collisions involving pedestrians during the hours of darkness.

RECOMMENDATION

It is recommended that a system of carriageway illumination is provided and is contiguous with the provision within the wider development.

PROBLEM – A3-11

Location: A453 – At the Proposed Junction

Summary: Poles / Columns – Lack of provision for passively safe posts and columns may increase the injury severity in the event of a collision by an errant vehicle.

The proposals outline approached roads that have 40mph and 50mph speed limits. Collisions on higher speed roads often involve a secondary impact with street furniture that increases the injury severity of the vehicle occupants in the errant vehicle. Without consideration of a broader view towards passive safety that not only considers passively safe sign and traffic signal structures, but also the reduction of sign clutter and the placement of signs, there is a risk of increased injury severity. Lack of provision for passively safe posts and columns may increase the injury severity in the event of a collision by an errant vehicle.

RECOMMENDATION

It is recommended that a broad view towards passive safety is implemented, including passively safe sign and traffic signal structures, reduction of sign clutter and placement.

Audit Team Statement

We certify that this Road Safety Audit has been carried out in accordance with GG119 Revision 2.

Road Safety Audit Team Leader

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Directive 2008/96/EC (Certificate of Competency)

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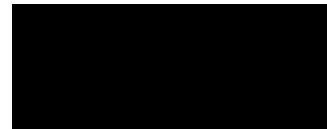
Date: 9th February 2025

Road Safety Audit Team Member

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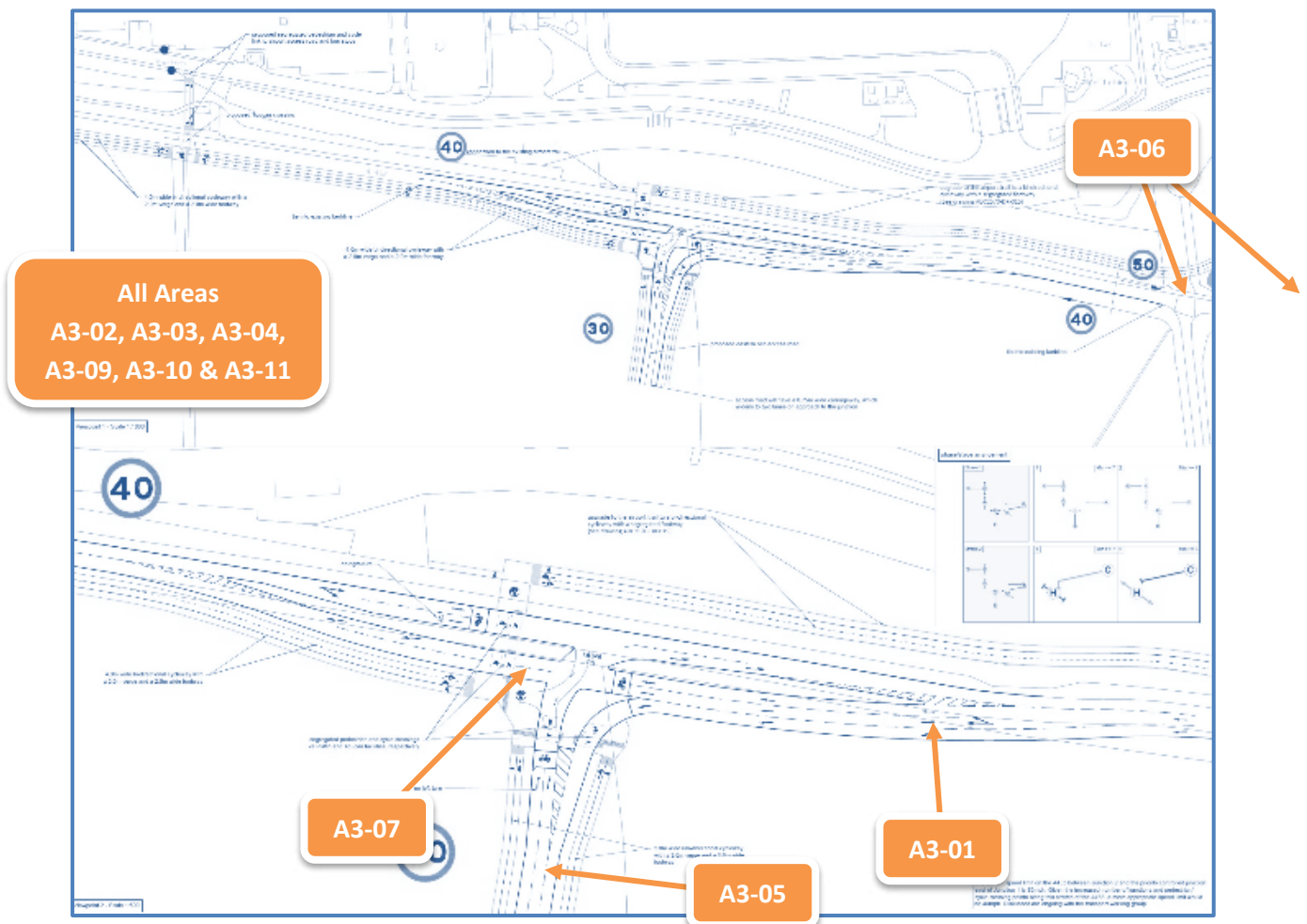
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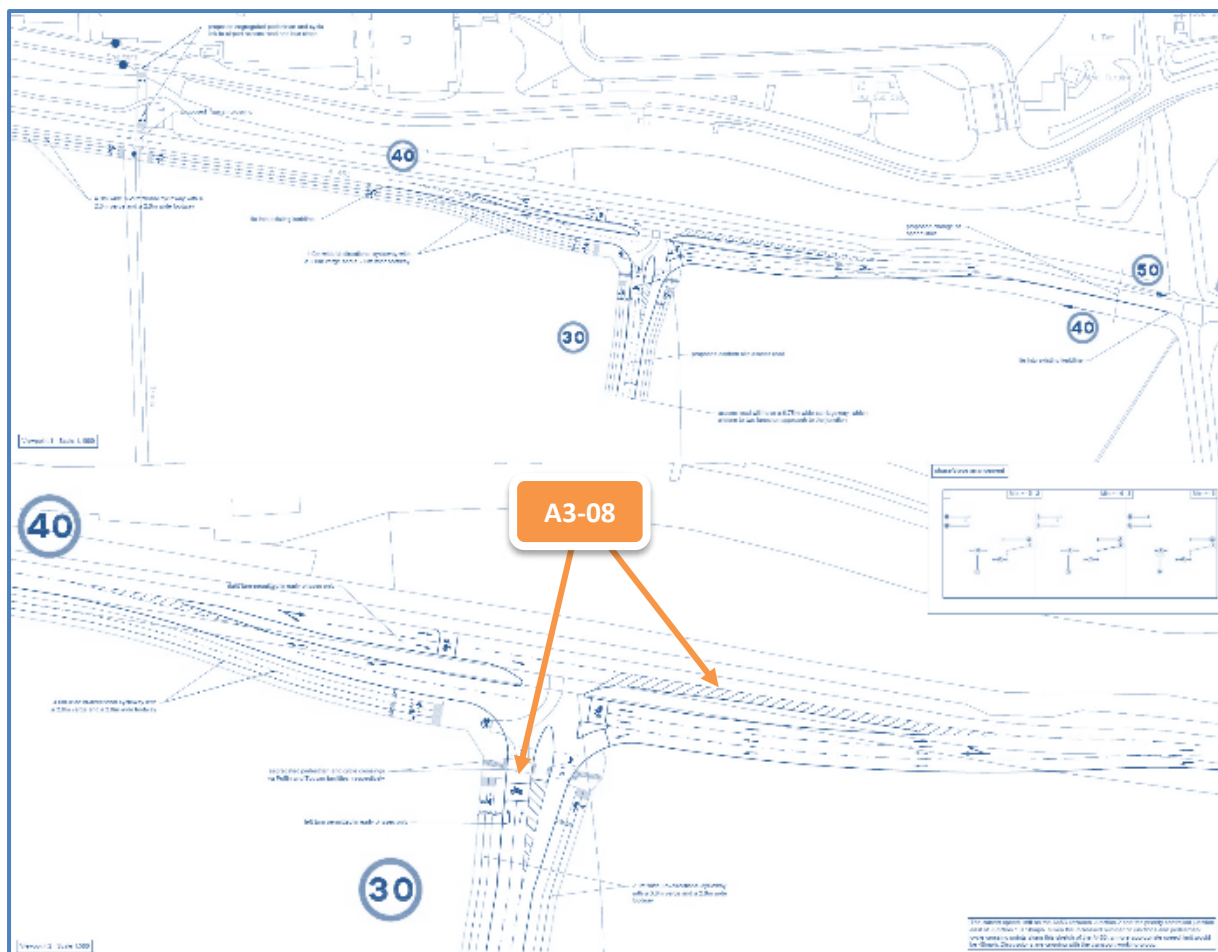


Date: 9th February 2025

Problem Location Plan



Final arrangement that removes access to and from the west for all traffic.



Early all access arrangement.



Sevenairs Consulting Ltd

Cycle Interventions, Isley Woodhouse, Leicestershire

Road Safety Audit Stage 1

February 2025



Document Control

Report Title:

Cycle Interventions, Isley Woodhouse, Leicestershire – Road Safety Audit Stage 1

Date of Site Visit

4th February 2025

Document Reference

2025-02 Isley Woodhouse RSA1 (Cycles) – Revision 0

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Leicestershire County Council

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Document History:

Revision	Date	Description	By
0	09.02.2025	For Issue	HV

Introduction

Commissioning and Scope

This report results from a Stage 1 Road Safety Audit carried out at the site of a large development referred to as Isley Woodhouse, in Leicestershire. The audit was carried out at the request of Tim Cooke, Technical Director, ADC Infrastructure on behalf of the developer of the site.

The Road Safety Audit team membership was as follows:

The Audit Team	Haydn Vernals FCIHT FIHE CMILT MSoRSA Directive 2008/96/EC (Certificate of Competency), Road Safety Team Leader in accordance with GG119
	Sarah Vernals BAHonsQTS NPQH, Road Safety Team Member in accordance with GG119
Audit Observers	None

The main project comprises of 4,250 new dwellings, one local centre, two neighbourhood centres, a sport, leisure and community hub, two new primary schools, a secondary school, employment land, and green infrastructure including sports facilities.

Highway works in this Cycle Interventions element include:

- New and improved footway / cycleways along the A453 corridor.
- New and improved footway / cycleways along the airport eastern perimeter road.
- New controlled crossings across the A453 and busy side roads.
- New uncontrolled crossings across minor side roads.
- Improvements to the existing Airport Trail to the north of East Midlands Airport.
- Conversion of an existing PROW to Bridleway near Donnington MSA.
- Conversion of an existing PROW to Bridleway connecting to Moira Dale.

The scope of this Road Safety Audit is to review the proposed highway works.

The audit has been carried out in accordance with the principles of the National Highways document GG 119 Road Safety Audit. A formal Road Safety Audit Brief was not provided to the Audit Team. However, information regarding the site was provided via email alongside the relevant scheme documents and drawings. This was considered by the Audit Team to provide sufficient detail to undertake the appropriate stage of audit.

The audit also comprised of a desk-top study where all documents and plans provided by the Design Team were reviewed. No departures from standard have been brought to the attention of the RSA team with regard to the scheme as designed.

Site Visit Attendance

A site visit took place comprising of the RSA team of all elements on Tuesday 4th February 2025 between 10:00 and 12:00 hours during which the weather was sunny and the road surface damp. Traffic conditions were generally light and free flowing with pedestrians and cyclists observed across the various elements of the wider project.

Documents Supplied

- Email proposal background
- ADC2570-DR-006-P6 – Cycle Network Overview Plan
- ADC2570-DR-015-P2 – A453 cycle connection to EMG
- ADC2570-DR-016-P2 – Northern cycle connection to EMG

Terms of Reference

The terms of reference of this Road Safety Audit are as described in the National Highways document GG119 Road Safety Audit. The Audit Team has examined and reported only on the road safety implications of the scheme as presented and has not examined or verified the compliance of the designs to any other criteria. No member of the Audit Team has been directly linked to the scheme design.

Each of the auditors' responses is classified as a 'Problem' that is likely to result in a significant road safety hazard. All comments and recommendations are referenced to the detailed design drawings and the locations have been indicated on the plan at the end of the report.

Where recommendations are made, these do not comprise design decisions, and it remains the responsibility of the Design Team to incorporate any changes into the scheme and consider any interactions between design elements.

Previous Road Safety Audits

The audit team have not been made aware of any previous Road Safety Audits.

Problems Raised at this Stage 1 RSA

PROBLEM – A4-01

Location: Along the various footway / cycleway routes.

Summary: Landscaping – Future growth from trees and bushes may obstruct visibility consequentially increasing the risk of collisions involving pedestrians and cyclists.

At this early stage, landscaping proposals are unlikely to have been considered. The audit team noted that considerable lengths of the proposed and improved routes were either through or adjacent to existing vegetation. There is a risk that the visibility envelope may not continue to be met if any proposed landscaping is left unmanaged. Should the visibility requirements not be maintained clear of obstruction, there may be an increased risk of collisions linked to insufficient visibility.

RECOMMENDATION

It is recommended that the extents of visibility along the route and at the various interfaces is kept clear of any obstruction that may grow or mature in future years and that the extents of the visibility are clearly marked to aid future maintenance.

PROBLEM – A4-02

Location: Along the various footway / cycleway routes.

Summary: Fences and Road Restraint Systems – Insufficient protection of watercourse hazards may increase the risk of slips and falls by pedestrians and cyclists into water.

The various routes pass over and adjacent to a number of water courses and pond areas. There is, however, no indication of any guardrail for these water hazards. There is a risk here of pedestrians or cyclists entering the water course or slips and falls down the embankments. Insufficient protection of watercourse hazards may result in slips and falls by pedestrians and cyclists into water consequently causing injury or drowning.

RECOMMENDATION

It is recommended that risk assessments are completed and, where necessary, a suitable form of restraint system or guardrails are provided to protect hazards.

PROBLEM – A4-03

Location: Side roads off the A453.

Summary: Basic Design Principles – Close association of crossings and junctions may increase the risk of collisions involving pedestrians and cyclists.

The proposals indicate new crossings across side roads along the A453. In particular, near Donnington MSA, at Beverley Road and at the main airport access. These appear to be located close to the associated junctions with limited detail on how these will operate in conjunction with the associated junctions. There is a risk here that the safe operation of these crossings may be compromised by the close proximity of the crossings to junctions. Close association of crossings and junctions may increase the risk of collisions involving pedestrians and cyclists.

RECOMMENDATION

It is recommended that the airport access junction is reconfigured to ensure safe operation of the crossing.

It is also recommended that the crossing near Donnington MSA as well as at Beverley Road are located sufficiently far enough from the roundabouts to ensure safe operation.

PROBLEM – A4-04

Location: Airport Eastern Perimeter Road.

Summary: Basic Design Principles – Insufficient width provision may increase the risk of collisions between pedestrians and cyclists.

New and improved shared use footway / cycleway infrastructure is indicated along the airport eastern perimeter road. This is provided in two forms, a shared use 4m wide route and a segregated 6m wide route. It is unclear in areas how this will be accommodated within the existing verge width, particularly adjacent to the hedgerow to the south, the retaining wall near the end of the airport runway, at bus stops, across roundabout splitter islands and around other constraints. Insufficient width provision may increase the risk of collisions between pedestrians and cyclists.

RECOMMENDATION

It is recommended that the extents of where full-width provision cannot be provided are established and, where necessary, suitable mitigations are provided.

PROBLEM – A4-05

Location: Diseworth Road.

Summary: Basic Design Principles – Insufficient width provision may increase the risk of collisions between pedestrians and cyclists.

An existing public right of way is to be improved adjacent to East Midlands Aeropark. Part of this route crosses a watercourse with a narrow timber footbridge. It is unclear from the drawings provided if this element of the route would be upgraded. Insufficient width provision may increase the risk of collisions between pedestrians and cyclists.

RECOMMENDATION

It is recommended that any structures over watercourses are sufficiently wide enough for two-way use by pedestrians and cyclists.

PROBLEM – A4-06

Location: A453 and associated side roads.

Summary: Traffic Signals – Insufficient conspicuity may increase the risk of collisions involving pedestrians and cyclists on the crossings.

A number of traffic signal-controlled crossings are to be provided. The audit team note that some of these are located such that conspicuity to the crossing for approaching traffic may be compromised. In particular, but not limited to, the crossing near Grimes Gate and the sites mentioned in Problem A4-03. Insufficient conspicuity may increase the risk of collisions involving pedestrians and cyclists on the crossings.

RECOMMENDATION

It is recommended that sufficient conspicuity is provided on the approach to these crossings.

PROBLEM – A4-07

Location: All crossing locations.

Summary: Skidding Resistance – Insufficient skidding resistance may increase the risk of collisions involving skidding.

The provision of new controlled and uncontrolled crossings will change the site categories in terms of the definitions within DMRB CD 236. The existing carriageway surface across the cycle element proposals generally appears to be in good condition but may not offer a sufficient level of skidding resistance for a new hazard such as a crossing. Insufficient provision, especially in higher risk areas such as at pedestrian crossings, may increase the risk that collisions involving skidding occur.

RECOMMENDATION

It is recommended that the carriageways on and through any proposed crossing are provided with a skidding resistance commensurate to DMRB CD 236, Table 3.3a or Table 3.3b based on the relevant site categories and traffic levels.

PROBLEM – A4-08

Location: All cycle routes.

Summary: Lighting – Insufficient carriageway surface illumination may increase the risk of collisions involving pedestrians during the hours of darkness.

There is currently some street lighting provision in the vicinity of the proposed works, but also other links where no lighting is provided. The introduction of the footways, cycleways and crossing points will focus pedestrians to cross at specific locations where they may not be sufficiently illuminated. Insufficient carriageway surface illumination at crossing points may increase the risk of collisions involving pedestrians during the hours of darkness. Also, there is also a risk of trips and falls away from junctions on any unlit sections of route between areas where lighting is provided.

RECOMMENDATION

It is recommended that, where practicable, carriageway lighting is provided.

The audit team acknowledge that providing illumination along the improved route to the north of the airport runway may compromise safe operations on the airport. The audit team also acknowledge that less intrusive alternative solutions like low level lighting, solar road studs etc. may be more appropriate in some areas.

Audit Team Statement

We certify that this Road Safety Audit has been carried out in accordance with GG119 Revision 2.

Road Safety Audit Team Leader

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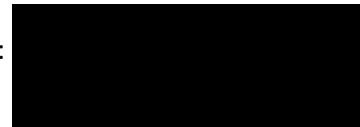
Date: 9th February 2025

Road Safety Audit Team Member

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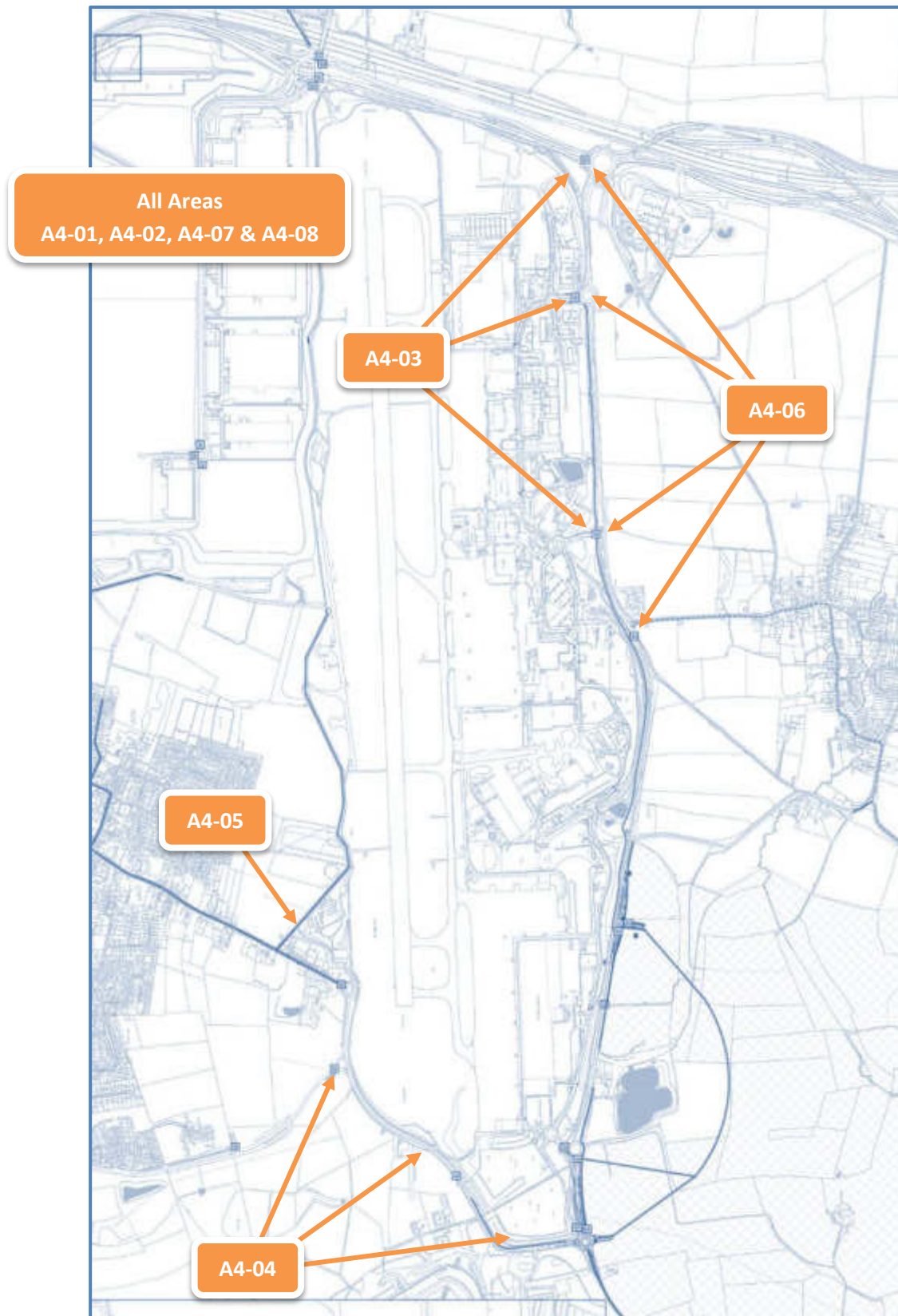
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Date: 9th February 2025

Problem Location Plan



APPENDIX 10

LIST OF JUNCTION MODEL FILES

1.0 LIST OF JUNCTION MODEL FILES

1.1 The table below details the model files used in the junction assessments detailed in the Transport Assessment report. The actual model files can be provided on request.

Junction	File reference
Proposed Access Junction 1 A453 eastern access junction	240314 Junction 1 - eastern site access.lsg3x
Proposed Access Junction 2 A453/Airport Perimeter Road Existing signal controlled junction Proposed central roundabout access	250302 existing A453_unamed road to Castle Donnington.lsg3x 250226 ROUNDABOUT OPTION.j9
Proposed Access Junction 3 A453 northwestern roundabout access	250122 A453_site access 3_realigned Melbourne Road 4 arm roundabout FLAT.j9
Proposed Access Junction 4 A453 southwestern roundabout access	250122 A453-Site access 4_Moor Lane.j9
Station Road/Donington Lane/Trent Lane roundabout	250130 Proposed Station Road_Don Lane_Trent Lane_Modwen site accessmodel.lsg3x
Station Road/Broad Rushes roundabout	250130 Station Road_Broad Rushes roundabout.j9
Broad Rushes/Trent Lane/Back Lane/Arundel Ave/Distribution Centre Access junction	250124 Broad Rushes_Trent Lane_Back Lane_Arundel Ave roundabout.j9
Park Lane/Castle Donington bypass roundabout	250203 Park Lane_Unnamed Road roundabout.j9
A453/EMA Access	241001 Airport Access.lsg3x
A50 Junction 1	250115 A50 Junction 1 – Committed mitigation.lsg3x
Tonge Interchange A453 Moor Lane/A42 off-slip T-junction	250116 A42 Interchange - T junction.j9
Tonge Interchange A42 on-slip/A453/Gelscoe Lane/Top Brand roundabout	250121 A42 Interchange – roundabout.j9
Tonge Interchange merge/diverge assessment	250211 Merge Diverge A42