East Midlands Gateway
Phase 2 (EMG2)

Document DCO 6.6A/MCO 6.6A (Part 6)

ENVIRONMENTAL STATEMENT

Technical Appendices

Appendix 6A

Transport Assessment

~~October 2025~~April 2026

06

The East Midlands Gateway Phase 2
and Highway Order 202X and The East Midlands Gateway
Rail Freight and Highway (Amendment) Order 202X

SEGRO.COM/SLPEMG2

SEGRO

The East Midlands Gateway Phase 2 and Highway Order 202X and The East Midlands Gateway Rail Freight and Highway (Amendment) Order 202X

APPENDIX 6.6A TRANSPORT ASSESSMENT (PART 6) (DOCUMENT DCO 6.6A/MCO 6.6A)

Version	Date	Status of Version
0	October 2025	Submission
1	April 2026	Deadline 1

APPENDIX 29: Stage 1B Modelling sign off sheet

TECHNICAL APPROVAL
East Midlands Gateway 2

Document Name	Stage 1B Modelling Documents	**Project reference**	220500
Document reference / revision	Trip Generation: Core Assessment Note (EMG2-BWB-GEN-XX-RP-TR-0012 Revision P1) EMG1 Rail Freight Terminal (EMG2-BWB-GEN-XX-RP-CH-0011)	**Date**	12.02.25

Approver 1	**Name**	[redacted]
	Organisation	National Highways
	Position	Interim Spatial Planner
	Date	18/02/2025
	Signature	[redacted]
	Comments ***(if applicable)***	**Trip Generation: Core Assessment Note (EMG2-BWB-GEN-XX-RP-TR-0012 Revision P1)** JSJV (on behalf of National Highways) have undertaken a review of the supplied note. The notes states that development proposals comprise 430,000sqm of industrial development across the following sites: • 400,000sqm of B2/B8 industrial development on EMG2, including 100,000sqm of B8 mezzanine floorspace; and, • 30,000sqm of B8 industrial development on Plot 16 of EMG1. National Highways does not agree that the EMG1 sample data provided shows "that the actual recorded trip rates are a lot lower" as stated in the Note at paragraph 3.2. The data shows variance and we note that the observed 2022 data for the 0700 – 0800 peak hour actually generates higher demand than the sample data for the 0800 – 0900 (which is being used for the current modelling assessment). We are therefore cautious in terms of how much weight we can give the observed data given the variation demonstrated within the data set.

		Paragraph 3.4 notes discussions taking place regarding a reduced trip rate being applied to the mezzanine floorspace. National Highways still do not feel that there is sufficient justification to accept the assumption of a reduced rate based upon the sample provided. However, the trip rates presented in Table 1 and trip generation information presented in Table 2 are agreed with National Highways and are considered to accurately reflect the current development proposals. Should there be any proposals to change the total floorspace (430,000sqm,) National Highways will require the full quantum of development, utilising the agreed trip rates presented in Table 1 and the trip generation information in Table 2, to be accounted for in any strategic, standalone and microsimulation modelling. It is noted that HGV movements to EMG1 Rail Freight Terminal will be assessed as part of the Microsimulation modelling assessment. This is agreed with National Highways. **EMG1 Rail Freight Terminal (EMG2-BWB-GEN-XX-RP-CH-0011)** • JSJV (on behalf of National Highways) undertook a review of the supporting changes to the Rail Freight Interchange. The note set out the change in maximum crane height to 24m and the increased stacking of containers to 15m. • National Highways confirmed on 23/10/24 that they agreed that the Rail Freight Interchange changes in maximum crane height would not affect traffic on the SRN.
Approver 2	**Name**	
	Organisation	
	Position	
	Date	
	Signature	

	Comments *(if applicable)*	

TECHNICAL APPROVAL
East Midlands Gateway 2

Document Name	Stage 1B Modelling Documents	**Project reference**	220500
Document reference / revision	Trip Generation: Core Assessment Note (EMG2-BWB-GEN-XX-RP-TR-0012 Revision P1) EMG1 Rail Freight Terminal (EMG2-BWB-GEN-XX-RP-CH-0011)	**Date**	12.02.25

Approver 1	**Name**	
	Organisation	
	Position	
	Date	
	Signature	
	Comments ***(if applicable)***	

Approver 2	**Name**	
	Organisation	
	Position	
	Date	
	Signature	
	Comments ***(if applicable)***	

Approver 3	**Name**	[redacted]
	Organisation	Nottinghamshire County Council
	Position	Principal Officer Transport Planning
	Date	06/03/2025

	Signature	[redacted]
	Comments *(if applicable)*	Nottinghamshire County Council (NCC) are happy to accept the proposed trip rates as outlined within the **Trip Generation: Core Assessment document** (18/10/24). The note is based on a development comprising of 430,000sqm industrial development and NCC consider the Trip Rates as shown in Table 1 to be robust. NCC accept that the proposed crane height amendments for EMG2 will not impact on the road traffic generated by the rail terminal and consequently are willing to sign off formally on the **EMG1 Rail Freight Terminal document.**

APPENDIX 30: Leicestershire County Council email dated 11 December 2024

TECHNICAL APPROVAL
East Midlands Gateway 2

Document Name	**Stage 1A Modelling Documents**	**Project reference**	220500
Document reference / revision	VISSIM Scoping Note (EMG2-BWB-GEN-XX-RP-TR-0003 Revision P3) Modelling Furnessing Methodology (EMG2-BWB-GEN-XX-RP-TR-0004 Revision P3) VISSIM LMVR (EMG2-BWB-GEN-XX-RP-TR-0006 Revision P2) PRTM proforma v14 (10/10/2024) PRTM uncertainty log v7 PRTM LMVR Addendum (19/08/2024)	**Date**	10.10.2024

Approver 1	**Name**	[redacted]
	Organisation	National Highways
	Position	Spatial Planner
	Date	04/12/2024
	Signature	[redacted]
	Comments *(if applicable)*	National Highways has undertaken a review of the referenced documents and notes the following: - **VISSIM Scoping Note (EMG2-BWB-GEN-XX-RP-TR-0003 Revision P3)** • JSJV (on behalf of National Highways) undertook a review of the supporting VISSIM Scoping Note. • Subject to a number of revisions to the scoping Note and Journey Time routes, as set out in email 14/03/2023, National Highways were content with the scope of the VISSIM model to analyse impacts on the SRN. **Modelling Furnessing Methodology (EMG2-BWB-GEN-XX-RP-TR-0004 Revision P3)** • JSJV have undertaken a detailed review of the Furnessing Methodology note and the supporting excel spreadsheets.

Commented [AW1]: LCC defers to NH's review and approval.

Commented [AW2]: Whilst LCC note NH's comments, LCC have not reviewed this yet and therefore if this is to be included in this sign-off group for this sheet, we cannot sign the sheet off.

		• Corrective actions were undertaken as outlined in emailed correspondence dated 07/02/2024. • A second audit was undertaken which identified a number of issues with the supplied spreadsheets as outlined in email correspondence dated 27/02/2024. As outlined in an email dated 25/03/2024 National Highways advised: - • There is a significant element of re-routing at some junctions such as M1 J25 which sees a sizable increase in traffic flow on the A50 West to M1 North movement; and, • It is possible there is also some model noise from the SATURN model. National Highways are content with the proposed methodology subject to the continued critical review of the above matters as part of the forecasting testing. In addition, National Highways require the Promoter to work in consultation with us through the development of the forecasting testing on the Strategic Road Network. **VISSIM LMVR (EMG2-BWB-GEN-XX-RP-TR-0006 Revision P2)** • National Highways requested JSJV review the supporting LMVR and modelling files in May 2023. • JSJV outlined the findings of the first audit review and produced a supporting Tech Note [B2448400 Midlands Freeport VISSIM Base Model Final Review April 2023]. This audit identified 10 Substantive issues, 11 Comments and 3 Observations which required corrective action. • JSJV undertook a second audit for the supporting LMVR and revised modelling. The findings of this audit are contained in a second Tech Note [B2448400 Midlands Freeport VISSIM Base Model Final Review Sept 2023]. • National Highways approved the use of the Base Model for analysing impacts on the SRN in September 2023. **PRTM proforma v14 (10/10/2024)** • JSJV (on behalf of National Highways) advised that we were content with the 13th version off the proforma as outlined in email correspondence dated 08/10/24.

Commented [AW3]: LCC defers to NH's review and approval.

Commented [AW4]: Matters detailed on this proforma are agreed by LCC, but not anything arising from references to further work such with regard to vision & validate, Mezzanines etc. We also note that further information with regard to construction stage modelling is to be provided and we agree that this is required.

		• The 14th version of the PRTIM proforma is also now agreed by National Highways. **PRTM uncertainty log v7** • National Highways are content with the 7th version of the uncertainty log received on 14/10/24. **PRTM LMVR Addendum (19/08/2024)** • As outlined in email correspondence 18/09/2024, National Highways are content with the use of EMFM (PRTM) to analyse impacts on the SRN noting that Journey Times may need to be considered again as part of the forecasting analysis. It was noted that Calibration is generally very high (94.2% in AM, 92.2% in PM) across the modelled area. Where the model does not achieve link calibration, as shown in Figures 3.4 and 3.5, these locations are far from the development site and do not appear to be on the SRN. There is one exception to this, on the M1 between J23a and 24 in the PM peak, which has a reported GEH of 6.8 (460 vehicles modelled above observed). There is a risk of over-fitting the model to calibration counts which will need to be kept in mind when considering the forecasting. **Local Junction Base Model review [240514 EMG2_Base Jct Model Comments and Responses_150524]** • National Highways requested JSJV review the supporting Local Junction Modelling. • The findings of the audit are presented in a Tech Note dated 12th February 2024 [B2428400 Midlands EMG_BWB Junction Models Review 2024]. The audit identified 26 Substantive issues, 7 Comments and 23 Observations. • Two further re-submissions were made and further audit comments captured in the Audit Tracker [240514 EMG2_Base Jct Model Comments and Responses_150524] • A final audit was undertaken by JSJV and the base models were approved for use to analyse impacts on the SRN in June 2024. The findings of the audit are presented in a Tech Note [B2428400 Midlands EMG_BWB Junction Models Review June 2024].

Commented [AW5]: Agreed by LCC.

Commented [AW6]: We are content with this subject to NH's comments, but only if the 2019 model is still to be used. We seek clarity over whether it is now the intention to use PRTM 2023, in which case fresh validation may be required.

Commented [AW7]: We note NH's comments, however LCC have not reviewed the local network models yet and therefore if this is to be included in this sign-off group for this sheet, we cannot sign the sheet off.

TECHNICAL APPROVAL
East Midlands Gateway 2

		Trip Generation; Core Assessment Note (EMG2-BWB-GEN-X-RP-TR-0012 Revision P1) • JSJV (on behalf of National Highways) undertook a review of the supporting Trip Generation Note. This note covers a series of agreements for the trip rate and quantum for the EMGP2 development modelling. • Included within this are the treatment of mezzanine floorspace as ground floorspace for the purposes of trip rate generation within the core scenario, using the higher shoulder peak, inclusive of 30,000 sqm of B8 at EMG1. • The agreed trip generation as contained within this note has formed the basis of the proforma with the 13th and 14th version, agreed (as detailed under PRTM proforma v14 (10/10/2024)) **EMG1 Rail Freight Terminal (EMG2-BWB-GEN-XX-RP-CH-0011)** • JSJV (on behalf of National Highways) undertook a review of the supporting changes to the Rail Freight Interchange. This note set out the change in maximum crane height to 24m and the increased stacking of containers to 15m. • National Highways agreed on 23/10/24 that they agreed that the Rail Freight Interchange changes in maximum crane height would not affect traffic on the SRN.
Approver 2	**Name**	
	Organisation	Leicestershire County Council
	Position	
	Date	
	Signature	
	Comments *(if applicable)*	
Approver 3	**Name**	
	Organisation	Nottinghamshire County Council

Commented [AW8]: The note is agreed, however we would refer back to our earlier comments that the whole trip generation methodology is based on assessments undertaken a significant time ago, including rail demand.

Commented [AW9]: The note is agreed, notwithstanding out comments on the trip generation note above. Whilst the rail freight trips associated with EMGP2 do not need to be added to the PRTM assessment, they will need to be taken account of as part of the VISSIM modelling.

TECHNICAL APPROVAL
East Midlands Gateway 2

	Position	
	Date	
	Signature	
	Comments *(if applicable)*	

APPENDIX 31: BREAAM Accessibility Index Calculator (proposed development)

BREEAM 2018 Tra01/02 Accessibility Index calculator

BREEAM® UK delivered by bre

Using the drop down boxes make the relevant selections and press the 'Select' button

Building type: Offices/Industrial

No. nodes required: 2

Select

NODE 1

Public transport type	Bus									
Distance to node (m)	300									
	Service 1	Service 2	Service 3	Service 4	Service 5	Service 6	Service 7	Service 8	Service 9	Service 10
Average frequency per hour	4	2	3	1	2	4				

NODE 2

Public transport type	Bus									
Distance to node (m)										
	Service 1	Service 2	Service 3	Service 4	Service 5	Service 6	Service 7	Service 8	Service 9	Service 10
Average frequency per hour										

Accessibility Index	6.21

APPENDIX 32: Transport Reporting 5 Sign Off Sheet

TECHNICAL APPROVAL
East Midlands Gateway 2

Document Name	Transport Reporting 5	**Project reference**	220500
Document reference / revision	*Construction Traffic Management Plan (PC24-004 EMG 2 Revision P05.4)*	**Date**	01.08.25

Approver 1	**Name**	[redacted]
	Organisation	National Highways
	Position	Interim Spatial Planner
	Date	4 August 2025
	Signature	[redacted]
	Comments ***(if applicable)***	

Approver 2	**Name**	
	Organisation	
	Position	
	Date	
	Signature	
	Comments ***(if applicable)***	

APPENDIX 33: Stage 1A Modelling sign off sheet

TECHNICAL APPROVAL
East Midlands Gateway 2

Document Name	**Stage 1A Modelling Documents**	**Project reference**	220500
Document reference / revision	VISSIM Scoping Note (EMG2-BWB-GEN-XX-RP-TR-0003 Revision P3) Modelling Furnessing Methodology (EMG2-BWB-GEN-XX-RP-TR-0004 Revision P3) VISSIM LMVR (EMG2-BWB-GEN-XX-RP-TR-0006 Revision P2) PRTM proforma v14 (10/10/2024) PRTM uncertainty log v7 PRTM LMVR Addendum (19/08/2024)	**Date**	10.10.2024

Approver 1	**Name**	[redacted]
	Organisation	National Highways
	Position	Spatial Planner
	Date	04/12/2024
	Signature	[redacted]
	Comments *(if applicable)*	National Highways has undertaken a review of the referenced documents and notes the following: - **VISSIM Scoping Note (EMG2-BWB-GEN-XX-RP-TR-0003 Revision P3)** • JSJV (on behalf of National Highways) undertook a review of the supporting VISSIM Scoping Note. • Subject to a number of revisions to the scoping Note and Journey Time routes, as set out in email 14/03/2023, National Highways were content with the scope of the VISSIM model to analyse impacts on the SRN. **Modelling Furnessing Methodology (EMG2-BWB-GEN-XX-RP-TR-0004 Revision P3)** • JSJV have undertaken a detailed review of the Furnessing Methodology note and the supporting excel spreadsheets.

		• Corrective actions were undertaken as outlined in emailed correspondence dated 07/02/2024. • A second audit was undertaken which identified a number of issues with the supplied spreadsheets as outlined in email correspondence dated 27/02/2024. As outlined in an email dated 25/03/2024 National Highways advised: - • There is a significant element of re-routing at some junctions such as M1 J25 which sees a sizable increase in traffic flow on the A50 West to M1 North movement; and, • It is possible there is also some model noise from the SATURN model. National Highways are content with the proposed methodology subject to the continued critical review of the above matters as part of the forecasting testing. In addition, National Highways require the Promoter to work in consultation with us through the development of the forecasting testing on the Strategic Road Network. **VISSIM LMVR (EMG2-BWB-GEN-XX-RP-TR-0006 Revision P2)** • National Highways requested JSJV review the supporting LMVR and modelling files in May 2023. • JSJV outlined the findings of the first audit review and produced a supporting Tech Note [B2448400 Midlands Freeport VISSIM Base Model Final Review April 2023]. This audit identified 10 Substantive issues, 11 Comments and 3 Observations which required corrective action. • JSJV undertook a second audit for the supporting LMVR and revised modelling. The findings of this audit are contained in a second Tech Note [B2448400 Midlands Freeport VISSIM Base Model Final Review Sept 2023]. • National Highways approved the use of the Base Model for analysing impacts on the SRN in September 2023. **PRTM proforma v14 (10/10/2024)** • JSJV (on behalf of National Highways) advised that we were content with the 13th version off the proforma as outlined in email correspondence dated 08/10/24.

		• The 14th version of the PRTIM proforma is also now agreed by National Highways. **PRTM uncertainty log v7** • National Highways are content with the 7th version of the uncertainty log received on 14/10/24. **PRTM LMVR Addendum (19/08/2024)** • As outlined in email correspondence 18/09/2024, National Highways are content with the use of EMFM (PRTM) to analyse impacts on the SRN noting that Journey Times may need to be considered again as part of the forecasting analysis. It was noted that Calibration is generally very high (94.2% in AM, 92.2% in PM) across the modelled area. Where the model does not achieve link calibration, as shown in Figures 3.4 and 3.5, these locations are far from the development site and do not appear to be on the SRN. There is one exception to this, on the M1 between J23a and 24 in the PM peak, which has a reported GEH of 6.8 (460 vehicles modelled above observed). There is a risk of over-fitting the model to calibration counts which will need to be kept in mind when considering the forecasting. **Local Junction Base Model review [240514 EMG2_Base Jct Model Comments and Responses_150524]** • National Highways requested JSJV review the supporting Local Junction Modelling. • The findings of the audit are presented in a Tech Note dated 12th February 2024 [B2428400 Midlands EMG_BWB Junction Models Review 2024]. The audit identified 26 Substantive issues, 7 Comments and 23 Observations. • Two further re-submissions were made and further audit comments captured in the Audit Tracker [240514 EMG2_Base Jct Model Comments and Responses_150524] • A final audit was undertaken by JSJV and the base models were approved for use to analyse impacts on the SRN in June 2024. The findings of the audit are presented in a Tech Note [B2428400 Midlands EMG_BWB Junction Models Review June 2024].

		Trip Generation; Core Assessment Note (EMG2-BWB-GEN-X-RP-TR-0012 Revision P1) • JSJV (on behalf of National Highways) undertook a review of the supporting Trip Generation Note. This note covers a series of agreements for the trip rate and quantum for the EMGP2 development modelling. • Included within this are the treatment of mezzanine floorspace as ground floorspace for the purposes of trip rate generation within the core scenario, using the higher shoulder peak, inclusive of 30,000 sqm of B8 at EMG1. • The agreed trip generation as contained within this note has formed the basis of the proforma with the 13th and 14th version, agreed (as detailed under PRTM proforma v14 (10/10/2024)) **EMG1 Rail Freight Terminal (EMG2-BWB-GEN-XX-RP-CH-0011)** • JSJV (on behalf of National Highways) undertook a review of the supporting changes to the Rail Freight Interchange. This note set out the change in maximum crane height to 24m and the increased stacking of containers to 15m. • National Highways agreed on 23/10/24 that they agreed that the Rail Freight Interchange changes in maximum crane height would not affect traffic on the SRN.
Approver 2	**Name**	
	Organisation	Leicestershire County Council
	Position	
	Date	
	Signature	
	Comments ***(if applicable)***	
Approver 3	**Name**	[redacted]
	Organisation	Nottinghamshire County Council

TECHNICAL APPROVAL
East Midlands Gateway 2

	Position	Principal Officer Transport Planning
	Date	07/03/2025
	Signature	[redacted]
	Comments *(if applicable)*	**VISSIM Scoping Note and VISSIM LMVR** NCC do not intend to review the VISSIM modelling documents in any detail and are happy to defer to National Highways (NH) and Leicestershire County Council colleagues. **Modelling Furnessing Methodology Revision P3** NCC are satisfied with the approach to use 'Actual' flows when trying to derive future forecast traffic flow matrices and are happy to grant technical approval for this document. **PRTM Proforma v14** Proforma v14 is acceptable to NCC **PRTM Uncertainty Log v7** NCC requested the inclusion of the A52 Gamston, Nottingham Knight and Wheatcroft junction upgrades (National Highways promoted schemes) to the Uncertainty Log. NCC confirmed on 8/7/2024 that the highway network tab within the Uncertainty Log (v7) now included all three junctions and as a result the Uncertainty Log (v7) is accepted by NCC. **PRTM LMVR Addendum** NCC note that the performance of the PM peak hour for the Nottingham Cordon now marginally fails with the latest May 2024 TAG data book (2022 – previously passed) but the Council is willing to accept this because of the overall performance of the model.

APPENDIX 34: EMG1 Vehicle Trip Rate Comparison Report (document reference PC6796)

REPORT

EMG1 Vehicle Trip Rate Comparison 2024

SEGRO Logistics Park

Client: SEGRO

Reference: PC6796
Status: Final
Date: 7 February 2025

a company of Royal HaskoningDHV

HASKONINGDHV UK LTD.

1 Broadway
Nottingham
NG1 1PR
United Kingdom
Mobility & Infrastructure

+44 (0) 1733 33 44 55 **T**
info@uk.rhdhv.com **E**
itpworld.net **W**

Document title: EMG1 Vehicle Trip Rate Comparison 2024

Subtitle: SEGRO Logistics Park
Reference: PC6796
Status: Final
Date: 7 February 2025
Project name: EMG2
Project number: PC6158
Author(s): [redacted]

Drafted by: [redacted]

Checked by: [redacted]

Date: 07/02/2025

Approved by: [redacted]

Date: 07/02/2025

Classification
Final

Table of Contents

Table of Tables

Table of Figures

1 Introduction

1.1 Purpose

Integrated Transport Planning (ITP) has been commissioned by SEGRO Plc (SEGRO) to conduct a comparative assessment of vehicle trip rates at East Midlands Gateway Phase 1 (EMG1) to determine:

- If the trip rates assessed at the planning stage in the site's Transport Assessment (TA) (2014) have been realised.
- If the surveyed vehicle trip rates have changed between the years that the traffic counts were conducted.
- The impact (if any) of mezzanine levels on trip rates.

The outcome of this assessment will be used to inform discussions about the appropriate vehicle trip rates for future developments.

For reference, throughout this report:

- "Assessed vehicle trip rates" refers to trip rates derived from the TRICS trip rate database, agreed with the Local Highway Authority and used within the site TA
- "Calculated vehicle trips" refers to application of the assessed vehicle trip rates from the TA to the 2024 Gross Floor Area (GFA) of operational units to calculate vehicle trip generation.
- "Surveyed vehicle trip rates" refers to trip rates derived from traffic survey data collected at EMG1 in 2022, 2023 and 2024.

1.2 Report Structure

This report is organised into the following sections:

- Section 2 provides background to EMG1, including the status of each unit in 2024 and the GFA.
- Section 3 details the methodology used to obtain the 2024 data and undertake the analysis.
- Section 4 presents a comparative analysis of the surveyed vehicle trip volumes in 2022, 2023 and 2024.
- Section 5 compares the vehicle trip rates.
- Section 6 provides a summary of the findings.

2 Background

As highlighted in the Introduction, this section presents an assessment of the vehicle trip rates used in the EMG1 TA (2014) and the trip rates recorded by vehicle surveys at EMG1 in 2024, this will help determine if the number of vehicle movements generated at EMG1 in 2024 is comparable to those assessed in 2014. A similar trip rate comparison exercise was carried out at EMG1 in 2022 and 2023. Where appropriate, this has been referenced within the report alongside the 2024 data.

The vehicle trip rates used within the EMG1 Transport Assessment (2014) were derived from the TRICS trip rate database and agreed with the Local Highway Authority during the planning process. As construction at the EMG1 is now complete, it provides a reasonable benchmark to re-assess the trip rates to understand if those assessed at the planning stage have been realised now the site is occupied. It will also help determine if there are subtle differences in vehicle trip rates depending on the occupier, size of each unit and whether that unit has mezzanine areas.

2.1 Site Overview

EMG1 is a 700-acre (2.8 km^2) warehousing and logistics park adjacent to East Midlands Airport. It is 13 miles south-west of Nottingham, 14 miles south-east of Derby and 20 miles north-west of Leicester. Alongside warehousing and logistics accommodation, the site also includes a 50-acre (0.2km^2) Strategic Rail Freight Interchange (SRFI) and because of this was defined as a Nationally Significant Infrastructure Project with planning granted via the means of a Development Consent Order.

Outline planning permission for 557,414 sqm of development was granted in 2016 and over the subsequent eight years, reserved matters applications for individual units have been determined via Northwest Leicestershire District Council. The first tenants occupied the site in 2019 and in 2024, all plots are now operational. Table 2-1 provides an overview of the businesses located at the site and their operational status in 2024. Figure 2-1 is the site masterplan and shows the spatial positioning of each plot within the red line boundary of EMG1.

2.2 Developable Area

Construction of individual plots has been led by market demand and built to tenant's operational requirements and in accordance with the consented planning permission. While mezzanine floor area was not included in the outline planning application, it has been approved for some units via the reserved matters process. The use of mezzanines varies by unit and is often led by the tenant's commercial operations. For some units, mezzanines are used as additional floorspace, but for others it forms goods storage. The total GFA for all units built is 590,182 sqm compared to the 557,414 sqm originally consented for the site. The units with mezzanine installed have been set out in Table 2-1.

It has been assumed that any unit that was surveyed in 2024 was fully operational at the time the traffic surveys were carried out. Considering this, the total GFA used for the 2024 trip rate analysis when including mezzanines is 590,182 sqm and for any calculations excluding mezzanines, it is 434,501 sqm. Plot 13 has been excluded from this assessment herein as the site does not have a building and is used as container storage for the SRFI.

Table 2-1: EMG1 2024 plot status and GFA

Plot	Business	Included in assessment?			Status in 2024	2024 GFA (sqm)		
		2022	2023	2024		Floor Area	Mezz.	Total
1	Amazon	Yes	Yes	Yes	Fully Operational	48,106	83,724	131,830
2	GXO	Yes	Yes	Yes	Fully Operational	59,298	5,000	64,298
3	The Very Group	Yes	Yes	Yes	Fully Operational	50,306	32,123	82,429
4	Kuehne + Nagel	Yes	Yes	Yes	Fully Operational	18,264	-	18,264
5	Maersk	No	No	Yes	Fully Operational	63,830	13,200	77,030
6	Games Workshop	Yes	Yes	Yes	Fully Operational	16,498	-	16,498
7	DHL	Yes	Yes	Yes	Fully Operational	17,833	7,214	25,047
8	Amazon	Yes	Yes	Yes	Fully Operational	13,611	-	13,611
9	Arvato	No	Yes	Yes	Fully Operational	20,589	4,175	24,764
11	Ceva Logistics	No	Yes	Yes	Fully Operational	60,259	-	60,259
12	DHL	Yes	Yes	Yes	Fully Operational	64,563	10,245	74,808
13	Maersk	No	No	No	Container Storage	-	-	-
SRFI	Maritime	No	No	Yes	Fully Operational	1,344	-	1,344
Total GFA included in 2024 analysis, excl. Plot 13						**434,501**	**155,681**	**590,182**

Figure 2-1: EMG1 Development Area Plan

3 Methodology

To obtain accurate vehicle data for the comparative assessment, traffic surveys were undertaken for seven days from Tuesday 12th November to Monday 18th November 2024 (outside of school half term holidays in all relevant local authority areas). November represents a seasonal peak period for freight operations at EMG1 as many tenants scale up their workforce and operations ahead of Amazon Prime Day, Black Friday and Christmas. Carrying out the traffic surveys during this month means it likely captured vehicle movements at their peak for 2024.

This year traffic surveys were carried out using video footage rather than Automatic Traffic Count (ATC) surveys to increase the accuracy of the data. This change in methodology was adopted as the specialist road traffic survey suppliers advised there is higher risk of false readings or misclassification of vehicles if ATCs are used at unit entrances/exits due to the slow-moving speed of vehicles. Whilst more costly to implement, video footage has been adopted to ensure the data collected is robust. The traffic surveys were completed by Road Data Services, an independent third-party traffic survey specialist.

In total, there were 24 traffic survey locations at EMG1 to cover all vehicular access points at operational plots with fixed units. A summary of the count locations is shown in Table 3-1. The raw data obtained from each survey site has been consolidated by ITP to obtain an overall number of vehicle trips per plot. For this assessment vehicle classes have been summarised into either light vehicle (LGV) or heavy goods vehicle (HGV), as per Table 3-2.

To streamline the analysis process, a mid-week average has been calculated for data gathered from Tuesday to Thursday, during the seven-day survey period. This has been deemed appropriate to provide a typical weekday representation of vehicle movements and allows for a direct comparison with the assessments carried out in 2022 and 2023.

For each plot, three time periods have then been assessed using the survey data:

- AM Peak - 08:00 – 09:00
- PM Peak - 17:00 – 18:00
- Daily - 00:00 – 00:00 (24-hour period)

Table 3-1: EMG1 traffic survey locations

Plot	Tenant	Traffic Survey Locations	Camera Reference
Plot 1	Amazon EMA1	Employee Car Park Entrance 1 (Inbound Only) Employee Car Park Entrance 2 (Inbound/Outbound) HGV Inbound/Outbound Entrance HGV Outbound Entrance 2 (Seasonal Access)	17 16 18 14
Plot 2	GXO	Employee Car Park (Inbound/Outbound) HGV (Inbound) HGV (Outbound)	12 10 11
Plot 3	The Very Group	Employee Car Park (Inbound/Outbound) HGV (Inbound) HGV (Outbound)	7 9 4

Plot	Tenant	Traffic Survey Locations	Camera Reference
Plot 4	K+N	Employee Car Park (Inbound/Outbound) HGV (Inbound/Outbound)	2 3
Plot 5	Maersk	HGV and Employee Inbound/Outbound Entrance	1
Plot 6	Games Workshop	Employee Car Park (Inbound/Outbound) HGV Inbound/Outbound Entrance	20 21
Plot 7	DHL Caterpillar	HGV & Employee Inbound/Outbound Entrance	22
Plot 8	Amazon DNG2	HGV & Employee Inbound/Outbound Entrance	23
Plot 9	Arvato	HGV & Employee Inbound/Outbound Entrance	5
Plot 11	CEVA Logistics	Employee Car Park (Inbound/Outbound) HGV Car Park (Inbound/Outbound)	8 6
Plot 12	DHL Mars	Employee Inbound/Outbound Entrance HGV Inbound/Outbound Entrance	13 15
SRFI	Maritime	HGV and Employee Inbound/Outbound Entrance	24

Table 3-2: Vehicle classification

Light Vehicles					
Axles	**Description**	**Class**		**Parameters**	**Dominant Vehicle**
2	Very Short - Bicycle or Motorcycle	MC	1	d(1)<1.7m & axles=2	
2	Short - Sedan, Wagon, 4WD, Utility, Light Van	SV	2	d(1)>=1.7m, d(1)<=3.2m & axles=2	
3, 4 or 5	Short Towing - Trailer, Caravan, Boat, etc.	SVT	3	groups=3, d(1)>=2.1m, d(1)<=3.2m, d(2)>=2.1m & axles=3,4,5	
Heavy Good Vehicles					
Axles	**Description**	**Class**		**Parameters**	**Dominant Vehicle**
2	Two axle truck or Bus	TB2	4	d(1)>3.2m & axles=2	
3	Three axle truck or Bus	TB3	5	axles=3 & groups=2	
>3	Four axle truck	T4	6	axles>3 & groups=2	
3	Three axle articulated vehicle or Rigid vehicle and trailer	ART3	7	d(1)>3.2m, axles=3 & groups=3	
4	Four axle articulated vehicle or Rigid vehicle and trailer	ART4	8	d(2)<2.1m or d(1)<2.1m or d(1)>3.2m axles = 4 & groups>2	
5	Five axle articulated vehicle or Rigid vehicle and trailer	ART5	9	d(2)<2.1m or d(1)<2.1m or d(1)>3.2m axles=5 & groups>2	
>=6	Six (or more) axle articulated vehicle or Rigid vehicle and trailer	ART6	10	axles=6 & groups>2 or axles>6 & groups=3	
>6	B-Double or Heavy truck and trailer	BD	11	groups=4 & axles>6	
>6	Double or triple road train or Heavy truck and two (or more) trailers	DRT	12	groups>=5 & axles>6	

4 Vehicle Volume Comparison

4.1 2024 Surveyed Vehicle Volumes by Plot

Table 4-1 sets out the daily total two-way surveyed vehicle trips for each plot in 2024, taking the mid-week average (Tuesday to Thursday). This shows that Plot 1 (Amazon EMA1), Plot 3 (The Very Group), Plot 8 (Amazon DNG2) and Plot 12 (DHL Mars) generated the most vehicle movements, with each producing over 1,000 trips per day. Plot 1, Plot 3 and Plot 12 are three of the largest plots on-site in terms of GFA. In comparison, Plot 8 has the smallest GFA but generates a high number of vehicle trips due to the type of commercial operations at the unit, as a local distribution facility, rather than long-term warehouse storage.

Table 4-1: EMG1 2024 survey trips (per plot)

Plot	GFA incl. mezzanine (sqm)	Surveyed Vehicles (2024)		
		Light Vehicles	HGVs	Total Vehicles
Plot 1	131,830	1,896	506	2,402
Plot 2	64,298	450	448	898
Plot 3	82,429	656	387	1,043
Plot 4	18,264	500	250	750
Plot 5	77,030	643	284	926
Plot 6	16,498	292	71	362
Plot 7	25,047	192	42	235
Plot 8	13,611	1,813	123	1,935
Plot 9	24,764	336	67	403
Plot 10	60,259	408	257	665
Plot 12	74,808	787	653	1,440
SRFI	1,344	189	424	613
Total	**590,182**	**8,161**	**3,511**	**11,672**

*As an average of vehicle trips has been calculated covering the three days of data, some total vehicle trips may not appear to add up between light vehicles and HGV due to rounding. However, vehicle trip rates are calculated from the true, non-rounded value

4.2 2024 Calculated vs Surveyed Vehicle Volumes

At the planning stage for EMG1, the assessed vehicle trip rates and total anticipated GFA for the development (557,414 sqm) were used to calculate the total number of two-way vehicle trips. These trip rates have been outlined in Table 4-2.

Table 4-2: EMG1 total anticipated GFA and assessed vehicle trip rates

Year	Vehicle Type	AM Peak			PM Peak			Daily		
		0800 – 0900			1700 – 1800			24hrs		
		Arrival	Departure	Two-Way	Arrival	Departure	Two-Way	Arrival	Departure	Two-Way
2014 assessed trip rates per 100sqm (557,414sqm)	Light	0.121	0.013	0.135	0.029	0.108	0.137	1.06	1.043	2.103
	HGV	0.019	0.023	0.041	0.020	0.024	0.044	0.459	0.475	0.934
	Total	**0.140**	**0.036**	**0.176**	**0.049**	**0.132**	**0.181**	**1.519**	**1.517**	**3.036**

To enable a fair vehicle volume comparison in 2024, the 2014 assessed trip rates (Table 4-2) have been applied to the total GFA delivered at EMG1 in 2024 (590,182 sqm) in Table 5-1, presented later in the report.

Figure 4-1 shows a comparison of the daily (24hr) mid-week average EMG1 2024 surveyed data against the 2014 calculated vehicle trip generation (applying the 2014 assessed trip rates to the 2024 GFA). The data shows there are 6,246 fewer daily movements (35% less) in the 2024 surveyed data.

Building on this, Figure 4-2 disaggregates the vehicle data by morning (0800-0900) and evening (1700-1800) peak periods. The 2024 surveyed data show 48% fewer vehicle trips in the morning peak and 34% fewer in the evening peak when compared to the 2024 calculated vehicle volumes.

Figure 4-1: EMG1 comparison of daily two-way vehicle volumes

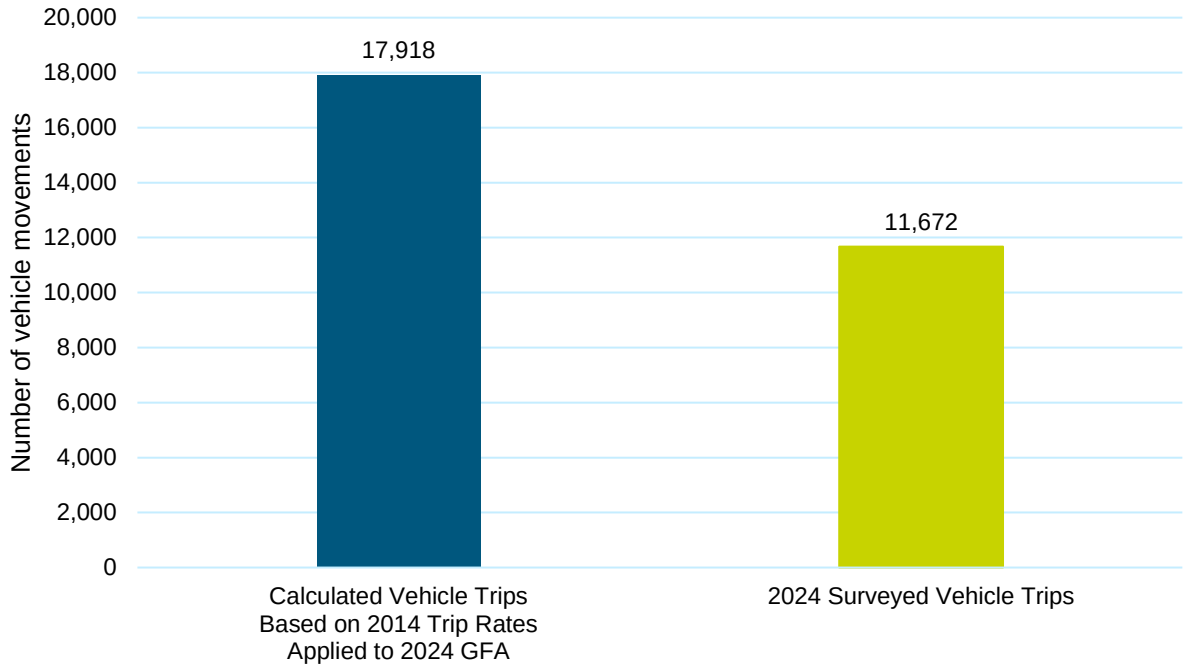
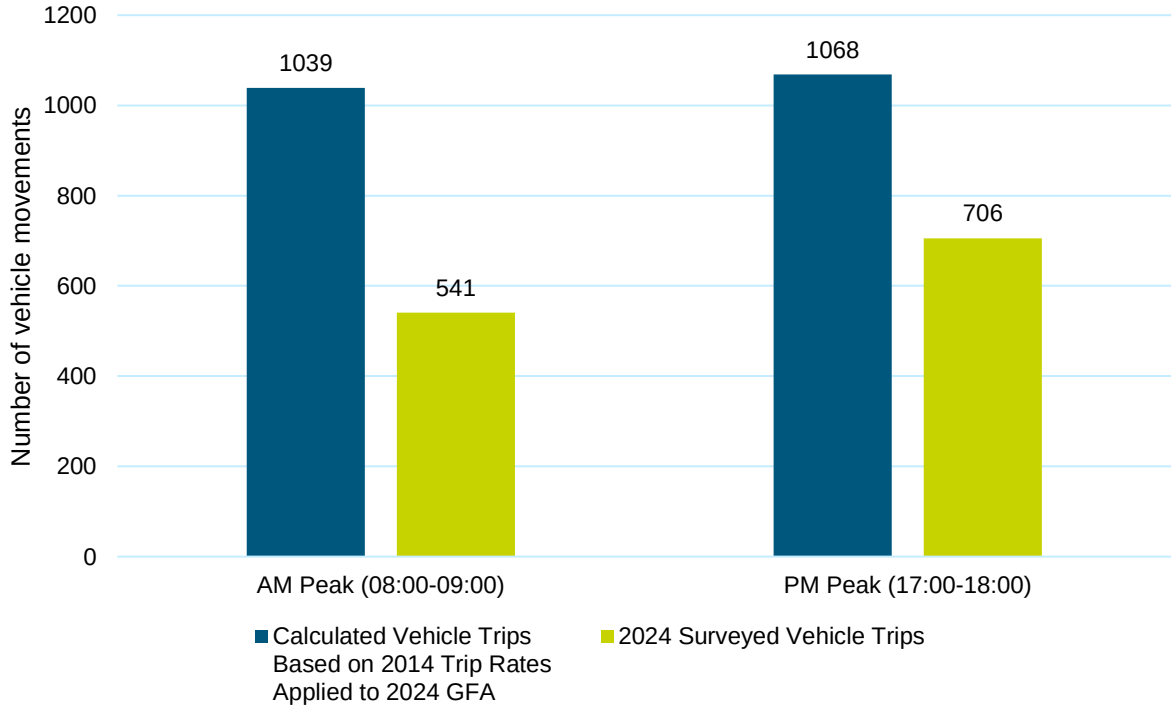


Figure 4-2: EMG1 comparison of AM and PM peak two-way vehicle volumes



4.3 Surveyed Vehicle Volume Comparison

When comparing the traffic survey data collected from surveyed units in 2023 and 2024, the daily vehicle volumes are greater in 2024 than in 2023. The increase in daily two-way trips is approximately 2,022 vehicles (21% increase). This is made up of an increase of 1,901 light vehicles and 121 HGVs. This is likely to reflect the reflect two businesses (Maersk and Maritime) commencing operations since the 2023 assessment, which added an additional daily 1,539 two-way trips. Aside from these two businesses there were also 483 additional two-way trips recorded in 2024 compared to 2023.

Table 4-3 provides a detailed breakdown of the 2022 and 2023 surveyed trips, the 2024 calculated trips and the 2024 surveyed trips in the morning peak (0800-0900), evening peak (1700-1800) and 24hr period. The data has also been disaggregated by vehicle type and by direction.

Table 4-3: EMG1 surveyed vehicle trips in 2022, 2023 and 2024

Year	Vehicle Type	AM Peak (0800 – 0900)			PM Peak (1700 – 1800)			Daily (24hrs)		
		Arrival	Departure	Two-Way	Arrival	Departure	Two-Way	Arrival	Departure	Two-Way
2022 surveyed trips	Light	286	89	375	189	217	406	3,977	4,066	8,042
	HGV	34	21	56	21	31	52	619	698	1,317
	Total	**320**	**110**	**431**	**211**	**247**	**458**	**4,596**	**4,763**	**9,359**
2023 surveyed trips	Light	269	104	373	146	226	372	3,064	3,196	6,260
	HGV	85	83	168	67	81	148	1,564	1,826	3,390
	Total	**354**	**187**	**541**	**214**	**307**	**521**	**4,628**	**5,022**	**9,650**
2024 calculated trips (including mezzanine)[1]	Light	714	77	797	171	637	809	6,256	6,156	12,412
	HGV	112	136	242	118	142	260	2,709	2,803	5,512
	Total	**826**	**212**	**1,039**	**289**	**779**	**1,068**	**8,965**	**8,953**	**17,918**
2024 calculated trips (excluding mezzanine)[2]	Light	526	56	587	126	469	595	4,606	4,532	9,138
	HGV	83	100	178	87	104	191	1,994	2,064	4,058
	Total	**608**	**156**	**765**	**213**	**574**	**786**	**6,600**	**6,591**	**13,191**
2024 surveyed trips	Light	327	51	378	205	351	556	4,075	4,086	8,161
	HGV	91	72	163	74	75	149	1,755	1,756	3,511
	Total	**418**	**123**	**541**	**279**	**426**	**706**	**5,830**	**5,842**	**11,672**
Difference between 2024 calculated (including mezzanine) and surveyed trips	Light	-387	-26	-419	34	-286	-252	-2,181	-2,070	-4,250
	HGV	-21	-63	-79	-44	-67	-110	-954	-1,047	-2,001
	Total	**-409**	**-89**	**-498**	**-10**	**-353**	**-363**	**-3,135**	**-3,111**	**-6,246**
Difference between 2024 calculated (excluding mezzanine) and surveyed trips	Light	-199	-5	-209	79	-118	-39	-530	-446	-976
	HGV	8	-28	-15	-13	-29	-42	-240	-308	-547
	Total	**-191**	**-33**	**-224**	**66**	**-147**	**-81**	**-770**	**-749**	**-1,519**
Difference between 2022 and 2024 surveyed trips	Light	41	-38	3	16	134	150	98	20	119
	HGV	57	51	107	53	44	97	1,136	1,058	2,194
	Total	**98**	**13**	**110**	**68**	**179**	**248**	**1,234**	**1,079**	**2,313**
Difference between 2023 and 2024 surveyed trips	Light	58	-53	5	59	125	184	1,011	890	1,901
	HGV	6	-11	-5	7	-6	1	191	-70	121
	Total	**64**	**-64**	**0**	**65**	**119**	**185**	**1,202**	**820**	**2,022**

[1] Applies the 2014 assessed vehicle trip rate to the 2024 GFA (including mezzanine) to provide a forecast of the number of trips.
[2] Applies the 2014 assessed vehicle trip rate to the 2024 GFA (excluding mezzanine) to provide a forecast of the number of trips.

5 Vehicle Trip Rate Comparison

At the planning stage of EMG1, vehicle trip rates were agreed with the Local Highway Authority based on the type of development proposed for the site, primarily Use Class B8. These assessed vehicle trip rates were used in the EMG1 TA (2014) and are referenced in
Table 5-1.

The surveyed vehicle volumes collected through the traffic surveys in 2024 have been applied to the GFAs for the surveyed plots in 2024 to calculate a trip rate per 100sqm of GFA. A similar calculation was carried out in 2022 and 2023 using ATC data and GFAs of occupied plots at that point.

Figure 5-1 compares the daily vehicle trip rate per 100sqm as assessed in the EMG1 TA (2014) alongside the surveyed vehicle trip rates based on the ATC data in 2022 and 2023, and the traffic survey data in 2024. This shows that while daily vehicle trip rates are slightly higher in 2024 than 2023, they are lower than 2022 and those assessed in 2014.

Figure 5-1: EMG1 daily (24hr) vehicle trip rates per 100sqm GFA for 2014 (assessed), 2022, 2023 and 2024 (surveyed) by direction.

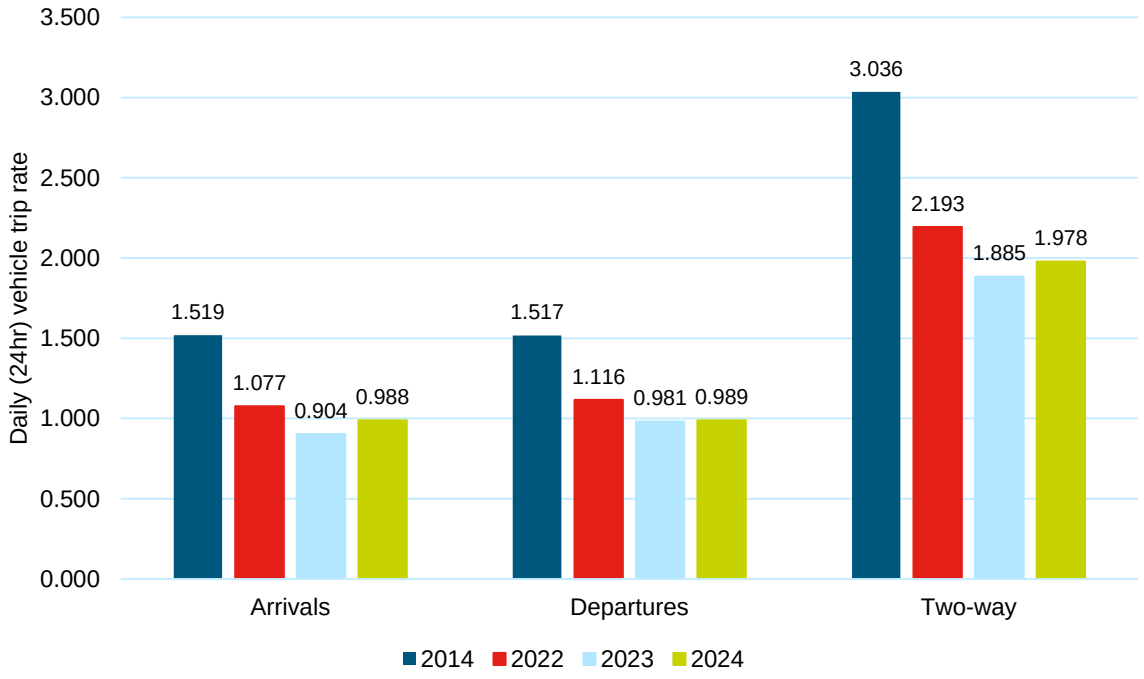
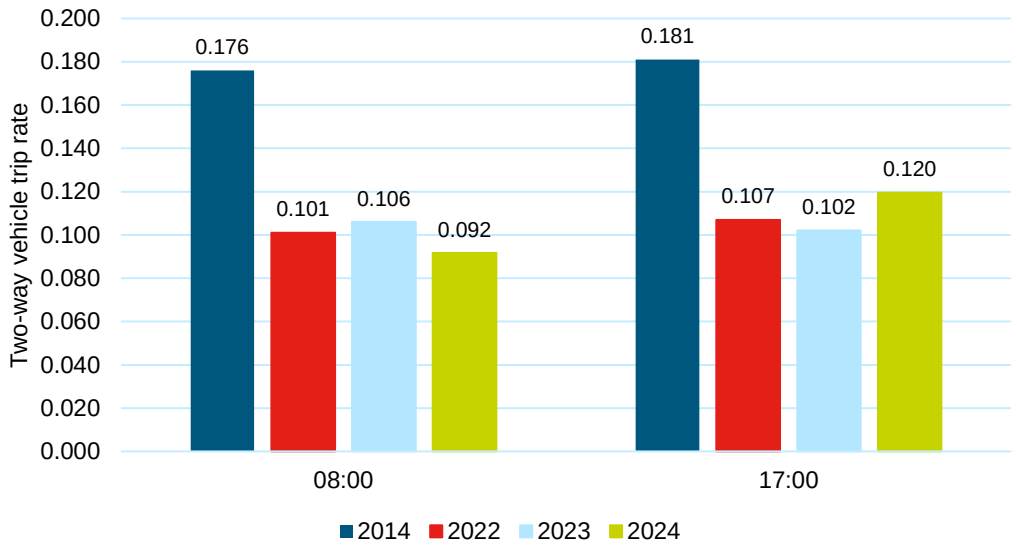


Figure 5-2 builds on this and compares the two-way vehicle trip rate in the morning and evening peak periods. This demonstrates that two-way vehicle trip rates are lower in the AM peak in 2024 than in all the previous years (assessed and surveyed), but the trip rates are greater in the PM peak period in 2024 than 2022 and 2023. This indicates that trip rates in the PM peak period have increased slightly compared to previous survey years, but do not exceed the vehicle trip rates assessed in 2014.

Figure 5-2: EMG1 two-way vehicle trip rates per 100sqm GFA for 2014 (assessed), 2022, 2023 and 2024 (surveyed) for peak hours.



5.1 Mezzanine Impact

The assessed vehicle trip rates (2014) and the surveyed vehicle trip rates in 2022, 2023 and 2024 are based on the GFA which, for applicable units, also accounts for mezzanines.

Figure 5-3 outlines the daily (24hr) vehicle trip rates per 100sqm based on the 2014 assessed trip rates from the EMG1 TA and the 2024 surveyed trip rates excluding and including mezzanines. This shows that the daily surveyed trip rates in 2024 are lower than those assessed in 2014 regardless of mezzanines.

Figure 5-3: EMG1 daily (24hr) vehicle trip rates per 100sqm excluding and including mezzanines.

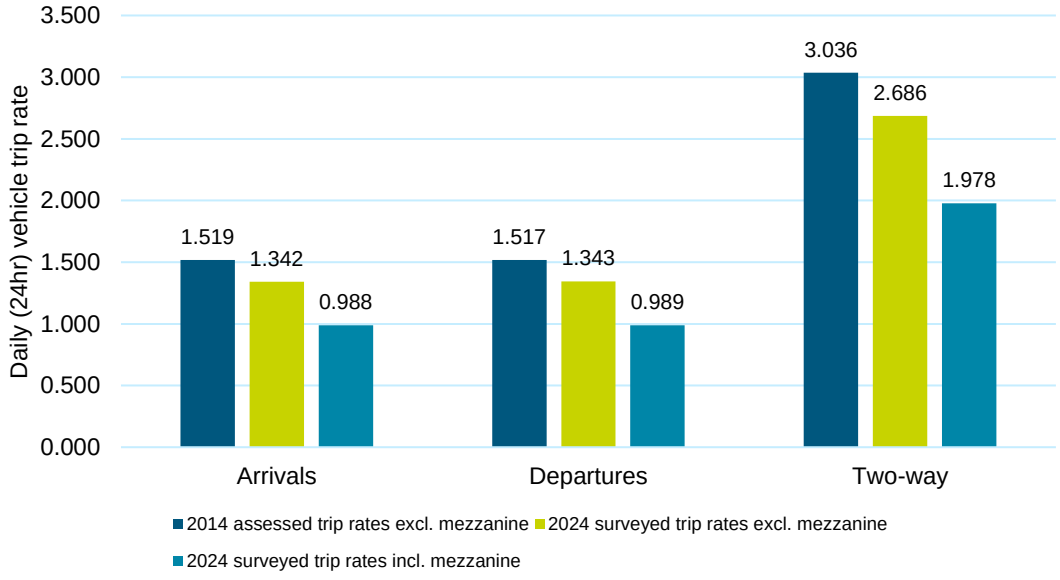


Table 5-1 builds on this and provides a detailed breakdown of the trip rates including mezzanines by peak hour and direction. As detailed in the preceding section, 2024 two-way vehicle trip rates, when accounting for mezzanines, are lower than the 2014 vehicle trip rates for all the analysed time periods.

At the planning stage of EMG1, there was no allocation for mezzanines in the GFA and the vehicle trip rates considered plan floor area only. To provide a more comparable trip rate assessment to 2014, 2024 vehicle trip rates have also been calculated based on the floor area of operational units excluding mezzanines. Figure 5-3 shows that, when excluding mezzanines, the daily vehicle trip rates for 2024 are lower than 2014. Table 5-2 provides a detailed breakdown of vehicle trip rates excluding mezzanines by peak hour and direction as well as daily totals. This shows that the 2024 vehicle trip rates are lower than those assessed in 2014, for all scenarios except for arrivals in the evening peak hour and arrival and two-way between 7:00 and 8:00.

Table 5-1: EMG1 surveyed vehicle trip rates per 100sqm GFA (incl. mezzanine) in 2022, 2023 and 2024

Year	Vehicle Type	AM Peak			AM Peak			PM Peak			PM Peak			Daily		
		0700 - 0800			0800 – 0900			1600 - 1700			1700 – 1800			24hrs		
		Arrival	Departure	Two-Way	Arrival	Departure	Two-Way	Arrival	Departure	Two-Way	Arrival	Departure	Two-Way	Arrival	Departure	Two-Way
2014 assessed trip rates per 100sqm (557,414sqm)	Light	0.089	0.028	0.118	0.121	0.013	0.135	0.040	0.140	0.180	0.029	0.108	0.137	1.060	1.043	2.103
	HGV	0.023	0.031	0.053	0.019	0.023	0.041	0.025	0.015	0.035	0.020	0.024	0.044	0.459	0.475	0.934
	Total	**0.112**	**0.059**	**0.171**	**0.140**	**0.036**	**0.176**	**0.065**	**0.155**	**0.220**	**0.049**	**0.132**	**0.181**	**1.519**	**1.517**	**3.036**
2022 surveyed trip rates per 100sqm (426,785sqm)	Light				0.067	0.021	0.088				0.044	0.051	0.095	0.932	0.953	1.884
	HGV				0.008	0.005	0.013				0.005	0.007	0.012	0.145	0.163	0.309
	Total				**0.075**	**0.026**	**0.101**				**0.049**	**0.058**	**0.107**	**1.077**	**1.116**	**2.193**
2023 surveyed trip rates per 100sqm (511,808 sqm)	Light	0.107	0.024	0.131	0.053	0.020	0.073	0.007	0.042	0.049	0.029	0.044	0.073	0.599	0.624	1.223
	HGV	0.015	0.015	0.031	0.017	0.016	0.033	0.013	0.016	0.028	0.013	0.016	0.029	0.306	0.357	0.662
	Total	**0.123**	**0.039**	**0.162**	**0.069**	**0.036**	**0.106**	**0.019**	**0.058**	**0.077**	**0.042**	**0.060**	**0.102**	**0.904**	**0.981**	**1.885**
2024 surveyed trip rates per 100sqm (590,182sqm)	Light	0.093	0.021	0.113	0.055	0.009	0.064	0.011	0.046	0.060	0.035	0.057	0.094	0.691	0.691	1.383
	HGV	0.011	0.014	0.026	0.015	0.012	0.028	0.015	0.015	0.029	0.013	0.014	0.025	0.297	0.297	0.595
	Total	**0.104**	**0.035**	**0.139**	**0.071**	**0.022**	**0.092**	**0.026**	**0.062**	**0.089**	**0.047**	**0.071**	**0.120**	**0.988**	**0.989**	**1.978**
Difference between 2014 and 2024 vehicle trip rates per 100sqm GFA	Light	0.004	-0.007	-0.005	-0.066	-0.004	-0.071	-0.029	-0.094	-0.120	0.006	-0.051	-0.043	-0.369	-0.352	-0.720
	HGV	-0.012	-0.017	-0.027	-0.004	-0.011	-0.013	-0.010	0.000	-0.006	-0.007	-0.010	-0.019	-0.162	-0.178	-0.339
	Total	**-0.008**	**-0.024**	**-0.032**	**-0.069**	**-0.014**	**-0.084**	**-0.039**	**-0.093**	**-0.131**	**-0.002**	**-0.061**	**-0.061**	**-0.531**	**-0.528**	**-1.058**

Table 5-2: EMG1 surveyed vehicle trip rates per 100sqm GFA (excl. mezzanine) in 2022, 2023 and 2024

Year	Vehicle Type	AM Peak 0700 - 0800			AM Peak 0800 – 0900			PM Peak 1600 - 1700			PM Peak 1700 – 1800			Daily 24hrs		
		Arrival	Departure	Two-way	Arrival	Departure	Two-way	Arrival	Departure	Two-way	Arrival	Departure	Two-way	Arrival	Departure	Two-way
2014 assessed trip rates per 100sqm (557,414 sqm)	Light	0.089	0.028	0.118	0.121	0.013	0.135	0.040	0.140	0.180	0.029	0.108	0.137	1.06	1.043	2.103
	HGV	0.023	0.031	0.053	0.019	0.023	0.041	0.025	0.015	0.035	0.020	0.024	0.044	0.459	0.475	0.934
	Total	**0.112**	**0.059**	**0.171**	**0.140**	**0.036**	**0.176**	**0.065**	**0.155**	**0.220**	**0.049**	**0.132**	**0.181**	**1.519**	**1.517**	**3.036**
2022 surveyed trip rates per 100sqm (288,479 sqm)	Light				0.097	0.033	0.130				0.069	0.072	0.141	1.374	1.413	2.788
	HGV				0.013	0.007	0.019				0.007	0.011	0.018	0.221	0.235	0.457
	Total				**0.110**	**0.040**	**0.149**				**0.075**	**0.084**	**0.159**	**1.596**	**1.649**	**3.244**
2023 surveyed trip rates per 100sqm (369,327 sqm)	Light	0.149	0.033	0.182	0.073	0.028	0.101	0.010	0.058	0.068	0.040	0.061	0.101	0.830	0.865	1.695
	HGV	0.021	0.021	0.043	0.023	0.022	0.045	0.017	0.022	0.039	0.018	0.022	0.040	0.423	0.494	0.918
	Total	**0.170**	**0.054**	**0.224**	**0.096**	**0.051**	**0.146**	**0.027**	**0.080**	**0.107**	**0.058**	**0.083**	**0.141**	**1.253**	**1.360**	**2.613**
2024 surveyed trip rates per 100sqm (434,501 sqm)	Light	0.127	0.029	0.153	0.075	0.013	0.087	0.015	0.063	0.081	0.047	0.077	0.128	0.938	0.939	1.878
	HGV	0.015	0.018	0.035	0.021	0.017	0.038	0.020	0.021	0.040	0.017	0.019	0.034	0.404	0.404	0.808
	Total	**0.142**	**0.047**	**0.188**	**0.096**	**0.030**	**0.125**	**0.036**	**0.084**	**0.121**	**0.064**	**0.096**	**0.162**	**1.342**	**1.343**	**2.686**
Difference between 2014 and 2024 vehicle trip rates per 100sqm GFA	Light	0.038	0.001	0.035	-0.046	0.000	-0.048	-0.025	-0.077	-0.099	0.018	-0.031	-0.009	-0.122	-0.104	-0.225
	HGV	-0.008	-0.013	-0.018	0.002	-0.006	-0.003	-0.005	0.006	0.000	-0.003	-0.005	-0.010	-0.055	-0.071	-0.126
	Total	**0.030**	**-0.012**	**0.017**	**-0.044**	**-0.006**	**-0.051**	**-0.029**	**-0.071**	**-0.099**	**0.015**	**-0.036**	**-0.019**	**-0.177**	**-0.174**	**-0.350**

6 Summary

This review of EMG1 outlines that the total number of daily vehicles arriving and departing the site has increased between 2023 to 2024 (21% increase in daily two-way vehicles). This also follows an increase from 2022 to 2023. Like in the previous assessment, the 2023 to 2024 increase is most likely due to increased commercial operations of tenants on site. Whilst the vehicle volume has increased, it remains lower than the number of trips that would have been expected based on the 2014 TA assessed trip rates and GFA built out.

Over half of the plots included within this assessment have mezzanine space included within their GFA. Despite this additional GFA, the 2024 daily vehicle trips rates per 100 sqm when including and excluding mezzanine levels are still lower than those assessed at the planning stage which is the same as in the 2023 assessment.

APPENDIX 35: BWB email dated 5 March 2025

Matt Corner

Subject: FW: 250305 EMGP2 - mezzanine floor space - updated 2024 EMG1 survey information
Attachments: EMG1_2024VehicleTripRateComparisonReport _070225_v1.pdf; EMG2: mezzanines and parameters plan; EMG-UMC-SI-01-DR-A-0100-A - Racking Analysis.pdf

[redacted]

I refer to your email below and subsequent conversations.

To confirm, we are ***considering*** doubling the amount of mezzanine space from 100,000sqm to 200,000sqm GFA, therefore resulting in a total of 440,000sqm of B8 use at EMG2 (plus 60,000sqm of B2 use at EMG2 & 30,000sqm B8 use at EMG1). That is subject to you being content that such an increase will not prejudice the transport modelling work undertaken thus far.

With that in mind this email sets out the following which we trust is of use, and are happy to weave into a more formal note, similar to the Rail Freight Terminal one, assuming you are more comfortable with what is set out:

i) 2024 traffic survey results for EMG1

ii) a refresh with re. to how mezzanines operate

iii) review of the racking analysis plan attached

iv) ditto how it would be dealt with from a DCO perspective if you were content that we could increase said figure.

1. 2024 traffic survey results for EMG1

We have since received the 2024 traffic survey results for EMG1, based on what is now a fully built out development, which are attached. I have therefore updated the calcs previously provided on 6/1/25 to reflect this below. In summary, the recorded trip rates have reduced versus the 2022 ones assessed earlier in the year, so much so that based on this methodology 650,000sqm GFA of B8 use could be built out at EMG2 if the trip rates ultimately mirrored that recorded in 2024 at EMG1, versus the 340,000sqm currently proposed in traffic generation terms – i.e. nearly double.

Scenario	Trip Rate Approach Adopted	AM Peak (8-9am)						PM Peak (4-5pm)					
		Total Vehicle Trip Rates			Total Vehicle Traffic Generation			Total Vehicle Trip Rates			Total Vehicle Traffic Generation		
		arrival	departure	2-way	arrival	departure	2-way	arrival	departure	2-way	arrival	departure	2-way
1. As currently proposed (V14 Proforma)	Currently agreed EMGP1 rates v devel as per latest proposal; 340,000sqm B8 only (inc 100,000sqm mezzanine at 100% trip rate)	0.140	0.036	0.176	476	122	598	0.065	0.155	0.220	221	527	748
2. As currently proposed - 2024 trip rates	Surveyed flows, inc mezz (340,000sqm B8)	0.071	0.022	0.092	241	75	313	0.026	0.062	0.089	88	211	303
3. With 200,000sqm GFA mezzanine space - V14 proforma trip rates	Currently agreed EMGP1 rates v 200,000sqm GFA of mezzanine space at 50% = 440,000sqm B8 in total (with 240,000sqm GFA assessed at 100% of trip rates set out in	0.070	0.018	0.088	140 + 336 = 476	36 + 86 =122	176 +422 =598	0.0325	0.0775	0.110	65 + 156 = 221	155 +372 = 527	220 + 528 = 748

for ground and 50% for mezzanine	scenario 1 and 200,000sqm GFA assessed at 50%)												
4. Total 440,000sqm GFA - agreed v14 trip rates	Currently agreed EMGP1 rates v 440,000sqm GFA (inc additional mezzanine space)	0.140	0.036	0.176	616	158	774	0.065	0.155	0.220	286	682	968
5. Total 440,000sqm GFA - 2024 trip rates	Surveyed trip rates, inc mezz (440,000sqm B8; ie 200,000sqm GFA of mezzanine space)	0.071	0.022	0.092	312	97	405 (= a 33% reduction v 1)	0.026	0.062	0.089	114	273	391 (= a 48% reduction v 1)
6. Total space based on 2024 trip rates to match V14 traffic flows	Surveyed trip rates maximised to mirror agreed trip generation = a GFA of 650,000sqm; i.e. 91% uplift versus that currently being assessed)	0.075	0.026	0.101	444	154	598	0.031	0.077	0.108	184	456	639

In your last email, we note that you picked up that the recorded shoulder peak trip rates were higher than what we're assessing, hence the nervousness in accepting lower trip rates as the timing of arrivals/departures may fluctuate.

Looking at Table 5-1 of ITP's report, the data shows that again shoulder peak trip rates are higher between 7-8am at 0.139 (albeit reduced from 0.162 from the 2023 information). Whilst we have adopted the 4-5pm trip rates in the table above for consistency, the 5-6pm recorded rates are higher (0.120 vs 0.089). However, both 'alternative' peak hour trip rates remain significantly lower than those which we have assessed to date.

The daily trip rates further support our case as shown in Figure 5-1, which show that 2024 rates are much lower than 2014 rates; 3.036 vs 1.978 (two-way).

2. How mezzanines operate

By way of a refresher, I set out the information contained in point iii) of my email dated 17/12/24, which Ian discussed once more with Jeremy in a recent catch up:

Over recent years there has been a trend, driven by increased automation and hand picking, for traditional storage racking to be replaced by mezzanine floors to facilitate the varying automation solutions. These mezzanine floors enhance the efficiency of the internal organisation and management of the logistics space but clearly as there are no loading doors at mezzanine level all goods still need to be transferred via loading doors at ground floor level to HGVs. We have seen no substantial increase in the number of loading doors per sqft of ground warehouse floor area. With the loading doors only being able to accommodate a given through put of goods, this corroborates the data we have collated at EMG that shows that the introduction of trips has no significant effect on HGV trip generation.

In simplistic terms traffic flows generated by B8 developments are driven by the number of loading doors and HGV parking spaces, not mezzanine levels, which in effect provide more sophisticated, automated racking systems, rather than an intensified operation from a traffic generation perspective. Hence why mezzanine floor spaces generate far less rips per 100sqm GFA than ground floor space.

3. Racking analysis plan

Building on the above point, please find attached the above plan, which should hopefully be self explanatory. In summary:

i) Diagrams 1 and 2, Section B-B, and image 3 present a standard racking system

ii) Section A-A, and images 1 and 2 present the alternative mezzanine option

What it does not say (possibly because nobody has ever carried out the exercise) is how the volumes compare. The main difference is that in the traditional racking system, products are stacked vertically and on the mezz floor they are stacked horizontally.

4. How any increase in mezzanine floor space would be dealt with from a DCO perspective

I attach an email Simon sent to Harry which sets out the above.

Does the above, more recent information, based on the bult out EMG1 site, provide sufficient comfort and justification to now accept the assumption of a reduced rate based upon the expanded sample now provided, based upon its own merits and the elaborated information supplied above/attached?

We trust the above/attached are of use and look forward to hearing from you at your earliest opportunity. Thanks in advance

Kind regards

Kind regards

Paul Wilson BA(Hons) MCIHT MSoRSA CMILT MInstILM
Director | Head of Transport & Accessibility Planning | BWB Consulting Limited

5th Floor, Waterfront House, Station Street, Nottingham, NG2 3DQ
M: [redacted] | **W:** bwbconsulting.com

[redacted]

Paul,

Further to your email below confirming the proposed quantum of development. You are now proposing an additional 100,000sqm of B8 floor space beyond that which was previously presented and included within the agreed modelling (430,000sqm).

We have reviewed your email of 9th January, and the data supplied in your email of 18th December 2024.

Using the data supplied in December [East Midlands Gateway Vehicle Trip Rate Comparison 2023 Table 5-1], we note that the observed 2022 data for the 0700 – 0800 peak hour actually generates higher demand than the 2014 data for the 0800 – 0900 (which is being used for the current modelling assessment). If this data was to be used with regards to the AM Peak modelling for scenarios 5 & 6, then this would result in a higher trip rate than in scenario 1.

We are therefore cautious in terms of how much weight we can give the observed data given the variation demonstrated within the data set.

Turning to the B8 mezzanine floor reductions, we still do not feel that there is sufficient justification to accept the assumption of a reduced rate based upon the sample provided. Such assumptions may well have been accepted in the cases presented, however each development proposal must be assessed based upon its own merits and the information supplied.

Your aspirational vision is underpinned by the principal that the development will generate less trips than predicted thereby justifying an increase in the floor space without accounting for this within the strategic modelling. Comparing the assumptions of the aspirational Vision against evidentiary sources, analysis demonstrates there is significant variation in potential externalised trip making. In the case of the AM peak, the proposal for 530,0000sqm would generate approximately some 176 more trips than is currently being assessed. In the PM peak, this would be some 220 trips as identified in your email.

National Highways' principal concern would be unmitigated impacts upon congestion or unacceptable impacts upon highway safety if the vision is not fully realised in the way it is envisaged. To mitigate against this risk, National Highways seeks two core traffic modelling scenarios to be run, the first one should reflect the full quantum (530,000 sqm) of floor space using the agreed trip rates and the second scenario should apply the lower floor area (430,000 sqm) which assumes that the mezzanine floor area does not generate any additional trip generation. National Highways will then be able to review whether the mitigation proposed can accommodate both core scenarios.

With thanks

[redacted]

[redacted]

Hi [redacted]

Apologies if I was not explaining myself properly earlier regarding the question of land use and mezzanines. I've set out below what I was trying to say, which I trust helps clarify, happy to have a call if not.

The EMG2 parameters plan issued for the consultation (linked below and also snipped for ease of reference) confirms that the maximum floor space is 300,000m2 excluding mezzanines. There is no suggestion that this 300,000m2 figure is to be adjusted and this means the land use of the development and maximum size and scale of the buildings are all fixed by the parameters schedule below (within the areas shown on the parameters plan).

The discussion is therefore simply about the mezzanines, which are all internal floors and the number and area of these internal floors has no bearing on the application or assessment other than the trip generation for the scheme (Segro have sought legal and planning advice on this point).

At the moment we are modelling 100,000m2 at 100% trip generation for the mezzanines. If by virtue of the work Paul is doing it is agreed that the actual trip generation for mezzanine use is less than 100%, then it is likely that Segro will increase the amount of mezzanine permitted within the development accordingly. By means of an easy example, if it is agreed mezzanines have a 50% trip generation of standard ground floor area, then the area of mezzanine would double thus maintaining the same overall traffic generation that has already been modelled. As noted above, this has no other implications on the scheme and all that would change so far as the submission goes is that the 100,000m2 referred to in the * note below the parameters schedule would be amended (to 200,000m2 if the 50% rate is agreed).

However, for the foregoing and for the modelling, we are proceeding with the 100,000m2 at 100% and the discussion on trip rates for mezzanine is thus a separate and parallel conversation.

Although the above is for the main EMG2 scheme the same approach would apply for EMG1 plot 16, which is the 30,000m2.

https://www.segro.com/media/dmubtvby/emg2-umc-si-01-dr-a-0088-p3-parameters-plan.pdf

EMG 2 Main Site - Development Schedule				
Development Zone	Number of Units erected pursuant to the DCO	Maximum amount of floorspace to be erected pursuant to the DCO per zone (m^2)	Finished floor level (in metres above ordnance datum) [Allowable deviation +/- 1.5m]	Maximum Ridge Height (in metres above ordnance datum)
Zone 1	1 to 2	75,000	67.250	91.250
Zone 2	1 to 4	20,000	70.600	88.600
Zone 3	1 to 4	60,000	79.400	103.400
Zone 4	1 to 2	45,000	76.050	94.050
Zone 5	1 to 4	75,000	84.200	102.200
Zone 6	1 to 4	40,000	88.000	106.000
Zone 7	1 to 4	5,000	89.500	96.500
Maximum Total Floor Space*		**300,000**		
* This total floor space is the maximum floor space (excluding mezzanine space) that will be developed across Zones 1-7 notwithstanding that the maximum floor space stated for each Zone combined would exceed this figure i.e. it is the overall floor space cap for Zones 1-7 excluding mezzanine floor space. In addition to this total floor space figure, up to 100,000 sqm of floor space can be provided in the form of mezzanine floor space to units within the development.				

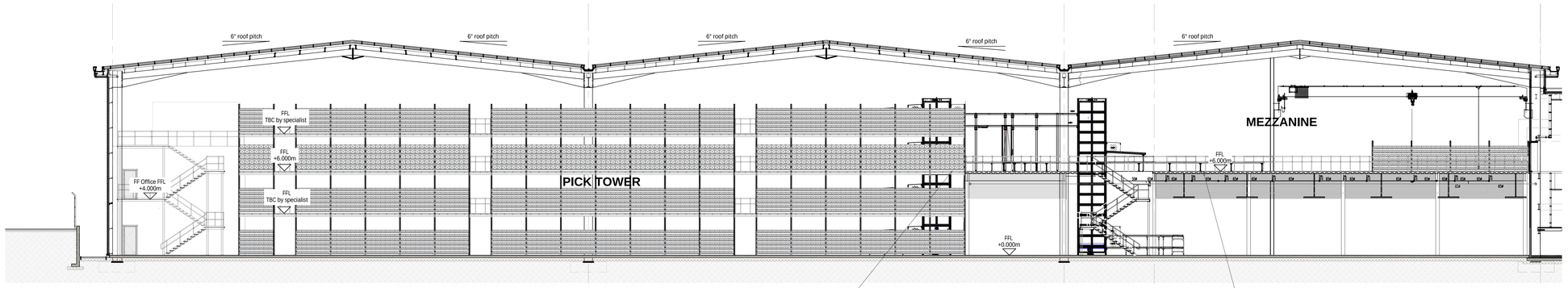
If you have any queries please do not hesitate to contact me

Best regards

Simon

Simon Hilditch
Director (Infrastructure Design) | BWB Consulting Limited
5th Floor, Waterfront House, Station Street, Nottingham, NG2 3DQ
[redacted] **T** 0115 9241100 **W** www.bwbconsulting.com

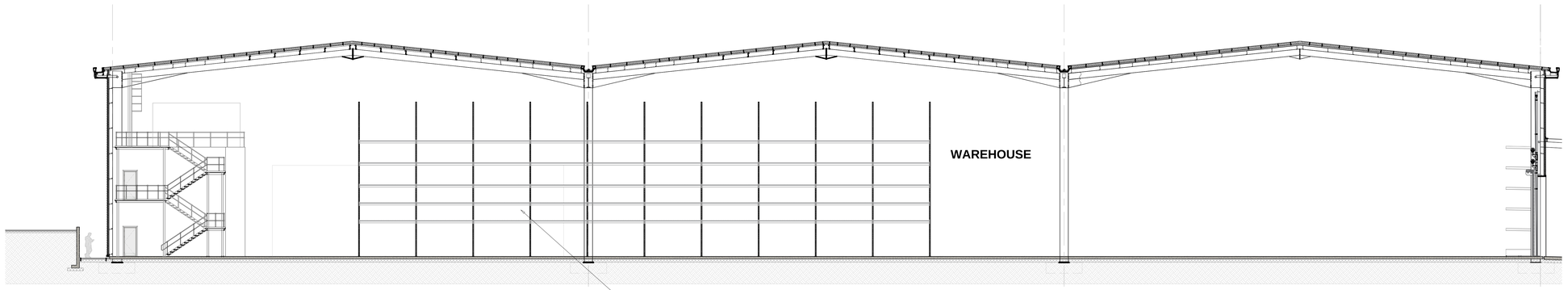
- Dimensions are in millimeters, unless stated otherwise.
- Scaling of this drawing is not recommended.
- It is the recipients responsibility to print this document to the correct scale.
- All relevant drawings and specifications should be read in conjunction with this drawing.



Section A-A - Mezzanine racking fit-out 1:125 @ A0

Mezzanine racking arrangement, refer to Image 1

Mezzanine automation arrangement, refer to Image 2



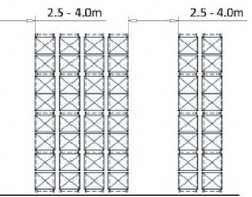
Section B-B - Ground mounted racking fit-out 1:125 @ A0

Standard racking arrangement, refer to diagrams 1-2 and image 3

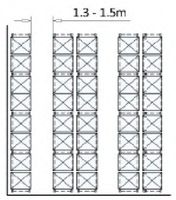
Image 1 - Mezzanine racking and automation systems

Image 2 - Mezzanine racking and automation systems

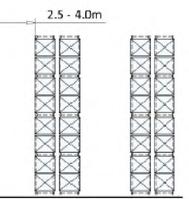
Image 3 - Ground mounted racking system



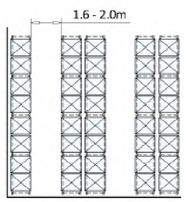
Double deep pallet racking
Aisle wid:h 2.5 - 4.0 metres
50% space utilisation



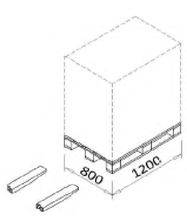
Crane system pallet racking
Aisle width 1.3 - 1.5 metres
50% space utilisation



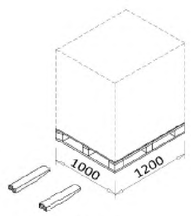
Wide aisle pallet racking
Aisle wid:h 2.5 - 4.0 metres
40% space utilisation



Narrow aisle pallet racking
Aisle width 1.6 - 2.0 metres
45% space utilisation

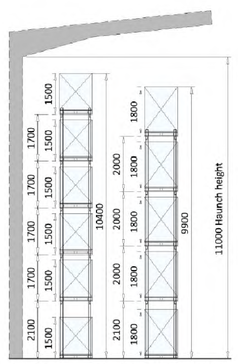


Standard Euro pallet



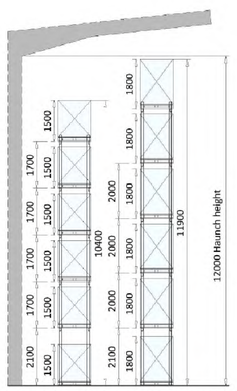
Standard UK pallet

Diagram 1 - Standard pallet racking arrangement



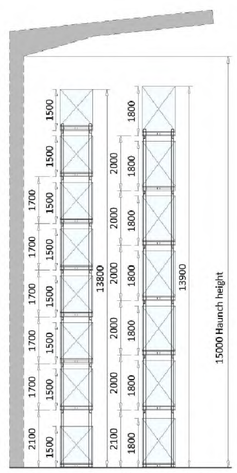
Buildings 100,000 - 150,000 sq ft - 11m Haunch Height:

6 x 1500mm pallet height (non food)
5 X 1800mm pallet height (food)



Buildings 151,000 & 250,000 sq ft - 12m Haunch Height

6 x 1500mm pallet height (non food)
6 X 1800mm pallet height (food)



Buildings over 250,000 sq ft - 15m Haunch Height:

8 x 1500mm pallet height (non food)
7 X 1800mm pallet height (food)

Diagram 2 - Standard pallet racking arrangement

rev	amendments	by	ckd	date
A	Initial Issue	LM	MS	04.03.25

East Midlands Gateway, Phase 2

Racking Analysis

LOD 1	LOI 1

SEGRO

umc architects

RIBA PoW Stage:	0 - Strategic Definition
Document Suitability:	S1
Drawn / Checked:	LM / MS
Date:	04/03/2025
Scale:	As indicated A0
UMC Project Number:	19232
Document Reference:	Drawing no: Revision:
19232 - UMC - SI - XX - DR - A	0100 A

APPENDIX 36: National Highways email dated 1 May 2025

[redacted]

Paul,

Thank you for your email regarding the proposed additional 100,000 sqm of B8 mezzanine floor space you are considering, and apologies for the delay in responding. We have considered this carefully in consultation with National Highways Legal team and relevant technical experts.

National Highways' primary concern is the risk of unmitigated impacts on the Strategic Road Network (SRN) in terms of safety and capacity if the proposed operational vision for this additional 100,000 sqm is not achieved as envisioned. We believe these risks can be effectively managed through suitable provisions.

We acknowledge Segro's shift towards mezzanine floors, automation, and vertical stacking/storage. We can accept the additional 100,000 sqm of mezzanine floor space without additional modelling, provided it is used for the intended vertical stacking/storage purpose as stated. National Highways require a provision within the Order stipulating that the additional 100,000 sqm floor space for storage/racking must be used for its intended purpose in perpetuity, ancillary to B8 ground floor space.

Furthermore, as you've utilised the observed data set for EMG1 in your technical evaluation, National Highways expect the sustainable transport objectives achieved for Phase 1 to be applied to Phase 2 (current DCO). Please can you update the sustainable transport strategy to align modal shift targets of Phase 1 with Phase 2.

Subject to the above provisions, National Highways agrees to the increased mezzanine floorspace without any further modelling exercises carried out. Subject to the above provisions, National Highways agrees to the increased mezzanine floorspace without any further modelling exercises carried out. We continue to require you to test the development's impacts against the demand as set out within Proforma 14.

We would be pleased to discuss any element of the above if required.

Regards

[redacted]

[redacted] 020 3980 2273 | Cottons Centre | Cottons Lane | London, SE1 2QG | UK

APPENDIX 37: Stage 1F Modelling Sign Off Sheet

TECHNICAL APPROVAL
East Midlands Gateway 2

Document Name	Stage 1F Modelling Documents	**Project reference**	220500
Document reference / revision	Construction Traffic Calculations (EMG2-BWB-GEN-XX-RP-TR-0013 Revision P3)	**Date**	02.05.25

Approver 1	**Name**	[redacted]
	Organisation	National Highways
	Position	Interim Spatial Planner
	Date	4 August 2025
	Signature	[redacted]
	Comments ***(if applicable)***	
Approver 2	**Name**	
	Organisation	
	Position	
	Date	
	Signature	
	Comments ***(if applicable)***	
Approver 3	**Name**	
	Organisation	
	Position	
	Date	

	Signature	
	Comments ***(if applicable)***	

APPENDIX 38: PRTM Proforma v14a & Uncertainty Log v7a

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 Environment and Transport Modelling Services Contract (E&T MSC). This should ensure that any subsequent work proposal through E&T MSC is as accurate as possible in terms of scope, timescales and cost.

Please note that E&T MSC 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.


Pre-meeting between client and HDM/stakeholders to discuss brief and suitability of PRTM
HDM/stakeholder approved brief and PRTM proforma submitted to E&T MSC framework by client
E&T MSC to send brief and proforma to Framework consultants and commission as applicable.
Commissioned consultant produces model validation report and extracts relevant network scheme and planning data assumptions
Client circulates local model validation report and model assumptions to stakeholders for sign-off
Inception meeting is arranged once sign-off is complete to discuss the modelling methodology
Commissioned consultant undertakes forecasting of all scenarios bar mitigation runs, creates report for client
Client interprets model forecast results and suggests and agrees junctions, with relevant stakeholders, for further assessment
Client undertakes further assessment and formalises mitigation packages
Commissioned consultant undertakes forecasting of mitigation scenario and creates addendum to forecasting report
E&T MSC commission complete

Section 1: Client Details

Name:	Paul Wilson
Company:	BWB Consulting Ltd (on behalf of Segro)
Telephone:	[redacted]
E-mail:	[redacted]
Date:	28/10/2024

Section 2: Project Details

Title:	East Midlands Gateway Phase 2
District / Location:	Land to the southeast of EMA, and southwest of M1J23a in North West Leicestershire DC's jurisdiction
Background:	This version of the PRTM proforma (v14a) outlines additional scenarios that require testing as part of the EMG2 Development Consent Order over and above the scenarios already set out within PRTM proforma v14 (dated 10/10/24). The additional scenarios cover requirements for transport planning, air quality and noise quality purposes. The majority of the other details in this proforma remain unchanged from v14 (trip rates, traffic generation, development details etc. all remain the same) and the only changes relate to additional modelling scenarios set out in Section 4. This proforma is accompanied by a revised uncertainty log (v7a).

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 E&T MSC 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 access proposals to EMG2 involve a single main access via a fourth arm of the existing A453/Hunter Road roundabout to serve 100% of the development plus the bus interchange, which can then connect directly into the site.

A separate emergency access would also be provided, but that won't affect the revised modelling work.

Development on Plot 16 of EMG1 would be served by the existing access via Wilder's Way.

.

Year	No.
2021	Figure
2022	Figure
2023	Figure
2024	Figure
2025	Figure
2026	Figure
2027	Figure
2028	*130,000sqm*
2029	*100,000sqm*
2030	*100,000sqm*
2031	*100,000sqm*
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	Figure
Total	*430,000sqm*

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.

Trip Rates:

Housing: N/A

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

Employment: B2

Vehicle Type	AM			IP			PM		
	Arr.	Dep.	Total	Arr.	Dep.	Total	Arr.	Dep.	Total
Light Vehicles	0.376	0.057	0.433	-	-	-	0.046	0.363	0.408
HGV's	0.016	0.014	0.030	-	-	-	0.003	0.006	0.009
Total	0.392	0.071	0.463	-	-	-	0.049	0.369	0.417

Employment: B8

Vehicle Type	AM			IP			PM		
	Arr.	Dep.	Total	Arr.	Dep.	Total	Arr.	Dep.	Total
Light Vehicles	0.121	0.013	0.135	-	-	-	0.040	0.140	0.180
HGV's	0.019	0.023	0.041	-	-	-	0.025	0.015	0.040
Total	0.140	0.036	0.176	-	-	-	0.065	0.155	0.220

The B8 trip rates for the PM peak now mirror the 1600 to 1700 hour shoulder peak trip rates adopted for EMG1

Trip Generation:

Housing: N/A

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

EMG2 (400,000sqm)

Employment: B2; 60,000sqm GFA

Vehicle Type	AM			IP			PM		
	Arr.	Dep.	Total	Arr.	Dep.	Total	Arr.	Dep.	Total
Light Vehicles	226	34	260	-	-	-	28	218	246
HGV's	10	8	18	-	-	-	2	4	6
Total	235	43	278	-	-	-	30	222	252

Employment: B8 340,000sqm GFA

Vehicle Type	AM			IP			PM		
	Arr.	Dep.	Total	Arr.	Dep.	Total	Arr.	Dep.	Total
Light Vehicles	411	44	455	-	-	-	136	476	612
HGV's	65	78	143	-	-	-	85	51	136
Total	476	122	598	-	-	-	221	527	748

Employment: TOTAL EMG2 DEVELOPMENT

Vehicle Type	AM			IP			PM		
	Arr.	Dep.	Total	Arr.	Dep.	Total	Arr.	Dep.	Total
Light Vehicles	637	78	715	-	-	-	164	694	858
HGV's	75	86	161	-	-	-	87	55	142
Total	711	165	876	-	-	-	250	748	998

Plot 16 EMG1 (30,000sqm)

Employment: B8 30,000sqm GFA

Vehicle Type	AM			IP			PM		
	Arr.	Dep.	Total	Arr.	Dep.	Total	Arr.	Dep.	Total
Light Vehicles	36	4	40	-	-	-	12	42	54
HGV's	6	7	13	-	-	-	8	5	13
Total	42	11	53	-	-	-	20	47	67

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.

Employment Development Land Use:

Land Use	Class	Unit	Quantum	Jobs
Shops	A1	m^2		
Business	B1a	m^2		
General Industrial	B2	m^2	*60,000*	*TBC*
Storage or Distribution	B8	m^2	*370,000**	*TBC*
Research & Development	B1b	m^2		
Leisure	D2	m^2		
Hotels	C1	Beds		
Education	D1	Jobs		

** includes 340,000sqm of B8 floorspace on EMG2 and 30,000sqm of B8 floorspace on Plot 16 of EMG1*

Housing Development Land Use:

Land Use	Class	Dwellings
Dwellings	C3	

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:	2028 and 2038 forecast years are required that remove the Local Plan allocated sites. The Local Plan sites are highlighted in yellow in uncertainty log 7a and include: 1. Isley Woodhouse (W1). 2. Land North and South of Park Lane, Castle Donington (CD10). 3. Land West of Hilltop Farm, Castle Donington (EMP89). 4. Land North of J11A/M42 (EMP82). 5. Land North of Remembrance Way, Kegworth (EMP73). 6. Land North of Derby Road, Kegworth (EMP73). All Freeport designations are to remain included in all modelling scenarios.	

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.

2023: 0% development (do minimum) 2024: 0% development (do minimum) 2028: 100% occupancy (excluding Local Plan sites) 2038: 100% occupancy (excluding Local Plan sites)

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	2023/2024/2028/2038
Core + no development + access strategy	☐	
Core + development + no mitigation	Assumed	2028/2038
Core + development + mitigation	☒	2028/2038
Other, please specify:	The following additional scenarios will need testing as part of the Stage 1 modelling: i) 2023/2024 forecast base year (for air and noise quality purposes) ii) 2028/2038 forecast year without development (excluding the Local Plan related schemes) iii) 2028/2038 forecast year with development (excluding the Local Plan related schemes)	

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.

Strategic modelling outputs are expected to be required at the following 7 junctions.

Junction 2) A453/Hunter Road/proposed site access Roundabout (Leicestershire)

Junction 3) Finger Farm Roundabout (National Highways)

Junction 4) A453/EMGP1 Signal Gyratory (National Highways)

Junction 5) M1 Junction 24 (National Highways)

Junction 6) A453/East Midlands Airport Signal Junction (Leicestershire)

Junction 7) A453/Grimes Gate Priority Junction (Leicestershire)

Junction 8) A453/The Green Priority Junction (Leicestershire)

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 de-select which pre-modelling outputs you do not require, as these are usually standard documents provided to HDM.

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	☒
The following model outputs would be required in shape file format for the purposes of our subsequent analysis (which may overlap with above). - AM/PM Peak flows classified into Lights/Heavies/Total - AM/PM/AADT Development only flows classified into Lights/Heavies/Total - Maximum Junction VoC - Link Delay - Link Queue - AADT classified into Lights/Heavies/Total - AAWT (24hr, 18hr, 8hr) classified into Lights/Heavies/Total Further to the above extraction of cordon matrices (actual flows) for the VISSIM modelling extent is required which includes the following junctions: - M1 J24; - M1 J24a southbound merge onto the M1 and M1 junction 24; - A453/EMG Phase 1/Kegworth Bypass signal controlled gyratory; - M1 J23a Finger Farm roundabout (including M1/A42 on and off slip roads); - A453/Hunter Road/minor EMG Phase 2 access roundabout; The outputs from the cordon matrices should include: - Cordon matrices (in vehicle) for o Cars / LGVs / HGVs o AM Peak hour / PM Peak hour - The cordon matrices to be provided in spreadsheet format. The above outputs are required for the 2028/2038 forecast year scenarios only and only shapefiles are needed for the 2023/2024 baseline year scenarios.	

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 E&T MSC 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 E&T MSC Manager upon delivery of your proforma.

Location Plan Access Scheme Drawings Development Masterplan (to be updated in the coming weeks)	☐ ☐ ☐
Other, please specify:	Click here to enter text

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.

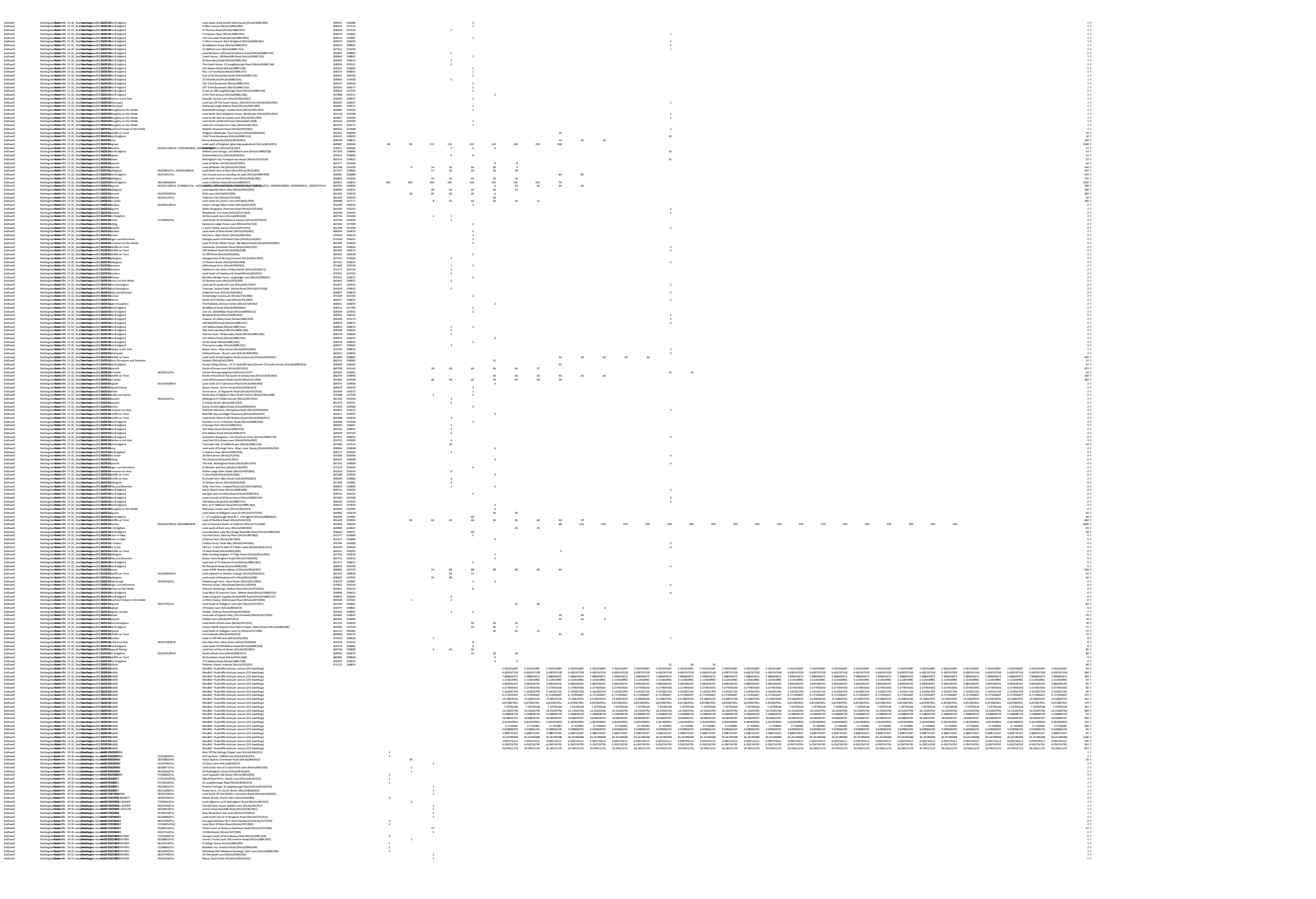
It is understood that these additional scenarios will have a small impact on the timescales for the Stage 1 modelling work, extending timescales by 1-2 weeks. We request a revised programme from AECOM formally setting out timescales for the modelling.

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:

Laura Good – ETCF & E&T MSC Manager
Email: ETCF@leics.gov.uk



EMPLOYMENT DATA

	PlanID	Authority	District	Location	Description	SiteNumber	Unit	Unit Total	Include	
IntEmp	Emp_North West Leicestershire_965	North West Leicestershire	North West Leicestershire	Mercia Park			FloorspaceM2	48329	Y	
IntEmp	Emp_North West Leicestershire_966	North West Leicestershire	North West Leicestershire	Mercia Park			FloorspaceM2	344776	Y	
IntEmp	Emp_North West Leicestershire_967	North West Leicestershire	North West Leicestershire	Strategic Rail Freight Interchange on land north of East Midlands Airport/west of Junction 24 of the M1			FloorspaceM2	499629	Y	
IntEmp	Emp_North West Leicestershire_968	North West Leicestershire	North West Leicestershire	Rear of Charnwood Arms (Land Off Cartwright Way)			FloorspaceM2	836	Y	
IntEmp	Emp_North West Leicestershire_969	North West Leicestershire	North West Leicestershire	... lounge disposal point			FloorspaceM2	70000	Y	
IntEmp	Emp_North West Leicestershire_970	North West Leicestershire	North West Leicestershire	Money Hill			SiteAreaHA	5	Y	
IntEmp	Emp_North West Leicestershire_971	North West Leicestershire	North West Leicestershire	Money Hill			SiteAreaHA	5	Y	
IntEmp	Emp_North West Leicestershire_972	North West Leicestershire	North West Leicestershire	Money Hill			SiteAreaHA	5	Y	
IntEmp	Emp_North West Leicestershire_973	North West Leicestershire	North West Leicestershire	Money Hill new primary school/nursery/community hall (assume 30 jobs - AD 01/02/2024)			Jobs	30	Y	
IntEmp	Emp_North West Leicestershire_974	North West Leicestershire	North West Leicestershire	Money Hill local retail centre			FloorspaceM2	560	Y	
IntEmp	Emp_North West Leicestershire_975	North West Leicestershire	North West Leicestershire	Willow Farm			FloorspaceM2	1928	Y	
IntEmp	Emp_North West Leicestershire_976	North West Leicestershire	North West Leicestershire	Willow Farm			FloorspaceM2	1928	Y	
IntEmp	Emp_North West Leicestershire_977	North West Leicestershire	North West Leicestershire	Willow Farm			FloorspaceM2	288	Y	
IntEmp	Emp_North West Leicestershire_978	North West Leicestershire	North West Leicestershire	Park Lane, Castle Donington			SiteAreaHA	1	Y	
IntEmp	Emp_North West Leicestershire_979	North West Leicestershire	North West Leicestershire	Park Lane, Castle Donington			SiteAreaHA	2	Y	
IntEmp	Emp_North West Leicestershire_980	North West Leicestershire	North West Leicestershire	Park Lane, Castle Donington			SiteAreaHA	2	Y	
IntEmp	Emp_North West Leicestershire_981	North West Leicestershire	North West Leicestershire	Foxbridge Primary School, Park Lane, Castle Donington (assume 30 jobs - AD 01/02/2024)			Jobs	30	Y	
IntEmp	Emp_North West Leicestershire_982	North West Leicestershire	North West Leicestershire	... Beverages, Citrus Grove, Kegworth			FloorspaceM2	19771	Y	
IntEmp	Emp_North West Leicestershire_983	North West Leicestershire	North West Leicestershire	Land at Vulcan Way, Coalville (On Hermitage Ind Est)			FloorspaceM2	3788	Y	
IntEmp	Emp_North West Leicestershire_984	North West Leicestershire	North West Leicestershire	... Farm Vicarage Lane Packington Ashby De La Zouch			FloorspaceM2	3	Y	
IntEmp	Emp_North West Leicestershire_985	North West Leicestershire	North West Leicestershire	Donington Hall, Park Lane, Castle DoningtoN			FloorspaceM2	812	Y	
IntEmp	Emp_North West Leicestershire_986	North West Leicestershire	North West Leicestershire	Measham Lodge Farm, Gallows Lane, Measham			FloorspaceM2	651	Y	
IntEmp	Emp_North West Leicestershire_987	North West Leicestershire	North West Leicestershire	Measham Lodge Farm, Gallows Lane, Measham			FloorspaceM2	1303	Y	
IntEmp	Emp_North West Leicestershire_988	North West Leicestershire	North West Leicestershire	Land at Victoria Lane, Ellistown (in HBBC and NWLDC)			FloorspaceM2	33598	Y	
IntEmp	Emp_North West Leicestershire_989	North West Leicestershire	North West Leicestershire	Plot 1, EMDC, Castle Donington			FloorspaceM2	51450	Y	
IntEmp	Emp_North West Leicestershire_990	North West Leicestershire	North West Leicestershire	Plot 1, EMDC, Castle Donington office hub			FloorspaceM2	735	Y	
IntEmp	Emp_North West Leicestershire_991	North West Leicestershire	North West Leicestershire	Plot 3, EMDC, Castle Donington			FloorspaceM2	41005	Y	
IntEmp	Emp_North West Leicestershire_992	North West Leicestershire	North West Leicestershire	Sawley Crossroads			FloorspaceM2	60000	Y	
IntEmp	Emp_North West Leicestershire_993	North West Leicestershire	North West Leicestershire	... Ltd Ashby Road			FloorspaceM2	910	Y	
IntEmp	Emp_North West Leicestershire_994	North West Leicestershire	North West Leicestershire	Land Adjoining South Leicester Industrial Estate , Beveridge Lane			SiteAreaHa	1	Y	
IntEmp	Emp_North West Leicestershire_995	North West Leicestershire	North West Leicestershire	... Omnium, Huntingdon Way, Measham			FloorspaceM2	2529	Y	
IntEmp	Emp_North West Leicestershire_996	North West Leicestershire	North West Leicestershire	The Lines, Midland Road			SiteAreaHA	1	Y	
IntEmp	Emp_North West Leicestershire_997	North West Leicestershire	North West Leicestershire	Land at Bardon Road			FloorspaceM2	11186	Y	
IntEmp	Emp_North West Leicestershire_998	North West Leicestershire	North West Leicestershire	Land at Bardon Road			FloorspaceM2	6392	Y	
IntEmp	Emp_North West Leicestershire_999	North West Leicestershire	North West Leicestershire	Redhill Farm, Top Street, Appleby Magna			FloorspaceM2	992	Y	
IntEmp	Emp_North West Leicestershire_1000	North West Leicestershire	North West Leicestershire	Redhill Farm, Top Street, Appleby Magna			FloorspaceM2	128	Y	
IntEmp	Emp_North West Leicestershire_1001	North West Leicestershire	North West Leicestershire	Land North Of Lountside Flagstaff Island			FloorspaceM2	3600	Y	
IntEmp	Emp_North West Leicestershire_1002	North West Leicestershire	North West Leicestershire	... Farm Ashby Road			FloorspaceM2	432	Y	
IntEmp	Emp_North West Leicestershire_1003	North West Leicestershire	North West Leicestershire	Land At Franks Road			FloorspaceM2	2296	Y	
IntEmp	Emp_North West Leicestershire_1004	North West Leicestershire	North West Leicestershire	Heather Brickworks Newton Road Heather Coalville Leicestershire LE67 2RD			FloorspaceM2	2497	Y	
IntEmp	Emp_North West Leicestershire_1005	North West Leicestershire	North West Leicestershire	Heather Brickworks Newton Road Heather Coalville Leicestershire LE67 2RD			FloorspaceM2	3627	Y	
IntEmp	Emp_North West Leicestershire_1006	North West Leicestershire	North West Leicestershire	Land East Of Regs Way Coalville Leicestershire			FloorspaceM2	13767	Y	
IntEmp	Emp_North West Leicestershire_1007	North West Leicestershire	North West Leicestershire	Land East Of Regs Way Coalville Leicestershire			FloorspaceM2	13767	Y	
IntEmp	Emp_North West Leicestershire_1008	North West Leicestershire	North West Leicestershire	... and Parr, Long Lane Kegworth			FloorspaceM2	-3035	Y	
IntEmp	Emp_North West Leicestershire_1009	North West Leicestershire	North West Leicestershire	Workspace 17 Highfield Street Coalville Leicestershire LE67 3BR			FloorspaceM2	-2137	Y	
IntEmp	Emp_North West Leicestershire_1010	North West Leicestershire	North West Leicestershire	Former Arla Dairy Smisby Road			SiteAreaHA	-5	Y	
IntEmp	Emp_North West Leicestershire_1011	North West Leicestershire	North West Leicestershire	... Tournament Way Ashby De La Zouch Leicestershire LE65 2UU			FloorspaceM2	-725	Y	
IntEmp	Emp_North West Leicestershire_1012	North West Leicestershire	North West Leicestershire	... Tournament Way Ashby De La Zouch Leicestershire LE65 2UU			FloorspaceM2	725	Y	
IntEmp	Emp_North West Leicestershire_1013	North West Leicestershire	North West Leicestershire	... House Smisby Road Ashby De La Zouch Leicestershire LE65 2UG			FloorspaceM2	-839	Y	
IntEmp	Emp_North West Leicestershire_1014	North West Leicestershire	North West Leicestershire	Whitwick & Coalville Leisure Centre, Land Adjacent To A511 Stephenson Way Coalville Leicestershire			FloorspaceM2	5592	Y	
IntEmp	Emp_North West Leicestershire_1015	North West Leicestershire	North West Leicestershire	... Ashby Gateway Smithy Road Ashby De La Zouch Leicestershire			FloorspaceM2	1915	Y	
IntEmp	Emp_North West Leicestershire_1016	North West Leicestershire	North West Leicestershire	... Hastings Primary School, Holywell Farm Burton Road Ashby De La Zouch Leicestershire LE65 2LP (assume 30 jobs AD - 01/02/2024)			Jobs	30	Y	
IntEmp	Emp_North West Leicestershire_1017	North West Leicestershire	North West Leicestershire	... College North Street Ashby De La Zouch Leicestershire LE65 1HX (assume 10 jobs AD - 01/02/2024)			Jobs	10	Y	
IntEmp	Emp_North West Leicestershire_1018	North West Leicestershire	North West Leicestershire	... Grange Beveridge Lane Hugglescote Coalville			FloorspaceM2	1000	Y	
IntEmp	Emp_North West Leicestershire_1019	North West Leicestershire	North West Leicestershire	... Beveridge Lane Coalville (assume 30 jobs AD - 01/02/2024)			Jobs	30	Y	
IntEmp	Emp_North West Leicestershire_1020	North West Leicestershire	North West Leicestershire	... Grange Road Grange Road Hugglescote Leicestershire			FloorspaceM2	499	Y	
IntEmp	Emp_North West Leicestershire_1021	North West Leicestershire	North West Leicestershire	... Grange Road Grange Road Hugglescote Leicestershire (assume 30 jobs AD - 01/02/2024)			Jobs	30	Y	
IntEmp	Emp_North West Leicestershire_1022	North West Leicestershire	North West Leicestershire	... Grange Road Grange Road Hugglescote Leicestershire			FloorspaceM2	500	Y	
IntEmp	Emp_North West Leicestershire_1023	North West Leicestershire	North West Leicestershire	... Nursery Garden Centre Ashby Road Breedon On The Hill Derby DE73 8AZ			FloorspaceM2	175	Y	
IntEmp	Emp_North West Leicestershire_1024	North West Leicestershire	North West Leicestershire	... Self Store Station Road Castle Donington Derby DE74 2NJ			FloorspaceM2	-2440	Y	
IntEmp	Emp_North West Leicestershire_1025	North West Leicestershire	North West Leicestershire	... Self Store Station Road Castle Donington Derby DE74 2NJ			FloorspaceM2	1786	Y	
IntEmp	Emp_North West Leicestershire_1026	North West Leicestershire	North West Leicestershire	Castle Donington High School And College Mount Pleasant Castle Donington Derby DE74 2LN (assume 10 jobs AD - 01/02/2024)			Jobs	10	Y	
IntEmp	Emp_North West Leicestershire_1027	North West Leicestershire	North West Leicestershire	... Market Street Ashby De La Zouch Leicestershire LE65 1AF			FloorspaceM2	106	Y	
IntEmp	Emp_North West Leicestershire_1028	North West Leicestershire	North West Leicestershire	... Tournament Way Ashby De La Zouch Leicestershire LE65 2UU			FloorspaceM2	32	Y	
IntEmp	Emp_North West Leicestershire_1029	North West Leicestershire	North West Leicestershire	Holywell Farm Smisby Road			FloorspaceM2	350	Y	
IntEmp	Emp_North West Leicestershire_1030	North West Leicestershire	North West Leicestershire	... Resolution Road Ashby De La Zouch Leicestershire			FloorspaceM2	323	Y	
IntEmp	Emp_North West Leicestershire_1031	North West Leicestershire	North West Leicestershire	... Willow Farm, Castle Donington			FloorspaceM2	288	Y	
IntEmp	Emp_North West Leicestershire_1032	North West Leicestershire	North West Leicestershire	... Willow Farm, Castle Donington			FloorspaceM2	1928	Y	
IntEmp	Emp_North West Leicestershire_1033	North West Leicestershire	North West Leicestershire	... Willow Farm, Castle Donington			FloorspaceM2	1928	Y	
IntEmp	Emp_North West Leicestershire_1034	North West Leicestershire	North West Leicestershire	... Station Close Coalville Leicestershire LE67 3FH			FloorspaceM2	78	Y	
IntEmp	Emp_North West Leicestershire_1035	North West Leicestershire	North West Leicestershire	... Station Close Coalville Leicestershire LE67 3FH			FloorspaceM2	78	Y	
IntEmp	Emp_North West Leicestershire_1036	North West Leicestershire	North West Leicestershire	... Tara Street, Hilltop Ind. Est. Coalville			FloorspaceM2	140	Y	
IntEmp	Emp_North West Leicestershire_1037	North West Leicestershire	North West Leicestershire	... And 24 Snibston Drive			FloorspaceM2	94	Y	
IntEmp	Emp_North West Leicestershire_1038	North West Leicestershire	North West Leicestershire	... Forest Farm Oaks Road Whitwick Coalville Leicestershire LE67 5UP			FloorspaceM2	94	Y	
IntEmp	Emp_North West Leicestershire_1039	North West Leicestershire	North West Leicestershire	... Farm, Grange Road			FloorspaceM2	133	Y	
IntEmp	Emp_North West Leicestershire_1040	North West Leicestershire	North West Leicestershire	... Ltd Ashby Road			FloorspaceM2	910	Y	
IntEmp	Emp_North West Leicestershire_1041	North West Leicestershire	North West Leicestershire	... 1 - 3 Ashby Road			FloorspaceM2	403	Y	
IntEmp	Emp_North West Leicestershire_1042	North West Leicestershire	North West Leicestershire	... The Green			FloorspaceM2	-210	Y	
IntEmp	Emp_North West Leicestershire_1043	North West Leicestershire	North West Leicestershire	... A And 20 Brook Street Ashby De La Zouch Leicestershire LE65 1HA			FloorspaceM2	-87	Y	
IntEmp	Emp_North West Leicestershire_1044	North West Leicestershire	North West Leicestershire	... Isabels Measham Road			FloorspaceM2	-482	Y	
IntEmp	Emp_North West Leicestershire_1045	North West Leicestershire	North West Leicestershire	... Market Street Castle Donington Derby DE74 2JB			FloorspaceM2	-353	Y	
IntEmp	Emp_North West Leicestershire_1046	North West Leicestershire	North West Leicestershire	... House Argosy Road Castle Donington Derby Derby DE74 2SA			FloorspaceM2	-120	Y	
IntEmp	Emp_North West Leicestershire_1047	North West Leicestershire	North West Leicestershire	Workspace 17 Highfield Street Coalville Leicestershire LE6 3BR			FloorspaceM2	-2137	Y	
IntEmp	Emp_North West Leicestershire_1048	North West Leicestershire	North West Leicestershire	... Street Ashby De La Zouch Leicestershire LE65 1HH			FloorspaceM2	-25	Y	
IntEmp	Emp_North West Leicestershire_1049	North West Leicestershire	North West Leicestershire	... Coaches Hill Street Donisthorpe Swadlincote Derby DE12 7PL			FloorspaceM2	-236	Y	
IntEmp	Emp_North West Leicestershire_1050	North West Leicestershire	North West Leicestershire	... Way 5 Bardon Coalville Leicestershire LE67 1LA			FloorspaceM2	-274	Y	
IntEmp	Emp_North West Leicestershire_1051	North West Leicestershire	North West Leicestershire	... Farm Lane Ashby De La Zouch Leicestershire LE65 1GR			FloorspaceM2	16	Y	
IntEmp	Emp_North West Leicestershire_1052	North West Leicestershire	North West Leicestershire	Land At Battleflat Lodge Farm Victoria Road Stanton Under Bardon LE67 1FA (Plot 3)			FloorspaceM2	2304	Y	
IntEmp	Emp_North West Leicestershire_1053	North West Leicestershire	North West Leicestershire	Land At Battleflat Lodge Farm Victoria Road Stanton Under Bardon LE67 1FA (Plot 3)			FloorspaceM2	2304	Y	
IntEmp	Emp_North West Leicestershire_1054	North West Leicestershire	North West Leicestershire	Land Rear Of Unit Off Tara Street Franks Road Bardon Leicestershire			FloorspaceM2	1878	Y	
IntEmp	Emp_North West Leicestershire_1055	North West Leicestershire	North West Leicestershire	Land Rear Of Unit Off Tara Street Franks Road Bardon Leicestershire			FloorspaceM2	1878	Y	
IntEmp	Emp_North West Leicestershire_1056	North West Leicestershire	North West Leicestershire	... Operations Limited Stephenson Industrial Estate Brindley Road Coalville LE67 3HG			FloorspaceM2	4305	Y	
IntEmp	Emp_North West Leicestershire_1057	North West Leicestershire	North West Leicestershire	... East Midlands Distribution Centre Trent Lane Castle Donington DE74 2HL			FloorspaceM2	30196	Y	
IntEmp	Emp_North West Leicestershire_1058	North West Leicestershire	North West Leicestershire	... Yard Langley Priory Isley Cum Langley Diseworth DE74 2QQ			FloorspaceM2	193	Y	
IntEmp	Emp_North West Leicestershire_1059	North West Leicestershire	North West Leicestershire	... Church Hall North Street Whitwick Leicestershire LE67 5HB			FloorspaceM2	19	Y	
IntEmp	Emp_North West Leicestershire_1060	North West Leicestershire	North West Leicestershire	... Church Hall North Street Whitwick Leicestershire LE67 5HB			FloorspaceM2	166	Y	
IntEmp	Emp_North West Leicestershire_1061	North West Leicestershire	North West Leicestershire	... Market Street, Ashby			FloorspaceM2	-123	Y	
IntEmp	Emp_North West Leicestershire_1062	North West Leicestershire	North West Leicestershire	... Courtyard Stenson Road Coalville Leicestershire LE67 4JP			FloorspaceM2	-75	Y	
IntEmp	Emp_North West Leicestershire_1063	North West Leicestershire	North West Leicestershire	... Road Coalville Leicestershire LE67 3PE			FloorspaceM2	-47	Y	
IntEmp	Emp_North West Leicestershire_1064	North West Leicestershire	North West Leicestershire	... Apollo Court Coalville Leicestershire LE67 3FD			FloorspaceM2	-95	Y	
IntEmp	Emp_North West Leicestershire_1065	North West Leicestershire	North West Leicestershire	... Apollo Court Coalville Leicestershire LE67 3FD			FloorspaceM2	-95	Y	
IntEmp	Emp_North West Leicestershire_1066	North West Leicestershire	North West Leicestershire	... House Newfields Moira Swadlincote Derby DE12 6EG [Logicool air Conditioning]			FloorspaceM2	-415	Y	
IntEmp	Emp_North West Leicestershire_1067	North West Leicestershire	North West Leicestershire	... Farm Ravenstone Road Heather Coalville Leicestershire LE67 2QJ			FloorspaceM2	610	Y	
IntEmp	Emp_North West Leicestershire_1068	North West Leicestershire	North West Leicestershire	... Movements Ltd Tamworth Road Sawley Long Eaton Nottingham NG10 3AE			FloorspaceM2	327	Y	
IntEmp	Emp_North West Leicestershire_1069	North West Leicestershire	North West Leicestershire	... Road Coalville Leicestershire LE67 3JE			FloorspaceM2	-252	Y	
IntEmp	Emp_North West Leicestershire_1070	North West Leicestershire	North West Leicestershire	... Logistics Mill Lane Heather Coalville Leicestershire LE67 2QE			FloorspaceM2	-1388	Y	
IntEmp	Emp_North West Leicestershire_1071	North West Leicestershire	North West Leicestershire	... And Son Anchor Lane Coleorton Coalville Leicestershire LE67 8HA			FloorspaceM2	-147	Y	
IntEmp	Emp_North West Leicestershire_1072	North West Leicestershire	North West Leicestershire	... House 6 - 8 Kilwardby Street Ashby De La Zouch Leicestershire LE65 2FU			FloorspaceM2	-677	Y	
IntEmp	Emp_North West Leicestershire_1073	North West Leicestershire	North West Leicestershire	Donington Hall Park Lane Castle Donington Derby DE74 2SG			FloorspaceM2	-2675	Y	
IntEmp	Emp_North West Leicestershire_1074	North West Leicestershire	North West Leicestershire	Donington Hall Park Lane Castle Donington Derby DE74 2SG			FloorspaceM2	-378	Y	
IntEmp	Emp_North West Leicestershire_1075	North West Leicestershire	North West Leicestershire	... Market Street Ashby De La Zouch Leicestershire LE65 1AN			FloorspaceM2	-70	Y	
IntEmp	Emp_North West Leicestershire_1076	North West Leicestershire	North West Leicestershire	... Road Bardon Coalville Leicestershire LE67 1TT			FloorspaceM2	517	Y	
IntEmp	Emp_North West Leicestershire_1077	North West Leicestershire	North West Leicestershire	... Road Kegworth Derby DE74 2EU			FloorspaceM2	13	Y	
IntEmp	Emp_North West Leicestershire_1078	North West Leicestershire	North West Leicestershire	... Atherstone Road Measham Swadlincote Derby DE12 7EG			FloorspaceM2	29	Y	
IntEmp	Emp_North West Leicestershire_1079	North West Leicestershire	North West Leicestershire	... Bondgate Castle Donington Derby DE74 2NR			FloorspaceM2	102	Y	
IntEmp	Emp_North West Leicestershire_1080	North West Leicestershire	North West Leicestershire	... (Packing) Ltd 1 Tara Street Coalville Leicestershire LE67 1TW			FloorspaceM2	1046	Y	
IntEmp	Emp_North West Leicestershire_1081	North West Leicestershire	North West Leicestershire	Blackberry Farm Blackberry Lane Ibstock LE67 6HD			FloorspaceM2	1004	Y	
IntEmp	Emp_North West Leicestershire_1082	North West Leicestershire	North West Leicestershire	Blackberry Farm Blackberry Lane Ibstock LE67 6HD			FloorspaceM2	1004	Y	
IntEmp	Emp_North West Leicestershire_1083	North West Leicestershire	North West Leicestershire	... Merrell Grange Mill Lane Belton Loughborough Leicestershire LE12 9UJ			FloorspaceM2	188	Y	
IntEmp	Emp_North West Leicestershire_1084	North West Leicestershire	North West Leicestershire	... Merrell Grange Mill Lane Belton Loughborough Leicestershire LE12 9UJ			FloorspaceM2	188	Y	
IntEmp	Emp_North West Leicestershire_1085	North West Leicestershire	North West Leicestershire	... Merrell Grange Mill Lane Belton Loughborough Leicestershire LE12 9UJ			FloorspaceM2	1092	Y	
IntEmp	Emp_North West Leicestershire_1086	North West Leicestershire	North West Leicestershire	... Finger Farm Site J23A M1 Castle Donington			FloorspaceM2	6523	Y	
IntEmp	Emp_North West Leicestershire_1087	North West Leicestershire	North West Leicestershire	... House Talbot Lane Whitwick Coalville Leicestershire LE67 8QT			FloorspaceM2	38	Y	
IntEmp	Emp_North West Leicestershire_1088	North West Leicestershire	North West Leicestershire	Land At Netherfields Lane Sawley			FloorspaceM2	65726	Y	
IntEmp	Emp_North West Leicestershire_1089	North West Leicestershire	North West Leicestershire	Land At Stephenson Way Coalville Leicestershire			FloorspaceM2	1950	Y	
IntEmp	Emp_North West Leicestershire_1090	North West Leicestershire	North West Leicestershire	Land At Stephenson Way Coalville Leicestershire			FloorspaceM2	5022	Y	
IntEmp	Emp_North West Leicestershire_1091	North West Leicestershire	North West Leicestershire	Land At Stephenson Way Coalville Leicestershire			FloorspaceM2	1500	Y	
IntEmp	Emp_North West Leicestershire_1092	North West Leicestershire	North West Leicestershire	Land South Of A512 Between Loughborough Road And Moor Lane Coleorton Coalville Leicestershire LE67 8FQ			FloorspaceM2	149	Y	
IntEmp	Emp_North West Leicestershire_1093	North West Leicestershire	North West Leicestershire	Land South Of Junction 1 Of The A50 Castle Donington Leicestershire			FloorspaceM2	18500	Y	
IntEmp	Emp_North West Leicestershire_1094	North West Leicestershire	North West Leicestershire	Land South Of Junction 1 Of The A50 Castle Donington Leicestershire			FloorspaceM2	74000	Y	
IntEmp	Emp_North West Leicestershire_1095	North West Leicestershire	North West Leicestershire	... International Unit C Norman Court			FloorspaceM2	487	Y	
IntEmp	Emp_North West Leicestershire_1096	North West Leicestershire	North West Leicestershire	... International Unit C Norman Court			FloorspaceM2	487	Y	
IntEmp	Emp_North West Leicestershire_1097	North West Leicestershire	North West Leicestershire	... Farm Farm Town Lane Farm Town Coleorton Coalville Leicestershire LE67 8FH			FloorspaceM2	197	Y	
IntEmp	Emp_North West Leicestershire_1098	North West Leicestershire	North West Leicestershire	... Farm Farm Town Lane Farm Town Coleorton Coalville Leicestershire LE67 8FH			FloorspaceM2	197	Y	
IntEmp	Emp_North West Leicestershire_1099	North West Leicestershire	North West Leicestershire	... Arundel Avenue Castle Donington Leicestershire			FloorspaceM2	902	Y	
IntEmp	Emp_North West Leicestershire_1100	North West Leicestershire	North West Leicestershire	... Manufacturing And Supplies Ltd Grange Road Bardon Coalville Leicestershire LE67 1TH			FloorspaceM2	4371	Y	
IntEmp	Emp_North West Leicestershire_1101	North West Leicestershire	North West Leicestershire	Redhill Farm 97 Top Street Appleby Magna Swadlincote Derby DE12 7AH			FloorspaceM2	172	Y	
IntEmp	Emp_North West Leicestershire_1102	North West Leicestershire	North West Leicestershire	Site Of Former Sawley Crossroads Service Station London Road			FloorspaceM2	448	Y	
IntEmp	Emp_North West Leicestershire_1103	North West Leicestershire	North West Leicestershire	... Building South Street Ashby De La Zouch Leicestershire LE65 1BR			FloorspaceM2	640	Y	
IntEmp	Emp_North West Leicestershire_1104	North West Leicestershire	North West Leicestershire	... Factory Smisby Road Ashby De La Zouch Leicestershire LE65 2BS			FloorspaceM2	442	Y	
IntEmp	Emp_North West Leicestershire_1105	North West Leicestershire	North West Leicestershire	... Factory Smisby Road Ashby De La Zouch Leicestershire LE65 2BS			FloorspaceM2	442	Y	
IntEmp	Emp_North West Leicestershire_1106	North West Leicestershire	North West Leicestershire	... Norman Court Ashby De La Zouch Leicestershire LE65 2UZ			FloorspaceM2	650	Y	
IntEmp	Emp_South Derbyshire_884	South Derbyshire	South Derbyshire	Land at Sinfin Moor	30Ha local plan allocated site. Employment aspect of Waragely Way SUE.		SiteAreaHA	10	Y	
IntEmp	Emp_South Derbyshire_885	South Derbyshire	South Derbyshire	Land at Sinfin Moor	30Ha local plan allocated site. Employment aspect of Waragely Way SUE.		SiteAreaHA	20	Y	
IntEmp	Emp_South Derbyshire_886	South Derbyshire	South Derbyshire	Dove Valley Business Park	20Ha local plan allocated site (assume mixed use and split of 50/50)		SiteAreaHA	7	Y	
IntEmp	Emp_South Derbyshire_887	South Derbyshire	South Derbyshire	Dove Valley Business Park	20Ha local plan allocated site (assume mixed use and split of 50/50)		SiteAreaHA	10	Y	
IntEmp	Emp_South Derbyshire_888	South Derbyshire	South Derbyshire	Dove Valley Park	28Ha local plan safeguarded site North of Dove Valley Business Park		SiteAreaHA	28	Y	
IntEmp	Emp_Rushcliffe_889	Nottinghamshire	Rushcliffe	Bunny Brickworks	Addition to existing external employment data. 3Ha site.		SiteAreaHA	3	Y	
IntEmp	Emp_Rushcliffe_890	Nottinghamshire	Rushcliffe	Nottingham Road mixed use	Addition to existing external employment data. 3Ha site.		SiteAreaHA	2	Y	
IntEmp	Emp_Rushcliffe_891	Nottinghamshire	Rushcliffe	Nottingham Road mixed use	Addition to existing external employment data. 3Ha site.		SiteAreaHA	1	Y	
IntEmp	Emp_Broxtowe_892	Nottinghamshire	Broxtowe	... Innovation Campus	Addition to existing external employment data. 170,400m2 R&D land use site.		FloorspaceM2	170402	Y	
IntEmp	Emp_South Derbyshire_896	South Derbyshire	South Derbyshire	EMIP Masterplan 1	"With Freeport status" entry		Jobs	4443	Y	
IntEmp	Emp_South Derbyshire_897	South Derbyshire	South Derbyshire	EMIP Masterplan 2	"With Freeport status" entry		Jobs	3536	Y	
IntEmp	Emp_South Derbyshire_898	South Derbyshire	South Derbyshire	EMIP Masterplan 3	"With Freeport status" entry		Jobs	1622	Y	
IntEmp	Emp_North West Leicestershire_905	North West Leicestershire	North West Leicestershire	SEGRO EMG Phase 2			FloorspaceM2	60000	N	proposed development
IntEmp	Emp_North West Leicestershire_906	North West Leicestershire	North West Leicestershire	SEGRO EMG Phase 2			FloorspaceM2	340000	N	proposed development
IntEmp	Emp_Rushcliffe_907	Nottinghamshire	Rushcliffe	Uniper North	Uniper North - Advanced Manufactering - Phase 1		Jobs	1140	Y	
IntEmp	Emp_Rushcliffe_908	Nottinghamshire	Rushcliffe	Uniper South	Uniper South - Gigafactory - Phase 1		Jobs	9270	Y	
IntEmp	Emp_Rushcliffe_909	Nottinghamshire	Rushcliffe	Uniper North	Uniper North - Logistics - Phase 2		Jobs	754	Y	
IntEmp	Emp_Rushcliffe_910	Nottinghamshire	Rushcliffe	Uniper North	Uniper North - Logistics - Phase 3		Jobs	342	Y	
IntEmp	Emp_Rushcliffe_911	Nottinghamshire	Rushcliffe	Uniper North	Uniper North - R&D - Phase 3		Jobs	480	Y	
IntEmp	Emp_Rushcliffe_912	Nottinghamshire	Rushcliffe	Uniper North	Uniper North - Hotel - Phase 3		Beds	150	Y	
IntEmp	Emp_Rushcliffe_913	Nottinghamshire	Rushcliffe	Uniper North	Uniper North - Office - Phase 3		Jobs	1158	Y	
IntEmp	Emp_North West Leicestershire_914	North West Leicestershire	North West Leicestershire	EMA Aviation expansion	Freeport status expansion		Jobs	938	Y	
IntEmp	Emp_Leicester City_633	Leicester City	Leicester City	Western Park Golf Course	Employment parcel of WPGC (B1,B2&B8)	Site 702	FloorspaceM2	23333	Y	
IntEmp	Emp_Leicester City_634	Leicester City	Leicester City	Western Park Golf Course	Employment parcel of WPGC (B1,B2&B8)	Site 702	FloorspaceM2	23333	Y	
IntEmp	Emp_Leicester City_635	Leicester City	Leicester City	Western Park Golf Course	Employment parcel of WPGC (B1,B2&B8)	Site 702	FloorspaceM2	23333	Y	
IntEmp	Emp_Leicester City_636	Leicester City	Leicester City	Leicester Rail Station	Redevelopment of the former Campbell Street sorting office and train station car park for offices		FloorspaceM2	20000	Y	
IntEmp	Emp_Leicester City_637	Leicester City	Leicester City	Land around Phoenix Square	Redevelopment of land around Phoenix Square (between Burton Street, St Georges Way, Southampton Street & Morledge Street) for offices		FloorspaceM2	20000	Y	
IntEmp	Emp_Leicester City_638	Leicester City	Leicester City	Land around Phoenix Square	Redevelopment of land around Phoenix Square (between Burton Street, St Georges Way, Southampton Street & Morledge Street) for offices		FloorspaceM2	-800	Y	
IntEmp	Emp_Leicester City_639	Leicester City	Leicester City	Beaumont Park	Part of Beaumont Park - allocated for general employment use	Site 464	FloorspaceM2	9	Y	
IntEmp	Emp_Leicester City_640	Leicester City	Leicester City	East of Ashton Green	Further employment parcel at East of Ashton Green	Site 579	SiteAreaHA	5	Y	
IntEmp	Emp_Leicester City_641	Leicester City	Leicester City	Eastern part of Thurcaston Road/Hardrian Road Open Space	Draft LP small site allocation for general employment	Site 687	SiteAreaHA	3	Y	
IntEmp	Emp_Leicester City_642	Leicester City	Leicester City	Mountain Road	Draft LP small site allocation for general employment (previous CLLP 2006 allocation)	Site 1040	SiteAreaHA	2	Y	
IntEmp	Emp_Leicester City_644	Leicester City	Leicester City	CREST RISE, UNIT 9 (LEWISHER ROAD)	INDUSTRIAL UNIT (CLASS B1) (AMENDED)	SIL5554	FloorspaceM2	0	Y	
IntEmp	Emp_Leicester City_645	Leicester City	Leicester City	LEWISHER ROAD	9 INDUSTRIAL UNITS (CLASS B1 & B2); CAR PARKING (AMENDED PLANS)	SIL5554	FloorspaceM2	3197	Y	
IntEmp	Emp_Leicester City_646	Leicester City	Leicester City	66-68 CHARLES STREET	CHANGE OF USE OF FIRST AND SECOND FLOORS FROM OFFICES (CLASS B1) TO EDUCATION AND TRAINING CENTRE (CLASS D1)	NMU1632	FloorspaceM2	0	Y	
IntEmp	Emp_Leicester City_647	Leicester City	Leicester City	BATH LANE, FRIARS MILL	THREE STOREY EXTENSION TO SIDE OF FORMER MILL (CLASS B2); TWO STOREY EXTENSION TO REAR OF OFFICES (CLASS B1); EXTERNAL ALTERATIONS; NEW BOUNDARY WALLS, FENCING AND GATES. ASSOCIATED LANDSCAPING (AMENDED)		FloorspaceM2	0	Y	
IntEmp	Emp_Leicester City_648	Leicester City	Leicester City	BATH LANE, FRIARS MILL	THREE STOREY EXTENSION TO SIDE OF FORMER MILL (CLASS B2); TWO STOREY EXTENSION TO REAR OF OFFICES (CLASS B1); EXTERNAL ALTERATIONS; NEW BOUNDARY WALLS, FENCING AND GATES. ASSOCIATED LANDSCAPING (AMENDED)		FloorspaceM2	0	Y	
IntEmp	Emp_Leicester City_649	Leicester City	Leicester City	11-17 JARROM STREET	DEMOLITION OF EXISTING INDUSTRIAL BUILDINGS; NEW 5/7 STOREY BUILDING OF STUDENT ACCOMMODATION COMPRISING ... (NO USE CLASS); ASSOCIATED FACILITIES AND AMENITY AREA. (AMENDED) (SUBJECT TO S106 AGREEMENT)		FloorspaceM2	0	Y	
IntEmp	Emp_Leicester City_650	Leicester City	Leicester City	MILLSTONE LANE, 3 CHANCERY PLACE	CHANGE OF USE FROM OFFICES (CLASS B1) TO STUDENT ACCOMMODATION COMPRISING 16 FLATS (10 X 1 BED; 4 X 2 BED, 2 X 4 BED) (NO USE CLASS); EXTERNAL ALTERATIONS (DEVELOPER CONTRIBUTION SECURED)		FloorspaceM2	0	Y	
IntEmp	Emp_Leicester City_651	Leicester City	Leicester City	2-2A UPPERTON ROAD AND ADJACENT LAND AND BUILDINGS, FORMER CPH THURMASTON	CHANGE OF USE OF FORMER RAILWAY BUILDING FROM INDUSTRIAL (CLASS B2) TO MIXED USE (CLASS A1, A2, A3, A4, A5, D1 ...) ... BUILDING AND ADDITION OF MEZZANINE FLOOR; CHANGE OF USE OF GROUND FLOOR OF STUDENT BLOCK FROM STUDENT ...		FloorspaceM2	0	Y	
IntEmp	Emp_Leicester City_652	Leicester City	Leicester City	UPPERTON ROAD, LAND AND BUILDINGS OFF	EXTENSION TO FOODSTORE (CLASS A1) ADJOINING BLOCKS A AND B OF STUDENT ACCOMMODATION; ALTERATIONS TO FORMER ... BUILDING INCLUDING REMOVAL OF ONE STRUCTURAL BAY AT REAR (SOUTHERN END) AND USE OF UPPER FLOOR AS ANCILLARY STUD...		FloorspaceM2	0	Y	
IntEmp	Emp_Leicester City_653	Leicester City	Leicester City	8 FRENCH ROAD (PART) AND 34 ST BARNABAS ROAD	CHANGE OF USE FROM INDUSTRIAL (CLASS B2) TO PLACE OF WORSHIP (CLASS D1) AT 8 FRENCH ROAD (PART) TO FORM EXTENSION TO PLACE OF WORSHIP AT 34 ST BARNABAS ROAD		FloorspaceM2	0	Y	
IntEmp	Emp_Leicester City_654	Leicester City	Leicester City	GYPSUM CLOSE, FORMER ALLOTMENT SITE	HOUSEHOLD AND COMMERCIAL WASTE AND RECYCLING CENTRE INCLUDING SINGLE AND TWO-STOREY BUILDINGS; RAMPS; HARDSTANDING; ... AND LANDSCAPING (AMENDED PLANS)		FloorspaceM2	0	Y	
IntEmp	Emp_Leicester City_655	Leicester City	Leicester City	184-186 LONDON ROAD	CHANGE OF USE FROM OFFICES (CLASS B1) TO SIX FLATS (4 X 3 BED AND 2 X 4 BED) (CLASS C3); ALTERATIONS AND NEW BOUNDARY ... (CONTRIBUTION SECURED)		FloorspaceM2	0	Y	
IntEmp	Emp_Leicester City_656	Leicester City	Leicester City	10 DRYDEN STREET, UNIT B	CHANGE OF USE FROM OFFICES (CLASS B1) TO ASSEMBLY AND LEISURE (CLASS D2); ALTERATIONS	NLU3135	FloorspaceM2	0	Y	
IntEmp	Emp_Leicester City_657	Leicester City	Leicester City	10 DRYDEN STREET, UNIT B	CHANGE OF USE FROM OFFICES (CLASS B1) TO ASSEMBLY AND LEISURE (CLASS D2); ALTERATIONS	NLU3135	FloorspaceM2	0	Y	
IntEmp	Emp_Leicester City_658	Leicester City	Leicester City	16-26 OXFORD STREET, 28 NEWARKE STREET, ALLEN HOUSE	STUDENT ACCOMMODATION COMPRISING 387 BEDSPACES (VARIATION OF CONDITION 27 (APPROVED PLANS) ATTACHED TO PLANNING PERMISSION REFERENCE NO 20101307 TO ALLOW FOR REMOVAL OF RETAIL UNITS FROM THE SCHEME AND CONSEQUENT CHANGES TO ...		FloorspaceM2	0	Y	
IntEmp	Emp_Leicester City_659	Leicester City	Leicester City	55 OXFORD STREET	SEVEN STOREY BUILDING WITH BASEMENT TO OXFORD STREET AND SIX STOREY BUILDING TO GRANGE LANE TO PROVIDE 89 STUDENT ... CLUSTER FLATS AND STUDIOS WITH ANCILLARY FACILITIES (NO USE CLASS); SHOP UNIT TO OXFORD STREET. (AMENDED PL...		FloorspaceM2	0	Y	
IntEmp	Emp_Leicester City_660	Leicester City	Leicester City	LOWER HILL STREET, FLOORS 8, 9 AND 10, EPIC HOUSE	CHANGE OF USE OF FLOORS 8, 9 AND 10 FROM OFFICE (CLASS B1) TO 18 FLATS (12 X1 BED; 6 X2 BED) (CLASS C3)	MMJ4724	FloorspaceM2	0	Y	
IntEmp	Emp_Leicester City_661	Leicester City	Leicester City	433 THURMASTON BOULEVARD	FIRST FLOOR EXTENTION AND CANOPY TO SIDE OF STORAGE BUILDING (CLASS B8).	SGQ9525	FloorspaceM2	0	Y	
IntEmp	Emp_Leicester City_662	Leicester City	Leicester City	15-21 CHURCH GATE	CHANGE OF USE OF SECOND AND THIRD FLOORS FROM OFFICES (CLASS B1) TO DANCE SCHOOL (CLASS D1)	MMM2305	FloorspaceM2	0	Y	
IntEmp	Emp_Leicester City_663	Leicester City	Leicester City	64 SCUDAMORE ROAD	DEMOLITION OF PART OF EXISTING OFFICE BUILDING (CLASS B1), ONE PRODUCTION BUILDING AND EXTENSION TO OTHER PRODUCTION BUILDING (CLASS B2); NEW SINGLE, TWO AND THREE STOREY EXTENSION AND LINK BETWEEN RETAINED PART OF OFFICE AND PRODUCTION BUILDING; NEW WAREHOUSE (CLASS B8); NEW VEHICULAR ACCESSES; REVISED PARKING AND SERVICE ARRANGEMENTS		FloorspaceM2	0	Y	
IntEmp	Emp_Leicester City_664	Leicester City	Leicester City	64 SCUDAMORE ROAD	DEMOLITION OF PART OF EXISTING OFFICE BUILDING (CLASS B1), ONE PRODUCTION BUILDING AND EXTENSION TO OTHER PRODUCTION BUILDING (CLASS B2); NEW SINGLE, TWO AND THREE STOREY EXTENSION AND LINK BETWEEN RETAINED PART OF OFFICE AND PRODUCTION BUILDING; NEW WAREHOUSE (CLASS B8); NEW VEHICULAR ACCESSES; REVISED PARKING AND SERVICE ARRANGEMENTS		FloorspaceM2	0	Y	

Highway Network Scheme Assumptions

Scheme No.	Location	Scheme Name	Included from...	Included
16	Earl Shilton	Access arrangements for SUE / Highway improvements for SUE	2026	Y
17	Barwell	Access arrangements for SUE / Highway improvements for SUE	2026	Y
18	Lubbesthorpe	Access arrangements for SUE including strategic traffic link to the A563 Lubbesthorpe Way	2021	Y
20	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
23	Coalville	4. Bardon Road Link: Southern section only	2026	Y
24	Castle Donington	Western Link Road from Back Lane to Tops Hill, NWLDC package of measures to help mitigate growth planned	2021	Y
25	Lubbesthorpe	Link across M69 to join North and South of the Lubbesthorpe development.	2031	Y
26	Earl Shilton & Barwell	Highway improvements for SUE	2026	Y
27	Lubbesthorpe	Highway improvements for SUE	2026	Y
30	Loughborough	West of Loughborough SUE (access from the north via the A6 roundabout)	2022	Y
36	Blaby	Desford Crossroads	2026	N
37	Harborough	Harborough Strategic Development Area	2021	Y
38	Charnwood	North of Birstall SUE	2026	Y
39	Charnwood	Mountsorrel Lane, Rothley Link Road	2021	Y
40	Charnwood	A512 junction improvements	2021	Y
46	North of East Leicester	North of East Leicester Development Network - Thorpebury (previously Thurmaston) SUE.	2026	Y
53	Leicester City	Traffic Calming Schemes (Phase 2)	2021	Y
60	Leicester City	Welford Road	2021	Y
63	Leicester City	Waterside Development	2026	Y
66	Leicester City	Belgrave Gate South	2020	Y
70	Leicester City	Lancaster Road	2020	Y
71	Leicester City	Mansfield Street & Church Gate	2021	Y
72	Leicester City	SMBS Access to Burleys Way	2021	Y
73	Leicester City	Vaughan Way	2020	Y
74	Leicester City	Ashton Green	2021	Y
108	Leicester City	LNW2 Ravensbridge Drive / Blackbird Road	2020	Y
104	Melton	MMDR Northern Section	2026	Y
105	Melton	MMDR Eastern Section	2026	Y
106	Melton	MMDR Southern Section	2026	Y
109	Melton	Gladman's Site (Leicester Rd and Kirby Lane Access)	2021	Y
114	Leicester City	Beaumont Leys Anstey Lane Improvements	2021	Y
115	Hinckley	Hinckley Rugby Road Corridor Improvements - Phase 4	2023	Y
116	Leicester City	Putney Road West Improvement	2022	Y
117	Lutterworth	Frank Whittle Roundabout approaches	2021	Y
601	Lutterworth	Lutterworth East Development (Development Access (A4304, Gilmorton Road and A426))	2026	Y
602	Lutterworth	Lutterworth East Development associated mitigations	2031	Y
603	Lutterworth	Lutterworth East Development (Link Road between A4304 and A426)	2031	Y
604	Lutterworth	Lutterworth East Development (Gilmorton Road bridge bus restriction)	2026	Y
119	Bardon Hill	Bardon Hill Link Road North Section	2026	Y
120	Coalville	Hoo Ash Roundabout	2025	Y
121	Coalville	Thornborough Road Roundabout	2025	Y
122	Coalville	Dual Carriageway from Thornborough Rd to Whitwick Road	2025	Y
123	Coalville	Whitwick Road Roundabout	2025	Y
124	Coalville	Broom Leys Road Junction	2025	Y
125	Coalville	Bardon Link Road Junction	2025	Y
126	Coalville	Birch Tree Roundabout	2025	Y
128	Coalville	Flying Horse Roundabout	2025	Y
129	Coalville	Fieldhead Roundabout	2025	Y
134	Hinckley	DPD A5 Access	2021	Y
137	Padge Hall	Padge Hall Development Access	2024	Y
140	Leicester City	Abbey Park Road Cycle Provision	2021	Y
142	Blaby	A47/Kirby Lane Tesco Express	2021	Y
143	Leicester City	Abbey Street	2021	Y
144	Leicester City	A50 Groby Road Bus Lane	2022	Y
150	Harborough	Magna Park Extension Access - Mere Lane, Lutterworth	2021	Y
151	Harborough	Magna Park Extension Access - A5, Lutterworth	2026	Y
152	Blaby	Highway improvements for Lubbesthorpe SUE	2021	Y
153	Blaby	Foxhunter Roundabout Eastbound Approach	2021	Y
154	Loughborough	West of Loughborough SUE (connection to the northern arm of the A512 roundabout)	2036	Y

155	Harborough	B4114/B581 Signalisation Improvement, Broughton Astley	2026	Y
157	Blaby	Blaby DPD Site Access	2026	Y
158	Blaby	West of St Johns (Blaby DPD) Site Access	2026	Y
159	Harborough	Wigston Direction for Growth Site Access	2026	Y
160	Blaby	Everard Way Closure, Fosse Park	2020	Y
161	Loughborough	Access connection for the Science Park via the A512 roundabout	2031	Y
163	NWL	Money Hill Site Access A511	2026	Y
164	Derbyshire	Wragley Way (South Derbyshire) SUE Access A50	2031	Y
166	Derbyshire	Clifton (Rushcliffe) SUE Access	2022	Y
167	Derbyshire	EMIP A50 (Freeport)	2030	Y
169	Derbyshire	Toton Innovation Hub (HS2)	2026	Y
170	Nottinghamshire	Ratcliffe Power Station A453 (Freeport)	2030	Y
171	Rugby	Rugby Radio Station - A5 Access	2022	Y
174	North West Leicestershire	Mercia Park	2020	Y
175	Leicester City	Western Park Golf Course	2029	Y
176	Harborough	Kettering Road Signalisation	2021	Y
177	Charnwood	Shuttle signals on Tickow Lane (over bridge)	2022	Y
178	Charnwood	Buttercup Lane in Shepshed	2022	Y
179	Blaby	Dans Lane (A47)	2023	Y
180	Hinckley	B582 / B585 signalisation	2023	Y
181	Hinckley	A47 roundabout between Wykin Rd and Outlands Dr	2021	Y
502	M6 J10-13	M54-Stafford ALR	2021	Y
504	M54-M6 Toll	New Link Road min 2 lane motorway	2024	Y
507	M6 J13-J16	Stafford South to Stoke ALR	2022	Y
510	M1 J13-16	MK South - J16 ALR	2022	Y
513	M40 M42	M40 J16-M42 J3 ALR	2026	Y
516	A46 Coventry	Remove Binley and Walsgrove roundabouts M40-M6 as 'expressway standard'(ie all grade separated junctions)	2026	Y
520	A46 Toll Bar End	Grade separated jcn at TBE & Stonebridge Hwy to 3 lanes	2021	Y
526	Newark N	Dualling Newark N bypass first stages now in RIS 2	2031	Y
527	Newark S	A1-A46 link S of Newark; part constructed. Not in MRTM list	2031	Y
528	Lincoln E	A15-A158; under construction	2021	Y
529	Lincoln S	A158-A46; *sketchy details*; envisaged as dual carriageway… Assumed costing will be similar to Lincoln E bypass and will be 60mph single	2031	Y
530	Grantham S	A1-A52 link bypassing Grantham; under construction	2023	Y
9	Warwickshire	M6 J2 - J4 SMART motorway	2021	Y
201	Nuneaton and Bedworth Borough	Coton Arches	2021	Y
202	Nuneaton and Bedworth Borough	A4254b Eastboro Way P1	2024	Y
203	Nuneaton and Bedworth Borough	College Street / A444	2026	Y
204	Nuneaton and Bedworth Borough	Transforming Nuneaton	2026	Y
205	Nuneaton and Bedworth Borough	Croft Road/Greenmoor Road Priority	2031	Y
206	Nuneaton and Bedworth Borough	A47 Old Hinckley Road	2024	Y
207	Nuneaton and Bedworth Borough	Coventry Road / Gipsy Lane	2026	Y
208	Nuneaton and Bedworth Borough	A4254 / B4114 / Eastboro Way	2026	Y
209	Nuneaton and Bedworth Borough	Nuneaton Northern Sites Link Road	2026	Y
210	North Warwickshire	B5000 Market Street/Bridge St Signals	2026	Y
211	North Warwickshire	A5 Dualling between Grendon and Dordon Junction	2033	Y
213	Rugby Borough	A426/A4071 Avon Mill Roundabout/Newbold Road/Hunters Lane Priority Junction	2026	Y
214	Rugby Borough	Ashlawn Road/Hillmorton Road	2021	Y
215	Rugby Borough	A5 Northern Access to DIRFT III	2021	Y
216	Rugby Borough	A5/A428 Halfway House Roundabout	2026	Y
217	Rugby Borough	M1 Junction 18	2031	Y
218	Rugby Borough	M6 to Coton House	2021	Y
219	Rugby Borough	A5 Southern Access to DIRFT III	2021	Y
221	North Warwickshire	A5 dualling Grendon to Atherstone	2031	Y
223	Rugby Borough	M6 J2 Signalisation	2024	Y
250	Nuneaton and Bedworth Borough	Callendar Farm Phase 2	2031	Y
251	Nuneaton and Bedworth Borough	Bermuda Triangle Project	2026	Y
252	Rugby Borough	Ansty Park Access (Combe Fields Road)	2020	Y
182	Castle Donington	Land South of A50 J1 Development Access	2024	Y
183	Hinckley	B4114 Coventry Rd / Broughton Rd widening	2021	Y
184	Shepshed	A512 Ashby Rd Quarry access/signalised jnc	2021	Y
185	Bardon	Tungsten Park, Bardon A511	2021	Y
186	NWL	EMAGIC Segro EMG Phase 2 Development Access	2028	N

306	Leicester City	St George Street (Queen St to Southampton St)	2022	Y
307	Leicester City	Dover Street (Granby Street Jct)	2024	Y
305	Leicester City	Granby St (Bishop St to Halford St)	2024	Y
304	Leicester City	Granby St (N'hampton St to St George's Way)	2022	Y
303	Leicester City	Pocklingtons Walk	2022	Y
302	Leicester City	Aylestone Road, Saffron Lane to Oxford Street (A426)	2023	Y
301	Leicester City	Saffron Lane (B5366)	2023	Y
149	Leicester City	Duns Lane/Braunstone Gate	2023	Y
148	Leicester City	Abbey Park Road (Eastern section and bridge)	2023	Y
147	Leicester City	Anstey Lane (A5630)	2022	Y
146	Leicester City	St. Margaret's to Birstall (A6)	2024	Y
145	Leicester City	Melton Road (A607)	2023	Y
77	Leicester City	Belgrave Gate/Haymarket/Church Gate Pedestrianisation	2020	Y
187	NWL	A50 J1 signalisation of two additional arms (Tamworth Road and Trent Lane)	2025	Y
188	Blaby	Desford Road/Ratby Lane signalisation	2022	Y
189	Nottinghamshire	A52 Gamston roundabout	2023	Y
190	Nottinghamshire	A52 Wheatcroft junction	2028	Y
191	Nottinghamshire	A52 Nottingham Knight junction	2028	Y
n/a	Derbyshire	A38 grade-separated junctions (Kingsway Roundabout, Markeaton Island and Little Eaton Roundabout)	2024	Y
n/a	Broxtowe	Toton Link Road	2026	N

APPENDIX 39: A52 Signal Junctions Green Time Calculations email dated 23 August 2024

As you know we have been trying to obtain signal timing information for the three A52 improvement schemes but unfortunately to no avail. We have therefore taken it upon ourselves to calculate assumed signal timing information using PRTM flow data and the scheme drawings provided to us. This has incurred quite a lengthy exercise but should provide reasonable signal timing information to be coded into PRTM. I understand that you will sense check the timings when undertaking the modelling and optimise timings where necessary. Attached is a copy of the spreadsheet presenting the calculations for records more than anything, whilst a summary of the methodology is provided below.

Methodology for Calculating Green Times

1. As PRTM data provides entry/exit flows for each arm but not turning counts, a furnessing exercise was undertaken to determine turning proportions, using the previously agreed methodology.

2. Each junction was split into individual streams, typically including an approach arm and the opposing lanes on the circulatory. All streams are shown in the images in the attached spreadsheet.

3. Traffic was assigned to each lane using the turning proportions determined through the furnessing exercise (point 1). Where multiple lanes allow for the same direction of travel, flows were split equally across each lane.

4. A percentage of the maximum lane flow for each arm in the same stream was calculated. For example, if the heaviest flow is 100 vehicles on an entry arm lane and 150 vehicles on a circulatory lane, then the percentage split would be 40% (entry arm) and 60% (circulatory).

5. A base cycle time of 60 seconds was adopted for streams with two stages and streams with more than two stages adopted a cycle time of 90 seconds.

6. Intergreens were calculated based on geometries using the drawings supplied to us.

7. The total green times were calculated by subtracting the intergreen time from the total cycle time.

8. The remaining green time was then allocated to each stage stream in line with the percentage split calculated at point 4.

By adopting the above methodology, the green times for each stream for the three junctions are summarised in the tables below, whilst intergreen times can be found in the spreadsheet. These should provide a reasonable estimation of green times in the absence of any further information, which we recommend AECOM take on board within the PRTM modelling, noting that you will carry out your own sense checks during the process.

Green Times

Junction 1 A52/A60 (Nottingham Knight)

Stream	Cycle Time Sec	Arm	AM GT Sec	PM GT Sec
1	90	Arm A - A52 E Approach	22	23
		Arm B - A52 W Approach	15	18
		Arm C - Circulatory	10	6
2	60	Arm A - A60	16	16
		Arm B - Circulatory	33	33
3	60	Arm A - A52 W Approach	32	34
		Arm B - Circulatory	16	14

Junction 2 A52/A606 (Wheatcroft Island)

Stream	Cycle Time Sec	Arm	AM GT Sec	PM GT Sec
1	60	Arm A - Melton Road N	17	16
		Arm B - Circulatory	30	31
2	60	Arm A - A52 E Approach	23	23
		Arm B - Circulatory	24	24
3	60	Arm A - Melton Road E	11	14
		Arm B - A52 W Approach	7	7
		Arm C - Circulatory	18	15
4	60	Arm A - Flawforth Lane	8	7
		Arm B - Circulatory	39	40
5	60	Arm A - A52 W Approach	30	31
		Arm B - Circulatory	17	16

Junction 3 A52/A6011 (Gamston Roundabout)

Stream	Cycle Time Sec	Arm	AM GT Sec	PM GT Sec
1	60	Arm A - A52 E Approach	31	28
		Arm B - Circulatory	19	22
2	60	Arm A - A52 S Approach	20	29
		Arm B - Circulatory	29	20
2	60	Arm A - Radcliffe Road	34	31
		Arm B - Circulatory	16	19

On a separate note, we have reviewed the other three junction improvements on the A52 raised by Catherine at the TWG meeting (Silverdale, Stragglethorpe and Bingham Road). Whilst they are currently excluded from the uncertainty log, they comprise more minor changes such as introducing part time signals/changes to signal timings etc, with the latter two junctions located more remote from the site within Radcliffe on Trent. Therefore, we are of the opinion that they do not including for in the PRTM modelling work.

This should now give AECOM everything you need to continue the PRTM modelling work and running the forecast year scenarios. However, please let us know if you have any questions or require any further information. We have copied in the TWG seeing as this was included for as a key action, but trust that they will be accepting of the approach adopted, seeing as we were hoping that said information would have been provided directly to us, rather than us having to had gone to such lengths to determine it. Thanks

Kind regards

[redacted]
T: 0115 924 1100 | **M:** [redacted] | **W:** bwbconsulting.com

[redacted]

Thank you for your time again on Thursday last week.

Please see attached minutes from the meeting, along with Steph's slides on the sustainable transport update and a revised programme. The programme has been cropped to include the tasks leading up to December 2024, which is when the core modelling tasks should be complete as this should keep it more focused as appreciate the main version is fairly comprehensive.

Key actions from the meeting are summarised below:

1. BWB/NH to follow up with Jeremy on the A52 signal timing information. [redacted] I'll be following up with Jeremy this week but if you are able to assist that would be greatly appreciated as this is critical for the modelling.

2. BWB to review the other three NH junction improvement schemes and whether these are included in PRTM.

3. AECOM to check EMG1 flows, which from the original modelling look very high.

4. AECOM to confirm the methodology for covid sensitivity assessment and how factors are applied to increase base flows.

5. BWB to arrange a meeting with Jeremy to run through NH's note and the mitigation points in particular.

6. BWB to finalise and circulate a link to the SharePoint page.
7. AECOM to issue the PRTM base model validation addendum note.
8. Matt to schedule a modelling meeting following responses on the survey poll schedule poll.

I trust the above covers all the points and actions discussed at the meeting but if anyone has any comments then please feel free to get in touch.

Kind regards

[redacted]

BWB

[redacted]

We look forward to catching up Thursday at 10am. The proposed agenda is set out below.

a. Review of July 24 meeting minutes/actions (re-attached for ease of reference)
b. Client update; IR
c. Sustainable transport strategy update; SM
d. EMFM modelling update, post inception meeting (minutes re-attached for ease)
e. Wider strategic modelling update
f. Covid sensitivity testing; KT thoughts post AECOM presentation?
g. Jeremy Blooms note 23/7

h. Vision & Validate Assessment

i. Statement of Common Ground

j. Next steps

k. AOB

We trust the above/attached is of use; however, should anyone have any queries prior to the meeting please ask. Thanks

Kind regards

[redacted]
T: 0115 924 1100 | **M:** [redacted] **W:** bwbconsulting.com

APPENDIX 40: Stage 1C Modelling sign off sheet

TECHNICAL APPROVAL
East Midlands Gateway 2

Document Name	Stage 1C Modelling Documents	**Project reference**	220500
Document reference / revision	Covid-19 Assessment (EMG2-BWB-GEN-XX-RP-TR-0014 Revision P1)	**Date**	19.02.25

Approver 1	**Name**	[redacted]
	Organisation	National Highways
	Position	Interim Spatial Planner
	Date	30/04/2025
	Signature	[redacted]
	Comments ***(if applicable)***	**Covid-19 Assessment (EMG2-BWB-GEN-XX-RP-TR-0014 Revision P1)** To inform the Applicant's assessment of the impact of Covid on the traffic data used to unpin the assessment of development impacts, assessment work was undertaken by AECOM and is presented in East Midlands Gateway Phase 2 – proposed approaches to COVID-19 strategic model forecast sensitivity tests [July 2024]. Data gaps were identified by JSJV within this assessment. This absence of data affected the Strategic Road Network particularly the M1, A50, A42 and the A453 close to the development site. To account for this, JSJV undertook a supplementary exercise comparing 2019 and 2024 Webtris data in the area around M1 J24 and the A453 towards Nottingham. This information and data assessment was provided to the Applicant in email on 25th July 2024. Further assessment was then undertaken by BWB and AECOM and is presented in Technical Note East Midlands Gateway Phase 2 – Covid-19 Assessment (The Note). The JSJV assessment work and data analysis indicate increases greater than the overall relatively low level of change presented in the Note and information provided by BWB in email on 10th December 2024 (approximately 7% increase on the M1 in the PM peak

		and 8% increase on the A42 using the WEBTRIS dataset to gauge an understanding of Covid neutrality). JSJV would expect a degree of recovery of post-Covid traffic volumes between 2019 - 2023. Whilst JSJV have noted higher levels of growth on the SRN when comparing 2019 and 2024 data, JSJV would expect any further post Covid increases on the SRN to be contained with the expected growth rate applied to the modelling and any differences are likely to be marginal or in fact a small decrease between 2019 and 2023.
Approver 2	**Name**	
	Organisation	
	Position	
	Date	
	Signature	
	Comments ***(if applicable)***	

TECHNICAL APPROVAL
East Midlands Gateway 2

Document Name	Stage 1C Modelling Documents	**Project reference**	220500
Document reference / revision	Covid-19 Assessment (EMG2-BWB-GEN-XX-RP-TR-0014 Revision P1)	**Date**	19.02.25

Approver 1	**Name**	
	Organisation	
	Position	
	Date	
	Signature	
	Comments *(if applicable)*	

Approver 2	**Name**	
	Organisation	
	Position	
	Date	
	Signature	
	Comments *(if applicable)*	

Approver 3	**Name**	[redacted]
	Organisation	Nottinghamshire County Council
	Position	Principal Officer Transport Planning
	Date	06/03/2025
	Signature	[redacted]

	Comments ***(if applicable)***	Nottinghamshire County Council (NCC) accept the findings of the **Covid 19 Technical Note** that was produced by BWB (07/01/25). NCC are aware through ongoing attendance of the Transport Working Group (TWG) that that an updated PRTM model (2023 version) is now available and there has been ongoing dialogue with Leicestershire County Council (LCC) officers on this matter. NCC do not feel it appropriate to offer an opinion on the PRTM model version and feel this matter needs to be agreed with LCC as custodians of the PRTM model and National Highways.

APPENDIX 41: EMFM Stage 1A Modelling Forecasting Report (document reference East Midlands Gateway Phase 2: Forecasting Report v1.0)

AECOM

EMFM 2019

East Midlands Gateway Phase 2: Forecasting Report

Delivering a better world

Quality Information

Prepared by	Checked by	Approved by
Billy Wong	Jonathan Morrow	Mark Dazeley
Principal Consultant	Associate Director	Regional Director

Revision History

Revision	Revision date	Details	Authorised	Name	Position
v1.0	2025-02-04	For Issue	Yes	Mark Dazeley	Regional Director

Prepared by:

AECOM Limited
Marlborough Court
10 Bricket Road
St Albans
Hertfordshire
AL1 3JX

aecom.com

Table of Contents

List of Tables

List of Figures

Section 1 – Overview

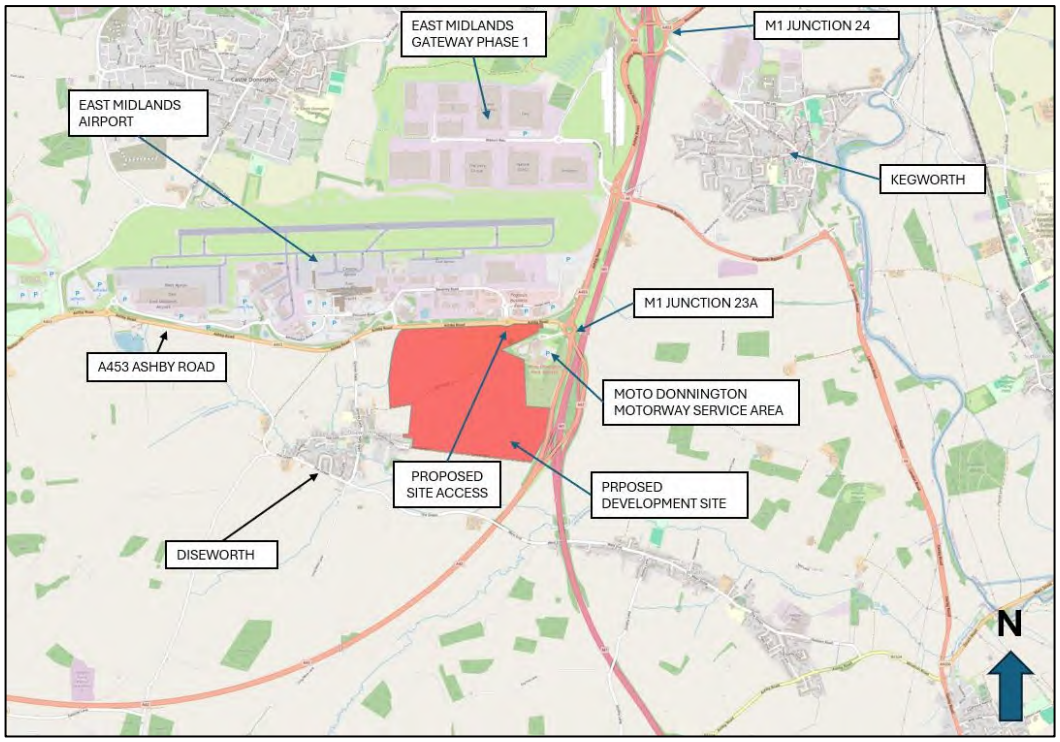
1.1 Introduction

1.1.1 The East Midlands Gateway (EMG) Phase 2 development is a proposed employment development of mixed B2 (general industrial) and B8 (storage or distribution) use, with capacity for 400,000sqm floorspace (300,000sqm ground floorspace and 100,000sqm of B8 mezzanine floorspace) of industrial use, comprising 340,000sqm B8 and 60,000sqm B2. In addition to this, 30,000sqm of B8 floorspace is proposed on EMG Phase 1 (Plot 16).

1.1.2 The development site is located to the south of East Midlands Airport in Leicestershire and west of the A42 and is expected to build out by 2031.

1.1.3 Figure 1.1 shows an indication of the location of the proposed EMG Phase 2 development, denoted by the area shaded in red. The proposed development has a total area of circa 250 acres located to the south of the A453 and East Midlands Airport itself, to the east of Diseworth village. M1 Junction 23a lies to the east of the site with the Moto Donnington Motorway Service Area (MSA) directly abutting to the north-east.

Figure 1.1: Location of Proposed Development[1]



© OpenStreetMap Contributors

1.1.4 The proposed EMG Phase 2 development will access the highway network via a single point of access:

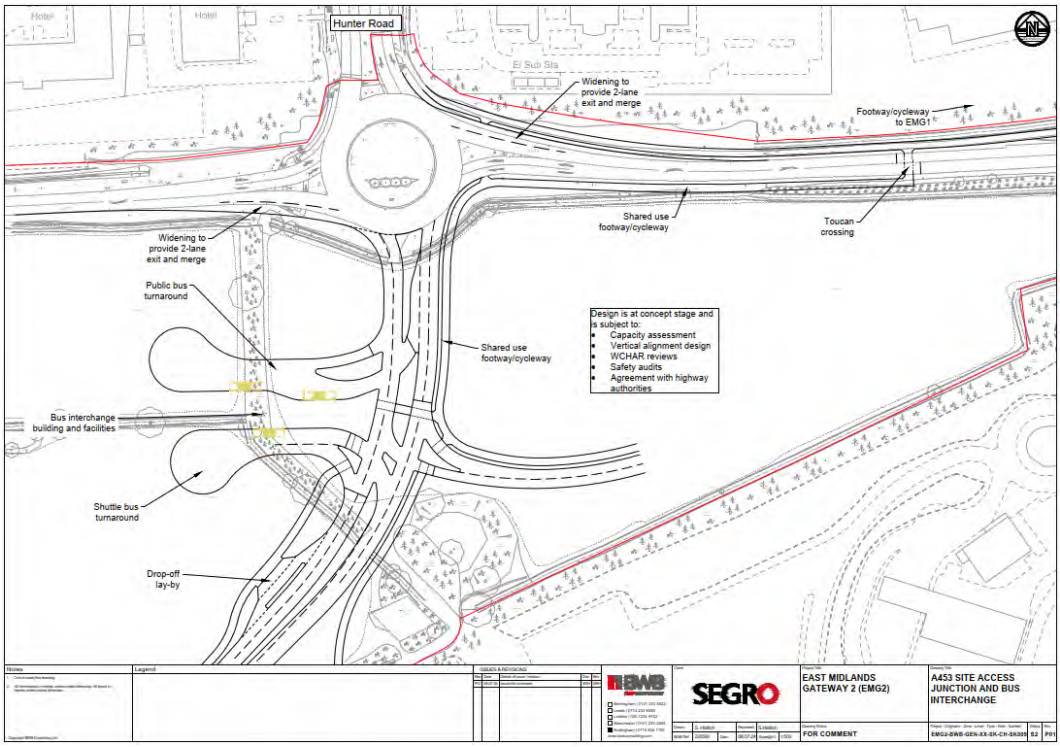
- a fourth arm off the existing A453 / Hunter Road roundabout, as shown in Figure 1.2.

1.1.5 The proposed EMG Phase 1 (Plot 16) development will access the highway network via:

- the existing access via Wilder's Way.

[1] Location of Proposed Development adapted from Technical Note 1 – Transport Scoping Note, East Midlands Gateway Phase 2 (EMG-BWB-GEN-XX-RP-TR-0001_TN1 Transport Scoping Note-S1-P3.pdf). Provided as part of the information pack with the PRTM Development Form for East Midlands Gateway Phase 2.

Figure 1.2: Site Access Junction[2]



1.1.6 The following development sites have been proposed at the nearby Isley Woodhouse site, on land west of Castle Donington, on land to the north of Kegworth, near Junction 11 of A/M42 and East Midlands Freeport sites. The forecast assumptions for the assessment of the East Midlands Gateway Phase 2 development will include these development sites:

- Isley Woodhouse (Site IW1), which comprises:
  - approximately 4,500 new homes and some 23,000sqm of employment floorspace (industry and warehousing)[3].
- Land North and South of Park Lane, Castle Donington (Site CD10), which comprises:
  - around 1,076 homes[4].
- Land West of Hilltop Farm, Castle Donington (Site EMP89), which comprises:
  - around 6,000sqm of offices and 11,850sqm of industry / smaller scale warehousing (use classes B2/B8)[4].
- Land North of Remembrance Way (A453) and Land North of Derby Road (A6), Kegworth (Site EMP73)[4], which comprises:
  - around 30,000sqm of industry / small scale warehousing (use classes B2/B8) on Land North of Derby Road (A6) site; and
  - around 40,000sqm of industry / small scale warehousing (use classes B2/B8) on Land North of A543 Remembrance Way site.
- Land to the North of J11 A/M42 (Site EMP82)[4], which comprises:
  - 28ha of employment land for strategic distribution purposes.

[2] EMG2-BWB-GEN-XX-SK-CH-SK009 S2 P01
[3] Draft North West Leicestershire Local Plan 2020-2024 – Proposed Houring and Employment Allocation for Consultation (www.nwleics.gov.uk/files/documents/proposed_housing_and_employment_allocations/Reg%2018%20%28Site%20Allocations%29%20Consultation_final.pdf)
[4] EMGP2 Uncertainty Log v7.0 (Jul 2024).xlsx

- East Midlands Freeport sites, which include the Uniper site (Ratcliffe), East Midlands Intermodal Park (EMIP) site, and the East Midlands Airport Aviation Expansion site.

1.1.7 AECOM has been commissioned to undertake strategic modelling 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.

1.1.8 The strategic modelling assessment for the proposed EMG Phase 2 development will be undertaken in three stages, as follows:

Stage 1a modelling (Proforma 14)

- 2022/2023/2024 'Without Development';
- 2028/2038 'Without Development (1a)' without EMG Phase 2 development (with all Freeport and Local Plan sites (as listed in Paragraph 1.1.6)); and
- 2028/2038 'With Development (1a)' with EMG2 development (with all Freeport and Local Plan sites (as listed in Paragraph 1.1.6)).

Stage 1b modelling (Proforma 14a)

- 2028/2038 'Without Development (1b)' without EMG Phase 2 development (without Local Plan sites (as listed in Paragraph 1.1.6)); and
- 2028/2038 'With Development (1b)' with EMG Phase 2 development (without Local Plan sites (as listed in Paragraph 1.1.6)).

Stage 2 modelling (details to be confirmed)

- 2028/2038 with EMG Phase 2 and with mitigation measures; and
- 2028/2038 with EMG Phase 2 construction.

1.1.9 This version of the report presents the forecast model results for Stage 1a only with Stage 1b and Stage 2 to follow.

1.1.10 This report is the Forecasting Report which documents the forecast model results for the EMFM strategic modelling assessment of the proposed development. This report follows the East Midlands Gateway Phase 2 Base Year Model Review Addendum report[5] 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 – Forecast 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: the 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.

[5] EMFM 2019 – East Midlands Gateway Phase 2: Base Year Model Review Addendum v1.0 (2024-08-19)

Section 2 – Forecast Approach and Assumptions

2.1 Introduction

2.1.1 This section sets out the forecast assumptions applied for this application of the EMFM, and the methodology adopted to create the required model forecasts.

2.1.2 The following forecast model scenarios have been produced for this version of the report:

Stage 1a modelling (Proforma 14)

- 2022/2023/2024 'Without Development';
- 2028/2038 'Without Development (1a)' without EMG Phase 2 development (with all Freeport and Local Plan sites (as listed in Paragraph 1.1.6)); and
- 2028/2038 'With Development (1a)' with EMG2 development (with all Freeport and Local Plan sites (as listed in Paragraph 1.1.6)).

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, 2023, 2024 2028 and 2038 '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 (1a)' forecasts, the highway demand for the proposed development has been added to the EMFM 2028 'Without Development (1a)' and 2038 'Without Development (1a)' 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 May 2024 TAG data book. This was the latest available TAG data book at the time of calibrating the PRTM. The EMFM was calibrated using the draft November 2022 TAG data book, again the latest TAG data book available during calibration. However, EMFM was updated to use the May 2024 TAG data book for this application. The impact on the 2019 base year modelled flows due to the update of the TAG data book was not considered material with most links having an absolute difference of fewer than 25 PCUs (Passenger Car Unit). The EMFM 2019, East Midlands Gateway Phase 2: Base Year Model Review Addendum (update to May 2024 TAG data book) (19/08/24) provides more detail.

2.2 'Without Development' Assumptions

2.2.1 The forecast planning and infrastructure schemes, in the format of an uncertainty log, were reviewed by the client and stakeholders.

2.2.2 Appendix A presents 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 are 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, including data for neighbouring districts such as Rushcliffe, is included in the East Midlands Gateway Phase 2 Uncertainty Log v7.0[6].

2.2.3 Appendix B presents the forecast assumptions for the highway network for this application.

2.2.4 As discussed in Paragraph 2.1.3, the EMFM is a highway assignment model, and a 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, 2023, 2024, 2028 and 2038. Planning forecasts were unconstrained (NTEM minimum[7]) for this application as noted in the proposal[8].

[6] EMGP2 Uncertainty Log v7.0 (Jul 2024).xlsx
[7] In the event that the planning data lead to below NTEM / TEMPro growth, the model reverts to NTEM / TEMPro as minimum.
[8] EMFM 2019 Fee Proposal – East Midlands Gateway Phase 2 v2.0 (2024-07-18)

2.3 Proposed Development Access Assumptions

2.3.1 To produce the 'With Development' network for 2028 and 2038, the assumed site accesses for the proposed development, as discussed in Paragraph 1.1.4, were added in the relevant 'Without Development' networks.

2.3.2 A development zone has been used to represent the proposed East Midlands Gateway Phase 2 development.

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 2.1.

Table 2.1: Development Trip Generation (2028 and 2038)[9]

	Light Vehicle Trips (in veh)			HGV Trips (in veh)			All (in veh)		
	Departing (Out)	Arriving (In)	Total	Departing (Out)	Arriving (In)	Total	Departing (Out)	Arriving (In)	Total
East Midlands Gateway Phase 2 Development - Employment B2 (60,000sqm)									
AM Peak hour (08:00 to 09:00)	34	226	**260**	8	10	**18**	43	235	**278**
PM Peak hour (17:00 to 18:00)	218	28	**246**	4	2	**6**	222	30	**252**
East Midlands Gateway Phase 2 Development - Employment B8 (340,000sqm)									
AM Peak hour (08:00 to 09:00)	44	411	**455**	78	65	**143**	122	476	**598**
PM Peak hour (17:00 to 18:00)	476	136	**612**	51	85	**136**	527	221	**748**
East Midlands Gateway Phase 2 Development Total									
AM Peak hour (08:00 to 09:00)	78	637	**715**	86	75	**161**	165	711	**876**
PM Peak hour (17:00 to 18:00)	694	164	**858**	55	87	**142**	748	250	**998**
East Midlands Gateway Phase 1 (Plot 16) Development Total									
AM Peak hour (08:00 to 09:00)	4	36	**40**	7	6	**13**	11	42	**53**
PM Peak hour (17:00 to 18:00)	42	12	**54**	5	8	**13**	47	20	**67**

2.4.2 We assume that the proposed development will be fully build out (i.e. 100% occupancy) in the 2028 and 2038 'With Development (1a)" scenarios.

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 2.1 to Figure 2.8 show the forecast development trip distribution separately for HGVs and light vehicles on the highway network for the 2028 and 2038 'With Development (1a)' scenarios in PCUs. For information, the PCU factor for HGV is 2.0 and the PCU factor for the other assignment vehicle types (i.e. cars and LGVs) is 1.0.

2.5.3 These figures show that the forecast HGV development traffic has a broadly similar distribution to and from the proposed development in both the AM Peak and PM Peak hours, and both forecast years (i.e. 2028 and 2038). HGVs are forecast to use the M1, A50 and the

[9] 241010 EMGP2 PRTM Development Form rev 14.docx

A453 Remembrance Way to and from Derby and the north, and the M1 and A42 to and from Leicester, Birmingham and the south.

2.5.4 For light vehicle traffic, the majority of development-related trips during the AM Peak hour in 2028 are forecast to use the M1 southbound and the A42 towards Birmingham. In the northbound direction development trips are forecast to route via the M1 and Castle Donnington Relief Road towards Derby. By 2038 AM Peak hour, a higher proportion of trips is forecast to route south from the A453 towards Diseworth to access Gelscoe Lane and the A42.

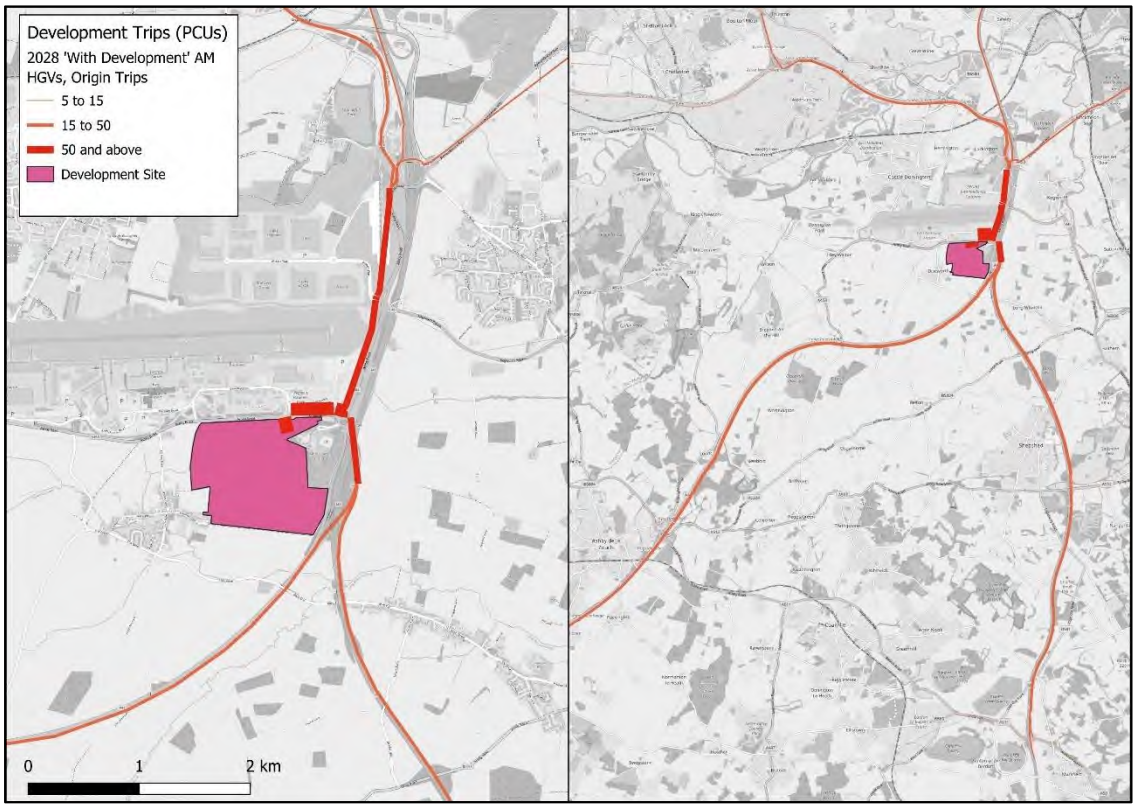
2.5.5 Light vehicle development trips from the development in the PM Peak hour in 2028 are forecast to route north via the M1, the A50, A453 Remembrance Way and south via the M1 and towards Diseworth to access the A42. This pattern is forecast in the reverse for the AM Peak hour development trips to the proposed development but with fewer trips on the M1 northbound and more trips on Castle Donnington Relief Road to avoid the congested M1 Junction 24.

2.5.6 The routeing patterns for the development trips for 2038 forecast scenarios are similar to their respective patterns in 2028, although 2038 has a slightly higher proportion of development trips on local roads and fewer on the SRN, due to the higher congestion around the M1 Junction 24 area in the later forecast year (i.e. 2038).

2.5.7 It should be noted that the local networks through Diseworth, Castle Donington and Kegworth have HGV restrictions applied. These restrictions are represented in the EMFM, and the HGV development trips are therefore forecast to route to and from the proposed development site via mainly the SRN.

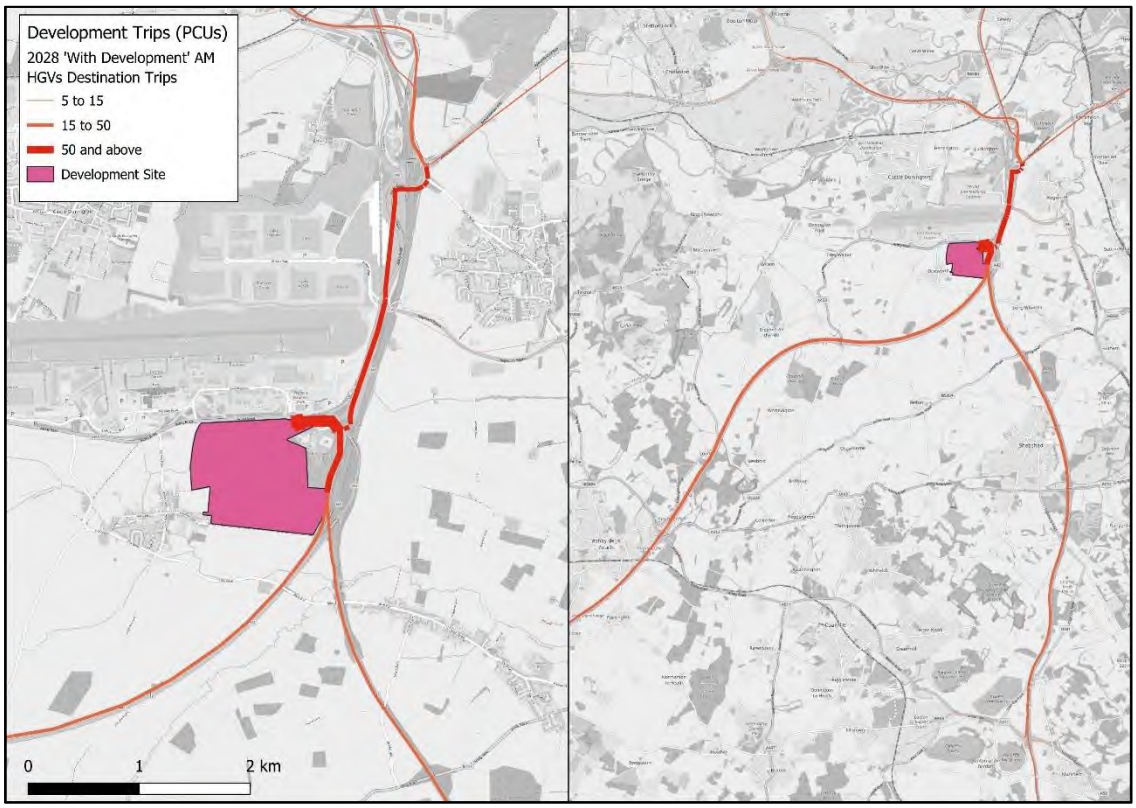
Figure 2.1: HGV Trip Distribution to and from the Proposed Development for 2028 (AM)

2028 'With Development (1a)' (AM), HGVs – From the Development



Contains Ordnance Survey data © Crown copyright and database right 2025

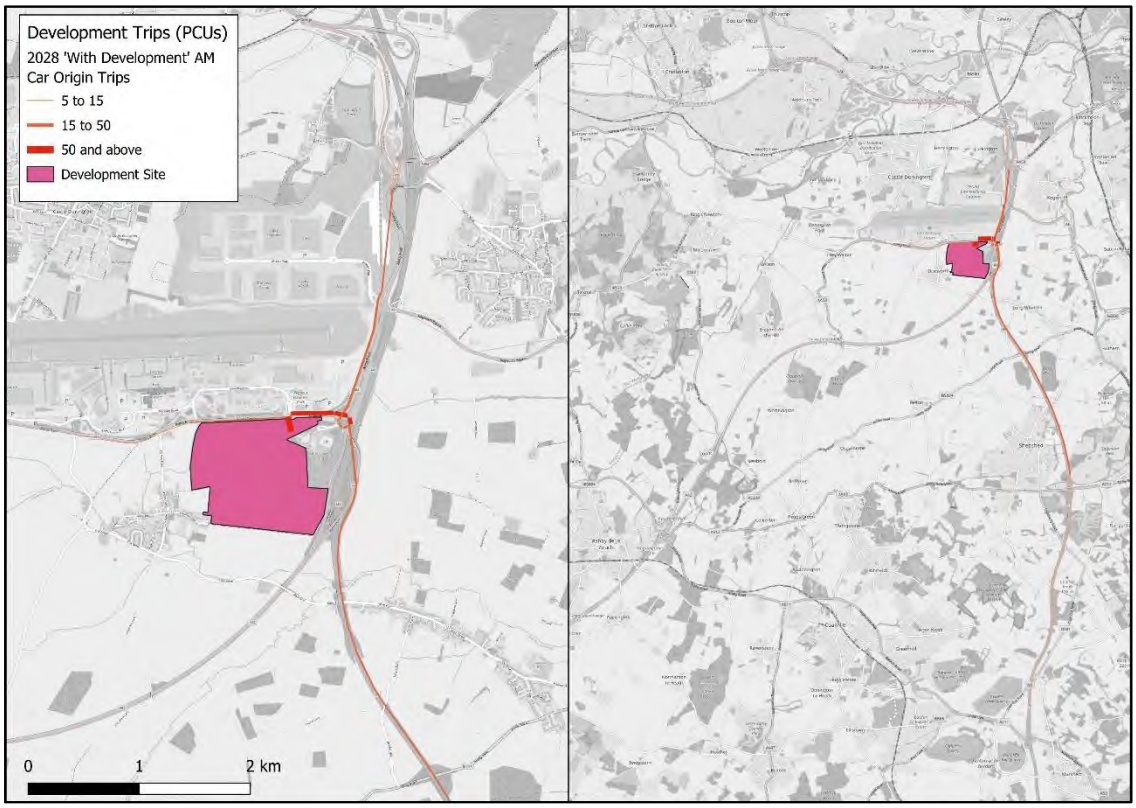
2028 'With Development (1a)' (AM), HGVs – To the Development



Contains Ordnance Survey data © Crown copyright and database right 2025

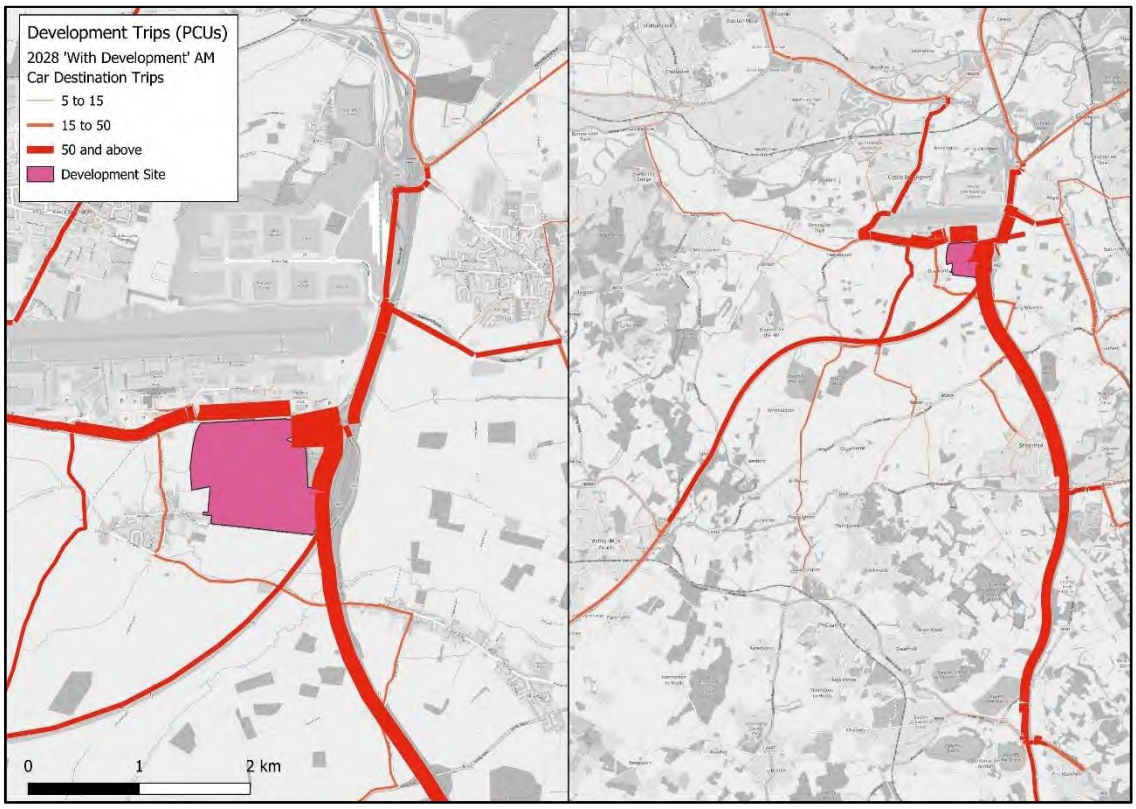
Figure 2.2: Light Vehicle Trip Distribution to and from the Proposed Development for 2028 (AM)

2028 'With Development (1a)' (AM), Light Vehicles – From the Development



Contains Ordnance Survey data © Crown copyright and database right 2025

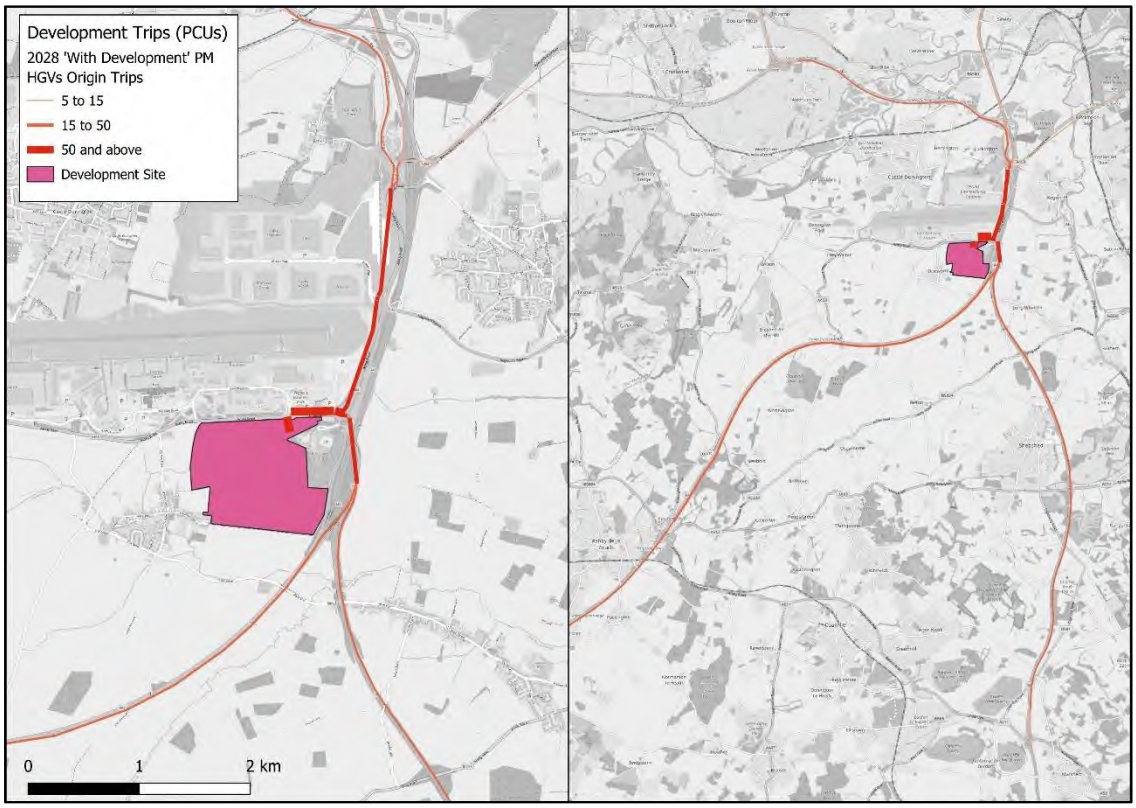
2028 'With Development (1a)' (AM), Light Vehicles – To the Development



Contains Ordnance Survey data © Crown copyright and database right 2025

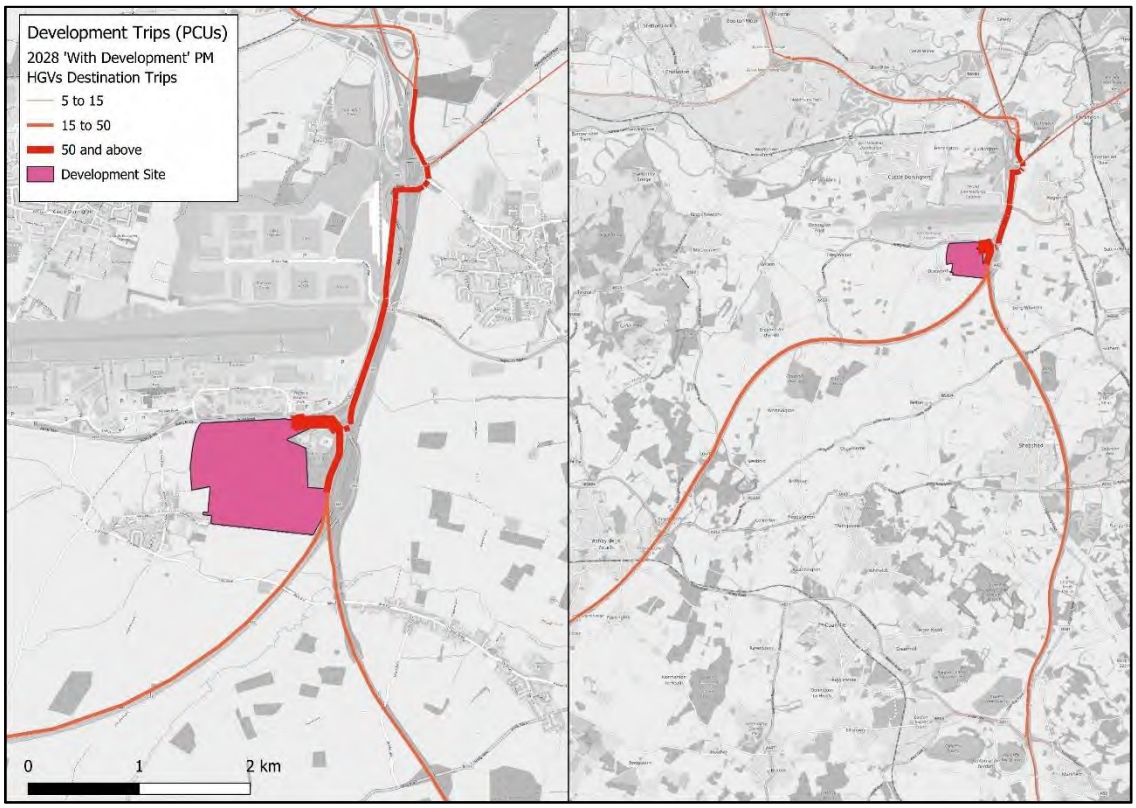
Figure 2.3: HGV Trip Distribution to and from the Proposed Development for 2028 (PM)

2028 'With Development (1a)' (PM), HGVs – From the Development



Contains Ordnance Survey data © Crown copyright and database right 2025

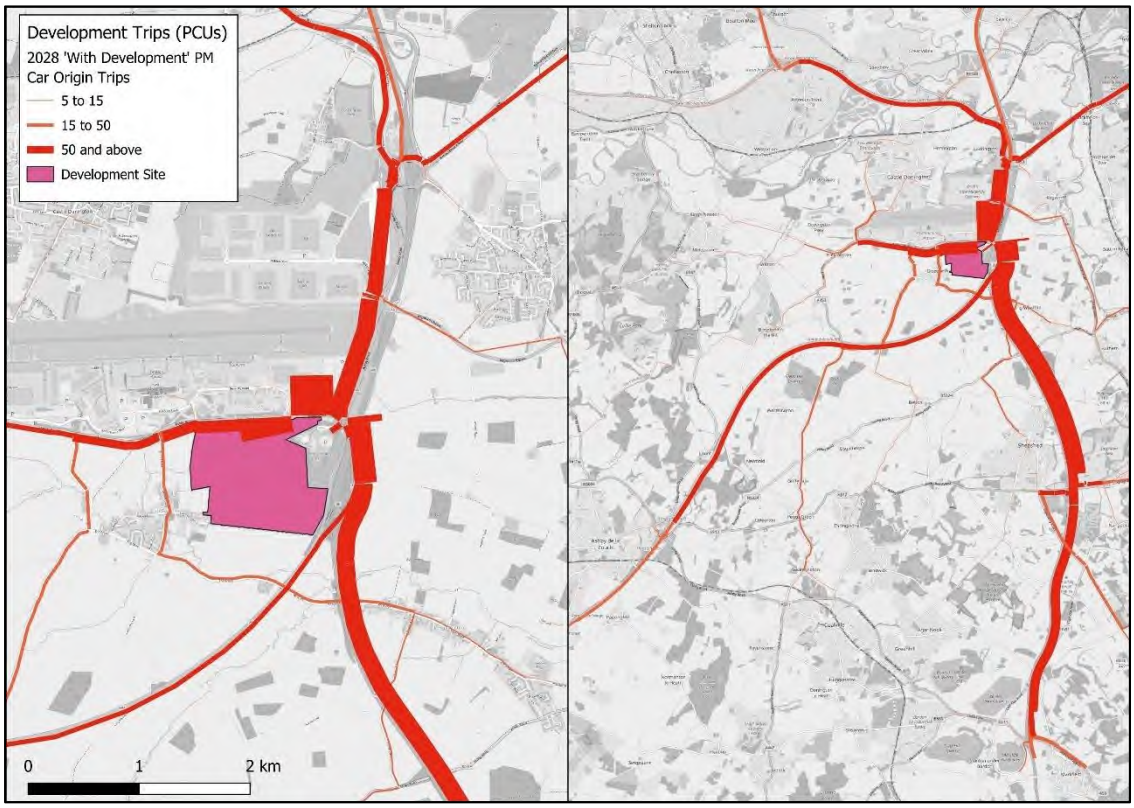
2028 'With Development (1a)' (PM), HGVs – To the Development



Contains Ordnance Survey data © Crown copyright and database right 2025

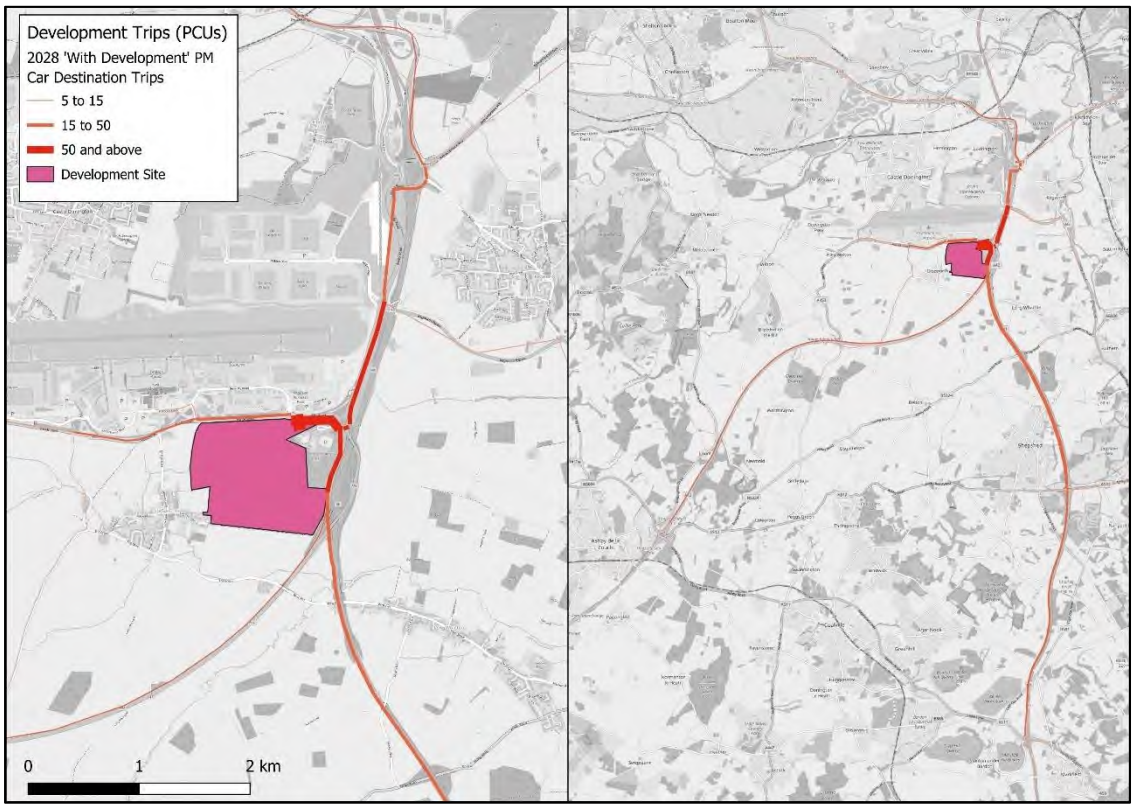
Figure 2.4: Light Vehicle Trip Distribution to and from the Proposed Development for 2028 (PM)

2028 'With Development (1a)' (PM), Light Vehicles – From the Development



Contains Ordnance Survey data © Crown copyright and database right 2025

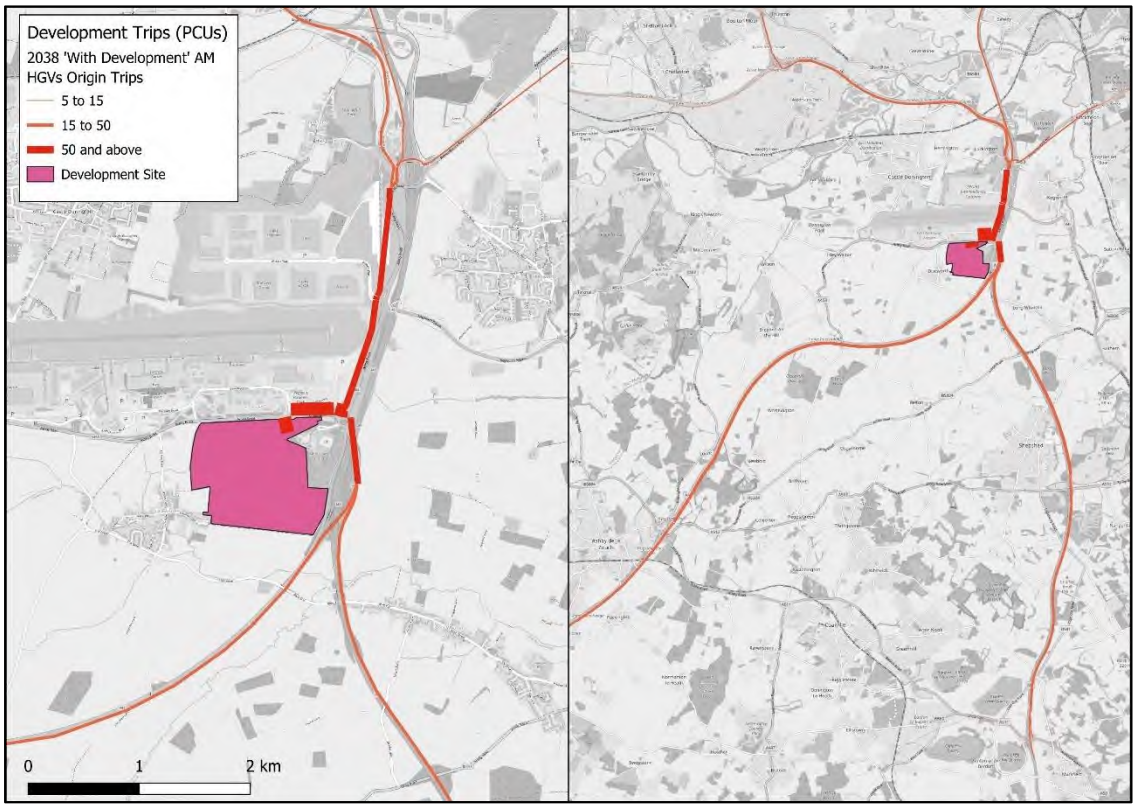
2028 'With Development (1a)' (PM), Light Vehicles – To the Development



Contains Ordnance Survey data © Crown copyright and database right 2025

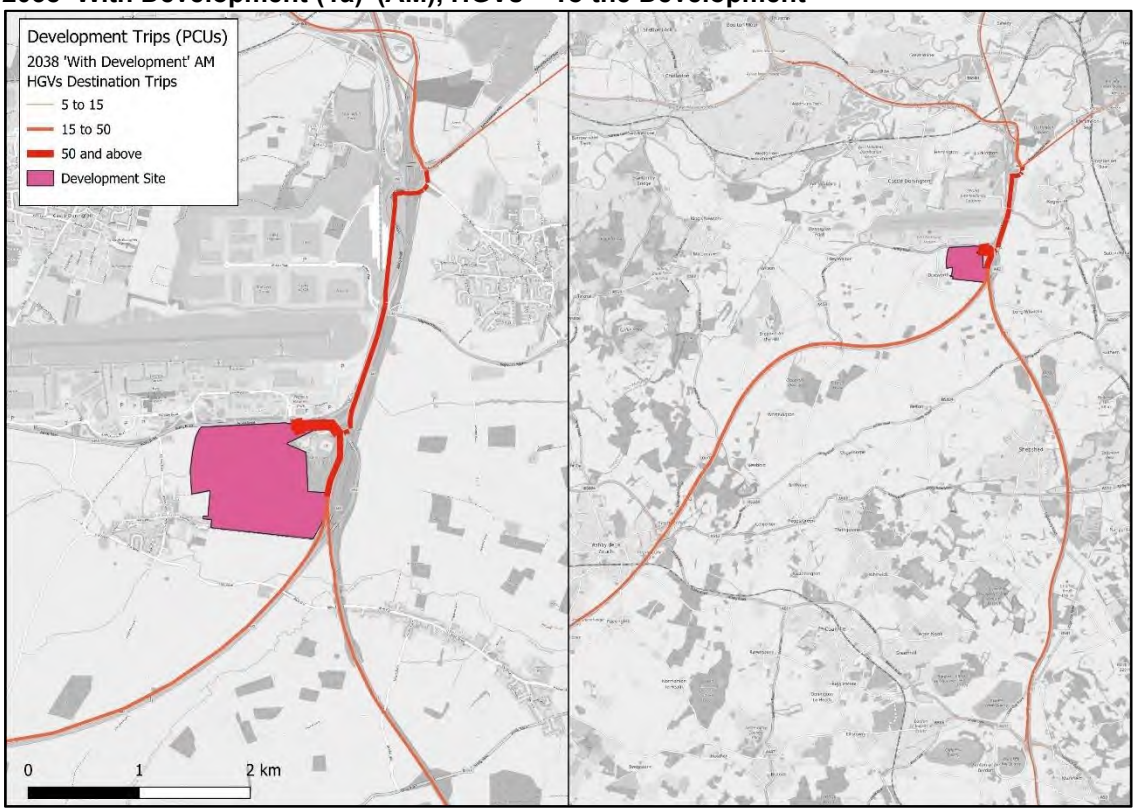
Figure 2.5: HGV Trip Distribution to and from the Proposed Development for 2038 (AM)

2038 'With Development (1a)' (AM), HGVs – From the Development



Contains Ordnance Survey data © Crown copyright and database right 2025

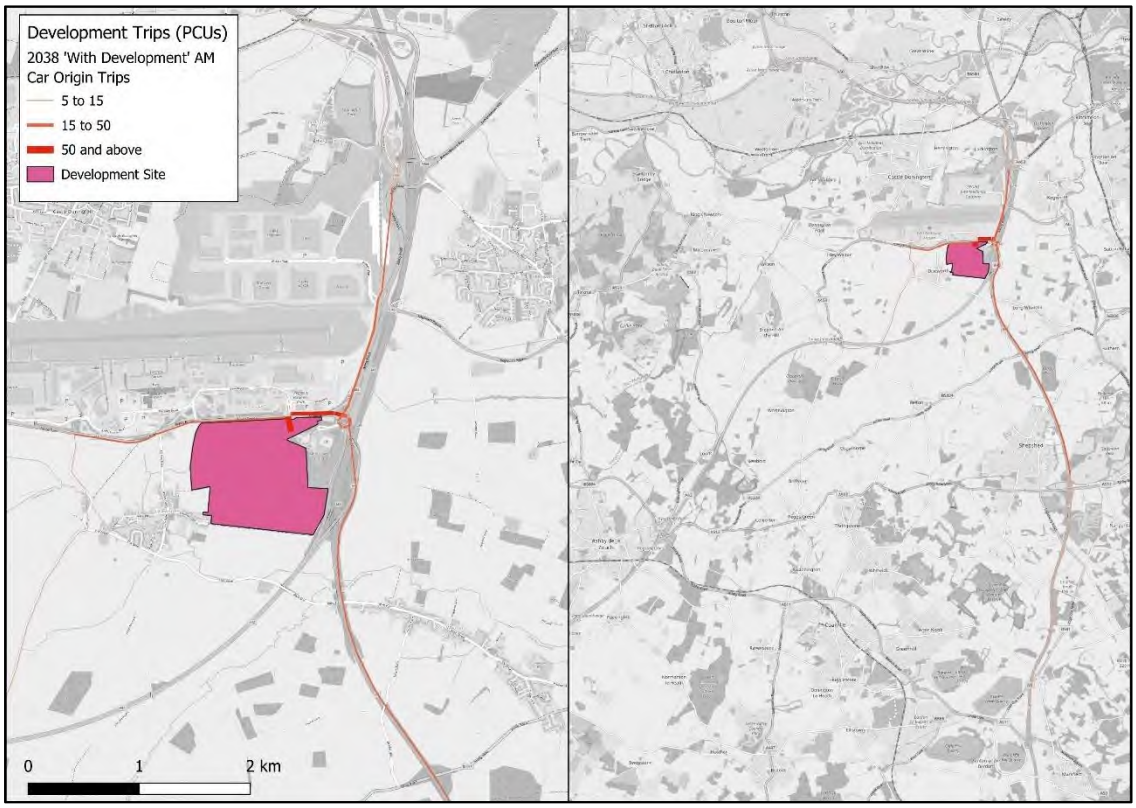
2038 'With Development (1a)' (AM), HGVs – To the Development



Contains Ordnance Survey data © Crown copyright and database right 2025

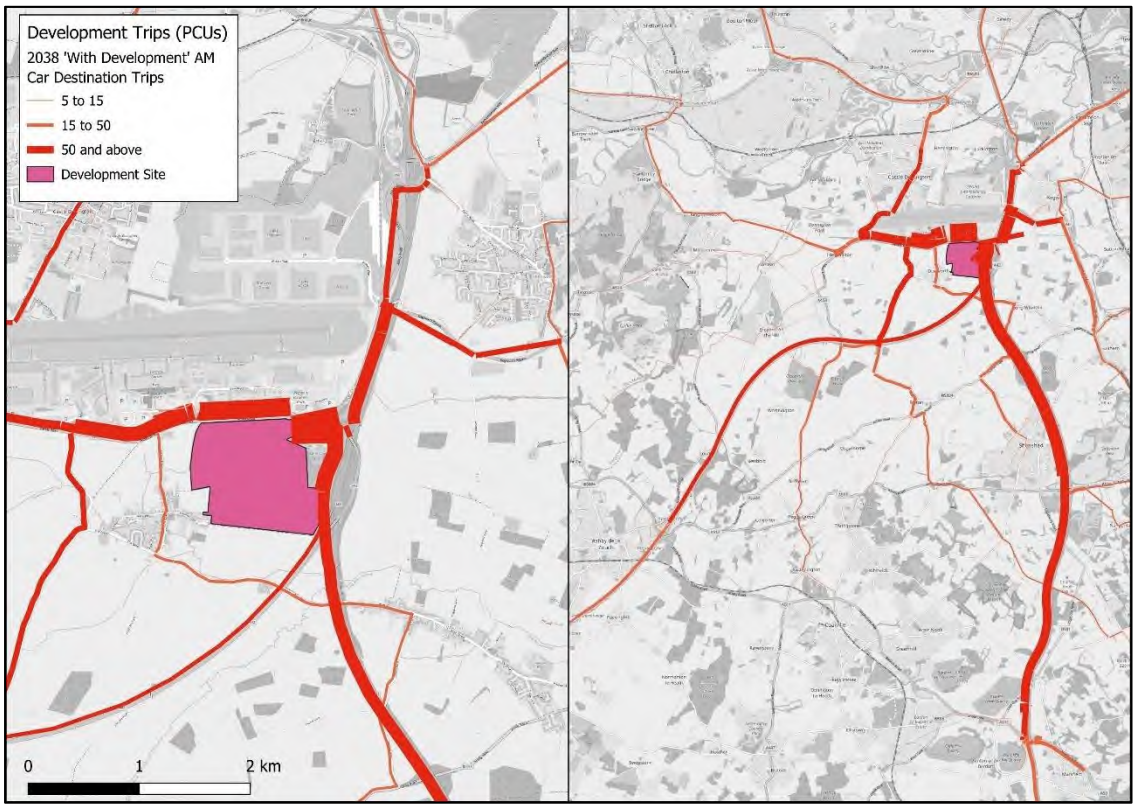
Figure 2.6: Light Vehicle Trip Distribution to and from the Proposed Development for 2038 (AM)

2038 'With Development (1a)' (AM), Light Vehicles – From the Development



Contains Ordnance Survey data © Crown copyright and database right 2025

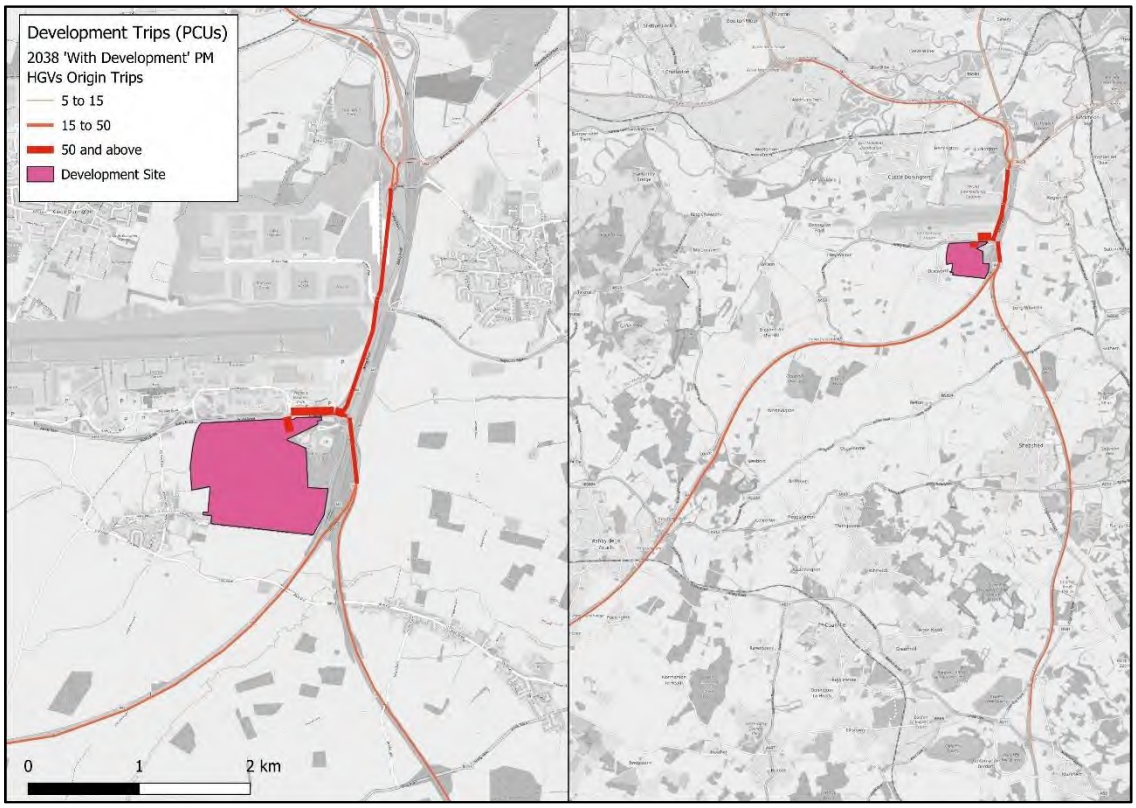
2038 'With Development (1a)' (AM), Light Vehicles – To the Development



Contains Ordnance Survey data © Crown copyright and database right 2025

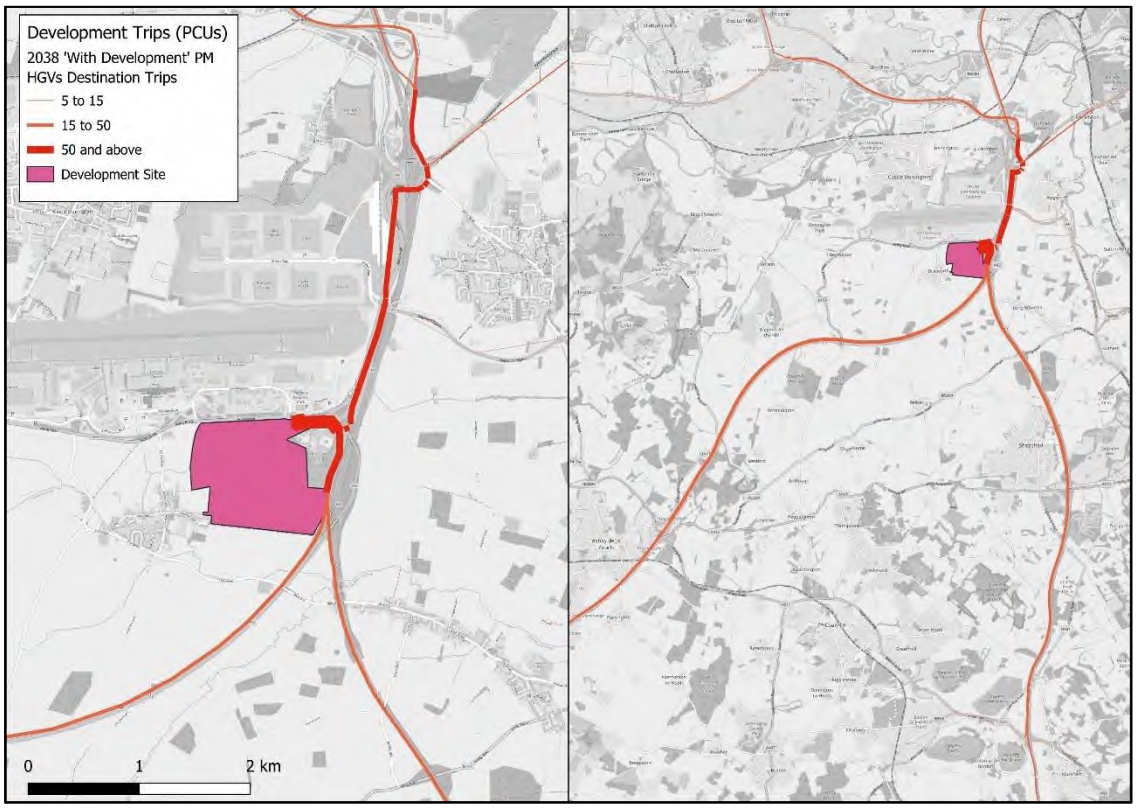
Figure 2.7: HGV Trip Distribution to and from the Proposed Development for 2038 (PM)

2038 'With Development (1a)' (PM), HGVs – From the Development



Contains Ordnance Survey data © Crown copyright and database right 2025

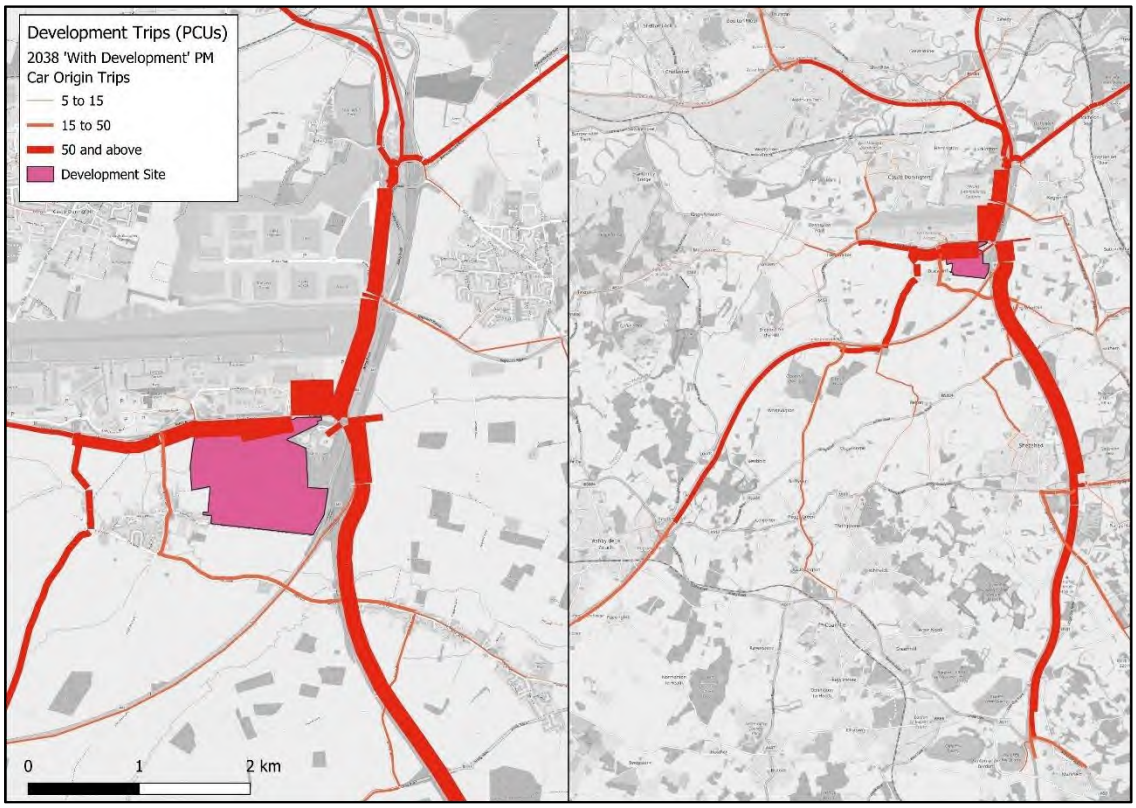
2038 'With Development (1a)' (PM), HGVs – To the Development



Contains Ordnance Survey data © Crown copyright and database right 2025

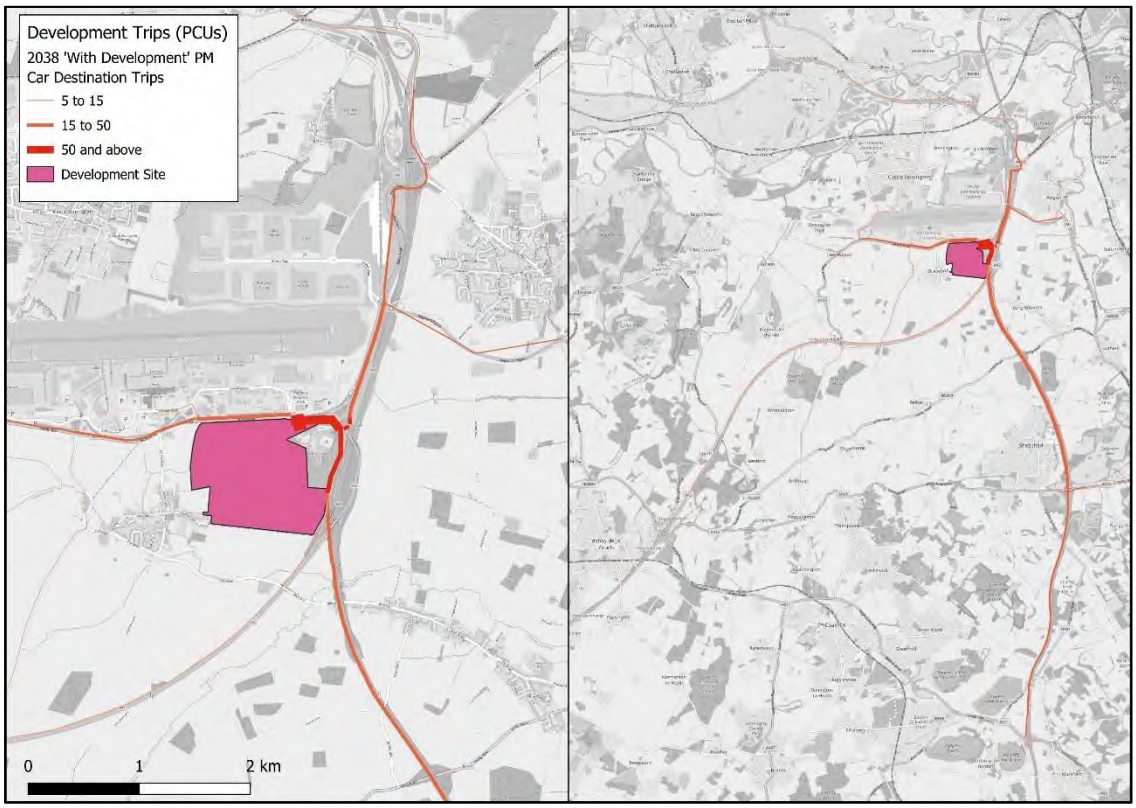
Figure 2.8: Light Vehicle Trip Distribution to and from the Proposed Development for 2038 (PM)

2038 'With Development (1a)' (PM), Light Vehicles – From the Development



Contains Ordnance Survey data © Crown copyright and database right 2025

2038 'With Development (1a)' (PM), Light Vehicles – To the Development



Contains Ordnance Survey data © Crown copyright and database right 2025

Section 3 – Forecast Model Results

3.1 Introduction

3.1.1 This section details the forecast model results for the proposed East Midlands Gateway Phase 2 development assessment for the AM Peak (08:00 to 09:00) and PM Peak (17:00 to 18:00) hours. The analysis includes:

- routeing of the forecast development traffic in the 2028 and 2038 'With Development (1a)' scenarios (Section 2.5 and Section 3.2);
- forecast flow changes in 2028 and 2038 between the 'With Development (1a)' and 'Without Development (1a)' scenarios (Section 3.3);
- an assessment of the Area of Influence (AoI) (Section 3.4);
- forecast delay changes in 2028 and 2038 between the 'With Development (1a)' and 'Without Development (1a)' scenarios (Section 3.5);
- forecast maximum node volume-capacity ratios in the 2028 and 2038 'With Development (1a)' scenarios (Section 3.6); and
- forecast turning flows (and volume-capacity ratios for turns) at selected junctions (Section 3.7).

3.2 Forecast Development Traffic

3.2.1 Figure 2.1 to Figure 2.8 in Section 2.5 illustrate the assigned forecast trip distribution to and from the proposed development in 2028 and 2038 for both AM Peak and PM Peak hours. These figures show that the HGV development traffic mainly routes via the SRN including the M1, A42, A50 and the A453 Remembrance Way.

3.2.2 For light vehicle development traffic, the M1 Junction 24 area is congested and has high delays, particularly in the AM Peak hour. As such, a proportion of the light vehicle trips to the development is forecast to route via Castle Donnington Relief Road and the A6 Kegworth Bypass to avoid the M1 Junction 24 and Junction 24a area.

3.2.3 The modelling shows that the light vehicle development traffic is forecast to:

- route to and from the north via the M1 and Castle Donnington Relief Road;
- route to and from the south via the M1 and M1 Junction 23a;
- route to and from the south-west using the A42 via both Diseworth and the M1 Junction 23a;
- route to and from the west via the A50, M1 Junction 24 and through Castle Donington Relief Road; and
- route to and from the east via the A453 Remembrance Way, A6 Kegworth Bypass and through the local network of Kegworth and Diseworth.

3.3 Forecast Flow Change

3.3.1 Figure 3.1 and Figure 3.2 show the forecast flow changes in 2028 and 2038 between the 'With Development (1a)' and 'Without Development (1a)' scenarios for the AM Peak and PM Peak hours. Red bandwidth represents an increase in traffic flow in the 'With Development (1a)' scenario and green bandwidth represents a decrease.

3.3.2 As expected, the largest increases in flows are forecast along the A453 in the immediate vicinity of the proposed development. The M1 and the A42 are also forecast to experience increases in flow across all modelled forecast scenarios. There is a decrease in traffic forecast on the east side of Beverley Road, particularly for the AM Peak hour. This decrease has been caused by traffic diverting off the Beverly Road / A453 / EMG Phase 2 access roundabout in the 'With Development (1a)' scenario and on to the A453 / East Midlands Airport signal-controlled junction. A high proportion of these trips are from the south routeing via Gelscoe Lane and the A42.

3.3.3 For the local network of Castle Donington, Kegworth and Diseworth, higher flows are forecast for ‘With Development (1a)’ scenarios when compared with the ‘Without Development (1a)’ scenarios. This is particularly notable for the AM Peak hour, as a proportion of the development trips is forecast to route via the local network to access / egress from the proposed development site to avoid the congested M1 Junction 24 area.

3.3.4 As discussed in Section 3.5.4, the Derby Road / Bostocks Lane signalised junction (to the north of the M1 Junction 25) is overcapacity in the ‘Without Development (1a)’ scenarios and sensitive to additional demand. This sensitivity has led to large localised delay fluctuations causing some traffic to reroute in the vicinity of the Derby Road / Bostocks Lane junction. This is most notable in the 2038 AM Peak hour (as shown in Figure 3.2).

Figure 3.1: Forecast Flow Change for 2028 'With Development (1a)' minus 'Without Development (1a)'

AM Peak hour

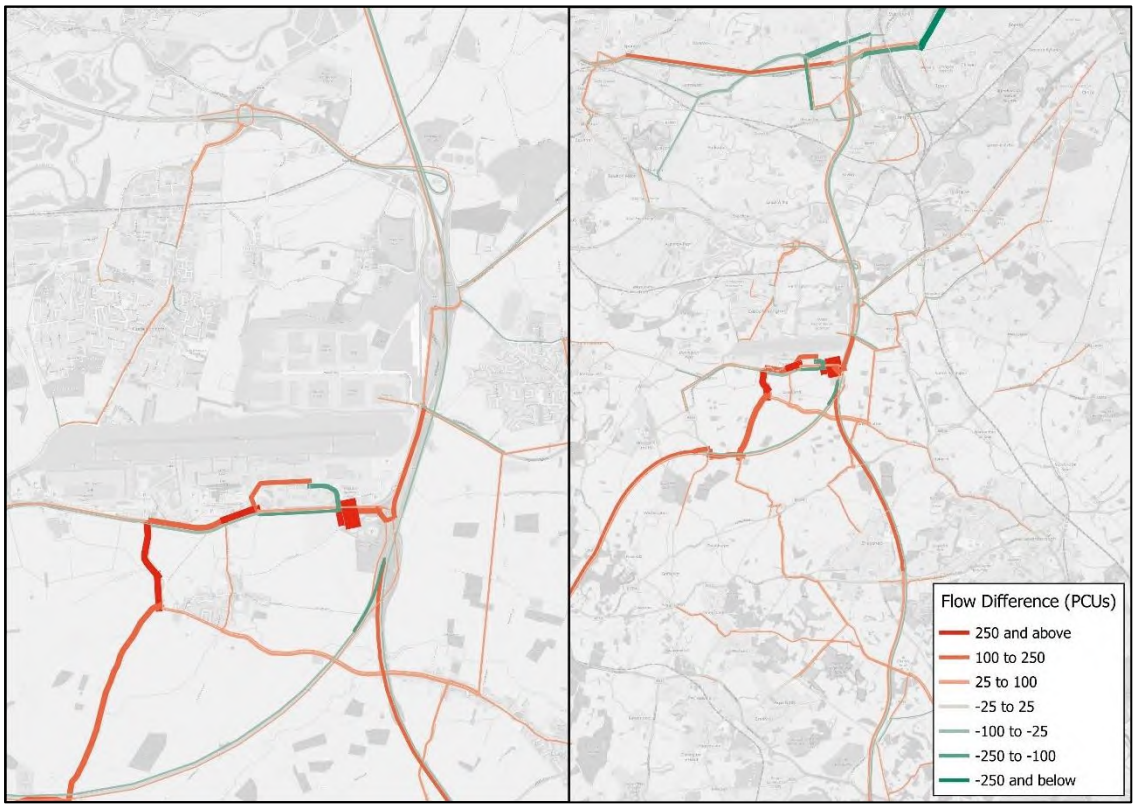
Contains Ordnance Survey data © Crown copyright and database right 2025

PM Peak hour

Contains Ordnance Survey data © Crown copyright and database right 2025

Figure 3.2: Forecast Flow Change for 2038 'With Development (1a)' minus 'Without Development (1a)'

AM Peak hour



Contains Ordnance Survey data © Crown copyright and database right 2025

PM Peak hour

Contains Ordnance Survey data © Crown copyright and database right 2025

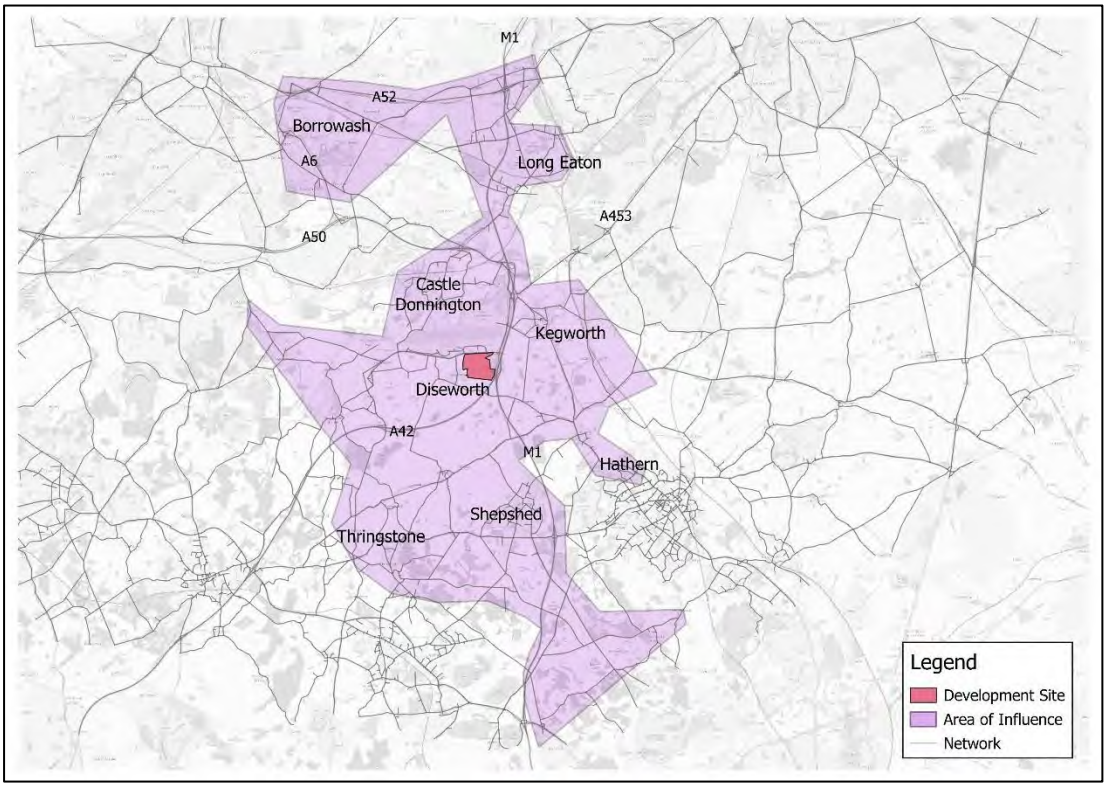
3.4 Area of Influence

3.4.1 Using the forecast flow changes between the 'With Development (1a)' and 'Without Development (1a)' scenarios, an indication of the Area of Influence (AoI) has been defined. Figure 3.3 shows the Area of Influence for the proposed development.

3.4.2 For the proposed development, the AoI has been defined by considering the links which are forecast to change flow by more than ±5% and ±30 PCUs between the 2028 and 2038 'With Development (1a)' and 'Without Development (1a)' scenarios in either the AM Peak or the PM Peak hours. The links which are forecast to meet these criteria are included in the AoI, as shown in Figure 3.3, and contains the following areas / links:

- the A453 including Finger Farm roundabout;
- the M1 between Junction 23 and Junction 24a;
- the M1 Junction 25;
- the A42 Junction 14;
- the A52 Brian Clough Way between the M1 Junction 25 and Raynesway Interchange;
- the A6 Alvaston Bypass between Raynesway Park Interchange and Thulston Roundabout; and
- local roads in and around Borrowash, Long Eaton; Castle Donnington; Kegworth; Diseworth; Hathern; Thringston and Shepshed.

Figure 3.3: Area of Influence



Contains Ordnance Survey data © Crown copyright and database right 2025

3.5 Forecast Delay Change

3.5.1 As a result of forecast flow changes in the 'With development (1a)' 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 the 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 3.4 and Figure 3.5 show the forecast delay changes (in seconds) in 2028 and 2038 between the 'With Development (1a)' and 'Without Development (1a)' scenarios for the AM Peak and PM Peak hours. For the A453 in the immediate vicinity of the proposed development; delays are forecast to increase by up 66 seconds to due to increases in flow from the development site.

3.5.3 Increases in delay are forecast on the approaches and circulatory lanes of M1 Junction 24 for both AM Peak and PM Peak hours for the 2038 'With Development (1a)' scenario when compared with the 2038 'Without Development (1a)' scenario. Forecast delays are also higher on the approach to Finger Farm Roundabout from the A453 and southbound from Castle Donnington towards the A453 / Walton Hill signalised junction.

3.5.4 As noted in Paragraph 3.3.4, the Derby Road / Bostocks Lane signalised junction (to the north of M1 Junction 25) is forecast to be overcapacity in the 'Without Development (1a)' scenarios. This junction is therefore sensitive to additional demand leading to large delay fluctuations in the vicinity of the junction. As shown in Figure 3.4 and Figure 3.5, this is most notable in the 2028 and 2038 AM Peak hours. These fluctuations in delay are attributed to the sensitivity of this junction in and around the Derby Road / Bostocks Lane junction.

Figure 3.4: Forecast Delay Change for 2028 'With Development (1a)' minus 'Without Development (1a)'

AM Peak hour

Contains Ordnance Survey data © Crown copyright and database right 2025

PM Peak hour

Contains Ordnance Survey data © Crown copyright and database right 2025

Figure 3.5: Forecast Delay Change for 2038 'With Development (1a)' minus 'Without Development (1a)'

AM Peak hour

Contains Ordnance Survey data © Crown copyright and database right 2025

PM Peak hour

Contains Ordnance Survey data © Crown copyright and database right 2025

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-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 3.6 and Figure 3.7 show the forecast maximum junction volume-capacity ratios for 2028 and 2038, 'With Development (1a)' and 'Without Development (1a)' scenarios. For ease of comparison, the symbology has been designed to show the data for 'Without Development (1a)' and 'With Development (1a)' scenarios on the same plot.

3.6.4 The reader should note that Figure 3.6 and Figure 3.7 show a subset of all nodes within the EMFM to reduce the number of data points within the plots. Nodes which do not fall within the AoI, as defined in Figure 3.3, are not shown. Nodes with maximum volume-capacity ratios below 85% in all forecast scenarios are not shown, except for the node which is located at the proposed site access on the A453.

3.6.5 The forecast maximum node volume-capacity ratio plots show that the A453 / Beverly Road / EMG Phase 2 access roundabout junction, the signalised junction with the A453 / East Midlands Airport signalised junction and M1 Junction 24 are most affected by the proposed development. For 2028 and 2038, the proposed development increased the node volume-capacity ratios at these junctions.

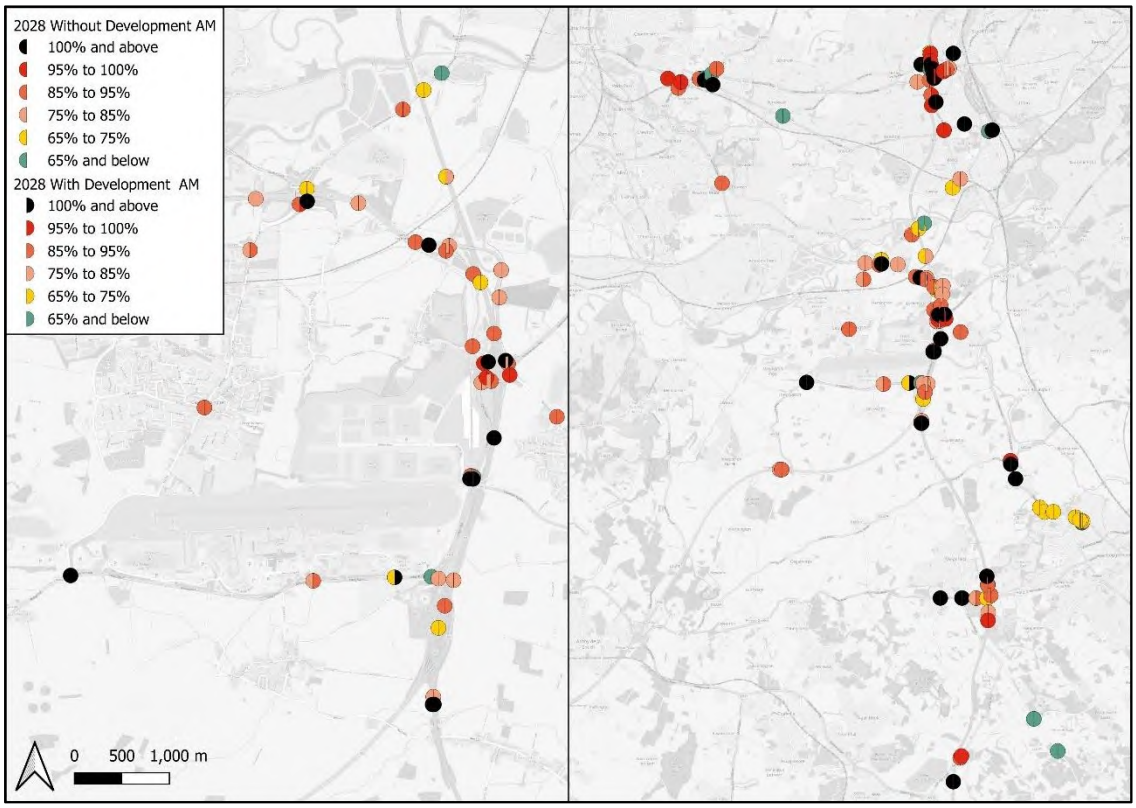
3.6.6 For M1 Junction 24, the node volume-capacity ratios are high for the 'Without Development (1a)' scenarios, with multiple nodes at this junction exceeding 85%. For the 'With Development (1a)' scenarios, the node volume-capacity ratios remain high, exceeding 85%, showing that the M1 Junction 24 is forecast to have high delays.

3.6.7 In the AM Peak hour, the node volume-capacity ratios for the A453 / Beverly Road / EMG Phase 2 access roundabout junction is forecast to be greater than the PM Peak hour in both the 2028 and 2038 forecast year scenarios, consistent with the forecast delay shown in Figure 3.4 and Figure 3.5.

3.6.8 Comparing the forecast results between 2028 and 2038, the node volume-capacity ratios are forecast to be greater for the later forecast year (i.e. 2038) as forecast flows increase (when compared with 2028).

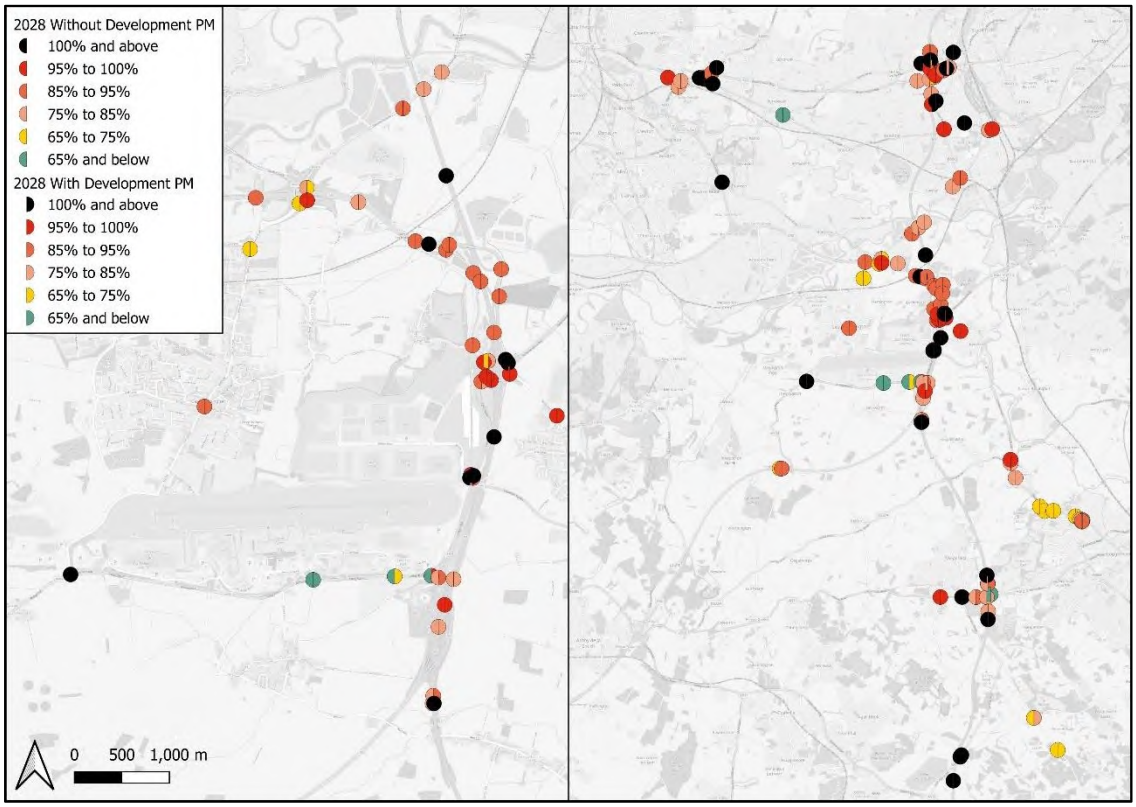
Figure 3.6: Forecast Node Volume-Capacity Ratio for 2028 'Without Development (1a)' and the 2028 'With Development (1a)' Scenarios

AM Peak hour



Contains Ordnance Survey data © Crown copyright and database right 2025

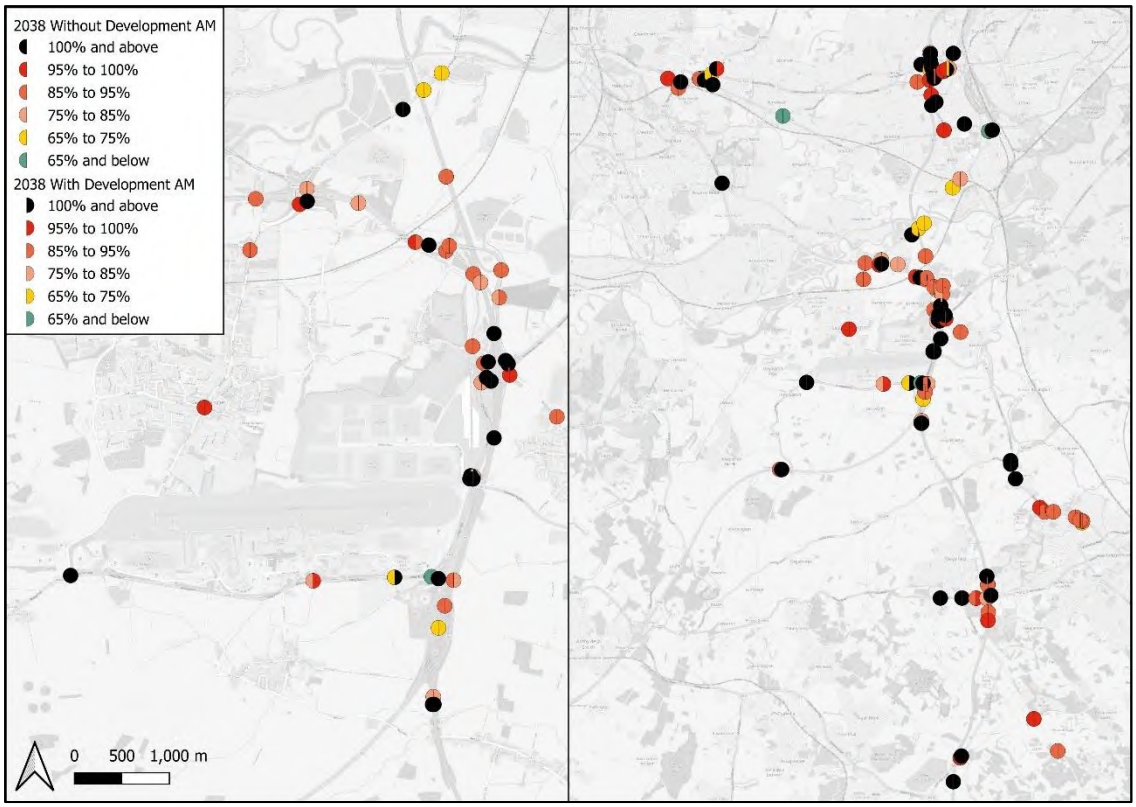
PM Peak hour



Contains Ordnance Survey data © Crown copyright and database right 2025

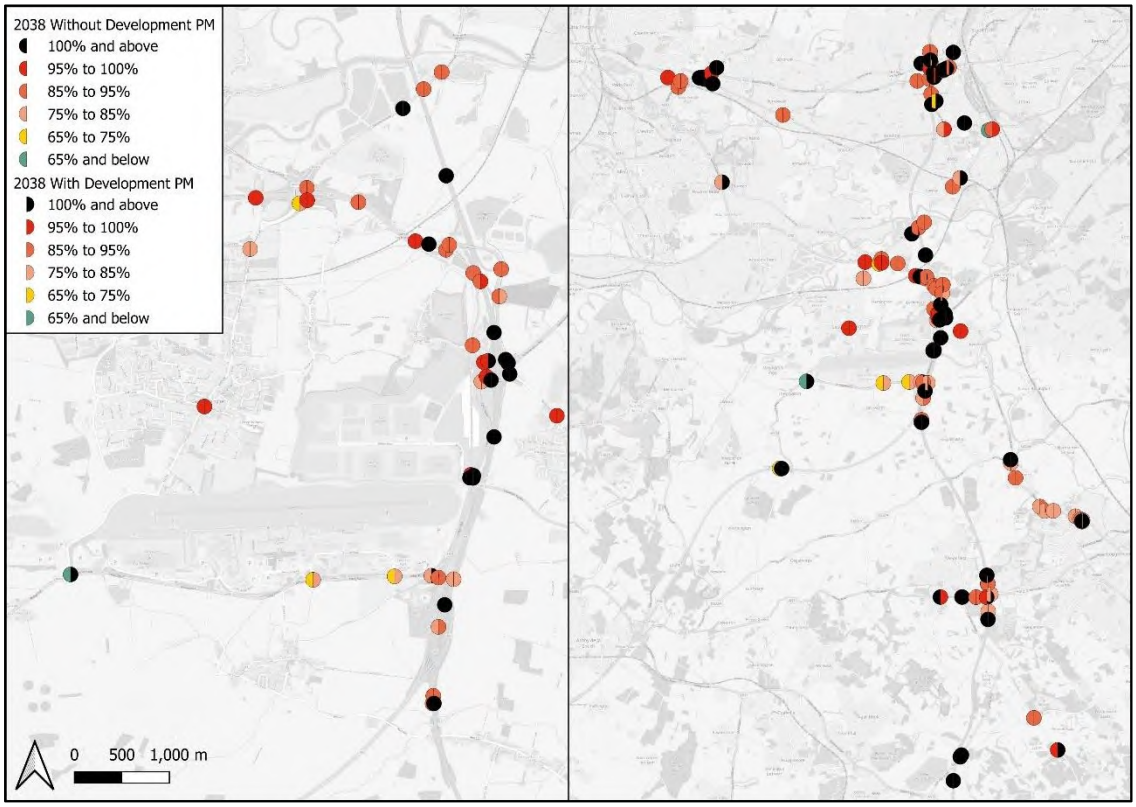
Figure 3.7: Forecast Node Volume-Capacity Ratio for 2038 'Without Development (1a)' and the 2038 'With Development (1a)' Scenarios

AM Peak hour



Contains Ordnance Survey data © Crown copyright and database right 2025

PM Peak hour



Contains Ordnance Survey data © Crown copyright and database right 2025

3.7 Forecast Junction Turning Flows

3.7.1 Forecast turning flows have been extracted for the following 16 junctions (also shown in Figure 3.8) in the vicinity of the proposed development:

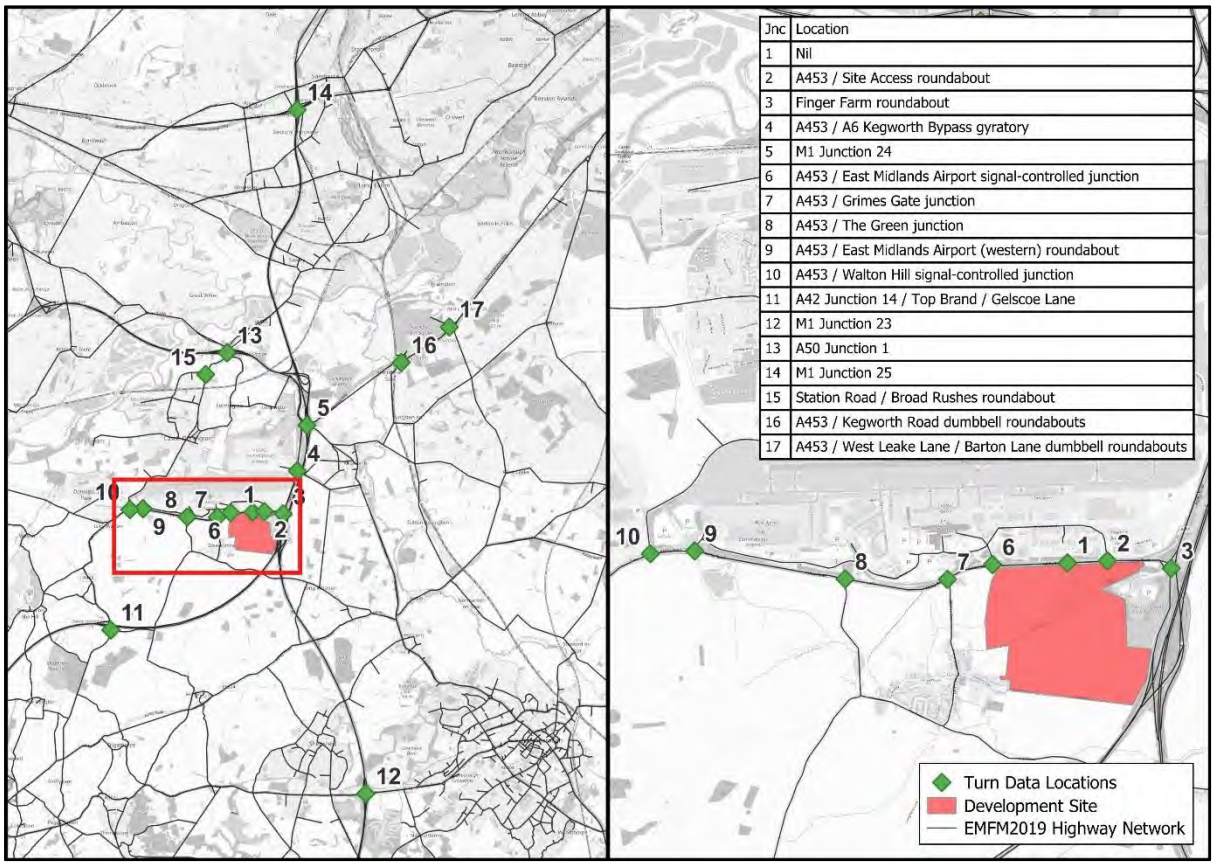
- A453 /Site access Roundabout (Junction 2);
- Finger Farm roundabout (Junction 3);
- A453 / A6 Kegworth Bypass gyratory (Junction 4);
- M1 Junction 24 (Junction 5);
- A453 / East Midlands Airport signal-controlled junction (Junction 6);
- A453 / Grimes Gate junction (Junction 7);
- A453 / The Green junction (Junction 8);
- A453 / East Midlands Airport (western) roundabout (Junction 9);
- A453 / Walton Hill signal-controlled junction (Junction 10);
- A42 Junction 14 / Top Brand / Gelscoe Lane (Junction 11);
- M1 Junction 23 (Junction 12);
- A50 Junction 1 (Junction 13);
- M1 Junction 25 (Junction 14);
- Station Road / Broad Rushes roundabout (Junction 15);
- A453 / Kegworth Road dumbbell roundabouts (Junction 16); and
- A453 / West Leake Lane / Barton Lane dumbbell roundabouts (Junction 17).

3.7.2 The data have been provided separately in MS Excel spreadsheet format[10] which contains the forecast turning flows for the AM Peak and PM Peak hours for light and heavy vehicles. Data are provided for the 2022, 2023, 2024, 2028 and 2038 'Without Development (1a)' and the 2028 and 2038 'With Development (1a)' scenarios. In addition to the turning flows, turn volume-capacity ratios have also been 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.

[10] EMGP2 - Junction Turning Flows_v1.0 - For Issue.xlsx (provided via email on 23rd Jan 2025)

Figure 3.8: Location of Forecast Turning Flow Data



Contains Ordnance Survey data © Crown copyright and database right 2025

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 2028 and 2038 'Without Development (1a)' and 'With Development (1a)' scenarios for both the AM Peak and PM Peak hours for the strategic assessment of the proposed East Midlands Gateway Phase 2 development.

4.1.2 Based on these model forecasts, the following is a summary of the key findings for the assessment of the proposed development.

- Development trips (HGVs) have been forecast to route via the following roads:
  - the M1 to and from the south and north;
  - the A42 to and from the south-west;
  - the A50 to and from the west; and
  - the A453 Remembrance Way to and from the east.
- Development trips (light vehicles) have been forecast to route via the following roads:
  - the M1 to and from the south and north;
  - the A42, the A42 Junction 14, A453 and Gelscoe Lane from the south-west;
  - the A50 and through the local network of Castle Donington to and from the west; and
  - the A453 Remembrance Way, A6 Kegworth Bypass and through the local network of Kegworth and Diseworth to and from the east.
- The forecast flow changes in 2028 and 2038 between the 'With Development (1a)' and 'Without Development (1a)' scenarios show that the largest increases in flows are, as expected, forecast along the A453. The M1 and A42 are also forecast to experience increases in flows as well as the local network of Castle Donington, Kegworth and Diseworth.
- An Area of Influence (AoI) for the proposed development has been defined by identifying links which are forecast to change by more than ±5% and ±30 PCUs between the 'With Development (1a)' and 'Without Development (1a)' scenarios for 2028 and 2038 in either the AM Peak or PM Peak hours. The forecast AoI includes:
  - the A453 including Finger Farm roundabout;
  - the M1 between Junction 23 and Junction 24a;
  - the M1 Junction 25;
  - the A42 Junction 14;
  - the A52 Brian Clough Way between M1 Junction 25 and Raynesway Interchange;
  - the A6 Alvaston Bypass between Raynesway Park Interchange and Thulston Roundabout; and
  - local roads in /around Borrowash, Long Eaton, Castle Donnington, Kegworth, Diseworth, Hathern, Thringston and Shepshed.
- The forecast delay changes in 2028 and 2038 between the 'With Development (1a)' and 'Without Development (1a)' scenarios show the proposed development is forecast to increase the delays on the A453 and the approaches of the M1 Junction 24.
- The forecast maximum node volume-capacity ratios show that the proposed development is forecast to increase pressure for the junctions along the A453 including the Finger Farm roundabout. For the M1 Junction 24, the node volume-capacity ratios are high for both the 'Without Development (1a)' and 'With Development (1a)' scenarios with multiple nodes at this junction exceeding 85% which shows high delays and congestion at this location.

4.1.3 The forecasts undertaken reflect the forecast impact of the proposed development at East Midlands Gateway Phase 2. 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 strategic impact and form part of the proposed East Midlands Gateway Phase 2 assessment evidence packs, the overall assessment should be complemented by local operational assessment and analysis.

Appendix A Planning Data Assumptions

Table A.1: 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	1,953	2021-2037	Y
North West Leicestershire	Land North and South of Park Lane	657	2021-2027	Y
North West Leicestershire	Land off Grange Road (South East Coalville)	3,433	2021-2035	Y
North West Leicestershire	Land at Measham Waterside Burton Road	585	2027-2041	Y
North West Leicestershire	Land North and South of Park Lane, Castle Donington (CD10)	1,076	2027-2036	N
North West Leicestershire	Isley Woodhouse (IW1)	4,500	2029-2050	N

Table A.2: Employment Development Assumptions (sites with more than 750 jobs) (North West Leicestershire and East Midlands Freeport sites)

For information, the following table shows the employment sites with more than 750 jobs within North West Leicestershire as well as the sites associated with the East Midlands Freeport development in South Derbyshire.

District	Location	Quantum	Timescale	Include
North West Leicestershire	Mercia Park	393,100 sqm (floorspace)	2023-2027	Y
North West Leicestershire	Strategic Rail Freight Interchange on Land North of East Midlands Airport/West of M1 Junction 24	499,630 sqm (floorspace)	2020-2025	Y
North West Leicestershire	Money Hill	15.9 ha (Site Area)	2027-2031	Y
North West Leicestershire	Segro East Midlands Gateway Phase 2	400,000 sqm (floorspace)	2028-2031	N
North West Leicestershire	Land South of Junction 1 of the A50 Castle Donington Leicestershire	92,500 sqm (floorspace)	2026-2029	Y
North West Leicestershire*	East Midlands Airport Aviation Expansion	940 Jobs	2026-2028	Y
North West Leicestershire	Land West of Hilltop Farm, Castle Donington (Emp89)	17,850 sqm (floorspace)	2025-2034	N
North West Leicestershire	Land North of Remembrance Way (A453), Kegworth (Emp73 (Part))	40,000 sqm (floorspace)	2025-2034	N
South Derbyshire*	EMIP Masterplan 1	4,440 Jobs	2026-2030	Y
South Derbyshire*	EMIP Masterplan 2	3,540 Jobs	2026-2030	Y
South Derbyshire*	EMIP Masterplan 3	1,620 Jobs	2026-2030	Y

* East Midlands Freeport development sites

Appendix B Network Assumptions

Table B.1: Highway Network Assumptions

Location	Scheme Name	Forecast Year	Include
Earl Shilton	Access arrangements for SUE / 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	4. 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	MMDR Northern Section	2026	Y
Melton	MMDR Eastern Section	2026	Y
Melton	MMDR Southern Section	2026	Y
Melton	Gladman's Site (Leicester Road and Kirby Lane Access)	2021	Y

Location	Scheme Name	Forecast Year	Include
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 Rd 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

Location	Scheme Name	Forecast Year	Include
North West Leicestershire	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
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 Road and Outlands Drive	2021	Y
M6 Junction 10-13	M54-Stafford ALR	2021	Y
M54-M6 Toll	New Link Road min 2 lane motorway	2024	Y
M6 J13-J16	Stafford South to Stoke ALR	2022	Y
M1 J13-16	MK South - J16 ALR	2022	Y
M40 M42	M40 J16-M42 J3 ALR	2026	Y
A46 Coventry	Remove Binley and Walsgrove roundabouts M40-M6 as 'expressway standard' (i.e. all grade separated junctions)	2026	Y
A46 Toll Bar End	Grade separated junction at TBE & Stonebridge Highway to 3 lanes	2021	Y
Newark North	Dualling Newark N bypass first stages now in RIS 2	2031	Y
Newark South	A1-A46 link S of Newark; part constructed. Not in MRTM list	2031	Y
Lincoln East	A15-A158; under construction	2021	Y
Lincoln South	A158-A46; *sketchy details*; envisaged as dual carriageway… Assumed costing will be similar to Lincoln E bypass and will be 60mph single	2031	Y
Grantham South	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 Phase 1	2024	Y
Nuneaton and Bedworth Borough	College Street / A444	2026	Y

Location	Scheme Name	Forecast Year	Include
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 Street 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 (Combe Fields Road)	2020	Y
Castle Donington	Land South of A50 J1 Development Access	2024	Y
Hinckley	B4114 Coventry Rd / Broughton Rd widening	2021	Y
Shepshed	A512 Ashby Rd Quarry access/signalised junction	2021	Y
Bardon	Tungsten Park, Bardon A511	2021	Y
North West Leicestershire	Segro EMG Phase 2 Development Access	2028	N
Leicester City	St George Street (Queen Street to Southampton Street)	2022	Y
Leicester City	Dover Street (Granby Street Junction)	2024	Y
Leicester City	Granby Street (Bishop Street to Halford Street)	2024	Y
Leicester City	Granby Street (Northampton Street to Street George's Way)	2022	Y
Leicester City	Pocklingtons Walk	2022	Y

Location	Scheme Name	Forecast Year	Include
Leicester City	Aylestone Road, Saffron Lane to Oxford Street (A426)	2023	Y
Leicester City	Saffron Lane (B5366)	2023	Y
Leicester City	Duns Lane/Braunstone Gate	2023	Y
Leicester City	Abbey Park Road (Eastern section and bridge)	2023	Y
Leicester City	Anstey Lane (A5630)	2022	Y
Leicester City	St. Margaret's to Birstall (A6)	2024	Y
Leicester City	Melton Road (A607)	2023	Y
Leicester City	Belgrave Gate/Haymarket/Church Gate Pedestrianisation	2020	Y
North West Leicestershire	A50 Junction 1 signalisation of two additional arms (Tamworth Road and Trent Lane)	2025	Y
Blaby	Desford Road/Ratby Lane signalisation	2022	Y
Nottinghamshire	A52 Gamston roundabout	2023	Y
Nottinghamshire	A52 Wheatcroft junction	2028	Y
Nottinghamshire	A52 Nottingham Knight junction	2028	Y
Derbyshire	A38 grade-separated junctions (Kingsway Roundabout, Markeaton Island and Little Eaton Roundabout)	2024	Y
Broxtowe	Toton Link Road	2026	N

About AECOM

AECOM is the world's trusted infrastructure consulting firm, delivering professional services throughout the project lifecycle — from planning, design and engineering to program and construction management. On projects spanning transportation, buildings, water, new energy and the environment, our public- and private-sector clients trust us to solve their most complex challenges. Our teams are driven by a common purpose to deliver a better world through our unrivalled technical expertise and innovation, a culture of equity, diversity and inclusion, and a commitment to environmental, social and governance priorities. AECOM is a Fortune 500 firm and its Professional Services business had revenue of $13.2 billion in fiscal year 2020. See how we are delivering sustainable legacies for generations to come at aecom.com and @AECOM.

Delivering a better world

aecom.com

APPENDIX 42: NH Tech Note response to Stage 1A Modelling Forecasting Report

Tech Note

Spatial Planning Framework Commission

Prepared by Jacobs-SYSTRA Joint Venture (JSJV) for the National Highways National Spatial Planning Contract 2022 in relation to the South East Region

Job number:	B2418400		
Job title:	EMG2 DCO		
To:	Paul Wilson, [redacted]	**cc:**	[redacted]
Topic:	EMGP2 Forecasting Modelling Review		

	Prepared:	**Checked**	**Approved**
Name:	[redacted]	[redacted]	[redacted]
Date:	13/02/2025	18/02/2025	21/02/2025

Introduction

AECOM have been commissioned by SEGRO to undertake strategic transport modelling to assess the proposed development at the SEGRO Logistics Park East Midlands Gateway 2. This is linked to the Development Consent Order which is currently at public consultation stage.

Strategic transport modelling is required to provide an evidence base for assessing the impacts and identifying the mitigation needed to support the proposed development.

The Strategic Road Network (SRN) is a critical national asset and as such National Highways work to ensure that it operates safely and is managed in the public interest, both in respect of current activities and needs as well as in providing effective stewardship of its long-term operation and integrity.

In the case of this development proposal, National Highways' primary interest is in the M1 motorway and the A453, A50 and A42 Trunk Roads.

JSJV has been commissioned by National Highways to audit the supporting traffic modelling documents prepared by AECOM and appraise the impact of development on the SRN.

Review Categorisations

Issues are categorised according to the categories in Table 1 below:-

Table 1: Review Categorisations

Classification	Description
Observations	are points for consideration on an issue that would not significantly affect model operation or output.
Comments	The main function is to highlight such issues for attention in subsequent project stages.
Substantive Issues	which require corrective action. The audit will suggest the detailed action required to address the issue, although there should be freedom for the development team to use alternative approaches in order to achieve the required level of analysis.

Items Reviewed

The following reporting has been provided: -

- EMFM 2019, East Midlands Gateway Phase 2, Forecasting Report, AECOM, 04/02/2025 (The report).

JSJV have undertaken an audit of the received information to appraise the soundness of the conclusions provided within the report and identify areas and next steps for further assessment by the Applicant.

For ease of reference, the detail of the audit presented below follows the chapter sequencing of the report provided.

Section 1 Overview

Paragraph 1.1.8 identifies the modelling assessment and the three proposed stages of the assessment procedure: -

<u>Stage 1a modelling (Proforma 14)</u>

- 2022/2023/2024 'Without Development';
- 2028/2038 'Without Development (1a)' without EMG Phase 2 development (with all Freeport and Local Plan sites (as listed in Paragraph 1.1.6); and
- 2028/2038 'With Development (1a)' with EMG2 development (with all Freeport and Local Plan sites (as listed in Paragraph 1.1.6).

<u>Stage 1b modelling (Proforma 14a)</u>

- 28/2038 'Without Development (1b)' without EMG Phase 2 development (without Local Plan sites (as listed in Paragraph 1.1.6); and
- 2028/2038 'With Development (1b)' with EMG Phase 2 development (without Local Plan sites (as listed in Paragraph 1.1.6).

<u>Stage 2 modelling (details to be confirmed)</u>

- 2028/2038 with EMG Phase 2 and with mitigation measures; and 2028/2038 with EMG Phase 2 construction.

As noted in paragraph 1.1.9, the reporting presented in this version of the report relates to the forecast model results for Stage 1a only with Stage 1b and Stage 2 to follow.

Comment 1:- Proforma 14 includes a construction traffic scenario within the modelling assessment. It is noted above that the overall modelling assessment will be undertaken in three separate stages. The Applicant will be required to agree the inputs for the construction traffic modelling scenario with National Highways prior to the undertaking of assessment on the SRN.

Comment 2:- The Applicant has confirmed that the purpose of the modelling assessment associated with Proforma 14a is for the environmental assessments only; namely, air quality and noise assessment. The scenario used to test and appraise the impacts of development on the SRN are those provided within this current Forecasting Report (using the agreed Proforma 14) and not Proforma 14a. This has been confirmed by BWB in writing on 21st November 2024 acting on behalf of SEGRO.

Paragraph 1.1.10 indicates that the base model validation assessment was presented in a separate report: East Midlands Gateway Phase 2 Base Year Model Review Addendum.

Observation 1:- JSJV are content with the base year model performance in the vicinity of the proposed development as presented in the East Midlands Gateway Phase 2 Base Year Model Review Addendum report.

2.2 'Without Development' Assumptions

The complete list of planning and network assumptions is provided in East Midlands Gateway Phase 2 Uncertainty Log v7.

Observation 2:- JSJV are content with the details provided in the Uncertainty Log v7.

2.4 Proposed Development Trip Generation Assumptions

The proposed development trip generation assumptions are provided in Table 2.1.

Observation 3:- JSJV are content with the proposed trip generation.

Paragraph 2.4.2 notes that both the 2028 and 2038 With Development scenarios are "fully built out (i.e. 100% occupancy)".

Observation 4:- JSJV are content the scenario assumptions satisfy the requirements of the Department for Transport Circular 01/ 2022 paragraph 50.

2.5 Proposed Development Trip Distribution Assumptions

The following PCU conversion factors have been used for the forecasting assessment: -

- Lights = 1 PCU; and,
- Heavies = 2 PCU.

Observation 5:- JSJV are content with the PCU assumptions.

Figures 2.1 - 2.8 shows the distribution of development traffic by different modes, for the AM and PM time periods for both the 2028 and 2038 assessment.

Comment 3:- JSJV are broadly content with the anticipated trip distribution and routing for each mode. The Applicant should note during the AM peak (Figures 2.4 and 2.6) a number of light vehicle arrivals are anticipated to route via Castle Donington. During the PM peak, routes via Castle Donington are used to a significantly lesser extent with the M1 seeming to be the primary route. The Applicant should be cognisant of any capacity constraints on the A453, M1 and through Castle Donington during the AM and PM peaks in light of the asymmetry identified. This should be further analysed and investigated as part of the next stage of assessment, taking into account journey times along the modelled routes.

Section 3 – Forecast Model Results

Figure 3.1 shows the forecast traffic flow changes during the 2028 AM peak. There are reductions of flows on the A42 where there are reciprocated increases in flows on the A453 routing away from the SRN at A42 Junction 14. For ease of understanding, the Figure is replicated below:-

Figure 3.1: Forecast Flow Change for 2028 'With Development (1a)' minus 'Without Development (1a)'

AM Peak hour

Contains Ordnance Survey data © Crown copyright and database right 2025

Comment 4:- The traffic flow changes noted above occur during both the 2028 and 2038 AM scenarios. As part of the next stage of assessment, the Applicant should review the capacity constraints on the SRN as a result of development which contributes to traffic rerouting away from the SRN onto the A453. This appears to be traffic associated with the airport. The Applicant should also undertake an analysis of the changes to the background traffic routing in light of the above.

Substantive Issue 1:- Forecast flows on Finger Farm roundabout are anticipated to increase significantly as a direct result of the development. The Applicant should be cognisant of the capacity constraints (noted below under heading 3.6) and consider the requirement for suitable mitigation at Finger Farm roundabout to mitigate the residual cumulative impacts of development.

3.4 Area of Influence

The identified Area of Influence (AOI) is shown in Figure 3.3.

Observation 6:- JSJV are content with the AOI presented in Figure 3.3

3.5 Forecast Delay Change

There are significant forecast increases in delay as a result of development traffic on the SRN. Most critically this includes: -

- M1 Junctions 23A, 24, 24A;
- A453 and Finger Farm Roundabout;
- A42 Junction 14; and,
- A50 Junction 1.

Substantive Issue 2:- The Applicant should be cognisant of the capacity constraints at these locations and consider the requirement for suitable mitigation to mitigate the residual cumulative impacts of development. The exact scale of these delays is also difficult to determine from the Figures. The extent of the anticipated delay changes should be quantified by the Applicant.

The scale of the supporting Figures in this section of the report, particularly Figure 3.4, makes it difficult to determine the precise increase/ reductions in delay close to M1 junction 25.

Substantive Issue 3:- The Applicant should be cognisant of the capacity constraints at and close to M1 junction 25 and consider the requirement for suitable mitigation to mitigate the residual cumulative impacts of development.

3.6 Forecast Node Volume-Capacity Ratios

Section 3.6 presents the forecast nodes Volume / Capacity ratios. Figures 3.6 – 3.7 show the performance of nodes comparing the with and without development scenarios for both 2028 and 2038.

Substantive Issue 4:- Whilst the Figures are helpful, the Applicant will need to consider the scale of the V/C change when comparing with and without development scenarios. Shapefiles and spreadsheets should be provided with outputs to help fully understand the implications of the development. Additionally, more detailed Figures at locations where there are multiple V/Cs shown in close proximity, such as M1 J24, should be provided as it is challenging to decipher the extent of the change. This should be quantified to understand the exact anticipated change in network performance.

In all AM with development scenarios, the site access is shown to be over 85% capacity. In the case of 2038, this is shown to be >100%.

Substantive Issue 5:- Given the proximity of the proposed site access to the SRN, JSJV have concerns with the ability of the proposed site access to safely and efficiently accommodate development traffic. The principal concern would be the impact this could have on the operation of SRN junctions, particularly Finger Farm roundabout (which is also shown to be under significant capacity constraint). An additional concern is that not all traffic may be reaching the network and as such the scale of the impact is not fully known; this needs to be confirmed by the Applicant. It is recommended the Applicant reviews the scale and form of the proposed access strategy in terms of capacity to ensure the access is safe and suitable for all users taking a holistic view of network performance.

There are major constraints at a large number of nodes across the modelled area. Many of these are on or close to the SRN. The following locations are shown to have a significant increase in V/C as a result of development:-

- M1 Junctions 23A, 24, 24A, 25;
- A453 and Finger Farm Roundabout;
- A42 Junction 14; and,
- A50 Junction 1.

Substantive Issue 6:- Whilst there is no information presented which quantifies the degree of V/C change provided at this stage, JSJV has concerns with the potential deterioration of network performance as a result of development traffic. This is particularly critical on the M1 given the complex and high-speed network with multiple interactions, merges and diverges associated with it. The Applicant should be cognisant of the capacity constraints at these locations and consider the requirement for suitable mitigation to mitigate the residual cumulative impacts of development.

3. 7 Forecast Junction Turning Flows

A list of junctions and areas of the network are identified where data will be extracted from the EMFM model.

Observation 7:- JSJV agree with the area identified for further analysis. The Applicant team should remain engaged with National Highways when undertaking further localised junction modelling assessment and microsimulation modelling on the SRN and employ a critical, robust and agreed methodology for extracting and applying demand from the strategic model.

Section 4 – Summary of the EMFM Assessment

Paragraphs 4.1.3 and 4.1.4 states:-

> The forecasts undertaken reflect the forecast impact of the proposed development at East Midlands Gateway Phase 2. 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.
>
> Although the EMFM modelling provides the strategic impact and forms part of the proposed East Midlands Gateway Phase 2 assessment evidence packs, the overall assessment should be complemented by local operational assessment and analysis.

Observation 8:- JSJV agrees that the outputs from the strategic modelling should be applied critically by the Applicant during the next stage of assessment. Both local junction modelling and microsimulation modelling are required, in addition to a With Mitigation scenario using EMFM 2019.

Summary and Next Steps

JSJV has been commissioned by National Highways to audit the supporting traffic modelling documents prepared by AECOM for the proposed East Midlands Gateway 2 development and appraise the impact of the development on the SRN. It is requested that the Applicant considers the findings identified in this Technical Note and undertakes appropriate actions in consultation with JSJV, National Highways and the Local Highway Authorities during the next stage of assessment.

Further assessment is required using both the strategic as well as the local and microsimulation modelling packages to further explore the more focused implications of development on the SRN and develop a suitable package of interventions to mitigate the residual cumulative impacts of development and any unacceptable impacts on highway safety.

APPENDIX 43: NH agreement to Stage 1A modelling approach email dated 16 May 2025

[redacted]

Thanks for your email and your response to the Tech Note.

We are grateful for you acknowledging that further assessment work is on-going which will consider the detailed points raised by National Highways through the next stages of your evaluation work.

We are currently awaiting resubmission of the demand flows for the VISSIM modelling and haven't yet been sighted on the full impact assessments but are looking forward to receiving those soon.

With thanks
[redacted]

[redacted]
Multistory (Colmore Square), 7th Floor, 38 Colmore Circus, Birmingham, B4 6BN | UK

Jacobs Challenging today. Reinventing tomorrow.

Advanced notice of annual leave: 26th May

[redacted]

Subject: [EXTERNAL] 250416 EMG2 PRTM Forecasting Report - BWB response to NH

Dear [redacted]

Thank you for sharing the attached Technical Note setting out National Highways position on AECOM's PRTM Forecasting Report. Further to recent meetings, BWB has reviewed the observations, comments and substantive issues and produced the attached response setting out how we propose to address each item within the forthcoming work and Transport Assessment.

Hopefully, this provides you with comfort as to how we intend to deal with each issue, a number of which have since progressed in dialogue with the TWG. We would however welcome confirmation on our proposed approach or any further suggestions that we can take on board.

Kind regards

Matt Corner

[redacted]

T: 0115 924 1100 | **M:** [redacted] | **W:** bwbconsulting.com

[redacted]

Subject: RE: 250212 EMG2 Feb '25 modelling meeting minutes/actions
Importance: High

Morning [redacted]

Thank you for providing the EMFM 2019, East Midlands Gateway Phase 2, Forecasting Report, AECOM, 04/02/2025.

Noting the timescales provided for comments by the Highway Authorities is 14th March (as per the recent Highways Programme S1.P14.1) we felt it appropriate to undertake our review and appraisal of the strategic impacts on the SRN at pace ahead of that anticipated receipt date noting the scale and significance of impacts identified on the SRN.

Please see attached our Technical Note. The Technical Note follows our procedure of reviewing and categorising findings.

Unsurprisingly, the Forecasting Report demonstrates major constraints across the modelled area. Many of these are on or close to the SRN. The following locations are shown to have a significant increase in V/C as a result of development:-

- M1 Junctions 23A, 24, 24A, 25;
- A453 and Finger Farm Roundabout;
- A42 Junction 14; and,
- A50 Junction 1.

We would be grateful if you could consider the findings of the Note when developing your next stages of analysis (specifically the microsimulation modelling and local junction modelling, and the identification of a suitable mitigation package to mitigate the residual cumulative impacts of development on the SRN).

We hope the time gained on our review is helpful and affords some more time for the team to continue your granular and focused analysis on the impacts to the benefit of the overall programme.

I would be pleased to discuss any elements of our Technical Note with you.

With thanks

[redacted]

[redacted]

7th Floor, 2 Colmore Square, 38 Queensway Circus, Birmingham, B4 6BN | UK

Jacobs Challenging today. Reinventing tomorrow.

Advanced notice of annual leave: 3rd – 7th March (Inclusive).

[redacted]

Subject: [EXTERNAL] 250212 EMG2 Feb '25 modelling meeting minutes/actions

Dear all,

Please see attached minutes from last week's modelling meeting. The actions from the meeting are as follows:

1. **Adrian** to review January's modelling meeting minutes and confirm whether these are agreed.

2. **BWB** to review Stage 1 modelling outputs and provide comments to AECOM before sharing the Forecasting Report, once happy with the outputs.

3. **AECOM** to continue the modelling work for proforma v14a, with the aim of sending initial outputs w/c 10/2/25.

4. **Adrian** and **Dan** to review and comment on the Covid sensitivity note.

5. **BWB** to update and share a revised construction traffic calculations, with accompanying Explanatory Note. **All** to then review and provide further comments.

6. **AECOM** to review planning data assumptions and advise of any questions.

7. **BWB** to review 2024 data of EMG1 and share this with thoughts on the 'vision and validate' assessment.

8. **Adrian** to provide comments on the base VISSIM model. **Vibi** to take on board and share a revised version with accompanying report.

9. **BWB** to start generating forecast year flows taking on board previously agreed furnessing methodology and share with TWG.

10. **Matt** to circulate sign off sheets to get formal agreement on previous reports.

In response to Item 2, please find attached AECOM's Forecasting Report for the Stage 1 modelling work (based on proforma v14). BWB has undertaken a thorough review of the PRTM outputs and are in the throes of finalising some last minor bits of detail with AECOM although this will have no impact on the Forecasting Report itself. We can discuss this further at tomorrow's TWG meeting, for which we will circulate an agenda for shortly.

I trust the above details are of use and look forward to catching up tomorrow with those that can attend.

Kind regards

[redacted]
Associate – Transport & Infrastructure Planning
5th Floor, Waterfront House, Station Street, Nottingham, NG2 3DQ
T: 0115 924 1100 | **M:** [redacted] | **W:** bwbconsulting.com

[redacted]

Dear all,

Please see the below agenda for tomorrow's modelling meeting; please let us know if anyone has any amendments beforehand. Thanks

i) Review of previous meeting minutes (attached) and actions (below) for agreement

ii) Current Stage 1 EMG2 modelling work update from **AECOM** (proformas 14 and 14a; information for the latter now fully received) – a collective guided tour would be of use

iii) Stage 2 modelling:

a. LCountyC/NCountyC comments Covid sensitivity report wise, post George's agreement (subsequent note issued 6/1/25; agreement 23/1/25)
b. plan to meet the Clients programme for end of May DCO submission (numbers review, VISSIM modelling update, and undertaking of Stage 2 modelling at risk whilst we await comments)
c. construction traffic update post comments dated 31/1/25.

iv) Wider strategic modelling (this, and a EMG2 sensitivity test, to be undertaken using the 2023 version of PRTM, for the avoidance of doubt):

a. clarity re. next steps LMVR wise; LCountyC/AECOM to liaise directly with NH we assume with re. to the model itself – is it ready (Patrick?) and can we have a copy also?
b. planning data assumptions and uncertainty log update (we have provided the last remaining item from DCityC; is the rest now sorted…?)
c. proforma review; comments from George received on 31/1 (we are seeking opinion from Steve Johnstone re the items raised in point 2)
d. agreed outstanding information requirements and next steps re. this element?

v) 'Vison and Validate' related update (last email sent by Fiona on 29/1/25)

vi) Updated VISSIM base model – update (post Lee's email 23/1/25)

vii) Sign off position

viii) Next steps (the revised, detailed version of the programme will be sent post Client review, pre the TWG meeting)

ix) AOB

Kind regards

[redacted]
Associate – Transport & Infrastructure Planning
5th Floor, Waterfront House, Station Street, Nottingham, NG2 3DQ
T: 0115 924 1100 | **M:** [redacted] | **W:** bwbconsulting.com

[redacted]

Good afternoon all – Happy New Year

Please see attached minutes from yesterday's modelling meeting. We were unsure as to whether anyone was able to join, so thanks to Harry, Adrian, and Fiona for doing so, as the rest hopefully enjoyed their extended break.

We set out the actions as follows:

1. **Patrick** to liaise with LCityC, alongside Anthea Anderson to get planning data updates.

2. **Pau**l to liaise with Duncan at Systra to obtain planning data updates for DCityC, and follow up with NCityC.

3. **AECOM** to issue initial PRTM outputs for the current EMG2 commission as soon as possible w/c 06/01/25

4. **All** to review previous modelling meeting minutes and confirm these are acceptable before **BWB** upload to SharePoint.

5. **BWB** to issue the revised VISSIM base model with summary of changes made.

6. **AECOM/LCountyC NDI** to set out timescale implications for potentially switching to 2023 PRTM model and comparisons of journey time and LMVR details to help inform decision making.

7. **BWB** to update the strategic modelling PRTM proforma to address the minor discrepancy in relation to the Plot 16 traffic flows, and append the information provided to NH, once comments have been received from **LCountyC** in particular.

8. **BWB** to circulate GN email regarding Covid sensitivity assessments and formalise the details into a Technical Note.

9. **BWB** to consider the impacts of any additional mezzanine floorspace and provide traffic comparisons to inform the 'vision and validate' assessment.

10. **Segro** and **BWB** to consider the concerns raised by LCountyC and NH in relation to agreeing and finalising the strategic modelling work in particular (mechanisms for securing and funding the work), regardless of the current query over which version of PRTM should be used.

We trust the above/attached is of use and look forward to discussing in further detail at next Thursday's TWG meeting (an agenda will be sent early next week). However, if anyone has any questions in the meantime, please ask. Thanks

Kind regards

Paul Wilson BA(Hons) MCIHT MSoRSA CMILT MInstILM
Director | Head of Transport & Accessibility Planning | BWB Consulting Limited

5th Floor, Waterfront House, Station Street, Nottingham, NG2 3DQ
M: [redacted] | **W:** bwbconsulting.com

APPENDIX 44: EMFM Trip Distribution Plots on the A50

EMFM

East Midlands Gateway Phase 2 Forecast Results Stage 1a (Development Traffic on the A50)

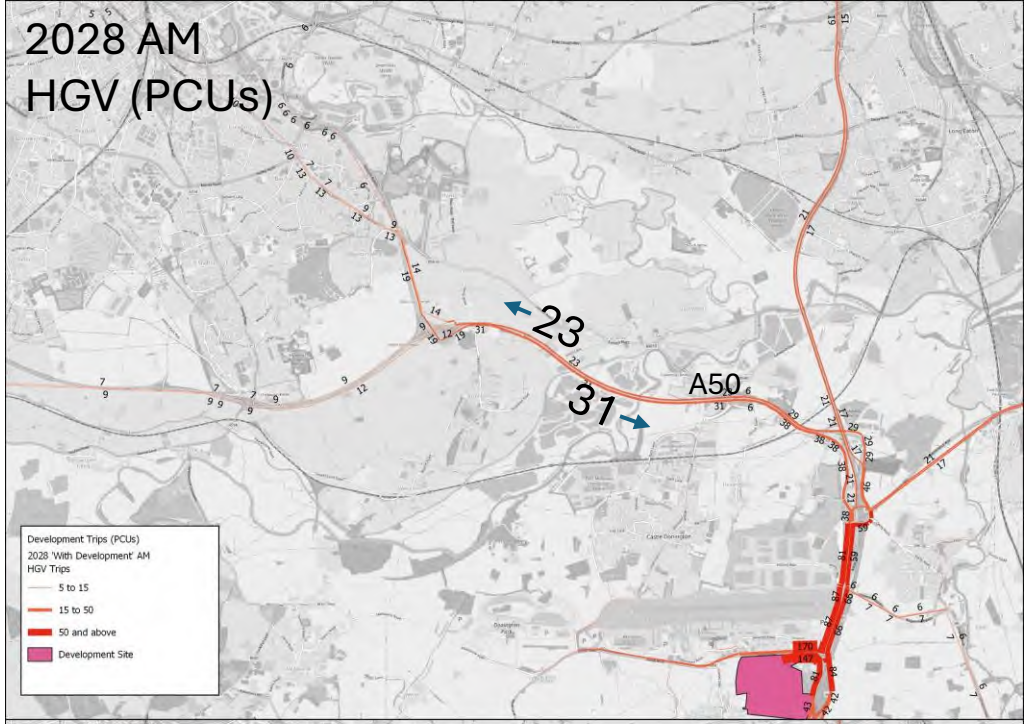
21 May 2025

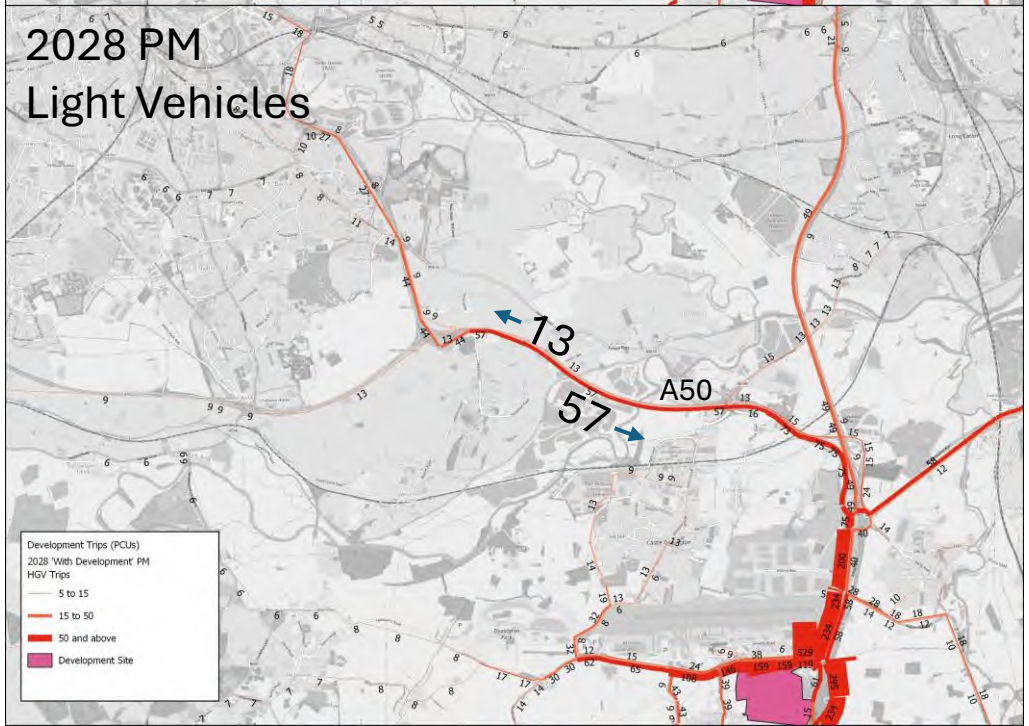
A50 Traffic Summary for Stage 1a

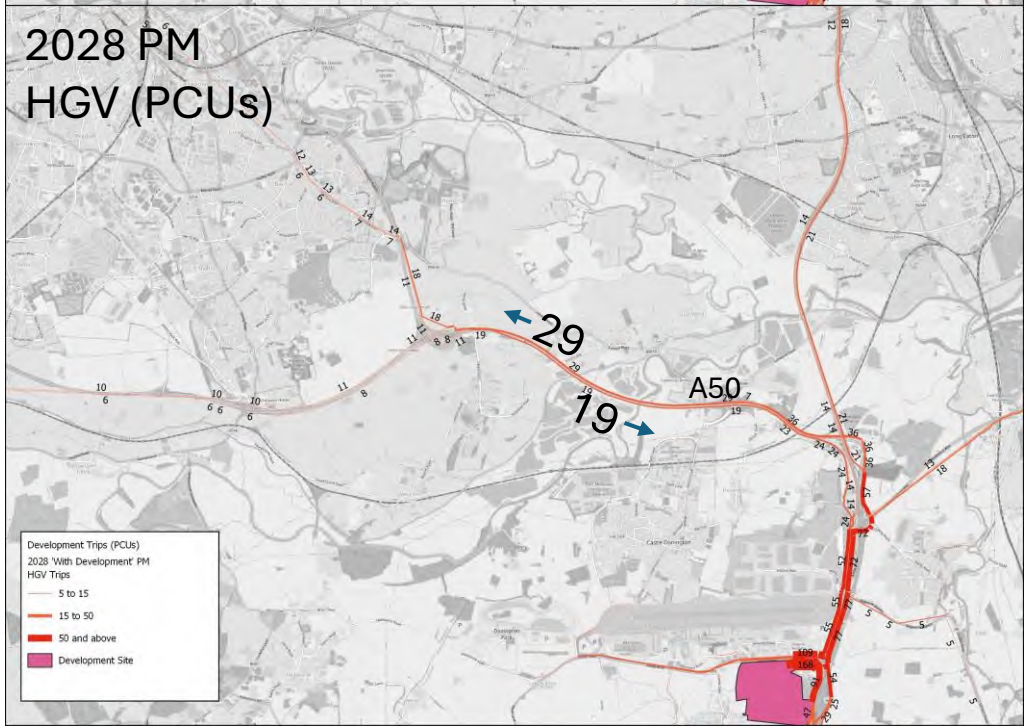
- The development trip distribution has been based on the PRTM in-built 'gravity model'.
- The figures show the forecast development trip distribution for HGVs and light vehicles on the highway network for 2028 and 2038 'With Development (1a)' scenarios in passenger car units (PCUs).
- The development traffic on the A50 is summarised in the table below. The traffic flows are similar between 2028 and 2038. These traffic volumes correspond to Figure 2-1 to 2-8 in the EMGP2 Forecasting Report.
  - The highest number of 2-way development traffic forecast on the A50 is 118 PCUs in the 2028 PM Peak scenario.

EMGP2 Development-related Trips	Light Vehicles				HGVs (in PCUs. Divide by 2 to convert to vehicles)				Total (PCUs)			
	2028		2038		2028		2038		2028		2038	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
A50 EB	8	57	7	54	31	19	30	18	39	76	37	72
A50 WB	33	13	28	12	23	29	23	29	56	42	51	41
2-way	41	70	35	66	54	48	53	47	95	118	88	113

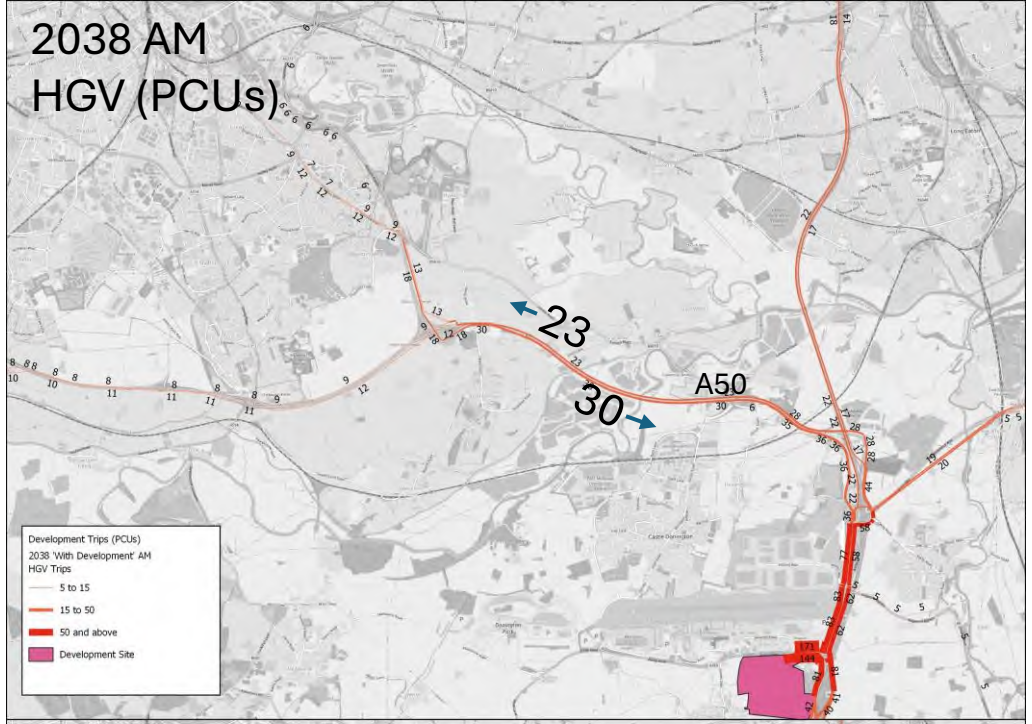

2028 AM
Light Vehicles
33
8
A50
Development Trips (PCUs)
2028 'With Development' AM
Car Trips
5 to 15
15 to 50
50 and above
Development Site

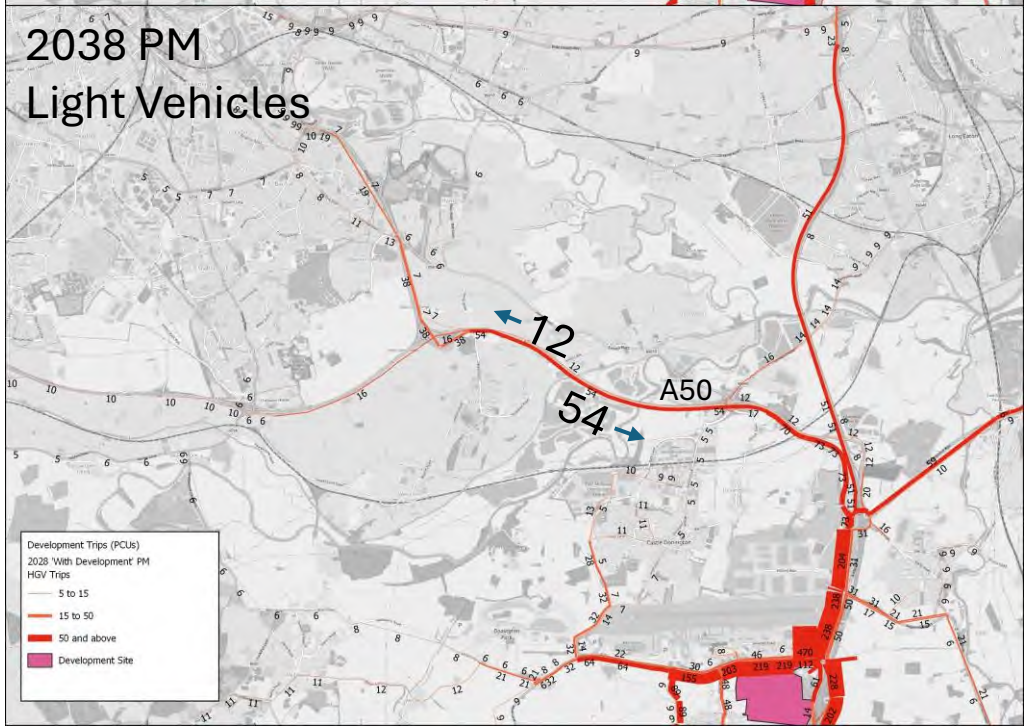

2028 AM
HGV (PCUs)
23
31
A50
Development Trips (PCUs)
2028 'With Development' AM
HGV Trips
5 to 15
15 to 50
50 and above
Development Site

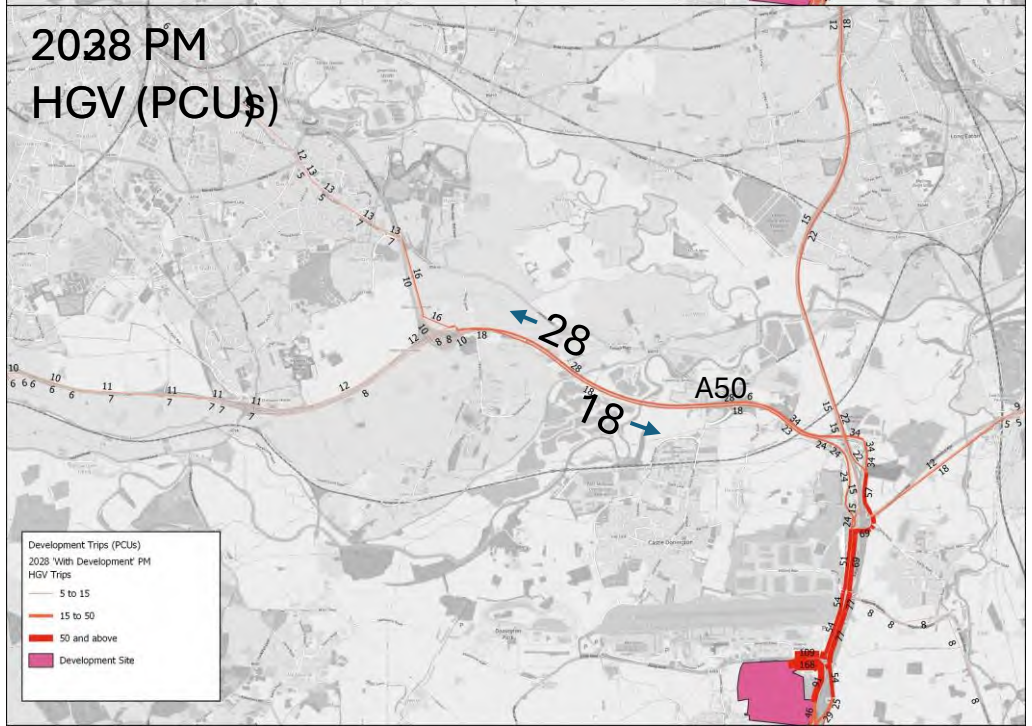

2028 PM
Light Vehicles
13
57
A50
Development Trips (PCUs)
2028 'With Development' PM
HGV Trips
5 to 15
15 to 50
50 and above
Development Site


2028 PM
HGV (PCUs)
29
19
A50
Development Trips (PCUs)
2028 'With Development' PM
HGV Trips
5 to 15
15 to 50
50 and above
Development Site


2038 AM
Light Vehicles
28
7
A50
Development Trips (PCUs)
2028 'With Development' PM
HGV Trips
5 to 15
15 to 50
50 and above
Development Site


2038 AM
HGV (PCUs)
23
30
A50
Development Trips (PCUs)
2038 'With Development' AM
HGV Trips
5 to 15
15 to 50
50 and above
Development Site


2038 PM
Light Vehicles
12
54
A50
Development Trips (PCUs)
2028 'With Development' PM
HGV Trips
5 to 15
15 to 50
50 and above
Development Site


2038 PM
HGV (PCUs)
28
18
A50
Development Trips (PCUs)
2028 'With Development' PM
HGV Trips
5 to 15
15 to 50
50 and above
Development Site

APPENDIX 45: EMFM Stage 1B Modelling Forecasting Report Addendum (document reference East Midlands Gateway Phase 2: Forecasting Report Addendum Stage 1b v1.0)

AECOM

EMFM 2019

East Midlands Gateway Phase 2: Forecasting Report Addendum (Stage 1b)

Delivering a better world

Quality Information

Prepared by	Checked by	Approved by
Billy Wong	Jonathan Morrow	Mark Dazeley
Principal Consultant	Associate Director	Regional Director

Revision History

Revision	Revision date	Details	Authorised	Name	Position
v1.0	2025-03-13	For Issue	Yes	Mark Dazeley	Regional Director

Prepared by:

AECOM Limited
Marlborough Court
10 Bricket Road
St Albans
Hertfordshire
AL1 3JX

aecom.com

Table of Contents

List of Tables

List of Figures

Section 1 – Overview

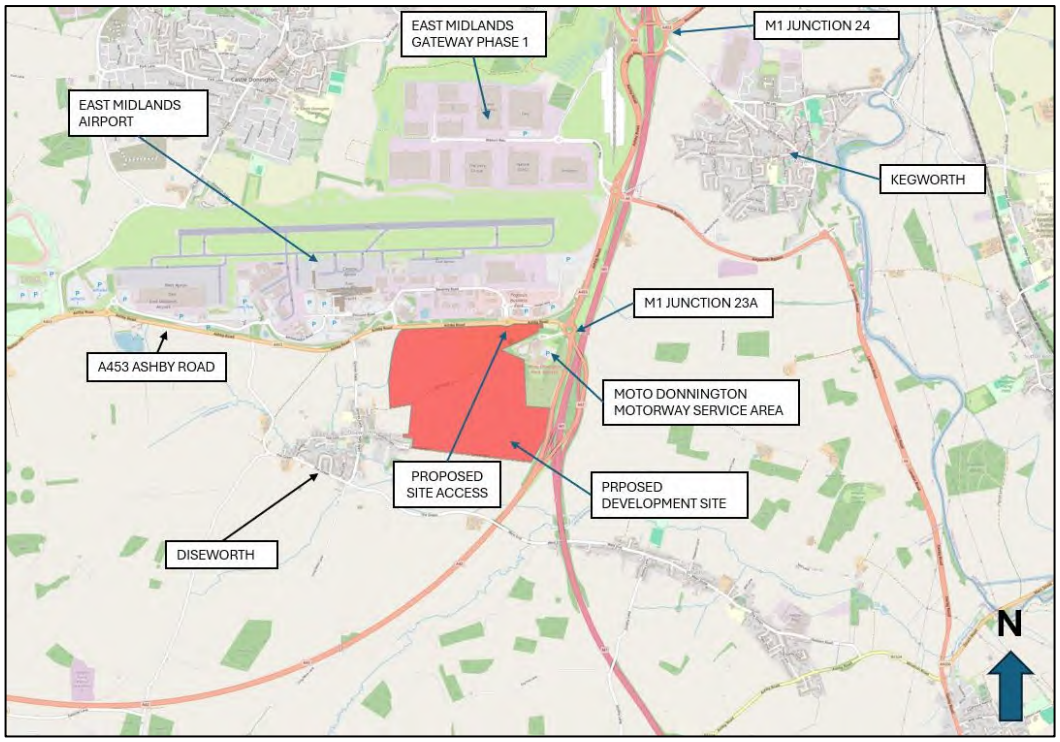
1.1 Introduction

1.1.1 The East Midlands Gateway (EMG) Phase 2 development is a proposed employment development of mixed B2 (general industrial) and B8 (storage or distribution) use, with capacity for 400,000sqm floorspace (300,000sqm ground floorspace and 100,000sqm of B8 mezzanine floorspace) of industrial use, comprising 340,000sqm B8 and 60,000sqm B2. In addition to this, 30,000sqm of B8 floorspace is proposed on EMG Phase 1 (Plot 16).

1.1.2 The development site is located to the south of East Midlands Airport in Leicestershire and west of the A42 and is expected to build out by 2031.

1.1.3 Figure 1.1 shows an indication of the location of the proposed EMG Phase 2 development, denoted by the area shaded in red. The proposed development has a total area of circa 250 acres located to the south of the A453 and East Midlands Airport itself, to the east of Diseworth village. M1 Junction 23a lies to the east of the site with the Moto Donnington Motorway Service Area (MSA) directly abutting to the north-east.

Figure 1.1: Location of Proposed Development[1]



© *OpenStreetMap Contributors*

1.1.4 The proposed EMG Phase 2 development will access the highway network via a single point of access:

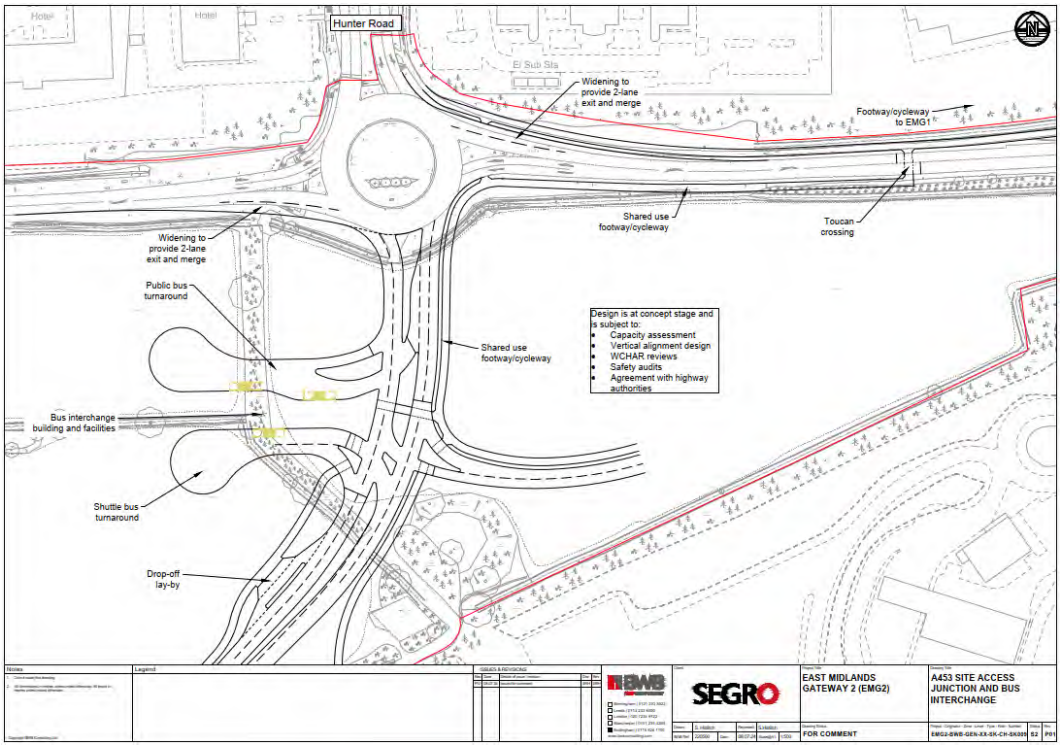
- a fourth arm off the existing A453 / Hunter Road roundabout, as shown in Figure 1.2.

1.1.5 The proposed EMG Phase 1 (Plot 16) development will access the highway network via:

- the existing access via Wilder's Way.

[1] Location of Proposed Development adapted from Technical Note 1 – Transport Scoping Note, East Midlands Gateway Phase 2 (EMG-BWB-GEN-XX-RP-TR-0001_TN1 Transport Scoping Note-S1-P3.pdf). Provided as part of the information pack with the PRTM Development Form for East Midlands Gateway Phase 2.

Figure 1.2: Site Access Junction2



1.1.6 AECOM has been commissioned to undertake strategic modelling 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.

1.1.7 The strategic modelling assessment for the proposed EMG Phase 2 development will be undertaken in three stages, as follows:

Stage 1a modelling (Proforma 14)

- 2022/2023/2024 'Without Development';
- 2028/2038 'Without Development (1a)' without EMG Phase 2 development (with all Freeport and Local Plan sites (as listed in Paragraph 1.1.8)); and
- 2028/2038 'With Development (1a)' with EMG2 development (with all Freeport and Local Plan sites (as listed in Paragraph 1.1.8)).

Stage 1b modelling (Proforma 14a)

- 2028/2038 'Without Development (1b)' without EMG Phase 2 development (without Local Plan sites (as listed in Paragraph1.1.8)); and
- 2028/2038 'With Development (1b)' with EMG Phase 2 development (without Local Plan sites (as listed in Paragraph 1.1.8)).

Stage 2 modelling (details to be confirmed)

- 2028/2038 with EMG Phase 2 and with mitigation measures; and
- 2028/2038 with EMG Phase 2 construction.

[2] EMG2-BWB-GEN-XX-SK-CH-SK009 S2 P01

1.1.8 The following development sites have been proposed at the nearby Isley Woodhouse site, on land west of Castle Donington, on land to the north of Kegworth, near Junction 11 of A/M42 and East Midlands Freeport sites. The forecast assumptions for the assessment of the East Midlands Gateway Phase 2 development have included these developments for Stage 1a, but these sites have been **excluded** in Stage 1b (as reported in this addendum):

- Isley Woodhouse (Site IW1), which comprises:
  - approximately 4,500 new homes and some 23,000sqm of employment floorspace (industry and warehousing)[3].
- Land North and South of Park Lane, Castle Donington (Site CD10), which comprises:
  - around 1,076 homes[4].
- Land West of Hilltop Farm, Castle Donington (Site EMP89), which comprises:
  - around 6,000sqm of offices and 11,850sqm of industry / smaller scale warehousing (use classes B2/B8)[4].
- Land North of Remembrance Way (A453) and Land North of Derby Road (A6), Kegworth (Site EMP73)[4], which comprises:
  - around 30,000sqm of industry / small scale warehousing (use classes B2/B8) on Land North of Derby Road (A6) site; and
  - around 40,000sqm of industry / small scale warehousing (use classes B2/B8) on Land North of A543 Remembrance Way site.
- Land to the North of J11 A/M42 (Site EMP82)[4], which comprises:
  - 28ha of employment land for strategic distribution purposes.
- East Midlands Freeport sites, which include the Uniper site (Ratcliffe), East Midlands Intermodal Park (EMIP) site, and the East Midlands Airport Aviation Expansion site.

1.1.9 This report follows the East Midlands Gateway Phase 2 Base Year Model Review Addendum report[5], which details the calibrated 2019 base year model review and performance in the vicinity of the proposed development site.

1.1.10 This report is the addendum to the Forecasting Report[6] and documents the forecast model results for Stage 1b for the EMFM strategic modelling assessment of the proposed development. Stage 2 results will be reported separately.

1.2 Report Structure

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

- Section 2 – Forecast 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: the 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.

[3] Draft North West Leicestershire Local Plan 2020-2024 – Proposed Houring and Employment Allocation for Consultation (www.nwleics.gov.uk/files/documents/proposed_housing_and_employment_allocations/Reg%2018%20%28Site%20Allocations%29%20Consultation_final.pdf)
[4] EMGP2 Uncertainty Log v7.0 (Jul 2024).xlsx
[5] EMFM 2019 – East Midlands Gateway Phase 2: Base Year Model Review Addendum v1.0 (2024-08-19)
[6] EMFM 2019 – East Midlands Gateway Phase 2: Forecasting Report v1.0 (2025-02-04)

Section 2 – Forecast Approach and Assumptions

2.1 Introduction

2.1.1 This section sets out the forecast assumptions applied for this application of the EMFM, and the methodology adopted to create the required model forecasts.

2.1.2 The following forecast model scenarios have been produced for this version of the report:

Stage 1b modelling (Proforma 14a)

- 2028/2038 'Without Development (1b)' without EMG Phase 2 development (without Local Plan sites (as listed in Paragraph 1.1.8)); and
- 2028/2038 'With Development (1b)' with EMG Phase 2 development (without Local Plan sites (as listed in Paragraph 1.1.8)).

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 2028 and 2038 '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 (1b)' forecasts, the highway demand for the proposed development has been added to the EMFM 2028 'Without Development (1b)' and 2038 'Without Development (1b)' 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 May 2024 TAG data book. This was the latest available TAG data book at the time of calibrating the version of PRTM that underpins the EMFM. The EMFM was calibrated using the draft November 2022 TAG data book, again the latest TAG data book available during calibration. However, EMFM was updated to use the May 2024 TAG data book for this application. The impact on the 2019 base year modelled flows due to the update of the TAG data book was not considered material with most links having an absolute difference of fewer than 25 PCUs (Passenger Car Unit). The EMFM 2019, East Midlands Gateway Phase 2: Base Year Model Review Addendum (update to May 2024 TAG data book) (19/08/24) provides more detail.

2.2 'Without Development' Assumptions

2.2.1 The forecast planning and infrastructure schemes, in the format of an uncertainty log, were reviewed by the client and stakeholders.

2.2.2 Appendix A presents 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 are 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, including data for neighbouring districts such as Rushcliffe, is included in the East Midlands Gateway Phase 2 Uncertainty Log v7.0[7].

2.2.3 Appendix B presents the forecast assumptions for the highway network for this application.

2.2.4 As discussed in Paragraph 2.1.3, the EMFM is a highway assignment model, and a 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 2028 and 2038. Planning forecasts were unconstrained (NTEM minimum[8]) for this application as noted in the proposal[9].

[7] EMGP2 Uncertainty Log v7a.0 (Oct 2024).xlsx
[8] In the event that the planning data lead to below NTEM / TEMPro growth, the model reverts to NTEM / TEMPro as minimum.
[9] EMFM 2019 Fee Proposal – East Midlands Gateway Phase 2 v2.0 (2024-07-18)

2.3 Proposed Development Access Assumptions

2.3.1 To produce the 'With Development' network for 2028 and 2038, the assumed site accesses for the proposed development, as discussed in Paragraph 1.1.4, were added in the relevant 'Without Development' networks.

2.3.2 A development zone has been used to represent the proposed East Midlands Gateway Phase 2 development.

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 2.1.

Table 2.1: Development Trip Generation (2028 and 2038)[10]

	Light Vehicle Trips (in veh)			HGV Trips (in veh)			All (in veh)		
	Departing (Out)	Arriving (In)	Total	Departing (Out)	Arriving (In)	Total	Departing (Out)	Arriving (In)	Total
East Midlands Gateway Phase 2 Development - Employment B2 (60,000sqm)									
AM Peak hour (08:00 to 09:00)	34	226	**260**	8	10	**18**	43	235	**278**
PM Peak hour (17:00 to 18:00)	218	28	**246**	4	2	**6**	222	30	**252**
East Midlands Gateway Phase 2 Development - Employment B8 (340,000sqm)									
AM Peak hour (08:00 to 09:00)	44	411	**455**	78	65	**143**	122	476	**598**
PM Peak hour (17:00 to 18:00)	476	136	**612**	51	85	**136**	527	221	**748**
East Midlands Gateway Phase 2 Development Total									
AM Peak hour (08:00 to 09:00)	78	637	**715**	86	75	**161**	165	711	**876**
PM Peak hour (17:00 to 18:00)	694	164	**858**	55	87	**142**	748	250	**998**
East Midlands Gateway Phase 1 (Plot 16) Development Total									
AM Peak hour (08:00 to 09:00)	4	36	**40**	7	6	**13**	11	42	**53**
PM Peak hour (17:00 to 18:00)	42	12	**54**	5	8	**13**	47	20	**67**

2.4.2 We assume that the proposed development will be fully build out (i.e. 100% occupancy) in the 2028 and 2038 'With Development (1b)" scenarios.

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 2.1 to Figure 2.8 show the forecast development trip distribution separately for HGVs and light vehicles on the highway network for the 2028 and 2038 'With Development (1b)' scenarios in PCUs. For information, the PCU factor for HGV is 2.0 and the PCU factor for the other assignment vehicle types (i.e. cars and LGVs) is 1.0.

2.5.3 These figures show that the forecast HGV development traffic has a broadly similar distribution to and from the proposed development in both the AM Peak and PM Peak hours,

[10] 241010 EMGP2 PRTM Development Form rev 14.docx

and both forecast years (i.e. 2028 and 2038). HGVs are forecast to use the M1, A50 and the A453 Remembrance Way to and from Derby and the north, and the M1 and A42 to and from Leicester, Birmingham and the south.

2.5.4 For light vehicle traffic, the majority of development-related trips during the AM Peak hour in 2028 are forecast to use the M1 southbound and the A42 towards Birmingham. In the northbound direction development trips are forecast to route via the M1 and Castle Donnington Relief Road towards Derby. By 2038 AM Peak hour, a higher proportion of trips is forecast to route south from the A453 towards Diseworth to access Gelscoe Lane and the A42.

2.5.5 Light vehicle development trips from the development in the PM Peak hour in 2028 are forecast to route north via the M1, the A50, A453 Remembrance Way and south via the M1 and towards Diseworth to access the A42. This pattern is forecast in the reverse for the AM Peak hour development trips to the proposed development but with fewer trips on the M1 northbound and more trips on Castle Donnington Relief Road to avoid the congested M1 Junction 24.

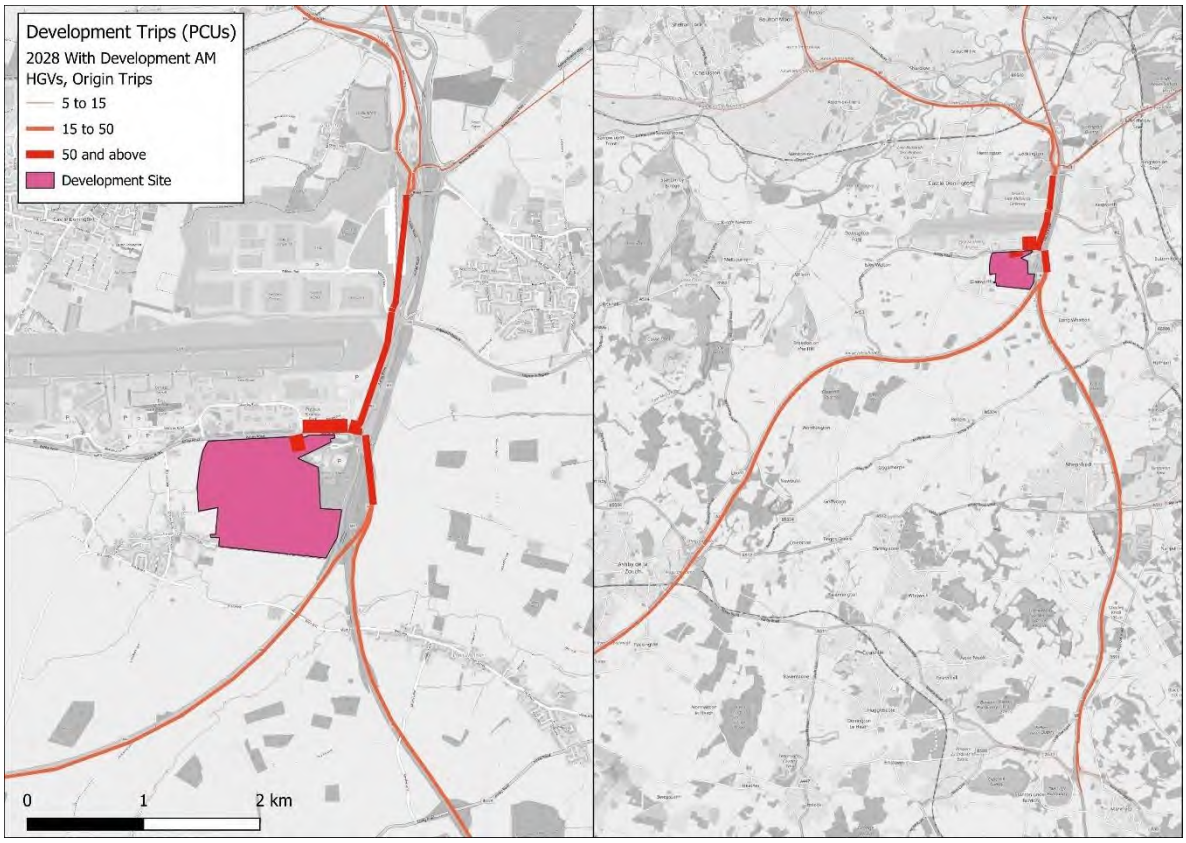
2.5.6 The routeing patterns for the development trips for 2038 forecast scenarios are similar to their respective patterns in 2028, although 2038 has a slightly higher proportion of development trips on local roads and fewer on the SRN, due to the higher congestion around the M1 Junction 24 area in the later forecast year (i.e. 2038).

2.5.7 It should be noted that the local networks through Diseworth, Castle Donington and Kegworth have HGV restrictions applied. These restrictions are represented in the EMFM, and the HGV development trips are therefore forecast to route to and from the proposed development site via mainly the SRN.

2.5.8 The majority of the development traffic distribution is largely similar to that of the ‘With Development (1a)’ scenarios documented in the Forecasting Reporting.

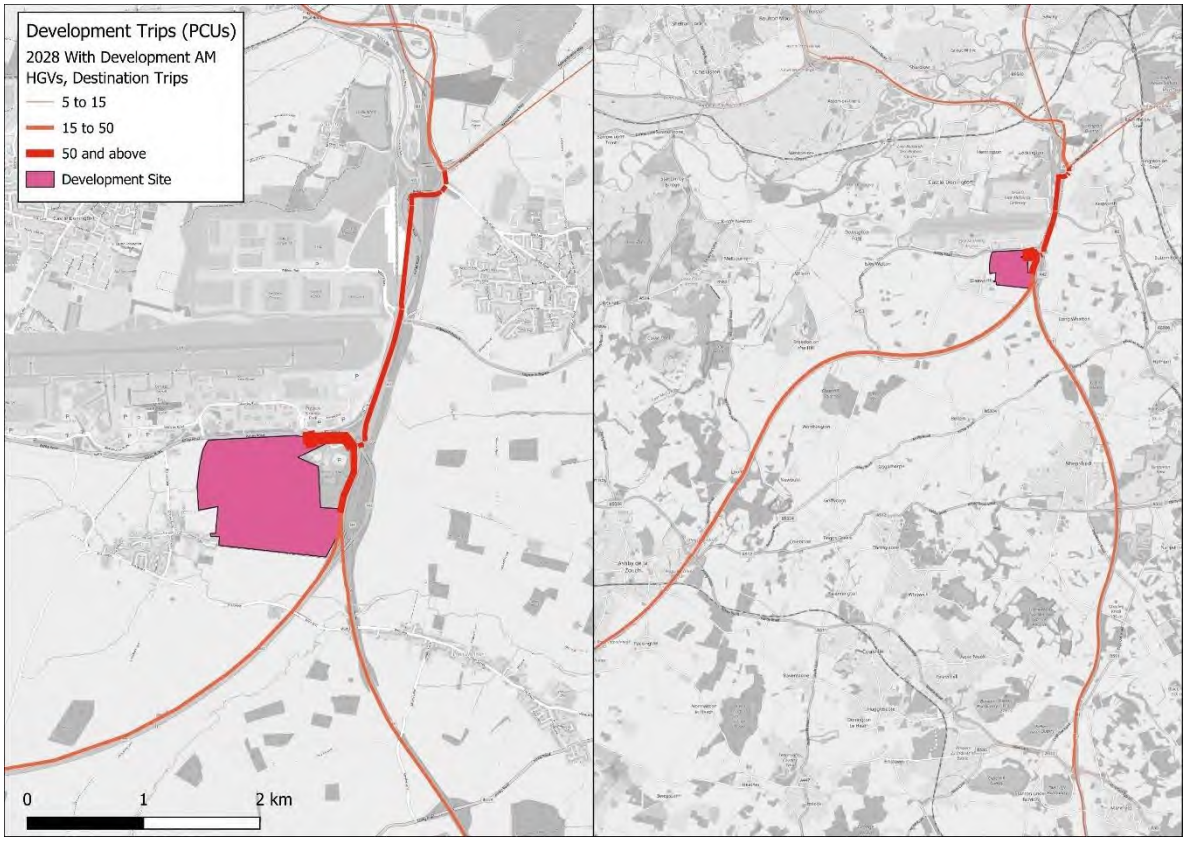
Figure 2.1: HGV Trip Distribution to and from the Proposed Development for 2028 (AM)

2028 'With Development (1b)' (AM), HGVs – From the Development



Contains Ordnance Survey data © Crown copyright and database right 2025

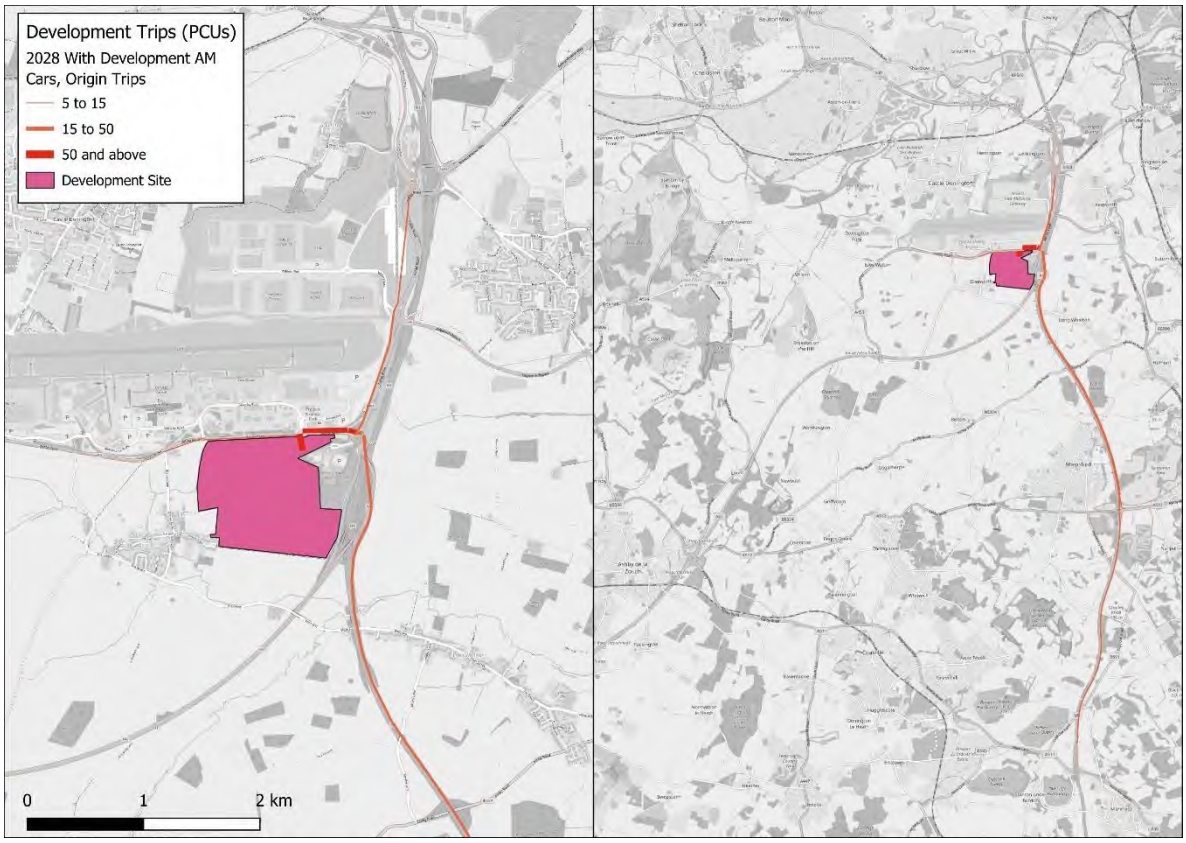
2028 'With Development (1b)' (AM), HGVs – To the Development



Contains Ordnance Survey data © Crown copyright and database right 2025

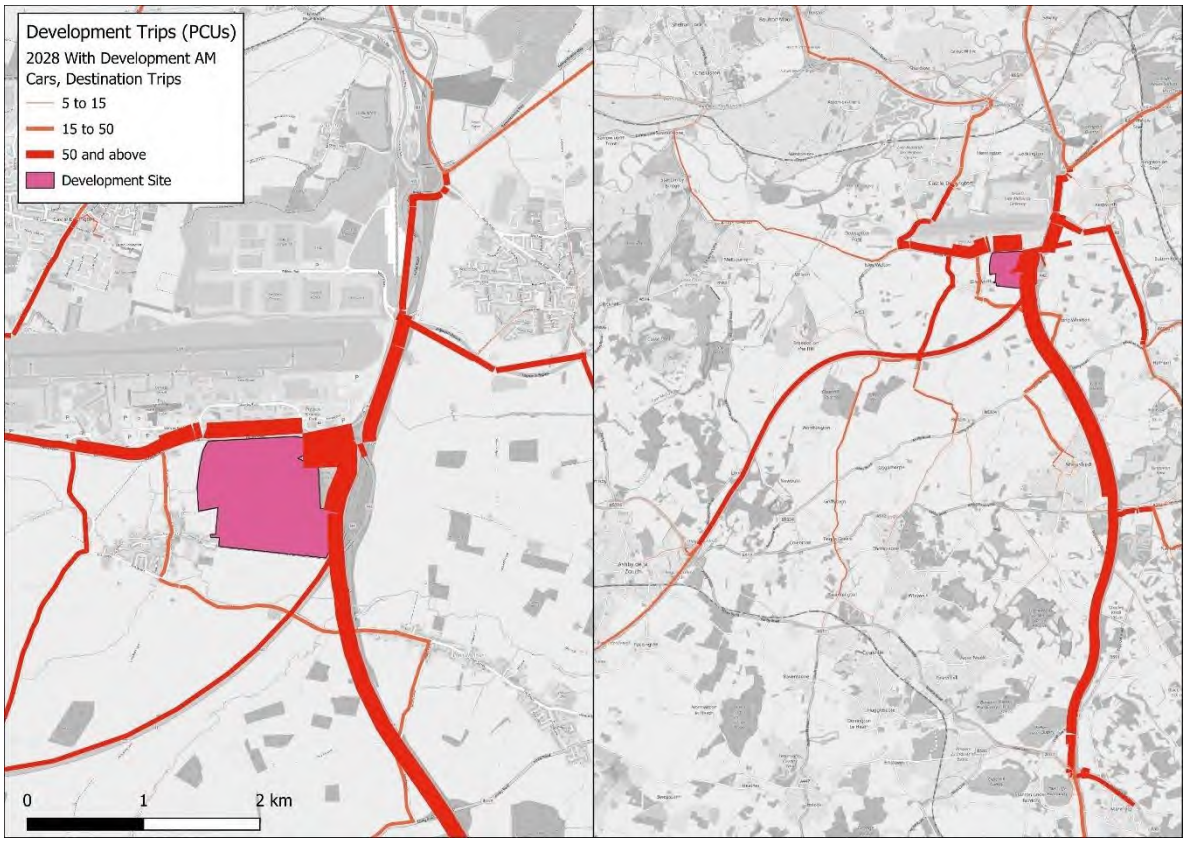
Figure 2.2: Light Vehicle Trip Distribution to and from the Proposed Development for 2028 (AM)

2028 'With Development (1b)' (AM), Light Vehicles – From the Development



Contains Ordnance Survey data © Crown copyright and database right 2025

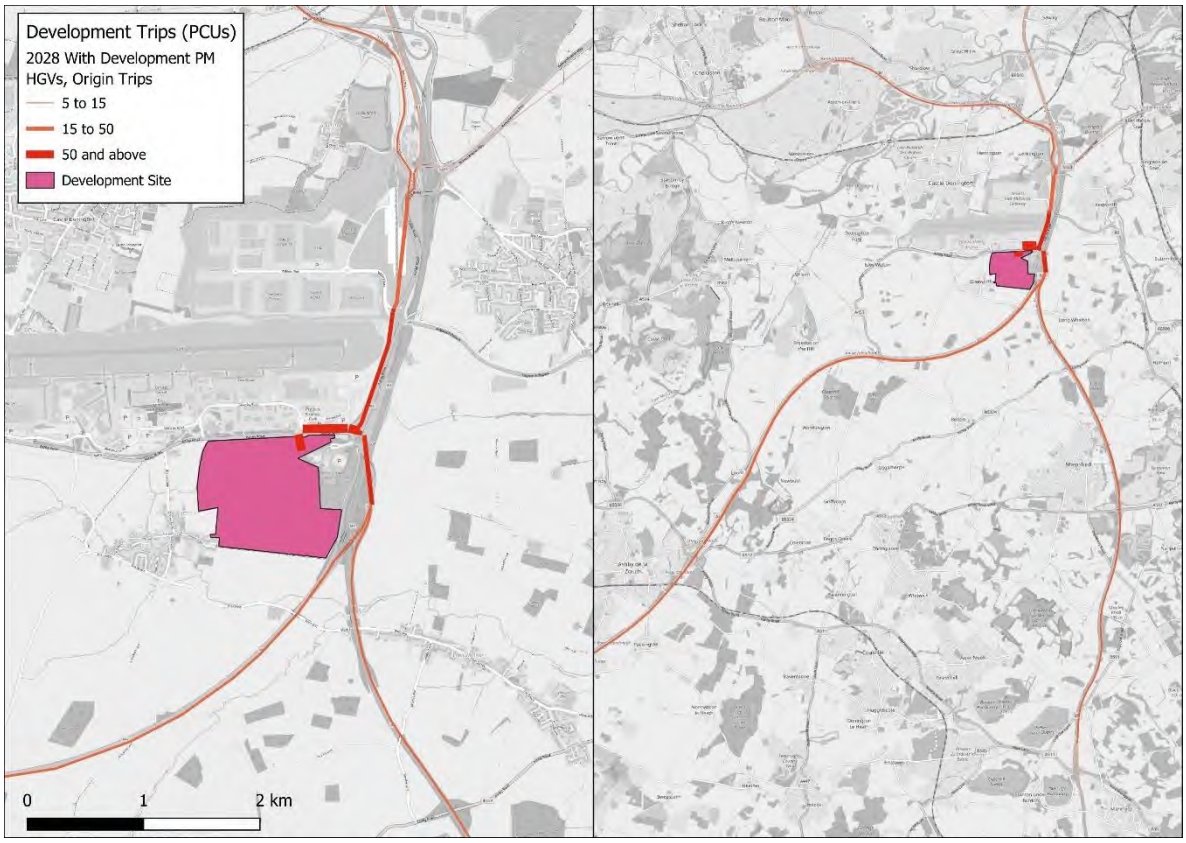
2028 'With Development (1b)' (AM), Light Vehicles – To the Development



Contains Ordnance Survey data © Crown copyright and database right 2025

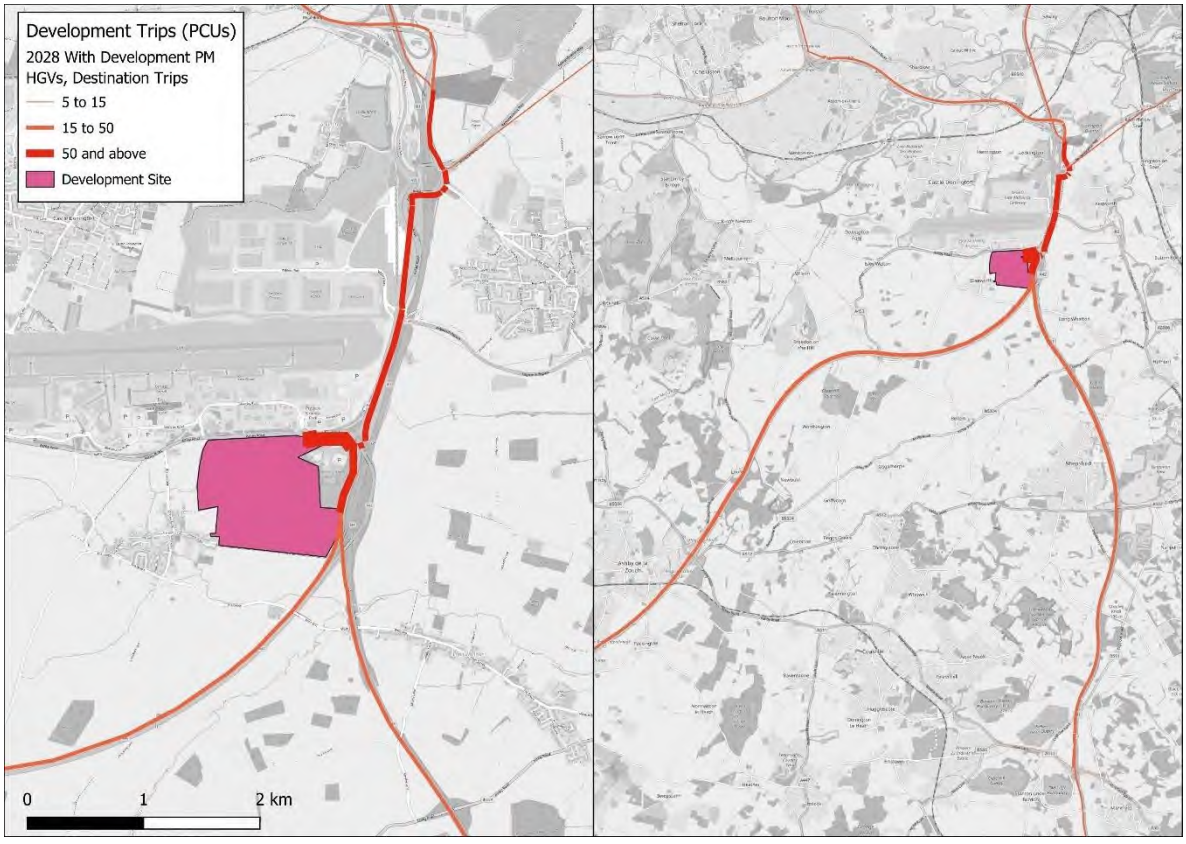
Figure 2.3: HGV Trip Distribution to and from the Proposed Development for 2028 (PM)

2028 'With Development (1b)' (PM), HGVs – From the Development



Contains Ordnance Survey data © Crown copyright and database right 2025

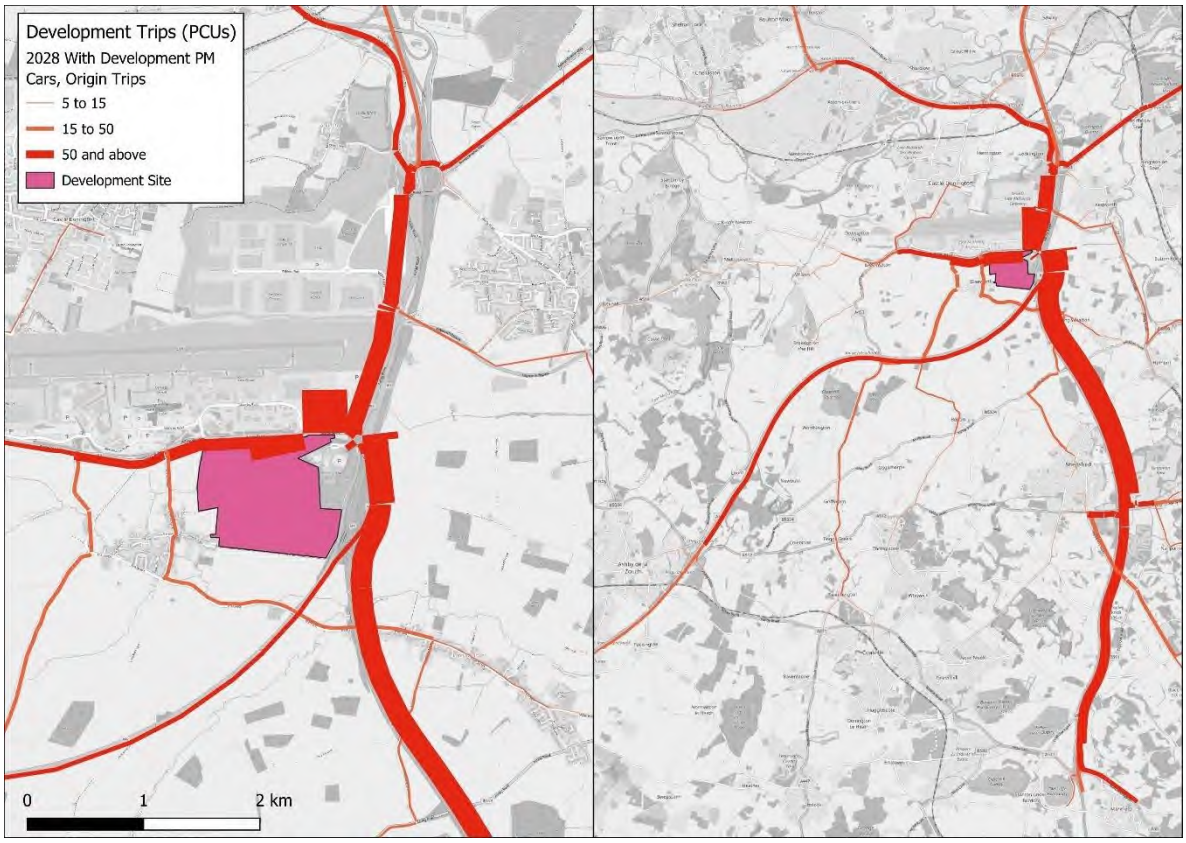
2028 'With Development (1b)' (PM), HGVs – To the Development



Contains Ordnance Survey data © Crown copyright and database right 2025

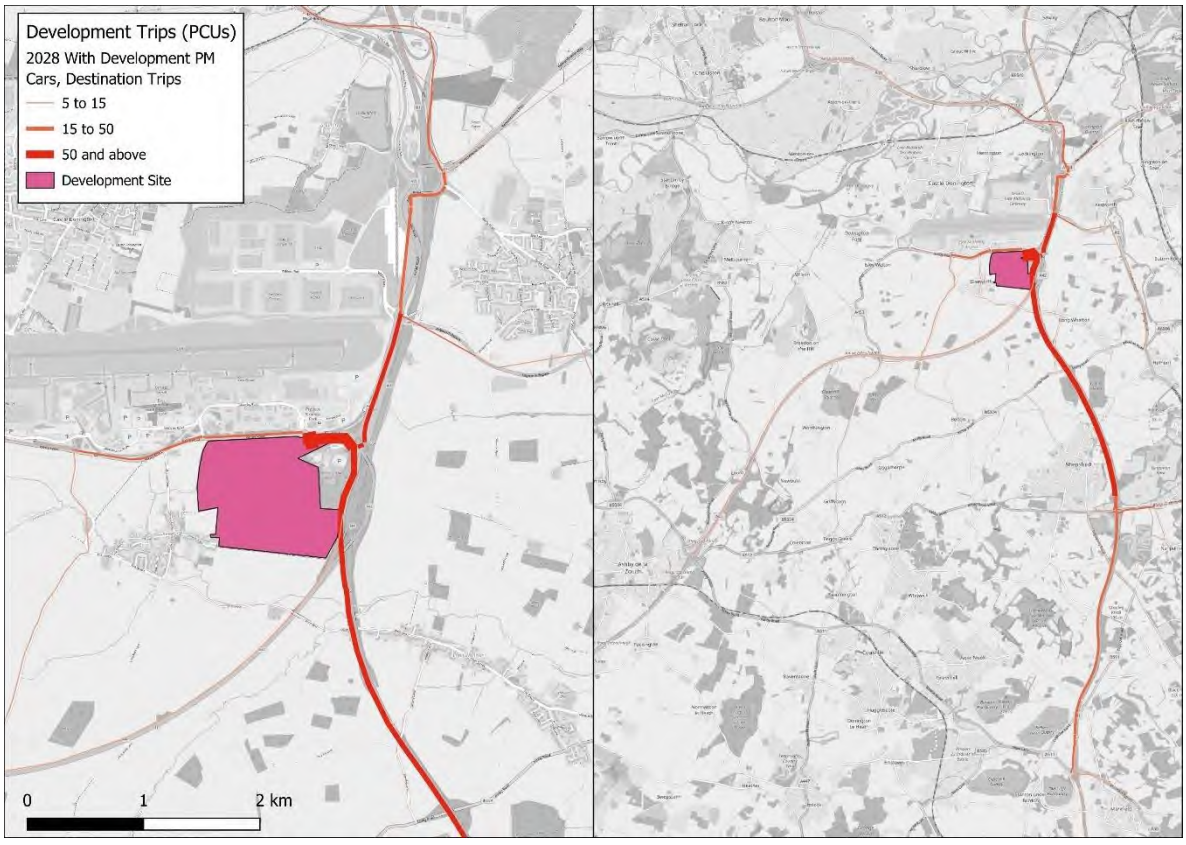
Figure 2.4: Light Vehicle Trip Distribution to and from the Proposed Development for 2028 (PM)

2028 'With Development (1b)' (PM), Light Vehicles – From the Development



Contains Ordnance Survey data © Crown copyright and database right 2025

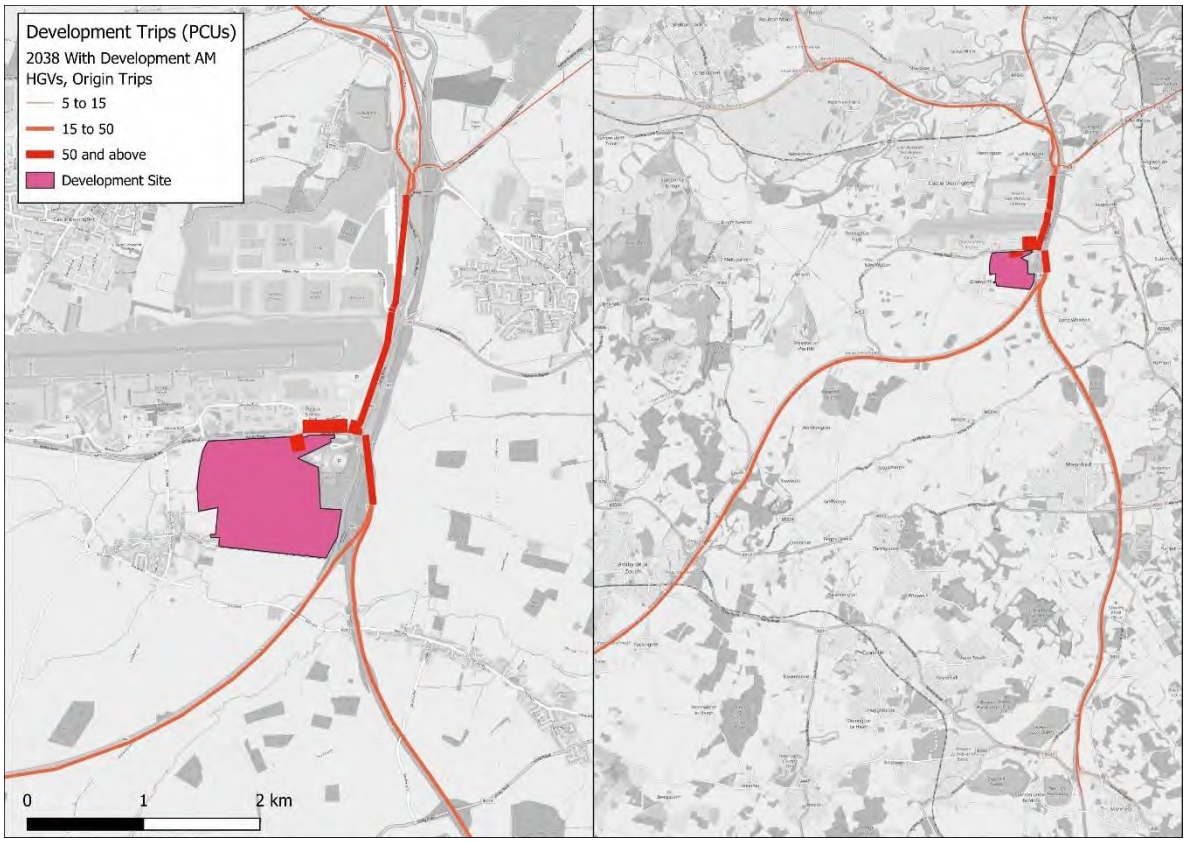
2028 'With Development (1b)' (PM), Light Vehicles – To the Development



Contains Ordnance Survey data © Crown copyright and database right 2025

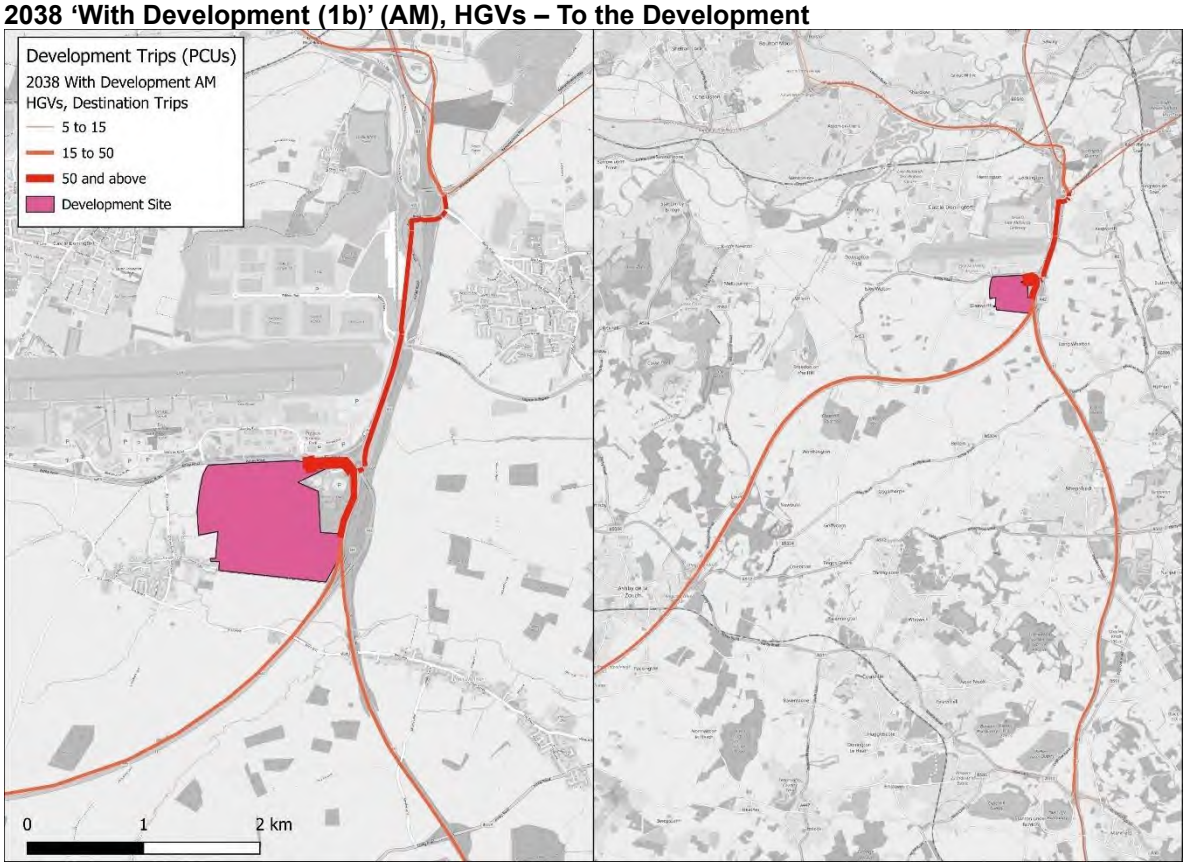
Figure 2.5: HGV Trip Distribution to and from the Proposed Development for 2038 (AM)

2038 'With Development (1b)' (AM), HGVs – From the Development



Contains Ordnance Survey data © Crown copyright and database right 2025

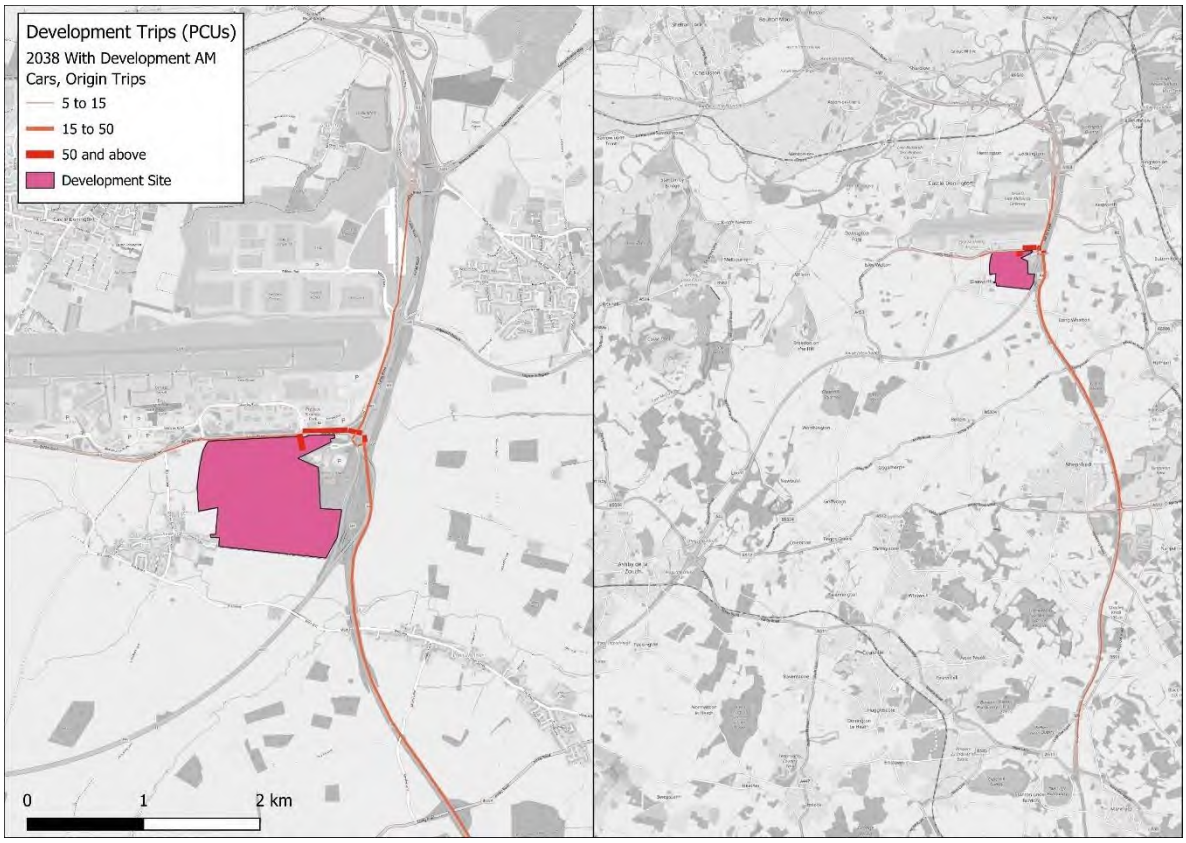
2038 'With Development (1b)' (AM), HGVs – To the Development



Contains Ordnance Survey data © Crown copyright and database right 2025

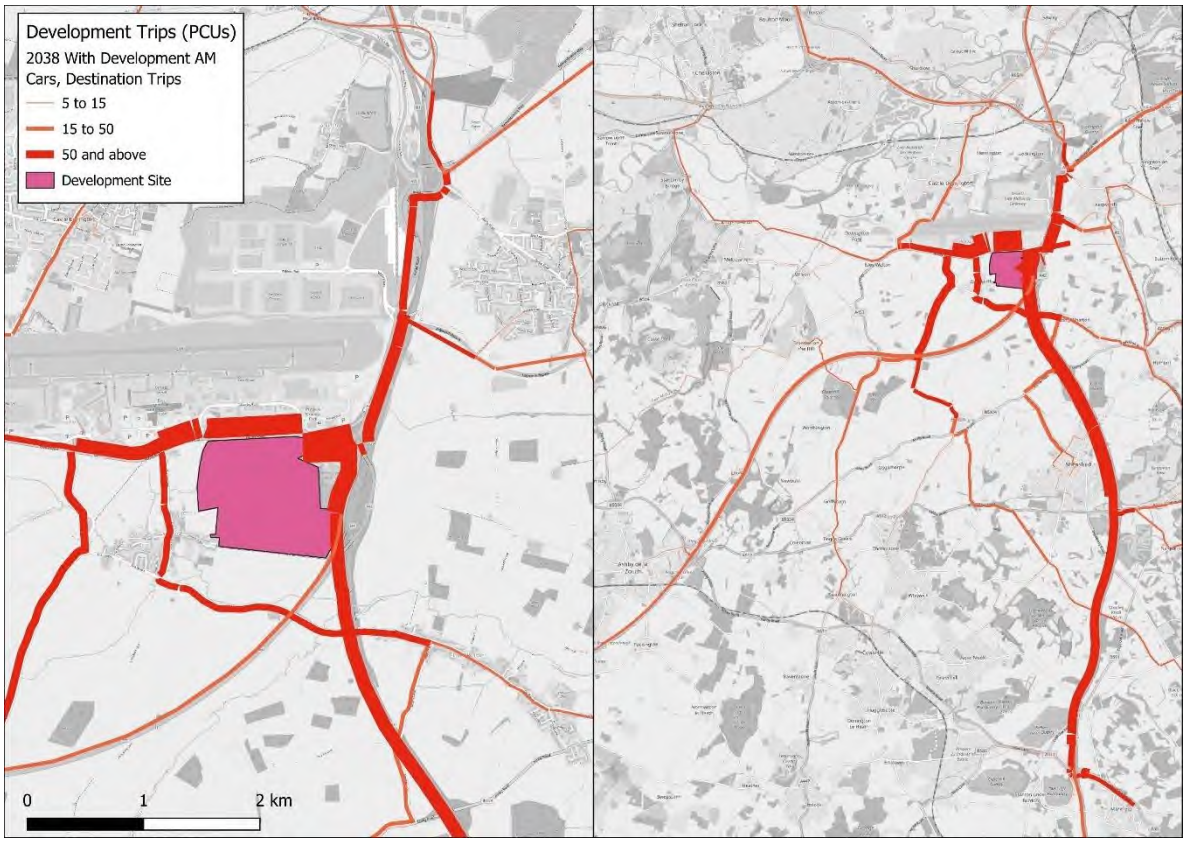
Figure 2.6: Light Vehicle Trip Distribution to and from the Proposed Development for 2038 (AM)

2038 'With Development (1b)' (AM), Light Vehicles – From the Development



Contains Ordnance Survey data © Crown copyright and database right 2025

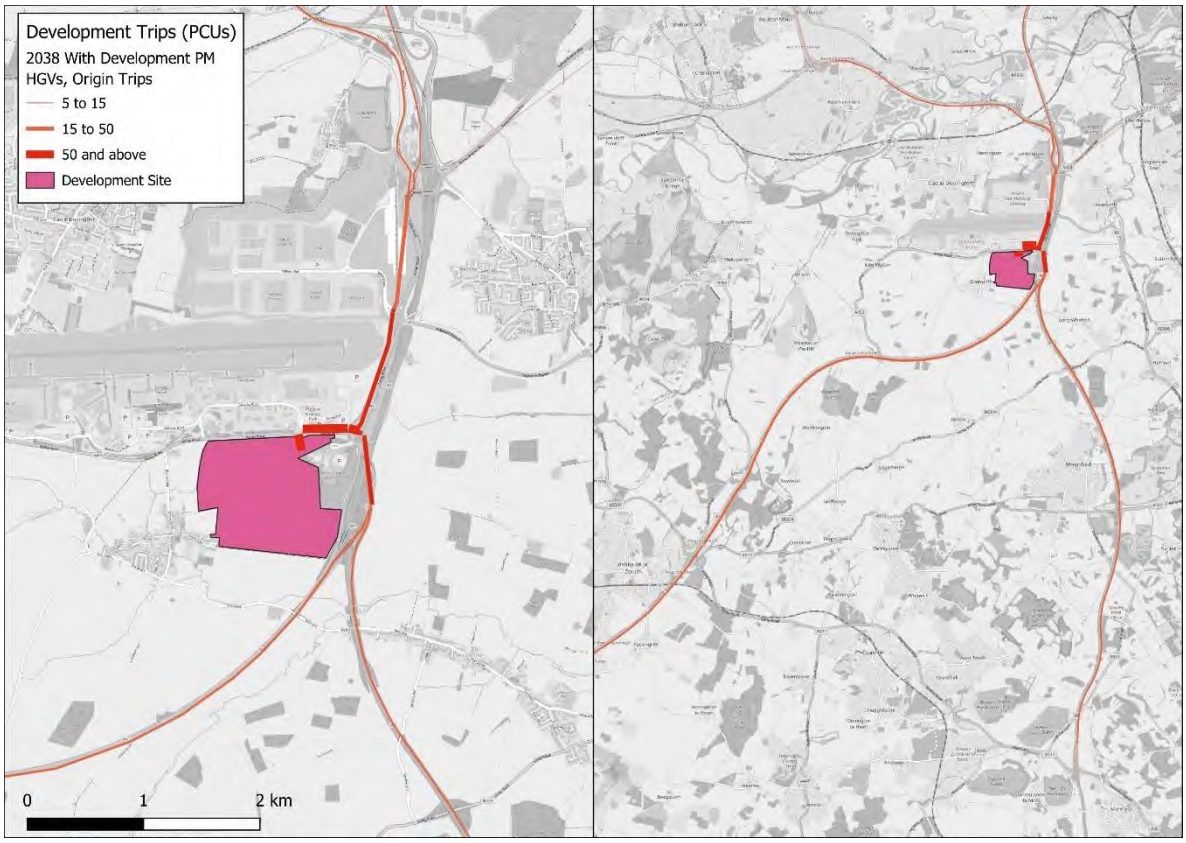
2038 'With Development (1b)' (AM), Light Vehicles – To the Development



Contains Ordnance Survey data © Crown copyright and database right 2025

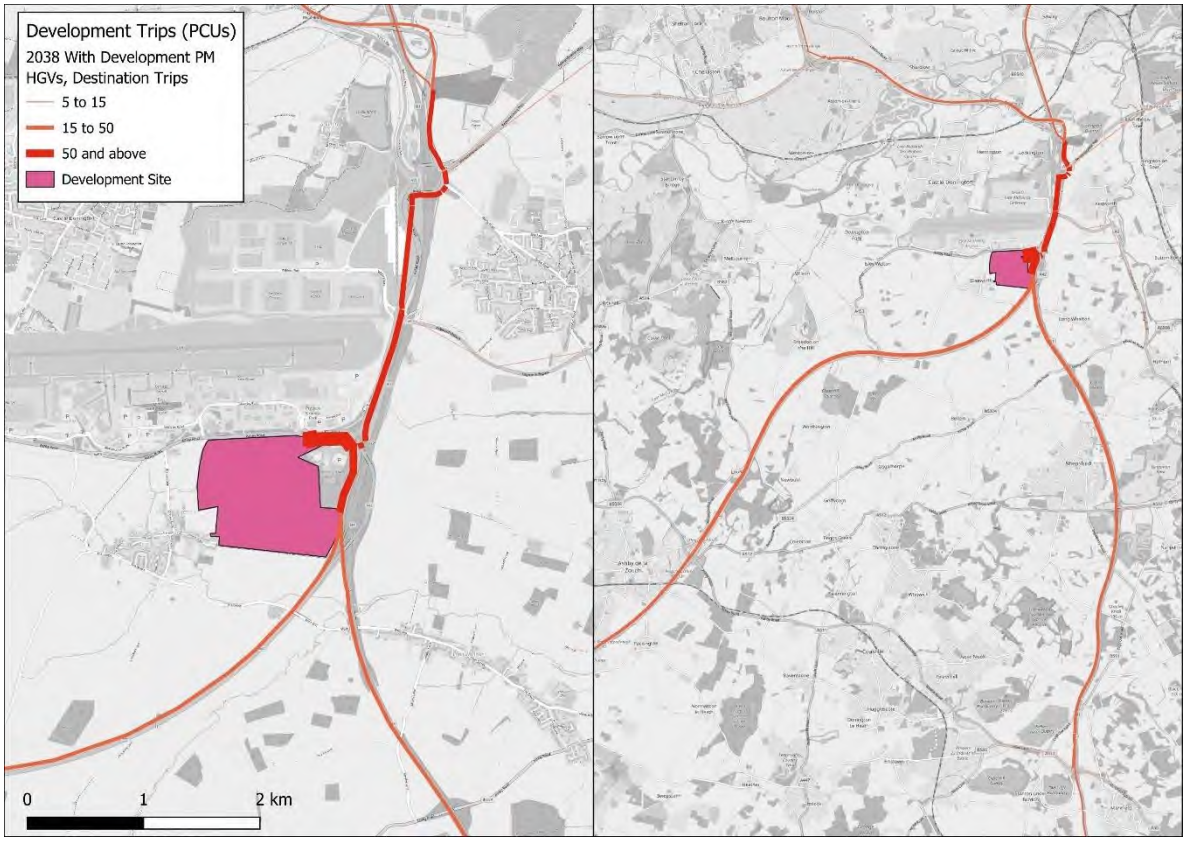
Figure 2.7: HGV Trip Distribution to and from the Proposed Development for 2038 (PM)

2038 'With Development (1b)' (PM), HGVs – From the Development



Contains Ordnance Survey data © Crown copyright and database right 2025

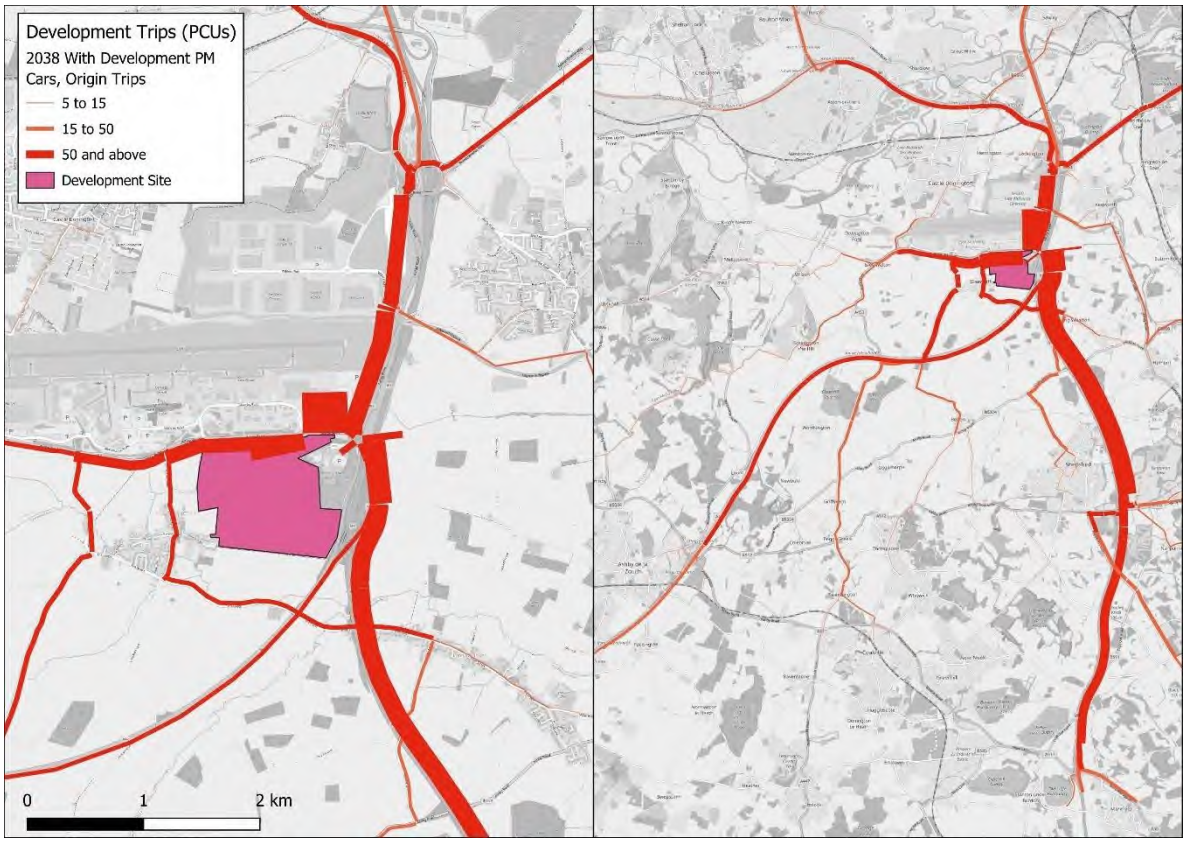
2038 'With Development (1b)' (PM), HGVs – To the Development



Contains Ordnance Survey data © Crown copyright and database right 2025

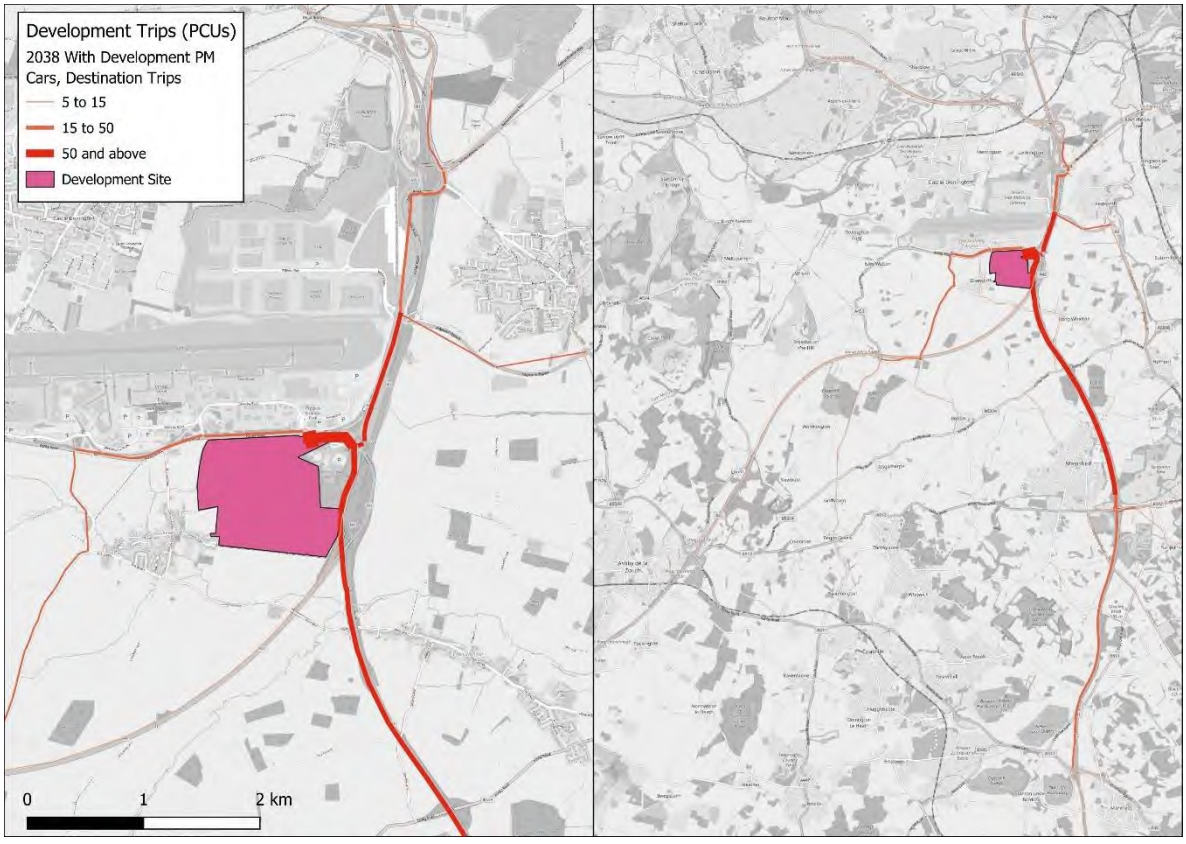
Figure 2.8: Light Vehicle Trip Distribution to and from the Proposed Development for 2038 (PM)

2038 'With Development (1b)' (PM), Light Vehicles – From the Development



Contains Ordnance Survey data © Crown copyright and database right 2025

2038 'With Development (1b)' (PM), Light Vehicles – To the Development



Contains Ordnance Survey data © Crown copyright and database right 2025

Section 3 – Forecast Model Results

3.1 Introduction

3.1.1 This section details the forecast model results for the proposed East Midlands Gateway Phase 2 development assessment for the AM Peak (08:00 to 09:00) and PM Peak (17:00 to 18:00) hours. The analysis includes:

- routeing of the forecast development traffic in the 2028 and 2038 'With Development (1b)' scenarios (Section 2.5 and Section 3.2);
- forecast flow changes in 2028 and 2038 between the 'With Development (1b)' and 'Without Development (1b)' scenarios (Section 3.3);
- an assessment of the Area of Influence (AoI) (Section 3.4);
- forecast delay changes in 2028 and 2038 between the 'With Development (1b)' and 'Without Development (1b)' scenarios (Section 3.6);
- forecast maximum node volume-capacity ratios in the 2028 and 2038 'With Development (1b)' scenarios (Section 3.7); and
- forecast turning flows (and volume-capacity ratios for turns) at selected junctions (Section 3.8).

3.2 Forecast Development Traffic

3.2.1 Figure 2.1 to Figure 2.8 in Section 2.5 illustrate the assigned forecast trip distribution to and from the proposed development in 2028 and 2038 for both AM Peak and PM Peak hours. These figures show that the HGV development traffic mainly routes via the SRN including the M1, A42, A50 and the A453 Remembrance Way.

3.2.2 For light vehicle development traffic, the M1 Junction 24 area is congested and has high delays, particularly in the AM Peak hour. As such, a proportion of the light vehicle trips to the development is forecast to route via Castle Donnington Relief Road and the A6 Kegworth Bypass to avoid the M1 Junction 24 and Junction 24a area.

3.2.3 The modelling shows that the light vehicle development traffic is forecast to:

- route to and from the north via the M1 and Castle Donnington Relief Road;
- route to and from the south via the M1 and M1 Junction 23a;
- route to and from the south-west using the A42 via both Diseworth and the M1 Junction 23a;
- route to and from the west via the A50, M1 Junction 24 and through Castle Donington Relief Road; and
- route to and from the east via the A453 Remembrance Way, A6 Kegworth Bypass and through the local network of Kegworth and Diseworth.

3.3 Forecast Flow Change

3.3.1 Figure 3.1 and Figure 3.2 show the forecast flow changes in 2028 and 2038 between the 'With Development (1b)' and 'Without Development (1b)' scenarios for the AM Peak and PM Peak hours. Red bandwidth represents an increase in traffic flow in the 'With Development (1b)' scenario and green bandwidth represents a decrease.

3.3.2 As expected, the largest increases in flows are forecast along the A453 in the immediate vicinity of the proposed development. The M1 and the A42 are also forecast to experience increases in flow across all modelled forecast scenarios. There is a decrease in traffic forecast on the east side of Beverley Road, particularly for the AM Peak hour. This decrease has been caused by traffic diverting off the Beverly Road / A453 / EMG Phase 2 access roundabout in the 'With Development (1b)' scenario and on to the A453 / East Midlands Airport signal-controlled junction. A high proportion of these trips is from the south routeing via Gelscoe Lane and the A42.

3.3.3 For the local network of Castle Donington, Kegworth and Diseworth, higher flows are forecast for 'With Development (1b)' scenarios when compared with the 'Without Development (1b)' scenarios. This is particularly notable for the AM Peak hour, as a proportion of the development trips is forecast to route via the local network to access / egress from the proposed development site to avoid the congested M1 Junction 24 area.

3.3.4 The majority of the forecast flow changes are largely very similar to those of Stage 1a as documented in the Forecasting Report. The large delay fluctuations that caused some traffic to reroute in the vicinity of the Derby Road / Bostocks Lane junction (to the north of the M1 Junction 25) in Stage 1a during the 2038 AM Peak hour are no longer forecast in Stage 1b.

Figure 3.1: Forecast Flow Change for 2028 'With Development (1b)' minus 'Without Development (1b)'

AM Peak hour

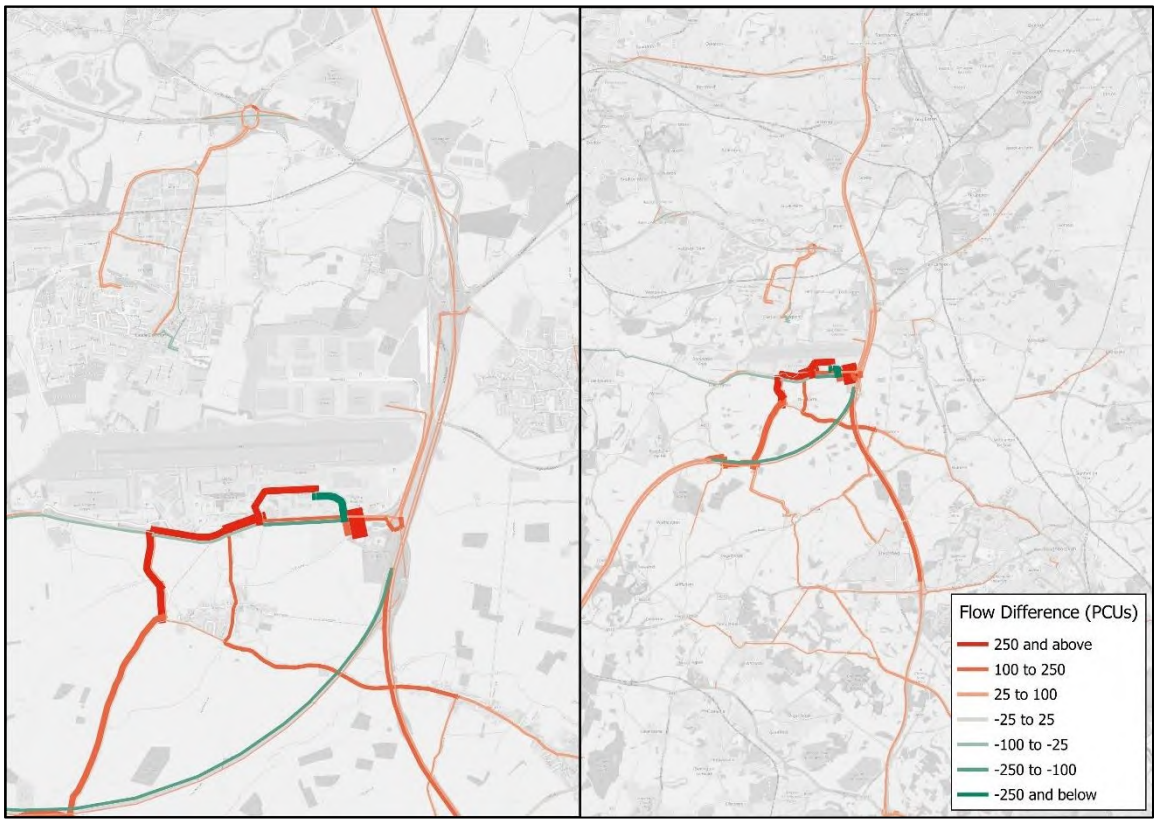
Contains Ordnance Survey data © Crown copyright and database right 2025

PM Peak hour

Contains Ordnance Survey data © Crown copyright and database right 2025

Figure 3.2: Forecast Flow Change for 2038 'With Development (1b)' minus 'Without Development (1b)'

AM Peak hour



Contains Ordnance Survey data © Crown copyright and database right 2025

PM Peak hour

Contains Ordnance Survey data © Crown copyright and database right 2025

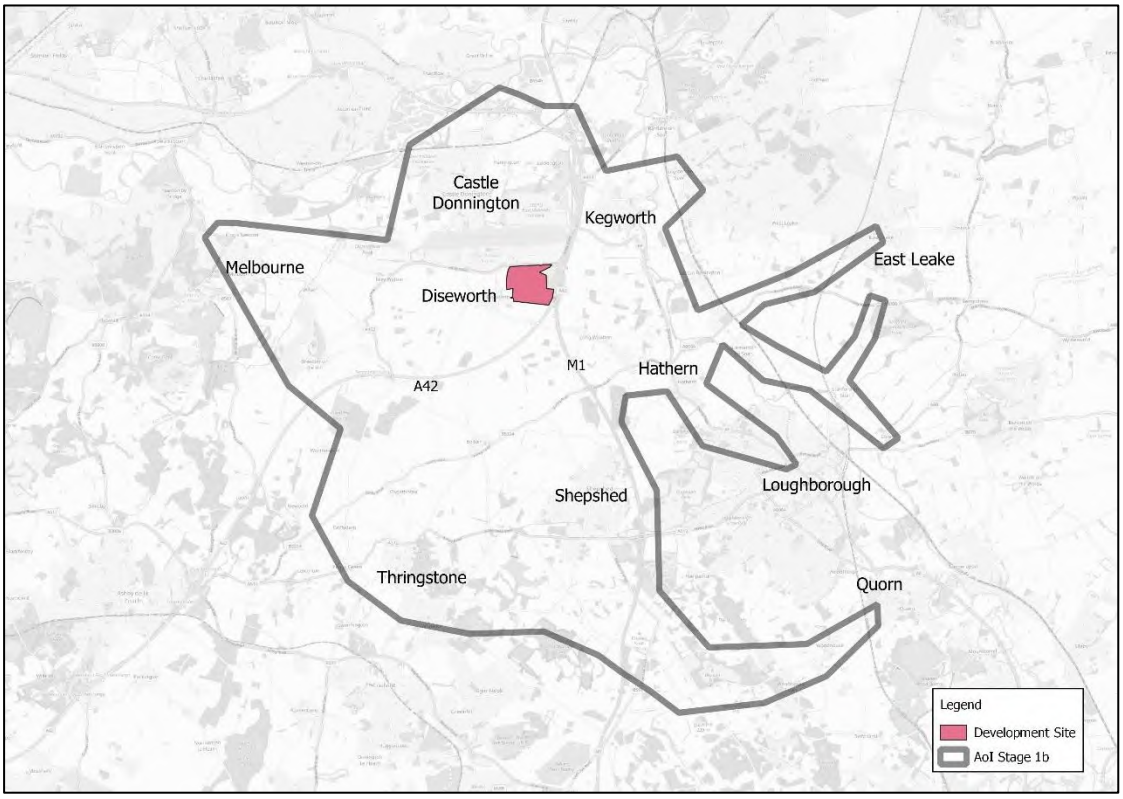
3.4 Area of Influence for Stage 1b

3.4.1 Using the forecast flow changes between the 'With Development (1b)' and 'Without Development (1b)' scenarios, an indication of the Area of Influence (AoI) has been defined. Figure 3.3 shows the Area of Influence for the proposed development.

3.4.2 For the proposed development, the AoI has been defined by considering the links which are forecast to change flow by more than ±5% and ±30 PCUs between the 2028 and 2038 'With Development (1b)' and 'Without Development (1b)' scenarios in either the AM Peak or the PM Peak hours. The links which are forecast to meet these criteria are included in the AoI, as shown in Figure 3.3, and contains the following areas / links:

- the A453 including Finger Farm roundabout;
- the M1 between Junction 23 and Junction 24a;
- the A42 Junction 14; and
- local roads in and around Castle Donnington; Kegworth; Diseworth; Hathern; Melbourne; Thringstone; and Shepshed.

Figure 3.3: Area of Influence for Stage 1b

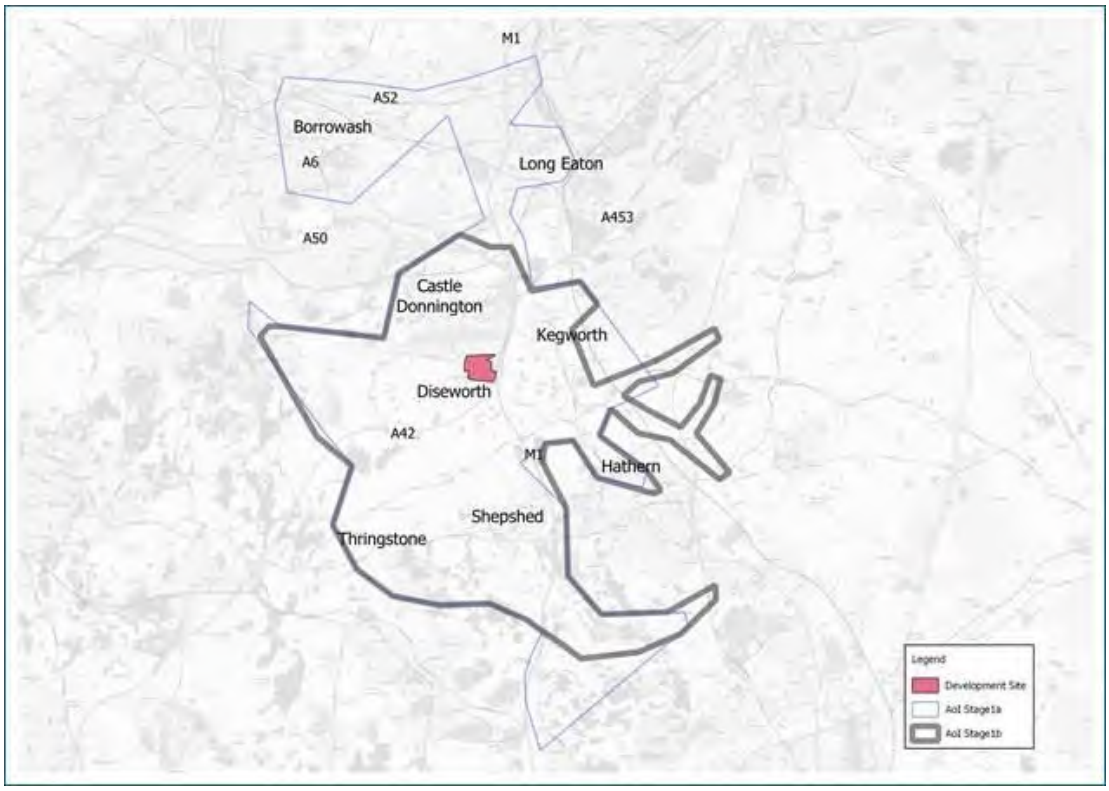


Contains Ordnance Survey data © Crown copyright and database right 2025

3.5 Comparison of Area of Influence Comparison with Stage 1a

3.5.1 Figure 3.4 shows the AoI for both Stage 1a and Stage 1b for the proposed development. The AoI for Stage 1b is smaller compared with Stage 1a, with the AoI not extending as far north compared with Stage 1a, particularly around the areas of Borrowash and Long Eaton. The remainder of the AoI remains largely unchanged, except for an eastern extension that reaches Woodgate Road and Leake Lane in Stage 1b.

Figure 3.4: Comparison of Area of Influence Between Stage 1a and Stage 1b



Contains Ordnance Survey data © Crown copyright and database right 2025

3.6 Forecast Delay Change

3.6.1 As a result of forecast flow changes in the 'With development (1b)' 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 the 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.

3.6.2 Figure 3.5 and Figure 3.6 show the forecast delay changes (in seconds) in 2028 and 2038 between the 'With Development (1b)' and 'Without Development (1b)' scenarios for the AM Peak and PM Peak hours. For the A453 in the immediate vicinity of the proposed development; delays are forecast to increase by up 102 seconds to due to increases in flow from the development site.

3.6.3 Increases in delay are forecast on the approaches and circulatory lanes of M1 Junction 24 for both AM Peak and PM Peak hours for the 2038 'With Development (1b)' scenario when compared with the 2038 'Without Development (1b)' scenario. Forecast delays are also higher on the approach to Finger Farm Roundabout from the A453 and southbound from Castle Donnington towards the A453 / Walton Hill signalised junction.

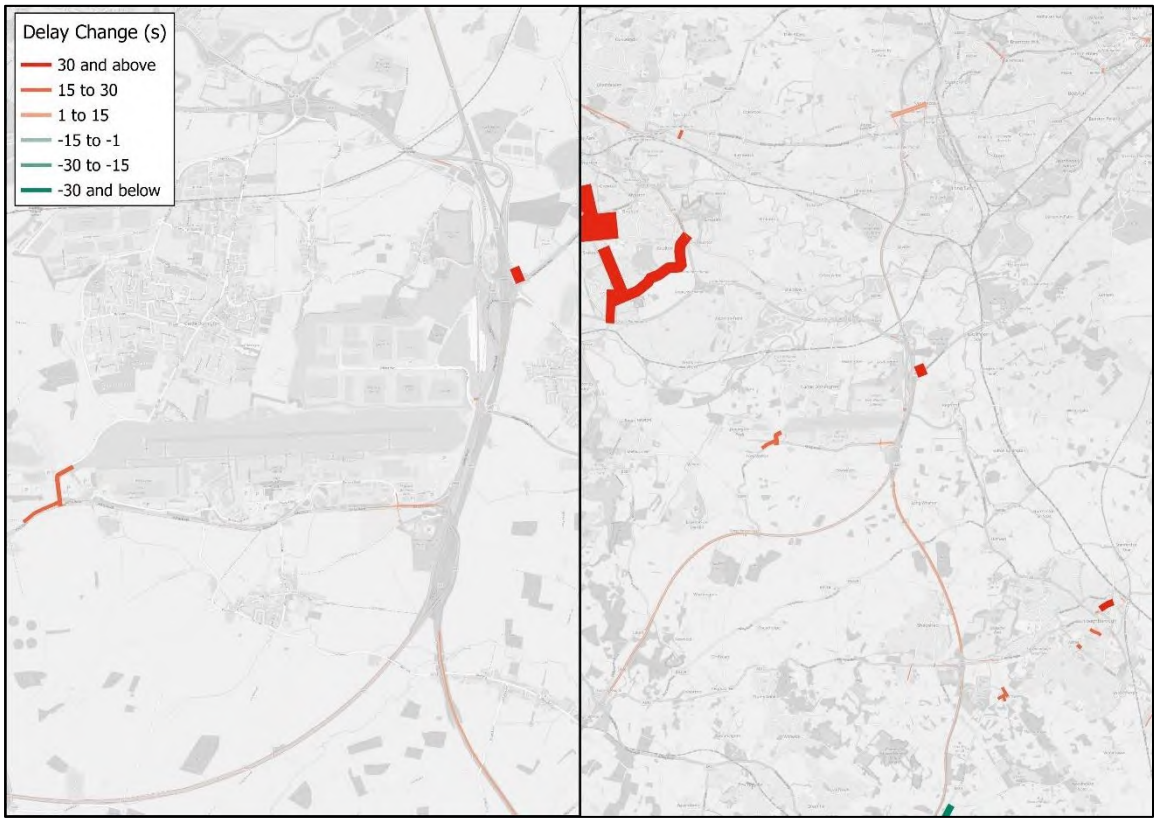
3.6.4 The forecast change in delay near the development site in Stage 1b is similar to that in Stage 1a. As noted in Paragraph 3.3.4, the Derby Road / Bostocks Lane signalised junction (to the north of M1 Junction 25) is not forecast in Stage 1b. There is an increase in delay at the Derby Road/ High Street junction and the Harvey Road/ Osmaston Road in Derby during the 2028 PM Peak. The changes are attributed to modelling noise, as the distribution of development trips is not expected to cause a significant increase in delays in this area.

Figure 3.5: Forecast Delay Change for 2028 'With Development (1b)' minus 'Without Development (1b)'

AM Peak hour

Contains Ordnance Survey data © Crown copyright and database right 2025

PM Peak hour



Contains Ordnance Survey data © Crown copyright and database right 2025

Figure 3.6: Forecast Delay Change for 2038 'With Development (1b)' minus 'Without Development (1b)'

AM Peak hour

Contains Ordnance Survey data © Crown copyright and database right 2025

PM Peak hour

Contains Ordnance Survey data © Crown copyright and database right 2025

3.7 Forecast Node Volume-Capacity Ratios

3.7.1 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.

3.7.2 To summarise the forecast-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.

3.7.3 Figure 3.7 and Figure 3.8 show the forecast maximum junction volume-capacity ratios for 2028 and 2038, 'With Development (1b)' and 'Without Development (1b)' scenarios. For ease of comparison, the symbology has been designed to show the data for 'Without Development (1b)' and 'With Development (1b)' scenarios on the same plot.

3.7.4 The reader should note that Figure 3.7 and Figure 3.8 show a subset of all nodes within the EMFM to reduce the number of data points within the plots. Nodes which do not fall within the AoI, as defined in Figure 3.3, are not shown. Nodes with maximum volume-capacity ratios below 85% in all forecast scenarios are not shown, except for the node which is located at the proposed site access on the A453.

3.7.5 The forecast maximum node volume-capacity ratio plots show that the A453 / Beverly Road / EMG Phase 2 access roundabout junction, the signalised junction with the A453 / East Midlands Airport signalised junction and M1 Junction 24 are most affected by the proposed development. For 2028 and 2038, the proposed development increased the node volume-capacity ratios at these junctions.

3.7.6 For M1 Junction 24, the node volume-capacity ratios are high for the 'Without Development (1b)' scenarios, with multiple nodes at this junction exceeding 85%. For the 'With Development (1b)' scenarios, the node volume-capacity ratios remain high, exceeding 85%, showing that the M1 Junction 24 is forecast to have high delays.

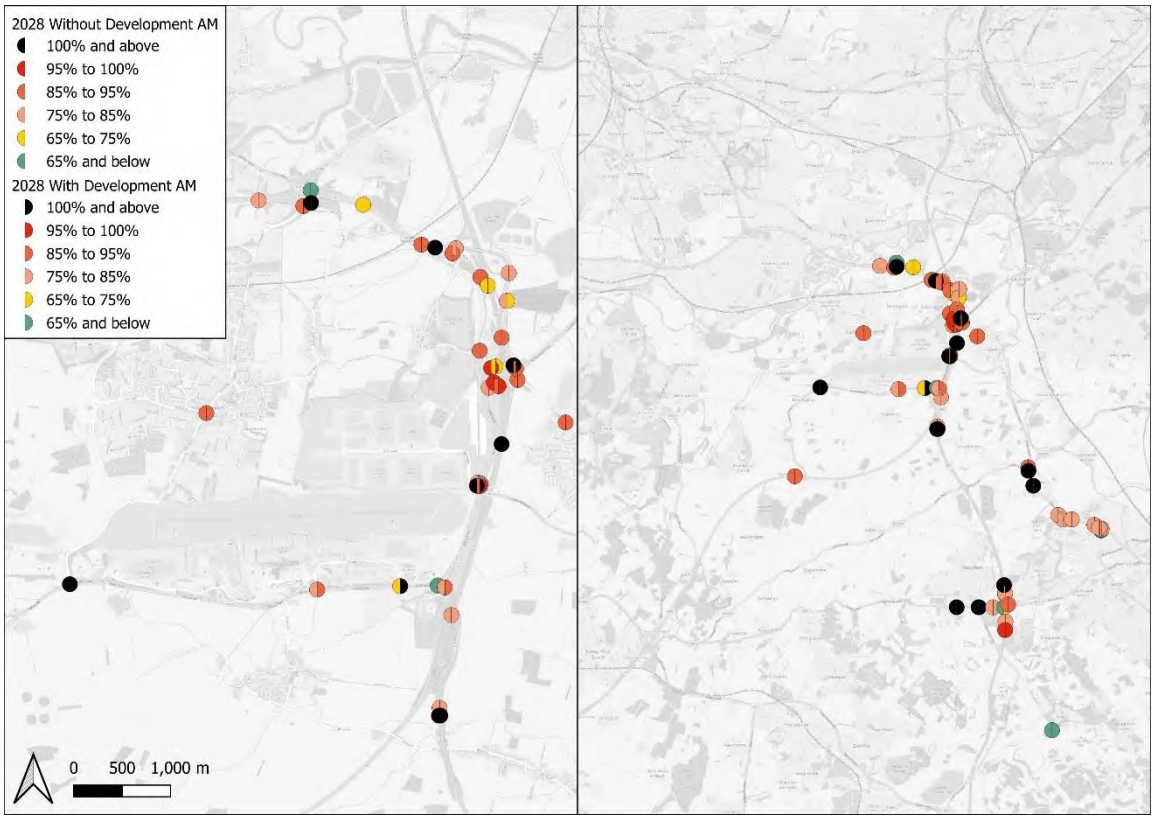
3.7.7 In the AM Peak hour, the node volume-capacity ratios for the A453 / Beverly Road / EMG Phase 2 access roundabout junction is forecast to be greater than the PM Peak hour in both the 2028 and 2038 forecast year scenarios, consistent with the forecast delay shown in Figure 3.5 and Figure 3.6.

3.7.8 Comparing the forecast results between 2028 and 2038, the node volume-capacity ratios are forecast to be greater for the later forecast year (i.e. 2038) as forecast flows increase (when compared with 2028).

3.7.9 Most of the change of the node volume-capacity ratios in Stage 1b are very similar to those of Stage 1a.

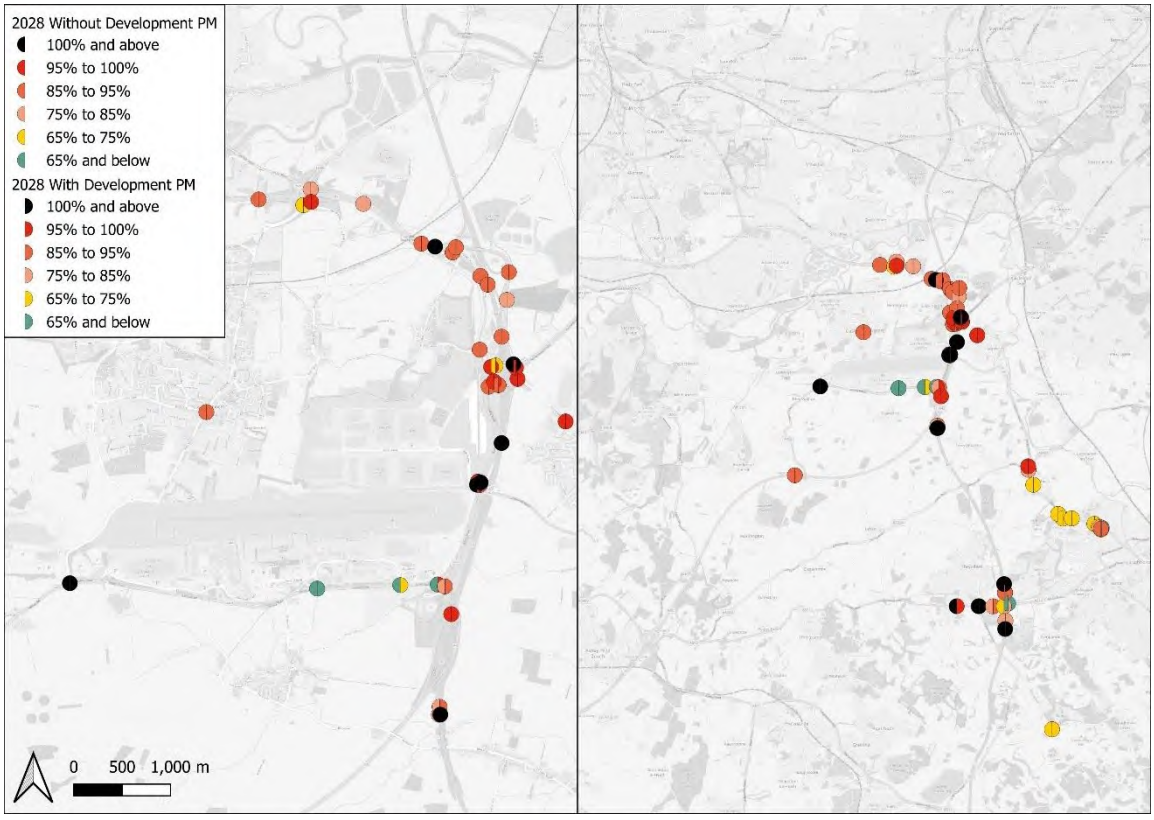
Figure 3.7: Forecast Node Volume-Capacity Ratio for 2028 'Without Development (1b)' and the 2028 'With Development (1b)' Scenarios

AM Peak hour



Contains Ordnance Survey data © Crown copyright and database right 2025

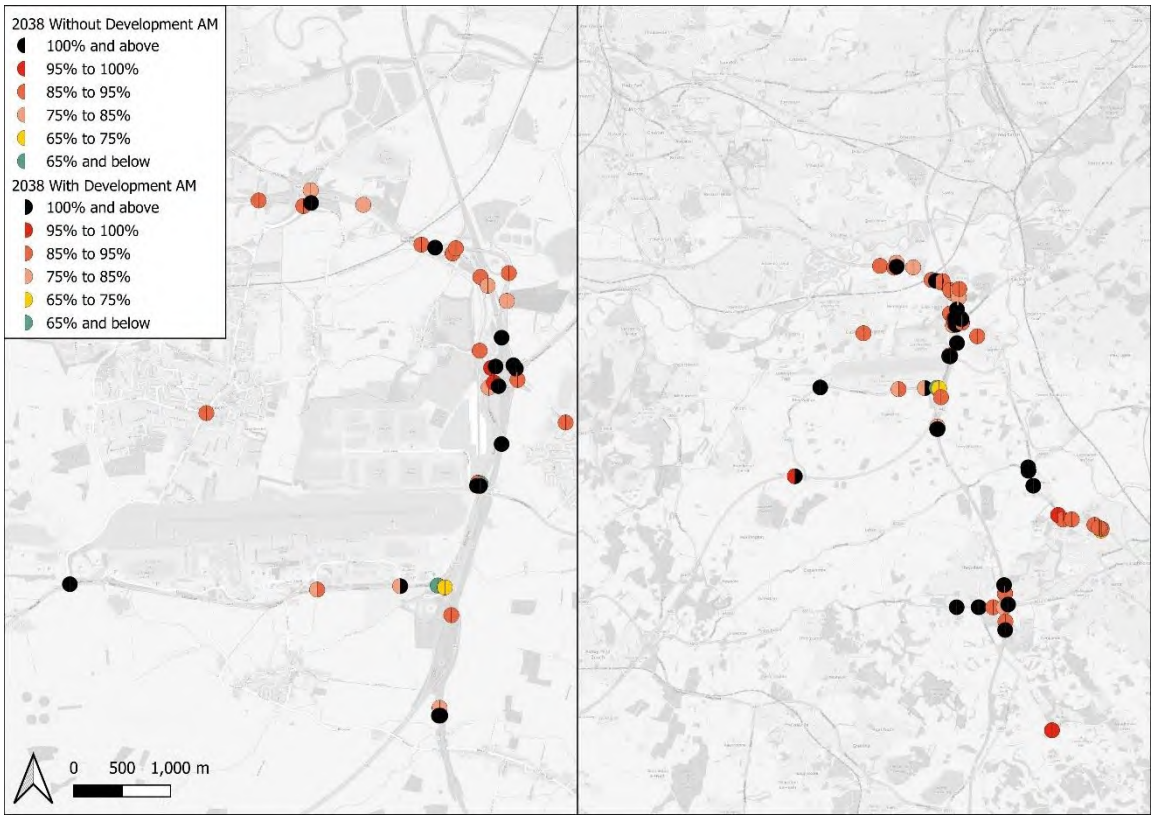
PM Peak hour



Contains Ordnance Survey data © Crown copyright and database right 2025

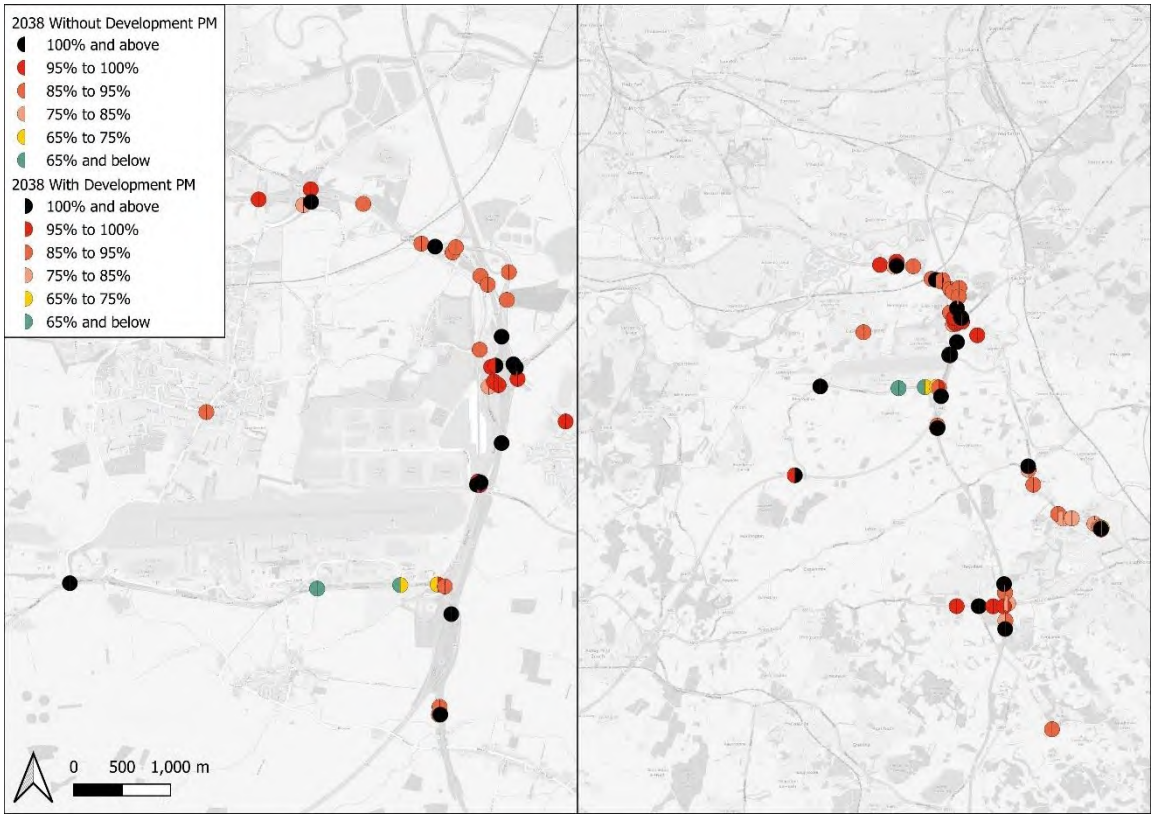
Figure 3.8: Forecast Node Volume-Capacity Ratio for 2038 'Without Development (1b)' and the 2038 'With Development (1b)' Scenarios

AM Peak hour



Contains Ordnance Survey data © Crown copyright and database right 2025

PM Peak hour



3.8 Forecast Junction Turning Flows

3.8.1 Forecast turning flows have been extracted for the following 16 junctions (also shown in Figure 3.9) in the vicinity of the proposed development:

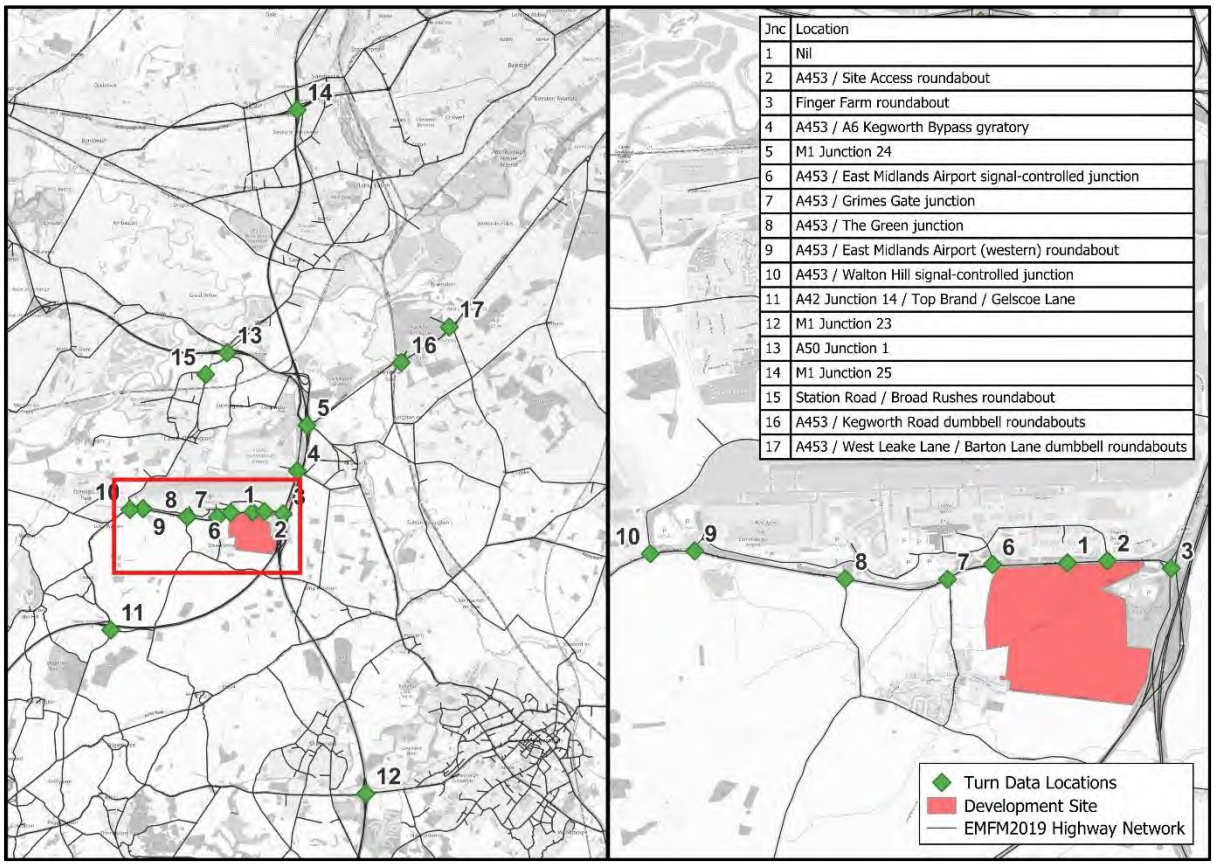
- A453 /Site access Roundabout (Junction 2);
- Finger Farm roundabout (Junction 3);
- A453 / A6 Kegworth Bypass gyratory (Junction 4);
- M1 Junction 24 (Junction 5);
- A453 / East Midlands Airport signal-controlled junction (Junction 6);
- A453 / Grimes Gate junction (Junction 7);
- A453 / The Green junction (Junction 8);
- A453 / East Midlands Airport (western) roundabout (Junction 9);
- A453 / Walton Hill signal-controlled junction (Junction 10);
- A42 Junction 14 / Top Brand / Gelscoe Lane (Junction 11);
- M1 Junction 23 (Junction 12);
- A50 Junction 1 (Junction 13);
- M1 Junction 25 (Junction 14);
- Station Road / Broad Rushes roundabout (Junction 15);
- A453 / Kegworth Road dumbbell roundabouts (Junction 16); and
- A453 / West Leake Lane / Barton Lane dumbbell roundabouts (Junction 17).

3.8.2 The data have been provided separately in MS Excel spreadsheet format[11] which contains the forecast turning flows for the AM Peak and PM Peak hours for light and heavy vehicles. Data are provided for the 2028 and 2038 'Without Development (1b)' and the 2028 and 2038 'With Development (1b)' scenarios. In addition to the turning flows, turn volume-capacity ratios have also been provided where available.

3.8.3 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.

[11] EMGP2 - Junction Turning Flows (Stage 1b) v1.0 - For Issue.xlsx (provided via email on 3rd March 2025)

Figure 3.9: Location of Forecast Turning Flow Data



Contains Ordnance Survey data © Crown copyright and database right 2025

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 2028 and 2038 'Without Development (1b)' and 'With Development (1b)' scenarios for both the AM Peak and PM Peak hours for the strategic assessment of the proposed East Midlands Gateway Phase 2 development.

4.1.2 Based on these model forecasts, the following is a summary of the key findings for the assessment of the proposed development and are similar to those forecast for Stage 1a.

- Development trips (HGVs) have been forecast to route via the following roads:
  - the M1 to and from the south and north;
  - the A42 to and from the south-west;
  - the A50 to and from the west; and
  - the A453 Remembrance Way to and from the east.
- Development trips (light vehicles) have been forecast to route via the following roads:
  - the M1 to and from the south and north;
  - the A42, the A42 Junction 14, A453 and Gelscoe Lane from the south-west;
  - the A50 and through the local network of Castle Donington to and from the west; and
  - the A453 Remembrance Way, A6 Kegworth Bypass and through the local network of Kegworth and Diseworth to and from the east.
- The forecast flow changes in 2028 and 2038 between the 'With Development (1b)' and 'Without Development (1b)' scenarios show that the largest increases in flows are, as expected, forecast along the A453. The M1 and A42 are also forecast to experience increases in flows as well as the local network of Castle Donington, Kegworth and Diseworth.
- An Area of Influence (AoI) for the proposed development has been defined by identifying links which are forecast to change by more than ±5% and ±30 PCUs between the 'With Development (1b)' and 'Without Development (1b)' scenarios for 2028 and 2038 in either the AM Peak or PM Peak hours. The AoI for Stage 1b is forecast to be smaller compared with Stage 1a, with the AoI not extending as far north in Stage 1b. The forecast AoI includes:
  - the A453 including Finger Farm roundabout;
  - the M1 between Junction 23 and Junction 24a;
  - the A42 Junction 14; and
  - local roads in and around Castle Donnington; Kegworth; Diseworth; Hathern; Melbourne; Thringstone; and Shepshed.
- The forecast delay changes in 2028 and 2038 between the 'With Development (1b)' and 'Without Development (1b)' scenarios show the proposed development is forecast to increase delays on the A453 and the approaches of the M1 Junction 24.
- The forecast maximum node volume-capacity ratios show that the proposed development is forecast to increase pressure for the junctions along the A453 including the Finger Farm roundabout. For the M1 Junction 24, the node volume-capacity ratios are high for both the 'Without Development (1b)' and 'With Development (1b)' scenarios with multiple nodes at this junction exceeding 85% which shows high delays and congestion at this location.

4.1.3 The forecasts undertaken reflect the forecast impact of the proposed development at East Midlands Gateway Phase 2. 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 strategic impact and form part of the proposed East Midlands Gateway Phase 2 assessment evidence packs, the overall assessment should be complemented by local operational assessment and analysis.

Appendix A Planning Data Assumptions

Table A.1: 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	1,953	2021-2037	Y
North West Leicestershire	Land North and South of Park Lane	657	2021-2027	Y
North West Leicestershire	Land off Grange Road (South East Coalville)	3,433	2021-2035	Y
North West Leicestershire	Land at Measham Waterside Burton Road	585	2027-2041	Y
North West Leicestershire	Land North and South of Park Lane, Castle Donington (CD10)	1,076	2027-2036	N
North West Leicestershire	Isley Woodhouse (IW1)	4,500	2029-2050	N

Table A.2: Employment Development Assumptions (sites with more than 750 jobs) (North West Leicestershire and East Midlands Freeport sites)

For information, the following table shows the employment sites with more than 750 jobs within North West Leicestershire as well as the sites associated with the East Midlands Freeport development in South Derbyshire.

District	Location	Quantum	Timescale	Include
North West Leicestershire	Mercia Park	393,100 sqm (floorspace)	2023-2027	Y
North West Leicestershire	Strategic Rail Freight Interchange on Land North of East Midlands Airport/West of M1 Junction 24	499,630 sqm (floorspace)	2020-2025	Y
North West Leicestershire	Money Hill	15.9 ha (Site Area)	2027-2031	Y
North West Leicestershire	Segro East Midlands Gateway Phase 2	400,000 sqm (floorspace)	2028-2031	N
North West Leicestershire	Land South of Junction 1 of the A50 Castle Donington Leicestershire	92,500 sqm (floorspace)	2026-2029	Y
North West Leicestershire*	East Midlands Airport Aviation Expansion	940 Jobs	2026-2028	N
North West Leicestershire	Land West of Hilltop Farm, Castle Donington (Emp89)	17,850 sqm (floorspace)	2025-2034	N
North West Leicestershire	Land North of Remembrance Way (A453), Kegworth (Emp73 (Part))	40,000 sqm (floorspace)	2025-2034	N
South Derbyshire*	EMIP Masterplan 1	4,440 Jobs	2026-2030	N
South Derbyshire*	EMIP Masterplan 2	3,540 Jobs	2026-2030	N
South Derbyshire*	EMIP Masterplan 3	1,620 Jobs	2026-2030	N

***** East Midlands Freeport development sites

Appendix B Network Assumptions

Table B.1: Highway Network Assumptions

Location	Scheme Name	Forecast Year	Include
Earl Shilton	Access arrangements for SUE / 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	4. 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	MMDR Northern Section	2026	Y
Melton	MMDR Eastern Section	2026	Y
Melton	MMDR 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

Location	Scheme Name	Forecast Year	Include
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 Rd 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
North West Leicestershire	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	N
Derbyshire	Toton Innovation Hub (HS2)	2026	Y
Nottinghamshire	Ratcliffe Power Station A453 (Freeport)	2030	N
Rugby	Rugby Radio Station - A5 Access	2022	Y
North West Leicestershire	Mercia Park	2020	Y

Location	Scheme Name	Forecast Year	Include
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 Road and Outlands Drive	2021	Y
M6 Junction 10-13	M54-Stafford ALR	2021	Y
M54-M6 Toll	New Link Road min 2 lane motorway	2024	Y
M6 J13-J16	Stafford South to Stoke ALR	2022	Y
M1 J13-16	MK South - J16 ALR	2022	Y
M40 M42	M40 J16-M42 J3 ALR	2026	Y
A46 Coventry	Remove Binley and Walsgrove roundabouts M40-M6 as 'expressway standard' (i.e. all grade separated junctions)	2026	Y
A46 Toll Bar End	Grade separated junction at TBE & Stonebridge Highway to 3 lanes	2021	Y
Newark North	Dualling Newark N bypass first stages now in RIS 2	2031	Y
Newark South	A1-A46 link S of Newark; part constructed. Not in MRTM list	2031	Y
Lincoln East	A15-A158; under construction	2021	Y
Lincoln South	A158-A46; *sketchy details*; envisaged as dual carriageway… Assumed costing will be similar to Lincoln E bypass and will be 60mph single	2031	Y
Grantham South	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 Phase 1	2024	Y
Nuneaton and Bedworth Borough	College Street / A444	2026	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 Street 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

Location	Scheme Name	Forecast Year	Include
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 (Combe Fields Road)	2020	Y
Castle Donington	Land South of A50 J1 Development Access	2024	Y
Hinckley	B4114 Coventry Rd / Broughton Rd widening	2021	Y
Shepshed	A512 Ashby Rd Quarry access/signalised junction	2021	Y
Bardon	Tungsten Park, Bardon A511	2021	Y
North West Leicestershire	Segro EMG Phase 2 Development Access	2028	N
Leicester City	St George Street (Queen Street to Southampton Street)	2022	Y
Leicester City	Dover Street (Granby Street Junction)	2024	Y
Leicester City	Granby Street (Bishop Street to Halford Street)	2024	Y
Leicester City	Granby Street (Northampton Street to Street George's Way)	2022	Y
Leicester City	Pocklingtons Walk	2022	Y
Leicester City	Aylestone Road, Saffron Lane to Oxford Street (A426)	2023	Y
Leicester City	Saffron Lane (B5366)	2023	Y
Leicester City	Duns Lane/Braunstone Gate	2023	Y
Leicester City	Abbey Park Road (Eastern section and bridge)	2023	Y
Leicester City	Anstey Lane (A5630)	2022	Y
Leicester City	St. Margaret's to Birstall (A6)	2024	Y
Leicester City	Melton Road (A607)	2023	Y
Leicester City	Belgrave Gate/Haymarket/Church Gate Pedestrianisation	2020	Y
North West Leicestershire	A50 Junction 1 signalisation of two additional arms (Tamworth Road and Trent Lane)	2025	Y
Blaby	Desford Road/Ratby Lane signalisation	2022	Y
Nottinghamshire	A52 Gamston roundabout	2023	Y
Nottinghamshire	A52 Wheatcroft junction	2028	Y
Nottinghamshire	A52 Nottingham Knight junction	2028	Y
Derbyshire	A38 grade-separated junctions (Kingsway Roundabout, Markeaton Island and Little Eaton Roundabout)	2024	Y
Broxtowe	Toton Link Road	2026	N

This page is intentionally blank

About AECOM

AECOM is the world's trusted infrastructure consulting firm, delivering professional services throughout the project lifecycle — from planning, design and engineering to program and construction management. On projects spanning transportation, buildings, water, new energy and the environment, our public- and private-sector clients trust us to solve their most complex challenges. Our teams are driven by a common purpose to deliver a better world through our unrivalled technical expertise and innovation, a culture of equity, diversity and inclusion, and a commitment to environmental, social and governance priorities. AECOM is a Fortune 500 firm and its Professional Services business had revenue of $13.2 billion in fiscal year 2020. See how we are delivering sustainable legacies for generations to come at aecom.com and @AECOM.

Delivering a better world

aecom.com

APPENDIX 46: VISSIM Local Model Validation Report (document reference EMG2-BWB-GEN-XX-RP-TR-0006_S2-P4)

A CAF GROUP COMPANY

TRANSPORT & INFRASTRUCTURE PLANNING

SEGRO

East Midlands Gateway, Phase 2

Local Model Validation Report (LMVR)

www.bwbconsulting.com

TRANSPORT & INFRASTRUCTURE PLANNING

SEGRO
East Midlands Gateway, Phase 2
Local Model Validation Report (LMVR)

Birmingham
Livery Place, 35 Livery Street, Colmore Business District
Birmingham, B3 2PB
T: 0121 233 3322

Leeds
Whitehall Waterfront, 2 Riverside Way
Leeds, LS1 4EH
T: 0113 233 8000

London
11 Borough High Street
London, SE1 9SE
T: 0207 407 3879

Manchester
11 Portland Street
Manchester, M1 3HU
T: 0161 233 4260

Nottingham
5th Floor, Waterfront House, Station Street
Nottingham, NG2 3DQ
T: 0115 924 1100

~~August 2023~~January 2026

DOCUMENT ISSUE RECORD

Document Number:	EMG2-BWB-GEN-XX-RP-TR-0006_VISSIM_LMVR-S2-~~P03~~P06
BWB Reference:	220500

Revision	Date of Issue	Status	Author:	Checked:	Approved:
P01	31/03/2023	Issue 1	[redacted]	[redacted]	Paul Wilson
P02	15/01/2025	Issue 2	[redacted]	[redacted]	Paul Wilson
P03	06/02/2025	Issue ~~2~~3	[redacted]	[redacted]	Paul Wilson
P04	26/06/2025	Issue 4	[redacted]	[redacted]	Paul Wilson
P05	22/10/2025	Issue 5	[redacted]	[redacted]	Paul Wilson
P06	27/01/2026	Issue 6	[redacted]	[redacted]	Paul Wilson

Notice

CONTENTS

FIGURES

TABLES

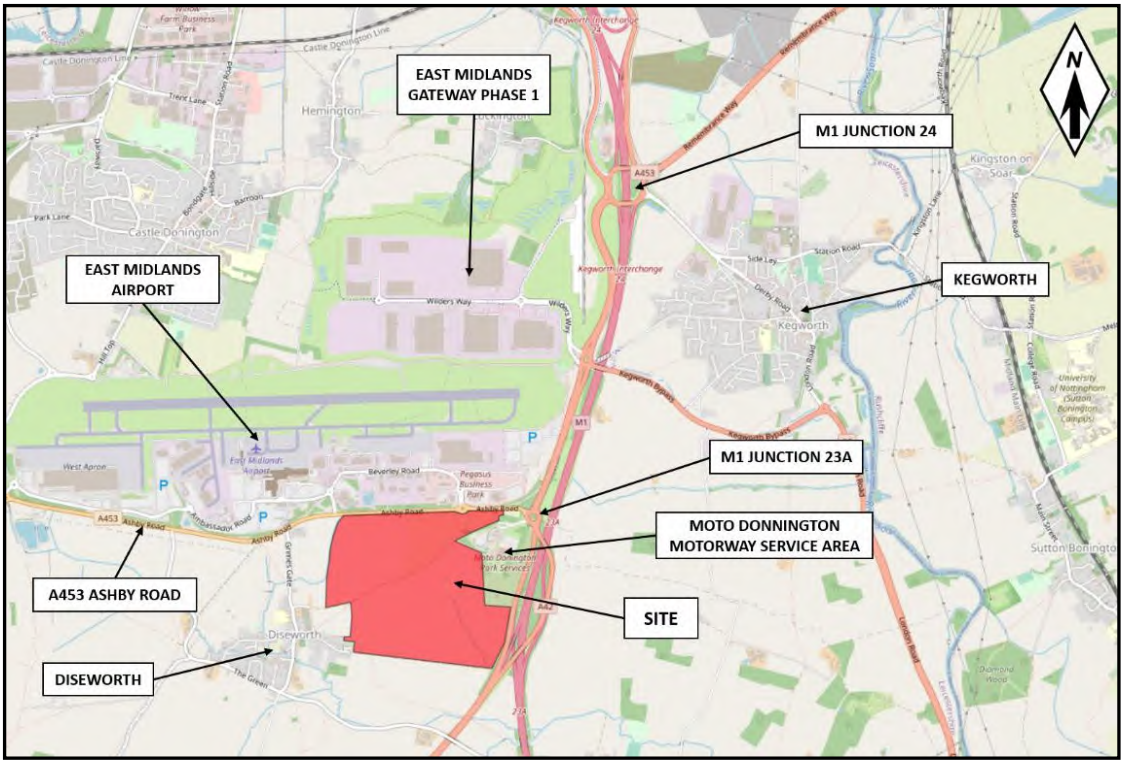
APPENDICES

1. INTRODUCTION

1.1 BWB Consulting Ltd (BWB) has been appointed by SEGRO (the Applicant) to produce a microsimulation traffic model of the M1 Junction 24, in support of an outline planning application for the Phase 2 Expansion of East Midlands Gateway (EMG) site.

1.2 The gross floor area (GFA) of the proposed scheme is approximately 3.23 million sqft (300,000sqm) comprising of 80% B8 use and 20% for B2 use, all with ancillary office use. The location of the proposed development is show in **Figure 1**.

Figure 1. Site Location



1.3 As part of East Midlands Gateway Phase 1, BWB obtained a copy of the M1 J24 VISSIM model network from National Highways in 2014. The model was validated and calibrated by AECOM to a base year of 2012. This model was utilised by BWB to assess the proposed highway network changes including improvements to M1 J24 as part of the EMG Phase 1. However, the model is now outdated and the proposed migitation as well as the scheme have been constructed on site since and is operational.

1.4 Therefore, to assess the impact of EMG Phase 2, a revalidation of the base model was required, this technical note has been produced to outline the modelling methodology undertaken as well as provide details of model calibration and validation.

Report Structure

1.5 Following this introduction, the remainder of this report is structured as follows:

- **Section 2:** Network Development, sets out the modelling parameters associated with the baseline model;

- **Section 3:** Model calibration, including comparison of manual turning count data against modelled flows.

- **Section 4:** Model validation comparing surveyed journey times with modelled journey times.

- **Section 5:** Summary and Conclusions.

2. NETWORK DEVELOPMENT

Model Approach

2.1 The PTV software package VISSIM is a microscopic, time-step, behaviour-based simulation tool developed to model traffic and public transport operations. VISSIM models individual vehicles and presents these movements visually, assisting in model validation and in the assessment of the performance of network improvement options.

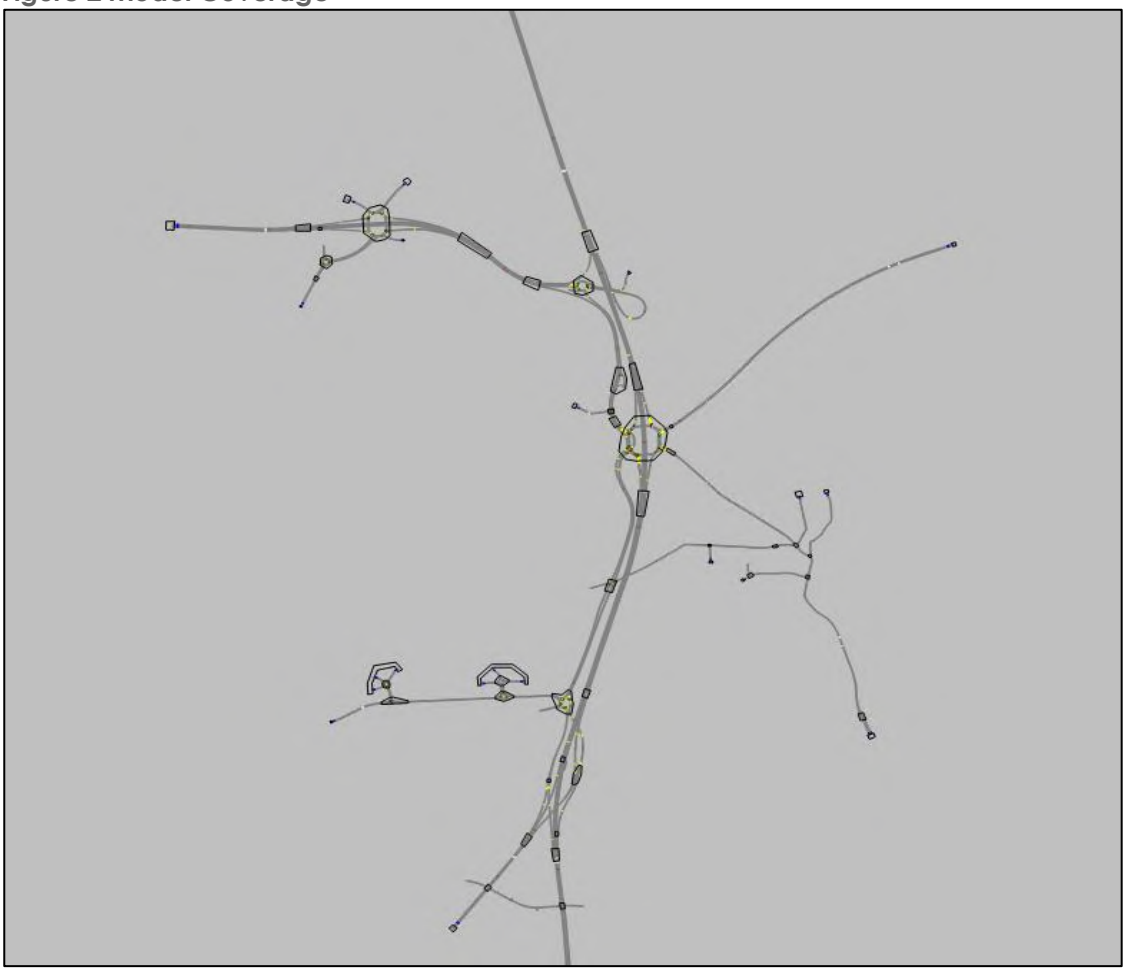
2.2 VISSIM provides output information such as queues, delays, and journey times on identified routes and other specific information. VISSIM also enables 3D videos to be produced providing a powerful visual simulation of the highway network.

2.3 The existing VISSIM model has utilised dynamics assignment for traffic flow input, therefore the this has been retained.

Model Coverage

2.4 The extents of the existing VISSIM model has been illustrated in **Figure 2** below.

Figure 2 Model Coverage



2.5 The existing model comprises of the following junctions.

i. A50 junction 1 Sawley Interchange;
ii. M1 J24a;
iii. M1 J24;
iv. A453/EMG Phase 1/Kegworth Bypass signal controlled gyratory;
v. M1 J23a Finger Farm roundabout (including M1/A42 on and off slip roads);
vi. A453/Hunter Road/minor EMG Phase 2 access roundabout
vii. A453 East Midlands airport internal roundabouts.

2.6 Following discussions with NH, it was agreed that the model will be cordoned of to the following junctions:

i. M1 J24;
ii. M1 J24a southbound merge onto the M1 and M1 junction 24;
iii. A453/EMG Phase 1/Kegworth Bypass signal controlled gyratory;
iv. M1 J23a Finger Farm roundabout (including M1/A42 on and off slip roads);
v. A453/Hunter Road/minor EMG Phase 2 access roundabout;
vi. A453/EMG Phase 2 site access roundabout.

Survey Data

2.7 Manual turning count surveys were undertaken on 3rd November 2023 for all junctions outlined in Paragraph 2.4. with the exception of the A453/Kegworth Bypass junction which was undertaken on 23rd November 2023. **Figure 3** illustrates locations of surveys undertaken and data points that are available on the WebTRIS website.

Figure 3: Survey and WebTRIS Data Locations

2.8 The survey data has been compared to a neutal month which was obtained from the Webtris website for a number of available data points around J24. The **Tables 1** and **2** sets our the GEH comapison between the survey data and the Webtris data.

Table 1: Survey Comparison AM

Appoarch/Exit	Traffic Flows (Veh)			GEH Comparison	
	Survey	2022 (Webtris)	2023 (Webtris)	2022 vs Survey	2023 vs Survey
M1 S Approach	1876	1811	1859	1.51	0.39
M1 S Exit	655	689	691	1.31	1.39
A453 Exit Towards EMG1	944	954	1014	0.32	2.24

Table 2: Survey Comparison PM

Appoarch/Exit	Traffic Flows (Veh)			GEH Comparison	
	Survey	2022 (Webtris)	2023 (Webtris)	2022 vs Survey	2023 vs Survey
M1 S Approach	1712	1715	1769	0.07	1.37
M1 S Exit	955	984	1002	0.93	1.50
A453 Exit Towards EMG1	615	666	699	2.02	3.28

2.9 The tables above illistriaght that the survey data is within a GEH 5 when comparing the neutal month from webtris and therefore, the survey data is acceptable.

2.10 The network peak hours were calculated as 0730-0830 and 1700-1800 in the morning and evening period respectively.

2.11 TomTom journey time data was obtained for all neutral days within the month of November 2022. Ths has been utilised for journey time validation purposes.

Model Time Periods

2.12 The modelled time periods include half an of hour warm up and cool down period either side of the peak hours. Subsequently, the model covers the following time periods:

- Weekday morning period from 0700-0900; and
- Weekday evening period from 1630-1830.

Traffic Flow Calculations

2.13 The traffic survey were utlised to generate traffic flow diagrams for each 15 minute interval with the time periods set out above for both light and heavy vehicles respectively. As the EMG gyratory junction was surveyed on a different day, there where significant discrepencies in flows northbound/southbound along the A453 therefore the flows have factored in accordance with flows approaching M1 J24 and Finger Farm Roundabout to ensure consistency for OD matrix estimation

2.14 The flows for the ahead and merge/diverge proportions have been calculated using counts that are avabilble on the WebTRIS website. **Tables ~~1~~3, 4** and **~~2~~5** illustrate the calculations undertaken to derive the flows along the motorway as well as the split of traffic at the merges and diverges.

Table 3: Hourly WebTRIS Flows

Time Periods	WebTRIS				Divided By 4 (each 15 interval)			
	Northbound		Southbound		Northbound		Southbound	
	Lights	Heavies	Lights	Heavies	Lights	Heavies	Lights	Heavies
07:00-08:00	2275	605	4471	643	569	151	1118	161
08:00-09:00	2463	442	4069	581	616	111	1017	145
16:00-17:00	4132	502	3740	518	1033	126	935	130
17:00-18:00	4127	416	3863	491	1032	104	966	123
18:00-19:00	3307	290	3113	410	827	73	778	103

Table 4: 15-minute WebTRIS Flows (LGVs)

Time Periods	WebTRIS				% Split				Inputs into VISSIM			
	Northbound		Southbound		Northbound		Southbound					
	A42	M1	A42	M1	A42	M1	A42	M1	B-G	B-H	G-B	H-B
07:00 - 07:15	463	942	446	1028	33%	67%	30%	70%	780	338	381	187
07:15 - 07:30	441	895	477	1024	33%	67%	32%	68%	763	355	381	188
07:30 - 07:45	466	926	455	937	33%	67%	33%	67%	752	365	378	190
07:45 - 08:00	428	794	455	921	35%	65%	33%	67%	748	370	370	199
08:00 - 08:15	374	777	432	790	32%	68%	35%	65%	658	360	416	200
08:15 - 08:30	360	727	388	714	33%	67%	35%	65%	659	358	412	204
08:30 - 08:45	368	688	395	760	35%	65%	34%	66%	669	348	401	215
08:45 - 09:00	358	645	371	719	36%	64%	34%	66%	671	346	396	220
16:30 - 16:45	646	1148	547	902	36%	64%	38%	62%	582	353	661	372
16:45 - 17:00	525	1079	517	945	33%	67%	35%	65%	604	331	695	338
17:00 - 17:15	545	1145	542	944	32%	68%	36%	64%	614	352	699	333
17:15 - 17:30	571	1196	539	974	32%	68%	36%	64%	622	344	698	333
17:30 - 17:45	497	1301	579	887	28%	72%	39%	61%	584	381	747	285
17:45 - 18:00	615	1140	494	829	35%	65%	37%	63%	605	361	670	362
18:00 - 18:15	524	1040	442	795	34%	66%	36%	64%	500	278	550	277
18:15 - 18:30	464	945	417	718	33%	67%	37%	63%	492	286	554	272

Table 5: 15-minute WebTRIS Flows (HGVs)

Time Periods	HGVs											
	WebTRIS				% Split				Inputs into VISSIM			
	Northbound		Southbound		Northbound		Southbound					
	A42	M1	A42	M1	A42	M1	A42	M1	B-G	B-H	G-B	H-B
07:00 - 07:15	75	102	68	96	42%	58%	41%	59%	94	67	87	64
07:15 - 07:30	62	115	66	105	35%	65%	39%	61%	99	62	98	53
07:30 - 07:45	57	119	56	115	32%	68%	33%	67%	108	53	102	49
07:45 - 08:00	65	102	54	112	39%	61%	33%	67%	108	52	92	59
08:00 - 08:15	40	120	58	129	25%	75%	31%	69%	100	45	83	28
08:15 - 08:30	55	108	60	125	34%	66%	32%	68%	98	47	73	37
08:30 - 08:45	58	121	85	123	32%	68%	41%	59%	86	59	75	36
08:45 - 09:00	80	103	71	104	44%	56%	41%	59%	86	59	62	48
16:30 - 16:45	80	107	64	89	43%	57%	42%	58%	75	54	72	54
16:45 - 17:00	55	88	55	81	38%	62%	40%	60%	77	52	77	48
17:00 - 17:15	49	108	54	116	31%	69%	32%	68%	84	39	72	32
17:15 - 17:30	41	92	45	117	31%	69%	28%	72%	89	34	72	32
17:30 - 17:45	47	83	50	89	36%	64%	36%	64%	79	44	66	38
17:45 - 18:00	43	91	57	104	32%	68%	35%	65%	79	43	71	33
18:00 - 18:15	36	59	58	88	38%	62%	40%	60%	62	41	45	27
18:15 - 18:30	49	51	40	77	49%	51%	34%	66%	67	35	37	36

2.15 Each 15-minute interval has been inputed into a skeleton LinSig model of the assessment area for both lights and heavies vehicles to allow LinSig's matrix estimation function to generate OD matrices that can be inputted into VISSIM.

Traffic Signals

2.16 A copy of the MOVA files for M1 J24 and the EMG gyratory were obtained from NH and the model has been updated to utilise the latest files.

2.17 PCMOVA has been utilised to replicate the the signal operation of the M1 J24 and EMG gyratory. The video footage of the junction was compared with the signal operation in VISSIM and it was concluded that this was reflective of on site behaviour.

2.18 MOVA data sets were not available for EMG West Steam 3, East Stream 3 and M1 J24 West Stream 4, therefore, VisVAP program has been ustilised to set up the exit/crossing signal controllers and subsequently link them to the respective MOVA junctions using detectors.

3. Network Development

3.1 A number of changes have been made to the original base model to ensure calibration & validation of the model. These include changes to reduced speed areas, desired speed distributions, priority rules, conflict area and link/flare usage. Details of these have been provided below.

Desired Speed Distribution And Reduced Speed Area

3.2 Initial review of the desired speed distributions utilised in the EMG Phase 1 model had been undertaken and it was noted that the speed distributions for 30, 60 and 70mph were affecting the journey times of vehicles in the model. Therefore, DfT data for the most recent year available (2021) has been obtained and new desired speed distributions have been calculated in coded into VISSIM.

3.3 Reduced speed areas have been retained and checked in accordance streetview, from the initial model apart from the road that connects the A50 to the M1/M1 J24. The TomTom Journey Data has been review and it was noted that the average speed traveling along this link is lower than what is sign posted and therefore amended to reflect this in the model.

3.4 A number of reduced speed area have been coded on to EMG gyratory around the bus stops.

Priority Rules & Conflict Areas

M1 J24

3.5 The existing priority rules and conflict areas have largely been unaltered apart from a small number of priority rules at the M1 J24 on the M1 northbound Off-Slip entry. The priority rules that have been amended are as follows:

- 495, 496, 497, 498

3.6 A few priority rules have been added on the M1 southbound Off-Slip entry. The priority rules that have been added are as follows:

- 501, 502, 502, 504

EMG Gyratory

3.7 The existing priority rules and conflict areas have largely been unaltered apart from a small number of priority rules at the EMG gyratory. The priority rules that have been amended are as follows:

- 469, 489, 509

3.8 The above alterations have been undertaken to ensure no overrunning of vehicles along the circulatory carriageway.

Public Transport

3.9 A number of bus services were identified within the study area therefore these have been coded into VISSIM in accordance with the respectively timetables and route maps. The following services are included within the model:

- EMG Shuttle Bus
- 9 – EMA – Queens Hospital
- Skylink Derby – Leicester – Derby
- Skylink Derby – Derby – Leicester
- Skylink Nottingham – Nottingham – Loughborough
- Skylink Nottingham – Loughborough – Nottingham
- Skylink Express – Nottingham – EMA
- Skylink Express – Nottingham – EMA

4. Model Changes

4.1 A copy of the VISSIM model was submitted to National Highways on 31 March 2023 subsequently comments were received on 3 May 2023. Following this, a revised copy of the VISSIM models were submitted on 11 July 2023 to ensure network parameters were acceptable prior to rerunning the models for validation. Details of the changes made are provided below.

Comment 1: "Driver behaviour parameter should retain default values unless a reasonable justification for the changes made is provided."

Amendment 1: The driver behaviour parameters have been reverted back to defult

Comment 2: "It is considered that Wiedemann 74 is not suitable for use on motorway, or even dual carriageway links (away from junctions) and that a behaviour type based on Wiedemann 99 should be used."

Amendment 2: Motorway link and dual carriageway links have been amended to Wiedemann 99

Comment 3: "The Behaviour at Amber/Red Signal for Driver Behaviour types should be changed to 'stop' rather than 'go' as current modelled."

Amendment 3: Behaviour at Amber/Red Signal for Driver Behaviour types set to 'stop'

Comment 4: "The various discrepancies between the on-street highway layout and that in the model should be reviewed and corrected."

Amendment 4: Link arrangements have been reviews and amended to reflectexactly whats on the ground.

Comment 5: "The coded vehicle entry speed from Parking Lots and DSDs throughout the network need to be revised to ensure consistent implied vehicles speeds on the same stretch of highway."

Amendment 5: All Parking Lots and DSD have been reviewed and amended where needed to provide more realistic vehicle speeds throughout the network.

Comment 6: "The omission of RDAs in the locations listed in this review should be investigated and appropriate RDAs added to the network."

Amendment 6: RDAs have been review and added/amended throughout the network

Comment 7: "All discrepancies between the controller information and the modelled controller parameters, in particular the inter-green values, should be checked and corrected as appropriate."

Amendment 7: All Signal spec checked and amended where required including intergreens

Comment 8: "There appears to be differences in the call/cancel times between the controller information and those used in the model. These should be checked and corrected as appropriate."

Amendment 8: call/cancel times have been amended

Comment 9: "The dummy connector on the AS453 eastbound entry to Hunter Roundabout should be deleted, mainly to ensure vehicles entering the roundabout correctly give-way."

Amendment 9: call/cancel times have been amended

4.2 Further to the above, some slight modifications were requested for the models, and these changes have been incorporated into the updated VISSIM model.

5. ADDITIONAL MODEL CHANGES

5.1 Initial runs of the forecast modelling indicated some calibration issues, therefore, additional changes have been made to the base model. These amendments are set out below.

VISSIM Version

5.2 VISSIM base model revalidated in VISSIM 24. VISSIM 24 utilises all cores therefore this will reduce computation time of forecast modelling runs.

Links

M1 J24

5.3 M1 NB exit altered (Link 10079) to one lane to reflect existing layout.

5.4 Altered the M1 south approach circulatory from 2 x 2-lane links (Link 17 & Link 194) to 1 x 4-lane link (Link 17). This allows better lane utilisation.

5.5 M1 N approach lane connectors (Link 10016) to A453 Remembrance Way from 1 lane connectors to a 2-lane connector to reflect video observation as well as road markings.

EMG Gyratory

5.6 Altered the EMG approach from 2x2-lane links to 1x4-lane link as the former caused convergence issues in the forecast modelling scenarios.

- Links Amended: 48, 70, 83, 576, 10481, 10482, 10487

Flare lengths

5.7 Flare lenths and allignments have also been reviewed and amended, the northbound approach to Finger Farm Roundabout (Link 136) and the eastbound approach to Hunters Road Roundabout (Link 212).

Signals

5.8 MOVA changes at M1 J24 special conditioning amended from call/cancel to delay/persistence. Signal linkage issues were noted in the forecast modelling scenarios.

A review of the video footage indicated that the call/cancel special conditioning did not reflect the signal operation well, particularly on the southwestern quadrant of the junction. Therefore special conditioning was amended to delay/persistence which reflected the operation better.

5.9 BWB have had discussions with a MOVA engineer who indicated that typically if links are set to simple traffic, these are not utilised on-site. Therefore detectors associated with simple traffic at the EMG gyratory have been removed.

Priority Rules

5.10 Some of the priority were slightly misaligned at the Finger Farm Roundabout causing vehicles to change lanes at the approach to the circulatory. Therefore, these have been repositioned to ensure no unnecessary lane changes.

Route Clousures

5.11 When undertaking the forecast modelling a calibration issue presented itself where traffic coming from the M1 south would come off the M1 travel up the A453 to Junction 24 in the AM. This is not realistic and therefore a route closure has veen added to stop vehicles doing this movement. This route closure will be used in all AM forecast modelling to remain consistent.

Route Costs

5.12 There are 2 routes to access the A50 via Junction 24 for vehicles travelling northbound from the the M1 and the A42, one route is to travel up the M1 and the other route is via the A453. As the model is a dynamic model and when running the models for calibration VISSIM assigns flows to each of these routes depending on where delay is in the model.

5.13 The GEH at Junction 24 for the 2 routes were unbalanced where VISSIM was assigning too many vehicles to use the A453 compared to the M1 and therefore, as a result a cost has been assigned to link number 184 of 75/km. this value provides the best split of traffic between the 2 routes and provides a cohesive GEH at J24. The will remain consistent between all forecast modelling scenarios.

Driving Behaviours

5.14 Upon undertaking the future year modelling, due to the higher level of traffic a number of merges throughout the model were generating unnessassary delay due to drivier behaviour being to harsh for the 'Merge' Link type. Therefore driving behaviour had been reviewed and two separate merge/diverge behaviours have been utilised in the model, 'Wiedemann 99' for motorway merge/diverge and 'Wiedemann 74' for urban link roads.

6. MODEL CALIBRATION

Traffic Data

6.1 A skeleton LinSig model of the VISSIM network was built and Lights/Heavies turning movements were input into LinSig at 15-minute intervals. LinSig matrix estimation was subsequently used to generate synthetic OD matrices for input into the VISSIM model.

Convergence

6.2 The base model has been developed using dynamic assignment therefore models have been converged prior to extracting results from the model. TfL traffic modelling guidelines indicates that a model is converged if:

- 95% of all path traffic volumes change by less than 5% for at least four consecutive iterations; and
- 95% of travel times on all paths change by less than 20% for at least four consecutive iterations.

6.3 A summary of the convergence is presented in **Table** 6 below.

Table 6: Model Convergence Summary

Sim Run	Traffic Volume		Travel Time on Paths	
	AM	PM	AM	PM
1	~~96~~97%	~~98~~99%	~~98~~99%	~~97~~98%
2	~~96~~92%	~~97~~98%	~~98~~93%	~~96~~97%
3	97%	98%	~~97~~99%	~~95~~96%
4	~~96~~97%	~~96~~97%	~~96~~99%	~~96~~95%
5	~~98~~97%	~~97~~96%	~~95~~99%	~~95~~97%
6	~~96~~99%	~~97~~95%	~~99~~100%	~~97~~96%
7	~~99~~97%	~~96~~98%	~~98~~99%	~~97~~98%
8	~~98~~97%	~~97~~99%	~~97~~99%	~~98~~99%
9	98%	97%	98%	99%
10	99%	98%	97%	99%

6.4 Based on the above, it is considered that both morning and evening peak hour models are converged.

Simulation

6.5 Ten iterations of each of the models were run starting at a random seed of 42 and increasing by 5 each interaction. The network performance parameter 'average delay per vehicle' was obtained for each run. The mean of the 10 runs was found for each option and the average was selected for calibration. The results of this process are presented in **Table 7** below.

Table 7: Network Performance

Seed Value	AM PEAK	PM PEAK
	Average Delay per Vehicle	Average Delay per Vehicle
42	~~46.170~~53.267	~~61.581~~42.262
47	~~44.658~~50.350	~~71.990~~41.117
52	~~44.487~~50.585	~~60.368~~41.717
57	~~47.306~~48.954	~~62.967~~41.638
62	~~46.182~~52.342	~~67.577~~40.887
67	~~46.161~~51.300	~~65.721~~41.998
72	~~50.306~~48.923	~~67.168~~42.478
77	~~45.939~~52.584	~~70.858~~40.732
82	~~47.814~~52.408	~~67.147~~40.040
87	~~46.965~~50.361	~~55.121~~42.866
Average	~~46.60~~51.11	~~65.05~~41.57
SD	1.~~58~~45	~~4.84~~0.83
Confidence	0.~~98~~90	~~3.00~~0.52

6.6 The stability of the models was judged using the Chi2 goodness of fit test which seeks to demonstrate that statistically the different model runs pass the goodness of fit null hypothesis that there is no significant difference in average delays between the seed values, thus demonstrating stability.

6.7 **Table 8** below demonstrate that, using the Chi2 distribution, in the morning and evening peak models pass the Chi2 goodness of fit test for respective degrees of freedom. The models therefore exhibit suitable stability/repeatability and are fit for purpose.

Table 8: Summary of Seed Stability Assessment

	MORNING PEAK					EVENING PEAK				
Seed	Observed	Expected	o-e	(o-e)2	(o-e)2/e	Observed	Expected	o-e	(o-e)2	(o-e)2/e
42	46.170	46.558	-0.388	0	0.003	61.581	65.050	-3.468	12.030	0.185
47	44.658	46.558	-1.900	4	0.078	71.990	65.050	6.940	48.162	0.740
52	44.487	46.558	-2.071	4	0.092	60.368	65.050	-4.682	21.922	0.337
57	47.306	46.558	0.748	1	0.012	62.967	65.050	-2.083	4.338	0.067
62	46.182	46.558	-0.376	0	0.003	67.577	65.050	2.527	6.386	0.098
67	46.161	46.558	-0.397	0	0.003	65.721	65.050	0.671	0.451	0.007
72	50.306	46.558	3.748	14	0.302	67.168	65.050	2.119	4.488	0.069
77	45.939	46.558	-0.619	0	0.008	70.858	65.050	5.808	33.735	0.519
82	47.814	46.558	1.256	2	0.034	67.147	65.050	2.097	4.399	0.068
87	46.965	46.558	0.407	0	0.004	55.121	65.050	-9.929	98.585	1.516
					0.539					3.605
	chi critical	0.05				chi critical	0.05			
	DF	(n-1)	9	=	16.919	DF	(n-1)	9	=	16.919

Pass as 0.539 is less than 16.919 **Pass as 3.605 is less than 16.919**

TABLE 2: SUMMARY OF SEED STABILITY ASSESSMENT

MORNING PEAK						EVENING PEAK				
Seed	Observed	Expected	o-e	(o-e)2	(o-e)2/e	Observed	Expected	o-e	(o-e)2	(o-e)2/e
42	53.267	51.107	2.160	5	0.091	42.262	41.574	0.689	0.474	0.011
47	50.350	51.107	-0.758	1	0.011	41.117	41.574	-0.457	0.209	0.005
52	50.585	51.107	-0.522	0	0.005	41.717	41.574	0.144	0.021	0.000
57	48.954	51.107	-2.153	5	0.091	41.638	41.574	0.064	0.004	0.000
62	52.342	51.107	1.234	2	0.030	40.887	41.574	-0.687	0.471	0.011
67	51.300	51.107	0.192	0	0.001	41.998	41.574	0.424	0.180	0.004
72	48.923	51.107	-2.184	5	0.093	42.478	41.574	0.905	0.819	0.020
77	52.584	51.107	1.477	2	0.043	40.732	41.574	-0.842	0.708	0.017
82	52.408	51.107	1.300	2	0.033	40.040	41.574	-1.533	2.351	0.057
87	50.361	51.107	-0.747	1	0.011	42.866	41.574	1.293	1.671	0.040
					0.409					0.166
	chi critical	0.05				chi critical	0.05			
	DF	(n-1)	9	=	16.919	DF	(n-1)	9	=	16.919
					Pass as 0.409 is less than 16.919					Pass as 0.166 is less than 16.919

Network Performance

6.8 **Table 9** presents a summary of the average Network Performance information.

Table 9: Network Performance

-	AM	PM
Average Delay (s)	~~55~~52	~~46~~41
Average Speed (mph)	~~48~~49	~~50~~52
Vehicles Arrived	~~18670~~18740	~~18712~~18541
Latent Delay	1401	2336
Latent Demand	~~0.5~~1	0.~~9~~6

6.9 **Table 9** illustrates that there is minimal latent demand in the morning peak hour period however a review of the error logs indicate that by the end of the cool down period, all vehicles are able to enter the VISSIM network.

Calibration Methodology

6.10 The Design Manual for Roads and Bridges (DMRB) defines model calibration as "the process of adjusting the parameters used in the various mathematical relationships within the model to reflect the data as well as is necessary to reflect the model objectives". The model calibration process ensures that model has the ability to exhibit characteristics that accurately compare with observed data.

6.11 The model calibration has been undertaken over a model period of 1.0 hour in the morning peak (07:30 – 08:30) and 1 hour in the evening peak (17:00 – 18:00). These periods of calibration do not include the 'warm up' and 'cool down' period before and after the identified 07:30 – 08:30 and 17:00 – 18:00 morning and evening peak hours.

Traffic Flow Calibration

6.12 The Design Manual for Roads and Bridges (DMRB) defines model calibration as "the process of adjusting the parameters used in the various mathematical relationships within the model to reflect the data as well as is necessary to reflect the model objectives". The model calibration process ensures that the model has the ability to exhibit characteristics that accurately compare with observed data.

6.13 DfT Transport Analysis Guidance (TAG) states that the calibration of traffic data in a model should be based on the Geffrey E.Havers (GEH) statistic, and states that modelled flows must have a GEH value of less than 5 in at least 85% of the cases.

6.14 The turning count calibration for the base model has been based on the average of all simulation runs. **Table** 10 provides a summary of the comparison between the observed and modelled total turning movements within the model.

Table 10: Summary of Traffic Flow Calibration

	Total Turns	Counts GEH<5
Morning Peak	59	88%
Evening Peak	59	~~94~~91%

3.1 The above table represent a pass rate of over 85% for a GEH of less than 5 in both peak hour periods. The model is therefore considered to be fit for purpose. A copy of the full output is presented in **Appendix 1**.

7. MODEL VALIDATION

Introduction

7.1 TAG Unit M3.1 states that "for journey time calibration, the measure which should be used is: the percentage difference between modelled and observed journey times, subject to an absolute maximum difference". Subsequently, Table 3 of TAG states that the "modelled times along routes should be within 15% of surveyed times or 1 minute, if higher than 15%."

Travel Time Survey

7.2 TomTom journey time survey was obtained at 15 minute intervals for the neutral days within the month of November 2023 during the peak hours.

7.3 **Figure 4** and **5** provides routes utilised for journey time validation.

Figure 4: Journey Time Routes (1 - 10)

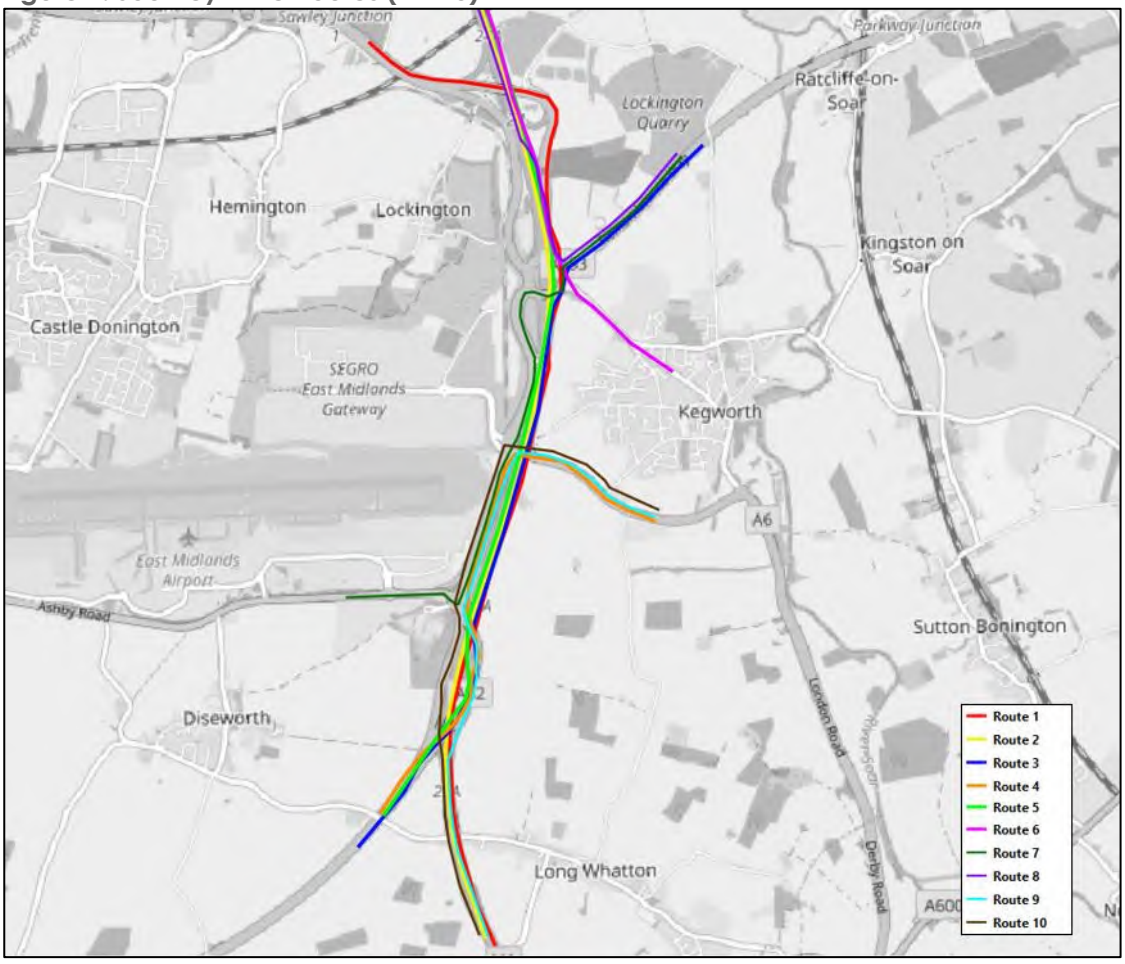
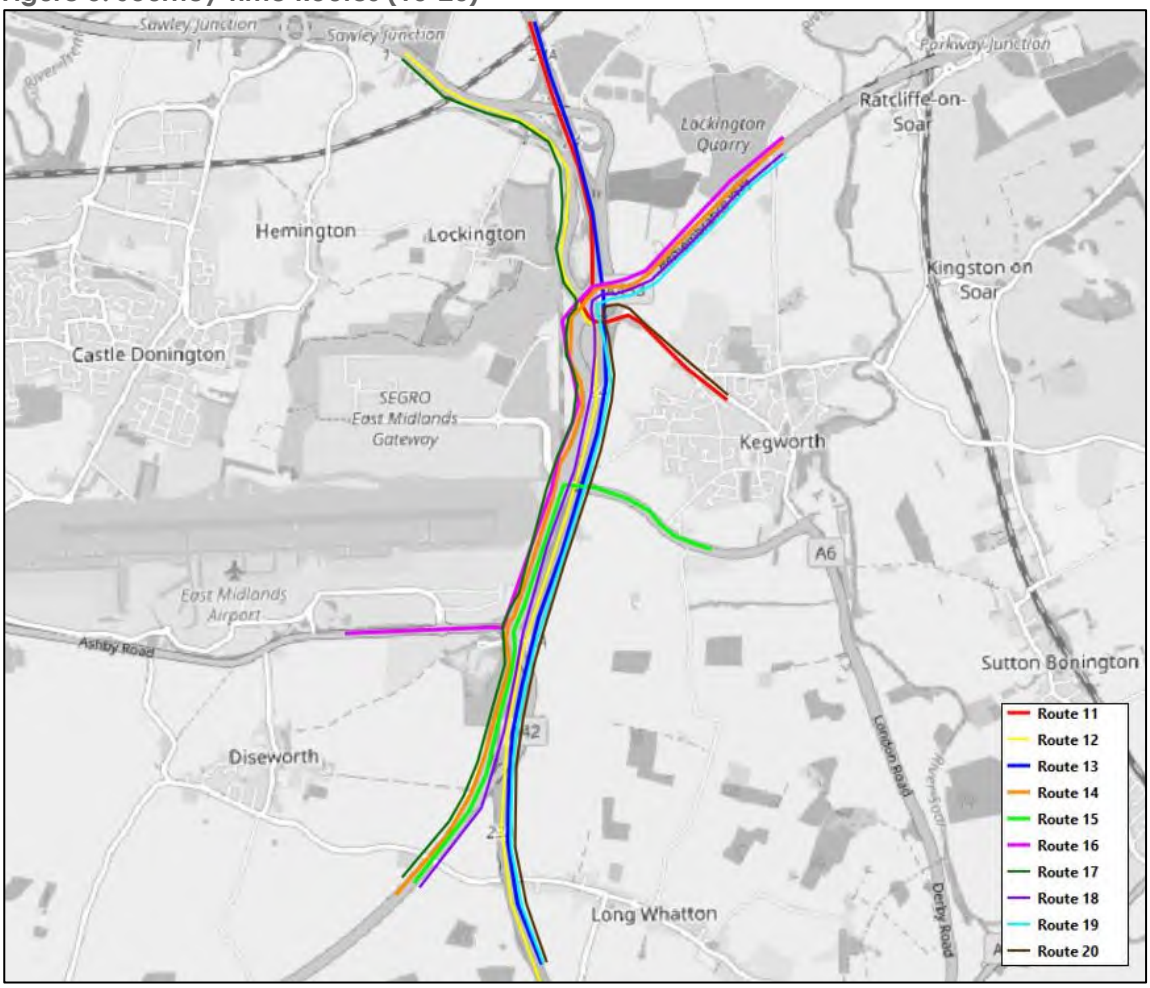


Figure 5: Journey Time Routes (10-20)



7.4 Details of the origin and destination of the routes identified above is provided below:

- Route 1 – A50 to M1 South
- Route 2 – M1 North to M1 South
- Route 3 – A453 Rememberance Way to A42
- Route 4 – Kegworth Bypass to A42
- Route 5 - M1 North to A42
- Route 6 – M1 North to Derby Road
- Route 7 – A453 Rememberance Way to A453 EMA
- Route 8 – M1 North to A453 Rememberance Way
- Route 9 – Kegworth Bypass to M1 South
- Route 10 - M1 South to Kegworth Bypass
- Route 11 – Derby Road to M1 North
- Route 12 – M1 South to A50
- Route 13 – M1 South to M1 North
- Route 14 – A42 to A453 Rememberance Way via A453

- Route 15 - A42 to Kegworth Bypass
- Route 16 – A453 EMA to A453 Rememberance Way
- Route 17 – A42 to A50 via A453
- Route 18 – A42 to A453 Rememberance Way via M1
- Route 19 – M1 South to A453 Rememberance Way via M1
- Route 20 - M1 South to Derby Road via M1

Validation Results

7.5 Model validation has been undertaken using 10 simulation seed runs as illustrated in **Table 8**. The average journey time for each full route has been compared with the surveyed journey times and the resultant output is presented in **Table 11** ~~below~~ below. The breakdown of individual route segments IDs that make up each full journey time route is presented **Appendix 2**.

Table 11: Travel Time Validation

Route	AM			PM		
	Observed	Modelled	% Difference	Observed	Modelled	% Difference
1	489	~~354~~352	~~-27.5~~28.0%	413	~~329~~331	~~-20.3~~19.9%
2	358	~~337~~338	-5.~~7~~6%	352	317	-9.~~9~~8%
3	318	~~310~~309	-2.~~7~~8%	353	~~313~~317	~~-11.4~~10.2%
4	271	~~307~~304	~~13.3~~12.2%	269	~~294~~293	~~9.5~~8.8%
5	377	~~322~~323	-14.~~5~~4%	359	~~314~~310	~~-12.5~~13.7%
6	311	~~285~~271	-12.~~8~~4%	299	~~262~~292	~~-12~~2.3%
7	397	404	1.~~6~~7%	445	~~376~~381	~~-15~~14.4%
8	271	~~279~~278	2.~~8~~6%	255	~~260~~270	~~1.9~~5.8%
9	293	~~322~~314	~~9.8~~7.2%	294	~~290~~297	-1.~~5~~1%
10	318	~~341~~353	~~7~~11.1%	338	~~334~~315	~~-1.1~~6.7%
11	325	~~349~~346	~~7.4~~6.6%	394	~~343~~341	~~-12.9~~13.5%
12	374	~~427~~341	~~14.1-~~8.8%	408	~~360~~348	~~-11~~14.8%
13	331	337	1.~~8~~7%	397	~~338~~349	~~-14.9~~12.0%
14	393	~~429~~420	6.9~~.2~~%	427	~~407~~402	~~-4.7~~5.9%
15	293	~~362~~331	~~23.5~~13.0%	314	~~285~~282	~~-9.4~~10.3%
16	389	~~407~~394	1.4~~.6~~%	443	~~394~~376	~~-10.9~~15.2%
17	343	~~350~~354	~~1.9~~3.3%	414	~~360~~337	~~-13.0~~18.5%
18	372	~~379~~352	~~1.8-~~5.5%	370	~~340~~347	~~-8.1~~6.2%
19	393	~~395~~369	-6.0~~.6~~%	394	~~369~~380	-3.6~~.3~~%
20	433	~~394~~372	~~-9~~14.1%	438	~~379~~408	~~-13.4~~6.9%

Table 12: Travel Time Validation Summary

	<15%	
	AM	PM
Fail	~~2~~1	~~2~~3
Pass	~~18~~19	~~18~~17
Total	20	20

%	~~90~~95%	~~90~~85%

7.6 **Table ~~8~~12** illustrates that the over 85% of the journey times validate within 15% therefore it is considered the model is fit for purpose for future year assessment.

8. SUMMARY & CONCLUSIONS

8.1 BWB Consulting Ltd (BWB) has been appointed by SEGRO (the Applicant) to produce a microsimulation traffic model of the M1 Junction 24, in support of an outline planning application for the Phase 2 Expansion of the East Midlands Gateway (EMG) site.

8.2 The gross floor area (GFA) of the proposed scheme is approximately 3.23 million sqft (300,000sqm) comprising of 80% B8 use and 20% for B2 use, all with ancillary office use.

8.3 Traffic surveys were undertaken in November 2022 and subsequently a base VISSIM model of the study area has been developed by BWB.

8.4 The model was calibrated using observed and modelled turning movements during the peak hours at a 15-minute interval. These were assessed against DfT modelling guidelines and it was concluded that the base model satisfies both criterias.

8.5 Modelled journey times indicate that over 85% of these validate within 15% of observed data therefore it is considered the model is 'fit for purpose'.

APPENDICES

APPENDIX 1: TURNING COUNT CALIBRATION

AM Peak			Survey Flow	VISSIM Flow	Difference (M - C)	% Difference	GEH	GEH <5
Junction	From	To						
Junction 1	A453 (N)	M1 J23A Access	560	174	386	222%	20.15	Fail
Junction 1	A453 (N)	Donington Services Access	67	80	-13	-16%	1.52	Pass
Junction 1	A453 (N)	A453 (W)	420	582	-162	-28%	7.24	Fail
Junction 1	M1 J23A Access	Donington Services Access	134	125	9	7%	0.79	Pass
Junction 1	M1 J23A Access	A453 (W)	475	405	70	17%	3.34	Pass
Junction 1	M1 J23A Access	A453 (N)	952	967	-15	-2%	0.48	Pass
Junction 1	Donington Services Access	A453 (W)	55	32	23	72%	3.49	Pass
Junction 1	Donington Services Access	A453 (N)	89	102	-13	-13%	1.33	Pass
Junction 1	Donington Services Access	M1 J23A Access	112	117	-5	-4%	0.47	Pass
Junction 1	A453 (W)	A453 (N)	408	498	-90	-18%	4.23	Pass
Junction 1	A453 (W)	M1 J23A Access	249	168	81	48%	5.61	Fail
Junction 1	A453 (W)	Donington Services Access	23	11	12	109%	2.91	Pass
Junction 2	M1 J24 (N)	A453 (N)	900	984	-84	-9%	2.74	Pass
Junction 2	M1 J24 (N)	To Derby Road	526	556	-30	-5%	1.29	Pass
Junction 2	M1 J24 (N)	To M1 J24 (S)	0	0	0	0%	0.00	Pass
Junction 2	M1 J24 (N)	A453 (S)	542	526	16	3%	0.69	Pass
Junction 2	M1 J24 (N)	A50	321	347	-26	-7%	1.42	Pass
Junction 2	M1 J24 (N)	Hilton Hotel Lane	14	16	-2	-13%	0.52	Pass
Junction 2	A453 (N)	Derby Road	60	55	5	9%	0.66	Pass
Junction 2	A453 (N)	M1 J24 (S)	483	551	-68	-12%	2.99	Pass
Junction 2	A453 (N)	A453 (S)	424	356	68	19%	3.44	Pass
Junction 2	A453 (N)	A50	246	245	1	0%	0.06	Pass
Junction 2	A453 (N)	Hilton Hotel Lane	14	14	0	0%	0.00	Pass
Junction 2	A453 (N)	M1 J24 (N)	187	191	-4	-2%	0.29	Pass
Junction 2	Derby Road	M1 J24 (S)	54	65	-11	-17%	1.43	Pass
Junction 2	Derby Road	A453 (S)	174	138	36	26%	2.88	Pass
Junction 2	Derby Road	A50	107	98	9	9%	0.89	Pass
Junction 2	Derby Road	Hilton Hotel Lane	2	2	0	0%	0.00	Pass
Junction 2	Derby Road	M1 J24 (N)	61	63	-2	-3%	0.25	Pass
Junction 2	Derby Road	A453 (N)	75	73	2	3%	0.23	Pass
Junction 2	M1 J24 (S)	A453 (S)	5	0	5	0%	3.16	Pass
Junction 2	M1 J24 (S)	A50	1150	951	199	21%	6.14	Fail
Junction 2	M1 J24 (S)	Hilton Hotel Lane	21	27	-6	-22%	1.22	Pass
Junction 2	M1 J24 (S)	M1 J24 (N)	5	0	5	0%	3.16	Pass
Junction 2	M1 J24 (S)	A453 (N)	731	790	-59	-7%	2.14	Pass
Junction 2	M1 J24 (S)	Derby Road	98	107	-9	-8%	0.89	Pass
Junction 2	A453 (S)	A50	957	1165	-208	-18%	6.39	Fail
Junction 2	A453 (S)	Hilton Hotel Lane	6	5	1	20%	0.43	Pass
Junction 2	A453 (S)	M1 J24 (N)	240	152	88	58%	6.29	Fail
Junction 2	A453 (S)	A453 (N)	232	243	-11	-5%	0.71	Pass
Junction 2	A453 (S)	Derby Road	30	25	5	20%	0.95	Pass
Junction 2	Hilton Hotel Lane	M1 J24 (N)	5	5	0	0%	0.00	Pass
Junction 2	Hilton Hotel Lane	A453 (N)	63	60	3	5%	0.38	Pass
Junction 2	Hilton Hotel Lane	Derby Road	9	9	0	0%	0.00	Pass
Junction 2	Hilton Hotel Lane	M1 J24 (S)	23	26	-3	-12%	0.61	Pass
Junction 2	Hilton Hotel Lane	A453 (S)	17	13	4	31%	1.03	Pass
Junction 2	Hilton Hotel Lane	A50	9	10	-1	-10%	0.32	Pass
Junction 3	A453 (N)	A6 Kegworth Bypass	54	54	0	0%	0.00	Pass
Junction 3	A453 (N)	A453 (S)	393	591	-198	-34%	8.93	Fail
Junction 3	A453 (N)	Wilders Way	323	371	-48	-13%	2.58	Pass
Junction 3	A6 Kegworth Bypass	A453 (S)	142	158	-16	-10%	1.31	Pass
Junction 3	A6 Kegworth Bypass	Wilders Way	415	394	21	5%	1.04	Pass
Junction 3	A6 Kegworth Bypass	A453 (N)	369	343	26	8%	1.38	Pass
Junction 3	A453 (S)	Wilders Way	219	260	-41	-16%	2.65	Pass
Junction 3	A453 (S)	A453 (N)	1014	1174	-160	-14%	4.84	Pass
Junction 3	A453 (S)	A6 Kegworth Bypass	127	142	-15	-11%	1.29	Pass
Junction 3	Wilders Way	A453 (N)	107	88	19	22%	1.92	Pass
Junction 3	Wilders Way	A6 Kegworth Bypass	7	5	2	40%	0.82	Pass
Junction 3	Wilders Way	A453 (S)	80	89	-9	-10%	0.98	Pass

	<5
Fail	7
Pass	52
Total	59
%	88%

PM Peak			Survey Flow	VISSIM Flow	Difference (M - C)	% Difference	GEH	GEH <5
Junction	From	To						
Junction 1	A453 (N)	M1 J23A Access	367	189	178	94%	10.68	Fail
Junction 1	A453 (N)	Donington Services Access	88	81	7	9%	0.76	Pass
Junction 1	A453 (N)	A453 (W)	178	190	-12	-6%	0.88	Pass
Junction 1	M1 J23A Access	Donington Services Access	138	133	5	4%	0.43	Pass
Junction 1	M1 J23A Access	A453 (W)	420	392	28	7%	1.39	Pass
Junction 1	M1 J23A Access	A453 (N)	771	961	-190	-20%	6.46	Fail
Junction 1	Donington Services Access	A453 (W)	53	58	-5	-9%	0.67	Pass
Junction 1	Donington Services Access	A453 (N)	88	73	15	21%	1.67	Pass
Junction 1	Donington Services Access	M1 J23A Access	124	122	2	2%	0.18	Pass
Junction 1	A453 (W)	A453 (N)	587	498	89	18%	3.82	Pass
Junction 1	A453 (W)	M1 J23A Access	253	282	-29	-10%	1.77	Pass
Junction 1	A453 (W)	Donington Services Access	51	61	-10	-16%	1.34	Pass
Junction 2	M1 J24 (N)	A453 (N)	907	882	25	3%	0.84	Pass
Junction 2	M1 J24 (N)	To Derby Road	545	525	20	4%	0.86	Pass
Junction 2	M1 J24 (N)	To M1 J24 (S)	4	0	4	0%	2.83	Pass
Junction 2	M1 J24 (N)	A453 (S)	182	110	72	65%	5.96	Fail
Junction 2	M1 J24 (N)	A50	240	200	40	20%	2.70	Pass
Junction 2	M1 J24 (N)	Hilton Hotel Lane	10	10	0	0%	0.00	Pass
Junction 2	A453 (N)	Derby Road	74	70	4	6%	0.47	Pass
Junction 2	A453 (N)	M1 J24 (S)	813	868	-55	-6%	1.90	Pass
Junction 2	A453 (N)	A453 (S)	294	356	-62	-17%	3.44	Pass
Junction 2	A453 (N)	A50	405	343	62	18%	3.21	Pass
Junction 2	A453 (N)	Hilton Hotel Lane	11	11	0	0%	0.00	Pass
Junction 2	A453 (N)	M1 J24 (N)	263	259	4	2%	0.25	Pass
Junction 2	Derby Road	M1 J24 (S)	51	57	-6	-11%	0.82	Pass
Junction 2	Derby Road	A453 (S)	88	86	2	2%	0.21	Pass
Junction 2	Derby Road	A50	135	124	11	9%	0.97	Pass
Junction 2	Derby Road	Hilton Hotel Lane	2	2	0	0%	0.00	Pass
Junction 2	Derby Road	M1 J24 (N)	87	88	-1	-1%	0.11	Pass
Junction 2	Derby Road	A453 (N)	57	59	-2	-3%	0.26	Pass
Junction 2	M1 J24 (S)	A453 (S)	5	0	5	0%	3.16	Pass
Junction 2	M1 J24 (S)	A50	1089	966	123	13%	3.84	Pass
Junction 2	M1 J24 (S)	Hilton Hotel Lane	14	14	0	0%	0.00	Pass
Junction 2	M1 J24 (S)	M1 J24 (N)	0	0	0	0%	0.00	Pass
Junction 2	M1 J24 (S)	A453 (N)	528	524	4	1%	0.17	Pass
Junction 2	M1 J24 (S)	Derby Road	76	89	-13	-15%	1.43	Pass
Junction 2	A453 (S)	A50	999	1026	-27	-3%	0.85	Pass
Junction 2	A453 (S)	Hilton Hotel Lane	5	3	2	67%	1.00	Pass
Junction 2	A453 (S)	M1 J24 (N)	323	344	-21	-6%	1.15	Pass
Junction 2	A453 (S)	A453 (N)	256	352	-96	-27%	5.51	Fail
Junction 2	A453 (S)	Derby Road	41	32	9	28%	1.49	Pass
Junction 2	Hilton Hotel Lane	M1 J24 (N)	15	16	-1	-6%	0.25	Pass
Junction 2	Hilton Hotel Lane	A453 (N)	20	21	-1	-5%	0.22	Pass
Junction 2	Hilton Hotel Lane	Derby Road	10	10	0	0%	0.00	Pass
Junction 2	Hilton Hotel Lane	M1 J24 (S)	8	8	0	0%	0.00	Pass
Junction 2	Hilton Hotel Lane	A453 (S)	4	3	1	33%	0.53	Pass
Junction 2	Hilton Hotel Lane	A50	11	10	1	10%	0.31	Pass
Junction 3	A453 (N)	A6 Kegworth Bypass	77	74	3	4%	0.35	Pass
Junction 3	A453 (N)	A453 (S)	305	189	116	61%	7.38	Fail
Junction 3	A453 (N)	Wilders Way	243	203	40	20%	2.68	Pass
Junction 3	A6 Kegworth Bypass	A453 (S)	132	130	2	2%	0.17	Pass
Junction 3	A6 Kegworth Bypass	Wilders Way	402	388	14	4%	0.70	Pass
Junction 3	A6 Kegworth Bypass	A453 (N)	389	381	8	2%	0.41	Pass
Junction 3	A453 (S)	Wilders Way	90	121	-31	-26%	3.02	Pass
Junction 3	A453 (S)	A453 (N)	1026	1167	-141	-12%	4.26	Pass
Junction 3	A453 (S)	A6 Kegworth Bypass	187	235	-48	-20%	3.30	Pass
Junction 3	Wilders Way	A453 (N)	221	205	16	8%	1.10	Pass
Junction 3	Wilders Way	A6 Kegworth Bypass	19	19	0	0%	0.00	Pass
Junction 3	Wilders Way	A453 (S)	140	138	2	1%	0.17	Pass

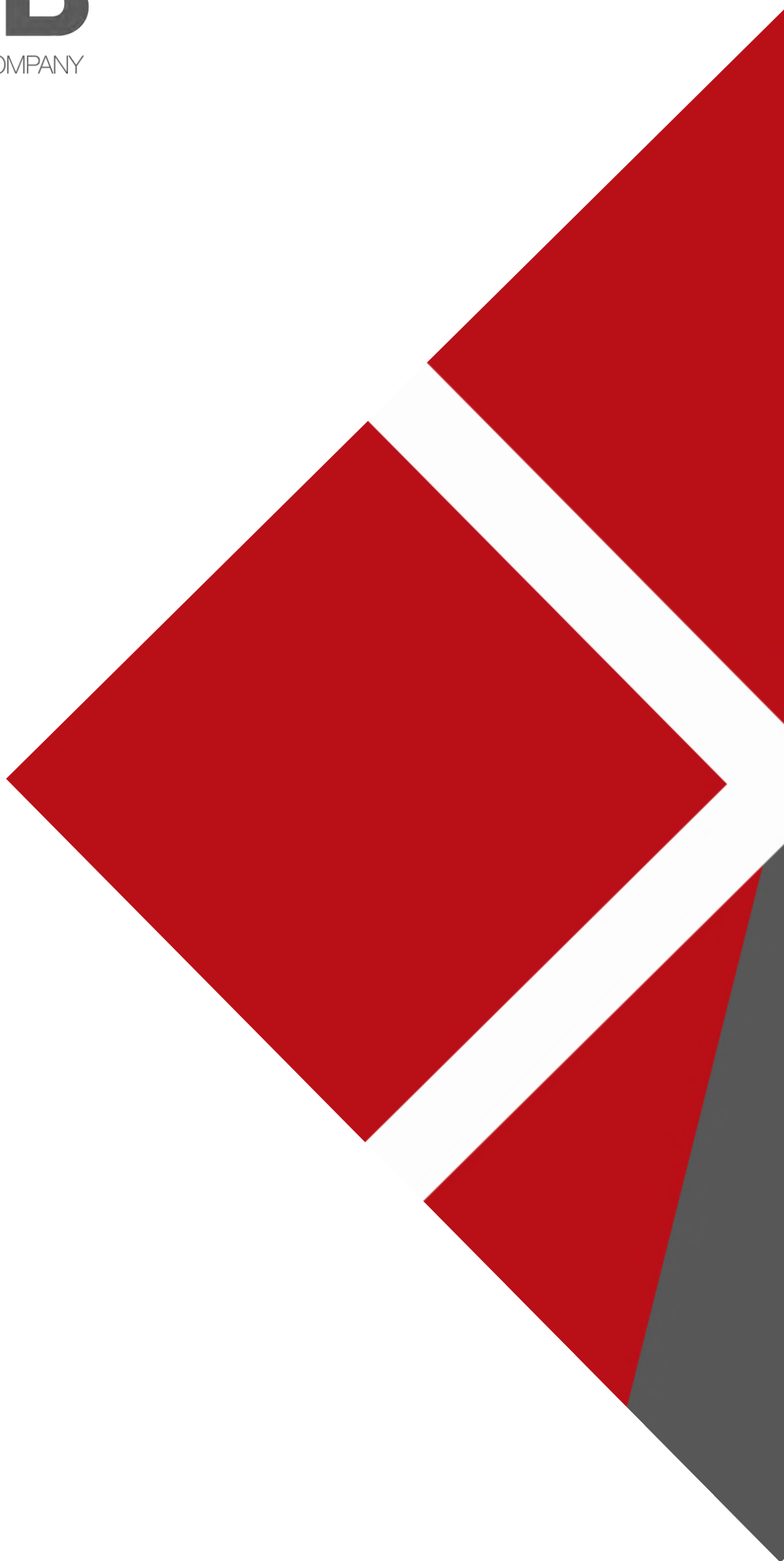
	<5
Fail	4
Pass	43
Total	47
%	91%

APPENDIX 2: JOURNEY TIME SEGMENTS

	Dist
A-I	165: A50 to A50/M1 Fork
	167: A50 to M1 SB Merge
	169: M1 SB Mainline under J24
	170: M1 SB Mainline between J24 Merge and A42 Diverge
	171: M1 SB Mainline between A42 Diverge to End
B-I	163: M1 SB to J24 Diverge
	168: M1 SB Mainline between J24 Diverge and A50 Merge
	169: M1 SB Mainline under J24
	170: M1 SB Mainline between J24 Merge and A42 Diverge
	171: M1 SB Mainline between A42 Diverge to End
C-J	126: M1 J24 A453 Approach
	143: M1 J24 A453 N to M1 S
	132: M1 J24 M1 SB Merge
	170: M1 SB Mainline between J24 Merge and A42 Diverge
	178: M1 SB A42 Diverge
	85: A42/M1 SB Merge to A42
H-J	114: Keg By to A453 S
	74: EMG1 RB to FF
	88: FF Circ S1
	82: FF to M1/A42 Fork
	84: M1/A42 Fork to M1 SB/A42 Merge
	85: A42/M1 SB Merge to A42
B-J	163: M1 SB to J24 Diverge
	168: M1 SB Mainline between J24 Diverge and A50 Merge
	169: M1 SB Mainline under J24
	170: M1 SB Mainline between J24 Merge and A42 Diverge
	178: M1 SB A42 Diverge
	85: A42/M1 SB Merge to A42
B-D	163: M1 SB to J24 Diverge
	164: M1 SB Diverge to M1/A50 Merge
	125: M1 J24 M1/A50 Approach
	137: M1 J24 A50/M1 Arm to Derby Road
	131: M1 J24 Derby Road Exit
C-K	126: M1 J24 A453 Approach
	144: M1 J24 A453 N to A453 S
	108: M1 J24 to EMG1 RB
	112: A453 N to S
	74: EMG1 RB to FF
	88: FF Circ S1
	89: FF Circ S2
	90: FF Circ S3
	91: FF Circ S4
	92: FF Circ S5
	69: FF to SA
	72: SA Circ S3
	67: A453 WB from SA
B-C	163: M1 SB to J24 Diverge
	164: M1 SB Diverge to M1/A50 Merge
	125: M1 J24 M1/A50 Approach
	138: M1 J24 A50/M1 Arm to A453 N
	130: M1 J24 A453 N Exit
H-I	114: Keg By to A453 S
	74: EMG1 RB to FF
	88: FF Circ S1
	82: FF to M1/A42 Fork
	83: M1/A42 Fork to M1 Merge
	87: M1 SB FF Merge to M1 S End
I-H	80: M1 to FF Diverge
	81: M1 Diverge to A42/M1 Merge
	79: A42/M1 Approach to FF
	90: FF Circ S3
	91: FF Circ S4
	92: FF Circ S5
	93: FF Circ S6
	94: FF Circ S7
	75: FF to EMG1 RB
	119: A453 S to Keg By
D-B	127: M1 J24 Derby Road Approach
	150: M1 J24 Derby Road to M1 NB
	129: M1 J24 to M1 NB Merge
	162: M1 NB Merge to M1 End
I-A	80: M1 to FF Diverge
	173: M1 NB to A42/M1 Merge
	174: M1 NB Mainline between A42/M1 Merge and Before J24 Diverge
	175: M1 J24 Diverge
	128: M1 J24 M1 NB Approach
	153: M1 J24 M1 S to A50
	135: M1 J24 to A50 End
I-B	80: M1 to FF Diverge
	173: M1 NB to A42/M1 Merge
	174: M1 NB Mainline between A42/M1 Merge and Before J24 Diverge
	176: M1 Mainline After J24 Diverge
	177: M1 Mainline between After J24 Diverge to J24 Merge
	162: M1 NB Merge to M1 End
J-F-C	77: A42 to FF Diverge
	78: A42 Diverge to A42/M1 Merge to FF
	79: A42/M1 Approach to FF
	90: FF Circ S3
	91: FF Circ S4
	92: FF Circ S5
	93: FF Circ S6
	94: FF Circ S7
	75: FF to EMG1 RB
	118: A453 S to A453 N
	123: EMG1 RB to M1
	159: M1 J24 A453 S to A453 N
	130: M1 J24 A453 N Exit
J-H	77: A42 to FF Diverge
	78: A42 Diverge to A42/M1 Merge to FF
	79: A42/M1 Approach to FF
	90: FF Circ S3
	91: FF Circ S4
	92: FF Circ S5
	93: FF Circ S6
	94: FF Circ S7
	75: FF to EMG1 RB
	119: A453 S to Keg By
K-C	65: A453 EB to Site Access RB
	70: SA Circ S1
	66: A453 Site Access to FF
	94: FF Circ S7
	75: FF to EMG1 RB
	118: A453 S to A453 N
	159: M1 J24 A453 S to A453 N
	130: M1 J24 A453 N Exit
	123: EMG1 RB to M1
J-F-A	77: A42 to FF Diverge
	78: A42 Diverge to A42/M1 Merge to FF
	79: A42/M1 Approach to FF
	90: FF Circ S3
	91: FF Circ S4
	92: FF Circ S5
	93: FF Circ S6
	94: FF Circ S7
	75: FF to EMG1 RB
	118: A453 S to A453 N
	123: EMG1 RB to M1
	157: M1 J24 A453 S to A50
	135: M1 J24 to A50 End
J-E-C	77: A42 to FF Diverge
	172: A42 to A42/M1 NB Merge
	174: M1 NB Mainline between A42/M1 Merge and Before J24 Diverge
	175: M1 J24 Diverge
	128: M1 J24 M1 NB Approach
	155: M1 J24 M1 S to A453 N
	130: M1 J24 A453 N Exit
I-E-C	80: M1 to FF Diverge
	173: M1 NB to A42/M1 Merge
	174: M1 NB Mainline between A42/M1 Merge and Before J24 Diverge
	175: M1 J24 Diverge
	128: M1 J24 M1 NB Approach
	155: M1 J24 M1 S to A453 N
	130: M1 J24 A453 N Exit
I-E-D	80: M1 to FF Diverge
	173: M1 NB to A42/M1 Merge
	174: M1 NB Mainline between A42/M1 Merge and Before J24 Diverge
	175: M1 J24 Diverge
	128: M1 J24 M1 NB Approach
	161: M1 J24 A453 S to M1 SB
	131: M1 J24 Derby Road Exit
	156: M1 J24 M1 S to Derby Road

BWB

A CAF GROUP COMPANY



www.bwbconsulting.com

APPENDIX 47: National Highways Technical Note agreeing base Junctions 11 models

Tech Note

Spatial Planning Framework Commission

Prepared by Jacobs-SYSTRA Joint Venture (JSJV) for the National Highways National Spatial Planning Contract 2021 in relation to the South East Region

Job number:	B2428400		
Job title:	East Midlands Gateway Phase 2		
To:	Paul Wilson (BWB), [redacted]	**cc:**	[redacted] EMG2 TWG (Highway Authorities only).
Topic:	Base Junction Models Review - EMG2		

	Prepared:	**Checked**	**Approved**
Name:	L Templeman	A Chandler-Hurst	G Nock
Date:	3rd June 2024	3rd June 2024	5th June 2024

Introduction

BWB have prepared a series of isolated junction models as part of the emerging Transport Assessment for the East Midlands Gateway Phase 2 development. National Highways has commissioned JSJV to carry out a review of the existing situation / base (ARCADY, LinSig and PICADY) models in relation to the Strategic Road Network (SRN).

Purpose of Audit

The aim of the model audit is to ensure that the supplied models have been developed in accordance with best practice, are a reasonable and robust approximation of the actual highway network and are sufficiently well calibrated and validated to observed flows and conditions.

This review has been undertaken in relation to junctions on or close to the SRN.

Items Reviewed

The following items have been supplied, via WeTransfer on 26th January 2024 and 1st February 2024, for the purposes of the model audit which include junction models for 12 different sites comprising a mix of signalised junctions (LinSig), roundabouts (ARCADY) and major-minor priority junctions (PICADY):

- EMG2-BWB-GEN-XX-RP-TR-0007_Modelling Validation Report_P1.pdf;
- **Junction 6**: 230124 A453_Airport Access Signal Junction (BASE ONLY).lsg3x (LinSig model);

- **Junction 6**: A453 East Midlands Airport Entrance controller specification;
- **Junction 7**: 230124 A453_Grimes Gate (BASE ONLY).j10 (PICADY model);
- **Junction 7**: A453_Grimes Gate PICADY Measurements.pdf;
- **Junction 8**: Import of 230124 A453_The Green (BASE ONLY).j10 (PICADY model);
- **Junction 8**: A453_The Grn PICADY Measurements.pdf;
- **Junction 9**: 230124 A453_EMA Roundabout (BASE ONLY).j10 (ARCADY model);
- **Junction 9**: A453_EMA Roundabout ARCADY Measurements.pdf;
- **Junction 11:** A453_Gelscoe Lane_Top Brand roundabout (BASE ONLY).j10 (ARCADY model);
- **Junction 11:** Junction Measurements-Layout1.pdf;
- **Junction 10:** 230124 A453_Local Road Signal Junction (BASE ONLY).lsg3x (LinSig model);
- **Junction 10:** A454 Copice Corner junction layout drawing and controller specification;
- **Junction 12**: M1 Junction 23 (BASE ONLY).lsg3x (LinSig model);
- **Junction 12**: M1 Junction 23 layout drawing and controller specification;
- **Junction 13**: A50 Junction 1 (BASE ONLY).lsg3x (LinSig model);
- **Junction 13**: A50 J1 traffic signal information layout (controller configuration and MOVA data);
- **Junction 14**: M1 Junction 25 (BASE ONLY).lsg3x (LinSig model);
- **Junction 14**: M1 Junction 25 controller specification documents;
- **Junction 15**: Import of Station Road_Broad Rushes roundabout (BASE ONLY).10 (ARCADY model);
- **Junction 15**: [Station Road_Broad Rushes roundabout] Junction Measurements-Layout1.pdf
- **Junction i:** Import of West Leake Lane.j10 (ARCADY model);
- **Junction i:** A453_West Leake Lane ARCADY Measurements-BWB_A1_H;
- **Junction ii:** Import of A453 Kegworth Road.j10 (ARCADY model);
- **Junction ii:** Junction Measurements Kegworth Road-BWB_A1_H.pdf;

Updated models (where models required revision) were received from BWB on 5th April 2024 with further comments issued by JSJV on 19th April 2024.

A further, and final, re-submission from BWB addressing the outstanding comments on the base models was received on 14th May 2024.

Methodology

Issues are categorised according to the categories in Table 1: -

Table 1: Review Categorisations

Classification	Description
Observations	are points for consideration on an issue that would not significantly affect model operation or output.
Comments	which may identify particular assumptions, technical approaches or guidance references which may be deemed inadequate but may not influence the result of the analysis. The main function is to highlight such issues for attention in subsequent project stages or for future projects.
Substantive Issues	which require corrective action. The audit will suggest the detailed action required to address the issue, although there should be freedom for the model development team to use alternative approaches in order to achieve the required level of analysis.

Model Audit

The findings from the junction model audits are shown in the comment tracker table contained in **Appendix A**. The comments have been updated following successive update submissions from BWB over a number of iterations with the responses from BWB and their consideration by JSJV fully detailed in the table.

Summary

This Technical Note details the findings of a review of 12 existing situation / base (ARCADY, LinSig and PICADY) junction models prepared by BWB in support of the East Midlands Gateway Phase 2 development.

Following a number of re-submissions to address the comments raised in the initial audit and further review-work, the models are now considered suitable for their use in assessing the impacts of the East Midlands Gateway Phase 2 development on the SRN.

It is recommended that approval/ views are sought from the relevant Local Highway Authorities with regards to the junction models of the respective local road network junctions.

Appendix A: Model Audit Comment Tracker

Appendix A: EMG2 Junction Model Audit Comment Tracker

		JSJV Comment (9th February 2024)	BWB Response (5th April 2024)	BWB Action (5th April 2024)	JSJV Further Comments (19th April 2024)	BWB Comments (14th May 2024)	JSJV Further Comments (3rd June 2024)
Junction 6: A453 East Midlands Airport Signal Junction	1	Network: Arm 3 has been modelled as two long-lanes however the flare is only circa 90m in length so one of the lanes should be modelled as a 'short' 90m lane. Whilst this may not have much influence on the base year modelling, it will become more important in forecast years with higher volumes on this arm (priority: **Substantive Issue**)	Agreed	Amended	**Amendment confirmed. No further action**	No Further Action	**Amendments/changes confirmed and accepted.**
	2	Network: lane saturation flows are considered reasonable. Treat as nearside has been selected for all lanes which yields robust saturation flows which is welcomed (priority: Observation)	Agreed	Amended	**No further action**		
	3	Network: the model assumes give-way behaviour on the offside lane for the A453 eastbound exit 2-1 merge. This is irregular however it is a novel way of ensuring that the secondary eastbound ahead lane is not used by an unrealistic volume of traffic leading to over-optimistic capacity modelling. These parameters will need to be maintained for forecast testing, assuming that the merge remains present in the future (priority: Observation)	Agreed	This will be review in any future year modelling to ensure realistic lane usage	**No further action**		
	4	Give way: Lane 2/1 uses the LinSig default give-way parameters which are configured for opposed right turns at signals. JCT recommends values of 715 PCUs/hr Maximum Flow and a coefficient of 0.22 for give-way left turn bays (priority: **Substantive Issue**)	Agreed	Amended	**Amendment confirmed. No further action**		
	5	Controller: modelled phase delays appear to be different from those in the supplied controller configuration. An examination of the latter suggests that no phase delays are valid for the model, since those in the controller information mainly relate to moves from all-red stages. Please check (priority: **Substantive Issue**)	Agreed	Amended	**Amendment confirmed. No further action**		
	6	Stage Sequence: modelling assumes appearance of Stage 3 (Airport Access all moves) every third cycle. BWB need to clarify the basis upon which this assumption has been made. Whilst the right turn volumes are relatively small (39 PCUs AM and 65 PCUs PM), there is sufficient traffic for one vehicle roughly every minute which would equate to a cyclic appearance of the right turn. In addition, this assumption will need to be reviewed for the forecast years when the right turn volume may be higher (priority: Comment);	The videos of the survey have been reviewed to determine how often stage 3 is activated. The video showed that in the morning peak period stage 3 occurs a total of 14 times within the hour. As a result of this in the LinSig model it has been coded that stage 3 activates every one in 3 cycles in the AM peak period. In the PM peak period, the junction switches to a fixed time cycle and stage 3 activates every cycle.	N/A	**Amendment confirmed. No further action**		
	7	Validation: Table 16 of the BWB Model Validation Report ('MVR') compares observed and modelled Degrees of Saturation (DoS). This suggest that the model validates well. However, the comments above should still be addressed since, whilst they may not notably affect the base modelling, they might have a larger influence on forecast modelling (priority: **Observation**)	Agreed	Amended in Validation Report to reflect changes set out above.	**Amendment confirmed althought reported DoS values do not match those from the model, especially for the AM peak hour**	Triple cycle switch to bonus green times (Shown on 'Bonus Green Time Calcs' Tab) for AM peak period, A453 E lane 1 indicates a higher DoS result compared to observed however conversion of Lane 2 to long lane correlates with the observed DoS readings despite the flare having sufficent stacking capacity to not block lane 1. Furthermore a queue comparison ('Queue Comparison' Tab) has been provided which illustrates the model is fit for purpose.	**Amendments/changes confirmed and accepted.**
Junction 7: A453/Grimes Gate Priority Junction	1	Geometry: Measurements of junction geometry and their input into the model appear generally acceptable. However, the Minor arm has a modelled flare length value of two PCUs (approximately 10- 12 metres). An examination of the layout shows that more than one vehicle waiting to turn right, which is the dominant movement at the junction, would block access to the left turn flare. Consider using a flare length of one PCU (priority: Comment); and	Agreed	Amended	**Amendment confirmed. No further action**	Base Model Approved	**Amendments/changes confirmed and accepted.**
	2	Validation: Table 2 of the BWB MVR compares observed and modelled queue lengths. The comparison indicates that the PICADY model is under-estimating queuing, although the differences are small, and the overall level of observed queuing is minimal (priority: **Observation**)	Agreed	Amended in Validation Report to reflect changes set out above.	**Amendment confirmed. No further action**		
Junction 8: A453/The	1	Geometry: measurements of junction geometry and their input into the model appear generally acceptable (priority: **Observation**); and	N/A	N/A	**No further action**	Base Model Approved	**Amendments/changes confirmed and accepted.**
	2	Validation: Table 4 of the BWB MVR compares observed and modelled queues. Once again, the comparisons suggest that the model is under-estimating queuing, although once again the differences are small, and the overall level of observed queuing is minimal (priority: **Observation**).	N/A	N/A	**No further action**		
Junction 9: A453/East Midlands Airport Roundabout	1	Geometry: measurements of the roundabout geometry and their input into the model appear generally acceptable, the A453 eastbound measured flare length of 4.5m is short given the extensive length of the two-lane section on this approach (priority: **Observation**);	Agreed	Amended	**Amendment confirmed. No further action**	No Further Action	**Amendments/changes confirmed and accepted.**
	2	Lane usage: the current roundabout has two entry lanes for the A453 arms with two lanes merging to one over a distance of approximately 30m on both A453 exits. The model currently makes no account of potential lane bias caused by these 2-1 merges with drivers more likely to use the nearside entry lane to avoid merging. Please could any video survey of the site be reviewed to validate this and the model corrected accordingly, either through intercept correction using the Barbara Chard methodology (see: https://www.jctconsultancy.co.uk/Home/docs/tec_arcadyHealthWarning.pdf) or ARCADYs Lane Analysis modelling (priority: Substantive Issue); and	Agreed	Model has been change to Junctions 10 Lane simulation model which allows for coding of which lanes can exit which arms and, in this case where 2 lanes can go straight ahead on the A453, the amount of traffic that considers using this lane. A review of the video survey shows that approx 20% of vehicle use the secondary ahead lane and therefore that is what has been coded into the model.	**The use of the Lane Simulation analysis is welcomed. However, the coding for secondary lane use does not appear to be correctly applied. For this to work, the secondary lane has to be de-selected from 'Normal Movements' and then selected under 'Secondary Movements'**	Model has been amended and queue comparison has been provided on 'Queue Comparison' tab	**Amendments/changes confirmed and accepted.**
	3	Validation: Table 6 of the BWB MVR compares observed and modelled queues which show that there is a close match between observed and modelled queuing especially in the AM. However, validation will need to be re-checked depending on the outcome following checks on lane bias on the A453 entries as mentioned in Point 2 above (priority: **Observation**).	Agreed	Amended in Validation Report to reflect changes set out above.	**Validation report may need to be updated following correct application of secondary lane modelling (see above)**		
Junction 10: A453/Walton Hill Signal Junction	1	Network: lane saturation flows are acceptable. *Treat as nearside* has been selected for all lanes which yields robust saturation flows which is welcomed (priority: **Observation**);	N/A	N/A		Base Model Approved	**Amendments/changes confirmed and accepted.**
	2	Controller: modelled controller parameters are consistent with the controller configuration information. However, there are discrepancies that raise some concern that the controller information might not be up to date. These include: (a) Google Streetview shows that the crossings at the stie are uncontrolled, however the controller information (and model) includes phases and inter-greens for these; and (b) the model assumes that the A453 eastbound movement (Phase B) runs during Stage 3 however this is not specified in the controller configuration. Please can it be confirmed that this is the current controller information, as there might be other changes which the model needs to take into account (priority: Substantive Issue); and	Agreed, upon reviewing the controller spec and reviewing google maps in the correct year the data that has been provided is old data.	Latest Signal data received and model has been updated accordingly	**Amendments confirmed. No further action**		
	3	Validation: Table 18 of the MVR compares observed and modelled DoS. This suggest that the model validates well and is therefore acceptable, although confirmation of the controller configuration, as set out above, is needed (priority: **Observation**).	Agreed	Amended in Validation Report to reflect changes set out above.	**Amendments confirmed. No further action**		
Junction 11: A42 Junction 14/Top Brand/Gelscoe Lane Roundabout	1	Geometry: Measurements of the roundabout geometry and their input into the model are generally acceptable (priority: **Observation**);	N/A	N/A	**No further action**	No Further Action	**Amendments/changes confirmed and accepted.**
	2	Lane usage: The model uses standard ARCADY analysis which assumes that all entry capacity is used by all entering traffic. However, examination of the modelled turning movements shows that certain movements are dominant which would result in traffic being biased in terms of lane choice reducing overall entry capacity. Please therefore check and correct intercepts as per the Barbara Chard methodology for both base and any subsequent forecast scenarios (priority: Substantive Issue); and	Agreed	The junction has been modelled using Junctions 10 lane simulation mode which allows modelling for unequal lane usage. The lanes within the model have been coded to replicate movement at a typical 2 lane entry roundabout i.e. lane 1 for left and ahead and lane 2 for right and U-turns as there are no arrow markings on the ground.	**The configuration of the Lane Simulation shows that lane two of the Gelscoe Lane w/b entry arm can be used for the right turn to the A453 n/b exit which seems unlikely. Does video evidence back this up?** **Note also that Lane Simulation tends to be pessimistic when used to represent short flared mutli-lane entries. It may therefore be better to use the Barbara Chard method if results seem overly bad.**	Screenshots from videos tab illustrates vehicle uses lane 2 to exit onto the A453 N therefore, therefore model has not been amended	**Previous comment was mis-worded and meant to say lane one, not lane two. Further examination of the model shows that it is, in fact, the movement to the A42 which is shown from lane one.**
	3	Validation: Table 8 of the BWB MVR shows that there is a close match between observed and modelled queuing, although the overall level of observed queuing is negligible (priority: **Observation**)	Agreed	Amended in Validation Report to reflect changes set out above.	**Validation report may need to be updated following consideration of further comments raised regarding Lane Usage**		
Junction 12: M1 Junction 23	1	Network: Flared lane 2/1 short lane length is modelled as 92m however the length measured from Goggle maps is approximately 80m (priority: **Substantive Issue**);	Agreed	Amended	**Amendment confirmed. No further action**	Base Model Approved	**Amendments/changes confirmed and accepted.**
	2	Network: Lane 3/1 is modelled as short, but examination of the on-street layout suggests that it is the longer 'short' lane and the off-side approach lane flares out to two lanes closer to the stop line. Additionally, lane 3/1 has a short lane length of 97.8m however this three-lane approach section only appears to be approximately 60m on-street. Consequently, it is recommended to make lane 3/1 long and make 3/3 short with a length of approximately 60m (priority: **Substantive Issue**);	Agreed	Amended	**Amendment confirmed. No further action**		
	3	Network: the crossing on the exit to the M1 northbound on-slip is not modelled. However, this may be acceptable in view of the likely low usage of this crossing (priority: **Observation**);	Videos were reviewed and there was no pedestrian movements therefore this crossing was not included for in th emodel as would have no impact as the crossing is demend depended.	N/A	**No further action**		
	4	Network: lane saturation flows are generally acceptable. *Treat as nearside* has been selected for all lanes which yields robust saturation flows which is welcomed. However, lane 12/5 has no radius when it is clearly on a curving circulatory section. Similarly, the ahead movements on lane 9/1 and 9/2 have no radius but these movements will still pass through a shallow curve (priority: **Substantive Issue**);	Agreed	Amended	**Amendments confirmed. No further action**		
	5	Controller: controller 1 in the model is missing Phase G. The controller specification states that this phase appears every cycle in Stages 1 and 2, respectively, so should be included in the modelling along with its correct minima and relevant inter-green times (priority: **Substantive Issue**);	Agreed	Controller 1 Phase G (Phase E in the model) has been included for now	**Amendment confirmed. No further action**		
	6	Controller: controller 2 in the model is missing Phases E and F. The controller specification states that these appear every cycle in Stages 1 and 2, respectively, so should be included in the modelling along with their correct minima and relevant inter-green times and phase delays (priority: **Substantive Issue**);	Agreed	Amended	**Amendments confirmed. No further action**		
	7	Cycle time: a cycle time of 90 seconds has been assumed for the base AM and PM scenarios. This is high for roundabout signals where cycle times are typically kept low to minimise internal queuing. The controller specification (VA phase maxima and CLF plans) also indicate an on-street cycle time of circa 50-60 seconds. However, the site appears to be MOVA so actual cycle times will be determined/constrained by MOVA parameters. Please check and revise as appropriate (priority: Substantive Issue); and	Agreed	Amended to Match Video survey	**Amendment confirmed. No further action**		
	8	Validation: Table 20 of the BWB MVR compares observed and modelled DoS. This suggest that the model validates well, although no comparisons of the circulatory lanes is provided which would be useful. The model will also need to be revised to address the above issues. This may result in some change to the Degrees of Saturation (priority: **Observation**).	Agreed	Amended in Validation Report to reflect changes set out above.	**Amendments confirmed. No further action**		
	BWB Additional Changees		-Altered arm 6 to two lane to one lane merge - changed flare length of Link 4/3 to 85m - Altered give way parameters for Arm 14 Link 2 - Amended connector from Arm 1 nearside/middle lane to egress onto Arm 6 as per junction layout.		**These changes appear fine. No further comments**		
13: A50 Junction 1	1	Network: lane saturation flows are high on non-nearside circulatory lanes. This is because *treat as nearside* has been unchecked for these lanes. It would be preferable for these lanes to be treated as nearside in view of the likely friction experienced by vehicles when circulating the roundabout. Other models also have no-nearside lanes treated as nearside so this change would ensure consistency (priority: **Substantive Issue**);	Agreed	Amended	**Amendments confirmed. No further action**	No Further Action	**Amendments/changes confirmed and accepted.**
	2	Network: lane 18/3 is missing a radius in the RR67 calculations (priority: **Comment**);	Agreed	Amended	**Amendment confirmed. No further action**		
	3	Give way: all give-way entries to the roundabout use LinSig's default give-way parameters which are configured for opposed right turns at signals. These values are likely to be over-optimistic in terms of entry capacity when used for roundabout entries. For 'long' lanes, Maximum Flow and Coefficient values should be estimated using ARCADY and the appropriate geometry for the lane. For approaches that flare relatively close to the give-way line, such as the offside approach lane of Trent Lane and the B5010 entry, these values should be estimated using the full approach geometry (or for lanes 2 and 3 of Trent Lane) and applied to a single entry lane/link in the LinSig model This will result in the capacity provided by the flare to be modelled realistically. In addition, for the 'Flow when opposing traffic is stopped' setting, 'Use Maximum Flow while Giving Way Value' should be used rather than 'Use Lane Saturation Flow Value' (priority: Substantive Issue);	Agreed	JCT Table of Coefficient and Opposed Max Flow for NO SIGNALS - Roundabout Entry which states a Coefficient of 0.33 and 1000 Opposed Max Flow	**Amendments confirmed although 'Use Lane Saturation Flow Value' when opposing traffic is stopped is still used rather than 'Use Maximum Flow...' which will result in higher capacity**	Updated validation table provided in 'DoS Comparison' tab	**Amendments/changes confirmed and accepted.**
	4	Unequal lane usage: the BWB MVR states that some unequal lane usage on the Trent Lane arm was adjusted using the Route List function in LinSig. However, the model does not appear to have any Route List 'locks' applied (priority: **Comment**);	Agreed	Amended	**Amendments confirmed. No further action**		

Junction :	5	Cycle time: a cycle time of 90 seconds has been assumed for the base AM and PM scenarios. Whilst an examination of the MOVA information provided for the site suggests that this is roughly the upper end of the potential cycle time the signals can run, the supplied TMA logs for both controllers suggest that the actual cycle times that the signal were running in early September was around 50-60 seconds. Please review the TMA logs and revise the model cycle times accordingly (priority: **Substantive Issue**); and	Agreed	Amended	Amendments confirmed. No further action	No Further Action	Amendments/changes confirmed and accepted.
	6	Validation: Table 22 of the BWB MVR compares observed and modelled DoS. The comparisons provided suggest that these values compare well. However, only three comparisons are made, and no circulatory lanes are checked. This would be useful. Also, given the availability of TMA logs and the recorded on-street timings these include, it would be useful to see some comparisons of observed and modelled stage lengths as further validation of the LinSig model (priority: **Comment**).	Agreed	Amended in Validation Report to reflect changes set out above.	Amendments confirmed. No further action		
	BWB Additional Changees		-Altered Arm 6 and 12 to provide two lane to one lane merge		These changes appear fine. No further comments		
Junction 14: M1 Junction 25	1	Network: the model permits a left turn from the M1 southbound off-slip arm in lanes one and two however Streetview shows that only lane one is marked for the left turn. If this is a deliberate change, it is not noted in the MVR (priority: **Substantive Issue**);	Agreed	Amended	Amendment confirmed. No further action	No Further Action	Amendments/changes confirmed and accepted.
	2	Network: lane 18/2 serves no purpose and can be deleted (priority: **Observation**);	Agreed	Amended	Amendment confirmed. No further action		
	3	Network: link lengths are not consistent with measurements using Google Maps. Some appear to extend back to the upstream exit (when they should extend to the upstream stop line or give-way line) and others are somewhere in between. However, this has little or no impact on the capacity modelling (priority: **Observation**);	Lane Lengths have been measured back to a length before there is exit blocking	Lane Lengths remained as provided	Accepted. No further action		
	4	Network: lane saturation flows are high on non-nearside circulatory lanes. This is because *treat as nearside* has been unchecked for these lanes. It would be preferable for these lanes to be treated as nearside in view of the likely friction experienced by vehicles when circulating the roundabout. As noted above, other models have non-nearside lanes treated as nearside (priority: **Substantive Issue**);	Agreed	Amended	Amendments confirmed. No further action		
	5	Network: lane 12/2 has no radius entered for the right turn circulating to Arm 14 (priority: **Substantive Issue**);	Agreed	Amended	Amendment confirmed. No further action		
	6	Network: lane 13/2 has a directly entered saturation flow of 1750 PCUs/hr. This is not noted in the MVR and requires explanation (priority: **Comment**);	Agreed	Amended	**Amendment confirmed, but the RR67 calculation is missing a radius for the ahead movement**	Amended	Amendments/changes confirmed and accepted.
	7	Give way: no give-way behaviour is modelled on any of the give-way entries. Vehicles on Bostocks Lane (North and South) entry arms currently free-flow onto the roundabout in the model. This must be corrected. As noted above, give-way parameters should be estimated using ARCADY and 'Use Maximum Flow while Giving Way Value' should be used for all lanes (priority: **Substantive Issue**);	Agreed	Give-ways coded in with JCT Table of Coefficient and Opposed Max Flow for NO SIGNALS - Roundabout Entry which states a Coefficient of 0.33 and 1000 Opposed Max Flow	Amendments confirmed although 'Use Lane Saturation Flow Value' when opposing traffic is stopped is still used rather than 'Use Maximum Flow…' which will result in higher capacity	Amended	Amendments/changes confirmed and accepted.
	8	Controller: the model includes losing 11 second phase delays for the internal circulatory phases (Phase D) for both controllers. Whilst these phase delays make sense in terms of operation, they are not evident in the controller information. An explanation on what basis these phase delays were set is required (priority: **Substantive Issue**);	The Phase Delays fall under Stage Timing Changes in the signal spec		Accepted. No further action	No Further Action	Amendments/changes confirmed and accepted.
	9	Stage sequence: the model assumes a 2-3-4 stage sequence at both controllers so omits Stage 1 which provides green to the M1 slip road entries at the same time as the downstream circulatory. This is an irregular omission. The sequence is also different from that stated as used in the model in the MVR (a '1-2-3-4' sequence). An explanation on what basis the assumed stage sequence was selected is required (priority: **Substantive Issue**);	Partly Agree	The model has the correct stage sequences as the junction has different stages sequences through out the day . However, the validation report has been amended to show the correct stage sequence for AM and PM respectively.	Accepted. No further action		
	10	Unequal lane usage: the BWB MVR states that some unequal lane usage on the Trent Lane arm was adjusted using the Route List function in LinSig. However, the model does not appear to have any Route List 'locks' applied (priority: **Comment**); and	Agreed	Amended	Amendments confirmed. No further action		
	11	Additional modelling changes				Video observation of the western circulatory indicated a 60 second cycle time in both AM and PM peak periods. Furthermore, a review of the video indicates a stage sequence of 2,3,4 in the PM peak as opposed to 1,2,3 which is stated in the signal spec. Subsequently this has been amended in the model.	Amendments/changes confirmed and accepted.
	12	Validation: Table 16 of the BWB MVR compares observed and modelled DoS. There is a close match which suggest that the model validates well. However, the comments ought to be addressed which may result in different DoS results (priority: **Observation**).	Agreed	Amended in Validation Report to reflect changes set out above.	**Validation report may need to be updated following consideration of further comments raised above**	Updated validation table provided in 'DoS Comparison' tab	Amendments/changes confirmed and accepted.
Junction 15: Station Road/Broad Rushes Roundabout	1	General: the ARCADY model has been built incorrectly with the arms proceeding anti-clockwise. ARCADY models must be constructed with the arms proceeding clockwise otherwise modelled circulating flow will be incorrect and any capacity modelling erroneous (priority: **Substantive Issue**);	Agreed	Amended	Amendment confirmed. No further action	Base Model Approved	Amendments/changes confirmed and accepted.
	2	Geometry: measurements of the roundabout geometry and their input into the model appear to be generally fine (priority: **Observation**);	N/A	N/A	No further action		
	3	Lane usage: an examination of the modelled traffic flows shows that certain turning movements from Broad Rushes and Station Road (South) are highly dominant with the result that most of the traffic from these arms will be using only one of the two available entry lanes. The model uses standard ARCADY analysis which assumes that all entry capacity is used by all entering traffic. Please check and correct intercepts to account for uneven lane usage as per the Barbara Chard methodology for both base and any subsequent forecast scenarios (priority: Substantive Issue);	Agreed	The junction has been modelled using Junctions 10 lane simulation mode which allows modelling for unequal lane usage. The lanes within the model have been coded to replicate what the road markings show at the junction.	Amendment confirmed, but note that Lane Simulation tends to be pessimistic when used to represent short flared mutli-lane entries. It may therefore be better to use the Barbara Chard method if results seem overly bad.		
	4	Validation: Table 10 of the BWB MVR shows that there is a reasonably close match between observed and modelled queuing, although the overall level of observed queuing is negligible. This demonstrates how a model can have errors but still potentially 'validate'. The above substantive issues must be addressed, and the validation comparisons revised and re-reviewed before the model can be accepted (priority: **Observation**)	Agreed	Amended in Validation Report to reflect changes set out above.	Amendments confirmed. No further action		
Junction 16: A453/Kegwort	1	General: Measurements of the roundabout geometry and their input into the model appear to be generally acceptable. (priority: **Observation**);	N/A	N/A	No further action	Base Model Approved	Amendments/changes confirmed and accepted.
	2	Validation: Table 12 of the BWB MVR shows that there is a close match between observed and modelled queuing, although the overall level of observed queuing is negligible (priority: **Observation**).	N/A	N/A	No further action		
Junction 17: A453/West	1	General: Measurements of the roundabout geometry and their input into the model are generally acceptable. (priority: **Observation**);	N/A	N/A	No further action	Base Model Approved	Amendments/changes confirmed and accepted.
	2	Validation: Table 14 of the BWB MVR shows that there is a close match between observed and modelled queuing, although the overall level of observed queuing is negligible (priority: **Observation**).	N/A	N/A	No further action		

APPENDIX 48: Stage 1D Modelling Sign Off Sheet

TECHNICAL APPROVAL
East Midlands Gateway 2

Document Name	Stage 1D Modelling Documents	**Project reference**	220500
Document reference / revision	Local Junction Base Model Validation (EMG2-BWB-GEN-XX-RP-TR-0007 Revision P4)	**Date**	28.02.25

Approver 1	**Name**	[redacted]
	Organisation	National Highways
	Position	Interim Spatial Planner
	Date	21/05/2025
	Signature	[redacted]
	Comments *(if applicable)*	[redacted]uested JSJV review the supporting Local Junction Modelling files. The findings of the audit are presented in a Tech Note dated 12th February 2024 [B2428400 Midlands EMG_BWB Junction Models Review 2024]. The audit identified 26 Substantive issues, with 7 Comments and 23 Observations. Two further re-submissions were made and further audit comments captured in the Audit Tracker [240514 EMG2_Base Jct Model Comments and Responses_150524]. A final audit was undertaken by JSJV and the base models were approved for use in June 2024. The findings of the audit are presented in a Tech Note [B2428400 Midlands EMG_BWB Junction Models Review June 2024].

Approver 2	**Name**	
	Organisation	
	Position	
	Date	

	Signature	
	Comments *(if applicable)*	
Approver 3	Name	
	Organisation	
	Position	
	Date	
	Signature	
	Comments *(if applicable)*	

APPENDIX 49: Modelling Furnessing Approach (document reference EMG2-BWB-GEN-XX-RP-TR-0004_S2-P7)

EMGP2 TRAFFIC FLOW TECHNICAL NOTE 2 – FURNESSING AND FORECASTING METHODOLOGY

Project Name	**East Midlands Gateway, Phase 2**		
Document Number	EMG2-BWB-GEN-XX-RP-TR-0004	**BWB Ref**	220500
Author	[redacted]	**Status**	S2
Checked	[redacted]	**Revision**	P7
Approved	Paul Wilson	**Date**	21.08.25

1. INTRODUCTION

1.1 BWB Consulting Ltd have been appointed by SEGRO ("the Applicant") to provide highways and transport planning advice on a proposed Phase 2 Expansion of the East Midlands Gateway (EMG) site. The site comprises 430,000sqm of industrial development across the following sites:

- 400,000sqm of B2/B8 industrial development on EMG2, including 100,000sqm of B8 mezzanine floorspace.
- 30,000sqm of B8 industrial development on Plot 16 of EMG1.

1.2 It has been agreed with the Transport Working Group for the development impacts to be assessed using the East Midlands Freeport Model (PRTM) – a cordon of the wider Pan Regional Transport Model (PRTM). This Technical Note has been produced to set out the furnessing methodology to derive future forecast traffic flow matrices for each junction being assessed in the Transport Assessment. It therefore facilitates the transition from strategic to local junction modelling.

1.3 This revision of the Technical Note (Revision P4) follows the completion of an update of the PRTM base and future forecast modelling scenarios and output information. It therefore adopts the following structure:

- **Section 2: Proposed Methodology** – sets out the furnessing methodology options and the strategy that will be undertaken to determine the most appropriate methodology to derive the future forecast traffic flows.
- **Section 3: Future Forecast Traffic Flows** – provides more detail on the methodology used to derive future forecast traffic flows.
- **Section 4: Development Traffic** – sets out how the development traffic will be accounted for in the VISSIM modelling
- **Section 5: Committed Traffic** – sets out how the East Midlands Point committed development traffic will be accounted for in the VISSIM modelling
- **Section 6: Traffic Flow Data Set** – sets out the various dataset outputs provided from the PRTM and explains the dataset used in the furnessing calculations.
- **Section 7: VISSIM Modelling** – sets out the methodology of extracting PRTM cordon matrices for the VISSIM modelling work.

- **Section 8: Traffic Flow Furnessing** – sets out the future forecast traffic flows derived using the preferred methodology and for input into the detailed junction models. It also includes an example as to how the flows have been furnessed.

- **Section 9: Summary** – summarises the key conclusions of this Technical Note.

2. PROPOSED METHODOLOGY

Traffic Data and Model Outputs

2.1 Manual classified turning counts were commissioned in November 2022 and May 2023 at 16 junctions across the highway network (with the proposed site access roundabout on the A453 forming the 10th junction). These surveys therefore provide observed turning movements which will be used as part of the furnessing procedure to derive future forecast traffic flows and are listed below. The raw survey data for the 16 exisitng junctions is also appended at the corresponding locations as set out below, whilst the locations are shown at **Figure 1**.

Figure 1. Study Area

November 2023 Surveys

- Junction 2: A453/Hunter Road roundabout (**Appendix 1**)

- Junction 3: Finger Farm roundabout (**Appendix 2**)
- Junction 4: EMGP1 gyratory (**Appendix 3**)
- Junction 5: M1 Junction 24 (**Appendix 4**)
- Junction 6: A453/Grimes Gate priority junction (**Appendix 5**)
- Junction 7: A453/The Green priority junction (**Appendix 6**)
- Junction 8: A453/East Midlands Airport signal junction (**Appendix 7**)
- Junction 9: A453/East Midlands Airport roundabout (**Appendix 8**)
- Junction 10: A453/Walton Hill signal junction (**Appendix 9**)
- Junction 12: M1 Junction 23 (**Appendix 10**)

May 2023 Surveys

- Junction 11: A42 Junction 14 on-slip/A453/Top Brand/Gelscoe Lane Roundabout (**Appendix 11**)
- Junction 13: A50 Junction 1 (**Appendix 12**)
- Junction 14: M1 Junction 25 (**Appendix 13**)
- Junction 15: Station Road/Broad Rushes Roundabout (**Appendix 14**)
- Junction 16: A453/Kegworth Road Roundabouts (**Appendix 15**)
- Junction 17: A453/Barton Lane/West Leake dumbbell Roundabouts (**Appendix 16**)

2.2 The EMFM was updated to a 2019 base year and outputs are being are being provided for 2022, 2023, 2024, 2028 and 2038 scenarios. Hence, an initial comparison will be undertaken between the 2022 observed counts and 2022 flows from the PRTM to understand turning count validation, details of which are provided in the next section.

Traffic Flow Validation

2.3 The first step in understanding the most appropriate furnessing methodology is to compare the 2022 traffic flows from the PRTM against observed counts to provide an indication of the statistical significance of any differences. This has been undertaken using the GEH Statistics formula. The formula is set out below where M is the hourly traffic volume of the PRTM and C is the hourly traffic volume from the observed count.

$$GEH = \sqrt{\frac{2(M-C)^2}{M+C}}$$

2.4 It is generally accepted that a GEH value below 5 represents a good correlation between the two datasets. Details of the analysis for all 10 junctions highlighted in Paragraph 2.1 has been presented in Section 3.

Traffic Flow Furnessing Options

2.5 Orginially, four possible methodologies for furnessing the PRTM model outputs to derive future forecast traffic flows were being considered. The followng details provide a brief overview of each option, highlighting the benefits and potential downfalls of each one.

Option 1 – Extraction of target entry and exit flows directly from PRTM

2.6 Option 1 involves taking the future year traffic flows directly from the PRTM. This option would only be suitable if the 2022 turning counts compare well against the PRTM base year flows i.e. GEH less than 5.

2.7 The benefit of this method is the reduced number of assumptions applied to derive the target trip ends. Notwithstanding this, during a meeting with the Transport Working Group on 12 January 2023, Leicestershire County Council raised concern with this methodology suggesting that whilst the PRTM is well validated against observed link data, it is not calibrated/validated against individual turning movements and hence this option would unlikely be acceptable.

Option 2 – Use 2022 PRTM model base in conjunction with future PRTM flows to calculate percentage growth factors and apply this to the 2022 observed counts

2.8 Option 2 invovles calculating the percentage difference between the 2022 base and 2028/2038 future PRTM flows and applying the percentage growth directly to the 2022 observed counts at turning movement level. This option has the potential to significantly exacerbate future traffic flows and hence will need to be undertaken alongside a manual assessment.

2.9 For example, should the PRTM traffic flows show a turning movement of 1 vehicle in the base year (2022) increasing to 5 movements in the future year (2038), then this equates to a 500% increase. If the 500% increase is applied to a turning movement of 20 vehicles recorded from an observed count then this would result in 100 movements at the future year, which could be a significant overestimate. The four stage methodology invovled with Option 2 is shown in **Figure 2**.

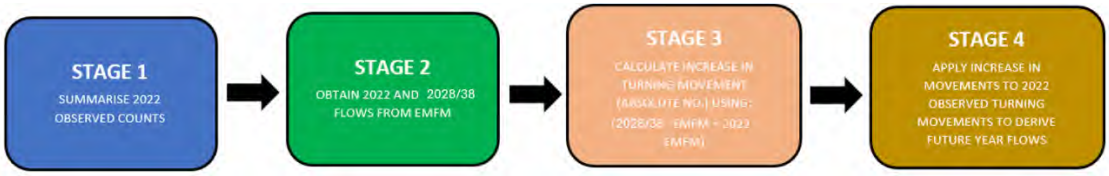
Figure 2: Option 2 Furnessing Methdology

Option 3 – Use 2022 PRTM base in conjunction with future PRTM flows to calculate absolute increases in turning movements and apply this to the 2022 observed counts

2.10 Option 3 calcuates the difference between the 2022 base and 2028/2038 future PRTM flows in absolute numbers and applies the increase directly to the 2022 observed counts. This option would only be suitable if the 2022 observed counts show good levels of

correlation against the 2022 PRTM base flows using the GEH Statistics formula. The four stage furnessing methdology for Option 3 is shown in **Figure 3**.

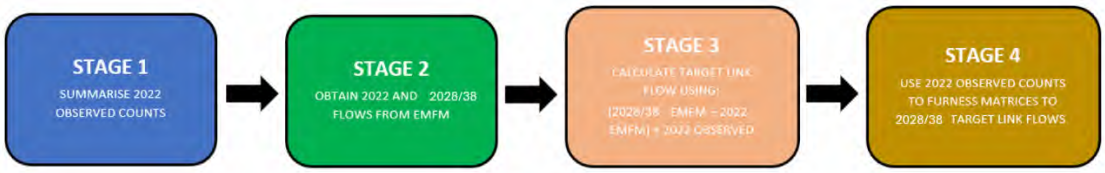
Figure 3: Option 3 Furnessing Methdology



Option 4 – Use 2022 PRTM base in conjunction with future PRTM flows to calculate absolute increases in link flows and apply the increase propotionatley to the 2022 observed turning counts

2.11 Option 4 involves adding the difference in link flows between the 2022 base and 2028/38 future PRTM to the 2022 observed link flows to derive a target link flow. The target link flow is applied proportionally in accordance with the observed turning movements to derive forecast traffic flow matrices. The four stage furnessing methdology for Option 4 is shown in **Figure 4**.

Figure 4: Option 4 Furnessing Methdology



3. FUTURE FORECAST TRAFFIC FLOWS

GEH Statistics

3.1 To start with, a comparison was made between the latest received 2022 PRTM flows and the 2022 observed counts to understand the statistical signifiance of any differences. This was undertaken for Junctions 1 to 9 which formed the original study area. To do this, an Excel spreadsheet was sent separately comparing light and heavy goods vehicle turning movements for both peak hours. The formula set out at Paragraph 2.3 was then applied to compare the two datasets.

3.2 A copy of the calculations is included at **Appendix 17**, which shows that all junctions have turning movements with a GEH value in excess of 5 and hence outside of the critieria for where there is a good level of correlation. On this basis, the furnessing options 1 and 3 detailed in Section 2 have been disregarded.

3.3 The percentage growth between PRTM base and forecast years were calculated; however, this resulted in large overestimations as described in Paragraph 2.11. Option 4 has however still been utilised to furness forecast traffic flow matrices.

Furnessing Methodology

3.4 The furnessing approach for Option 4 has been built using an MS Excel macro using VBA to ensure an extensive spreadsheet is not required to display every iteration of the furnessing. This also ensures that the methodology is consistent between all furnessed matrices. A summary of the process undertaken by the macros is provided below.

- Column adjustment: calculate turning counts across columns using survey data proportions in combination with the target link flow out of each arm.
- Sum row: calculate the sum of each arm row total.
- Row adjustment: calculate turning counts across rows using survey data proportions in combination with the target link flow into each arm.
- Sum column: calculate the sum of each column.
- Round all values in the matrix to the closest integer.
- Update sums for column and row total.
- Repeat the above 'x' number of iterations until the flows converge.

3.5 The macro has been built to run the furnessing 20 times for each matrix, however it should be noted that every time the macro is executed, it runs an additional 20 times. The furnessing spreadsheet therefore has been run for at least 20 iterations. The furnessing methodology has been double constrained, i.e. both origin and destination and the traffic flow matrices are furnessed until link flows are within a GEH of 5.

3.6 Additional matrices are provided to calculate the absolute difference and percentage difference between the forecast and furnessed link flows for each scenario respectively. A review of these indicates that this is considered to be convergent with the accepted furnessing methodology.

3.7 For certain turning movements there is expected to be negative growth. The PRTM rassigns vehicle routes based on delays and cost of journey and therefore some movements may experience a reduction in flows. The negative growth forecast by PRTM will also be taken into account during furnessing as excluding this would overestimate impacts at junctions.

3.8 Due to high volumes of traffic that travel on the motorways and key A-roads there is the potential for these numbers to affect the furnessing outputs. As the furnessing process is based on turning proportions, the large motorway flows could cause the furnessing to assign traffic that would use the junctions to the motorway mainline movements instead.

3.9 Therefore, the M1 and A42 mainline flows have been removed and furnessed seperately to avoid any re assignment.

4. DEVELOPMENT TRAFFIC

4.1 Strategic models reroute traffic in response to congestion within the network. To ensure the true impact of the development is modelled and mitigation is provided along the main routes that the development traffic would take, rather than rerouting via smaller junctions. The distribution of development traffic was extracted from the PRTM model, and it is proposed that the assignment of development traffic is assigned manually to exclude for any rerouting of traffic as a result the proposed development.

4.2 It was noticed that in the latest PRTM outputs that 7% of development car trips are originating/travelling to East Midlands Airport. This was queried this with AECOM/LCC NDI and it is because EMA is a zone in PRTM. Therefore, it is proposed to proportionately distribute the 7% of traffic to/from EMA along the seven highest other routes as set out to the TWG.

5. COMMITTED DEVELOPMENT TRAFFIC

5.1 The East Midlands Point comitted development off Finger Farm roundabout has been included in the PRTM modelling however as the development is not operational, there are no surveyed flows associated with the development. As such, the forecast traffic flows associated with the development has been directly extracted from the PRTM VISSIM cordon matrices and will be utilised for assessment in VISSIM.

6. TRAFFIC FLOW DATA SET

6.1 BWB was provided a copy of both 'Actual' and 'Demand' flow datasets by AECOM. Demand flow within SATURN does not assume a fully unconstrained network, both demand and actual flow account for all network constraints i.e. congestion, etc. and include for rerouting within the network.

6.2 Demand flow can be considered as the flow from the model assignment within the modelled period, independent of when the flow arrives i.e. if 100 vehicles are predicted to arrive at a certain junction between 0800-0900, demand flow will be displayed as 100.

6.3 On the contrary, actual flows can be considered as the flow that reaches a particular link or turn during the simulated time, i.e. if 100 vehicles are predicted to arrive at a certain junction between 0800-0900 however 20 vehicles are unable to get to the link within the modelled time due to constraints elsewhere in the network, actual flows will be displayed as 80 vehicles.

6.4 Discussions were held with AECOM and LCC/NDI and it was concluded that 'Actual' flows should be utilised within the modelling therefore all furnessing has been undertaken utilising 'Actual' flow data.

7. VISSIM MODELLING

7.1 A VISSIM model has been developed for the following junctions.

i. M1 J24;

ii. M1 J24a southbound merge onto the M1 and M1 junction 24;

iii. A453/EMG Phase 1/Kegworth Bypass signal controlled gyratory;

iv. M1 J23a Finger Farm roundabout (including M1/A42 on and off slip roads);

v. A453/Hunter Road/minor EMG Phase 2 access roundabout;

vi. A453/EMG Phase 2 site access roundabout.

7.2 Subsequently cordoned model flows have been obtained from AECOM to furness the traffic flows for each of the junctions in the VISSIM network in line with furnessing methodology Option 4 to derive forecast modelling traffic flow matrices.

Post Stage 1a Modelling

7.3 Stage 1a modelling comprises of 2028/38 forecast years with committed development, proposed development and Local Plan allocations

7.4 Upon receiving the Stage 1a VISSIM Corden modelling outputs from AECOM, a review of the data was undertaken to determine if the PRTM model outputs were coherent and that there was no unforeseen increase/decrease in flows on the links within the VISSIM network.

7.5 A review of the Stage 1a VISSIM cordon model was undertaken, which indicated that the 2022 flows provided as part of Stage 1a were lower than that provided previously. A proportion of the reduction in flows between the 2022 datasets were as a result of lower traffic flows accessing/egressing the EMG 1 site having previously considered such informatio in greater detail. The EMG1 traffic flows are more in line with that set out in the planning application. However, in addition to this, reduction in flows were noted primarily on the A42 and M1 S approach arms.

7.6 The agreed furnessing methodology, Option 4, calculates the flow difference between 2022 base and forecast modelling scenarios and adds the increase/decrease in traffic to the observed link flows. Therefore a lower 2022 base would provide a higher furnessed link flow to be modelled in VISSIM.

7.7 Whilst this approach has been retained, an additional comparison has been undertaken between the furnessed link flows and PRTM link flows by way of considering flows forecast to travel along each link in 2038. This is illustrated in **Table 1** below.

		AM Origin Total			PM Origin Total		
Link No	**Link Name**	**Furnessed Target Flows**	**2038 Raw Link Flows**	**Diff**	**Furnessed Target Flows**	**2038 Raw Link Flows**	**Diff**
1	A50	2720	2650	-70	1926	2884	+958
2	M1 North	5957	4558	-1399	5309	4011	-1298
3	A453 Remembrance Way	1769	2163	+394	2112	2364	+252
4	Derby Road	684	857	+173	639	938	+299
5	Hilton Lane	493	524	+31	342	446	+104

6	Keg Worth Bypass	1028	1008	-20	1045	1083	+38
7	M1 South	5253	5160	-93	5710	5286	-424
8	A42	2895	2793	-102	2164	2547	+383
9	A453	614	670	+56	948	959	+11
10	Wilders Way	217	202	-15	655	842	+187
11	Services	259	0	-259	268	0	-268
12	Hunter Road	107	106	-1	263	411	+148

7.8 Therefore, the scenarios will be tested within VISSIM to determine if the mitigation still provides the benefits envisaged within the internal testing.

Post Stage 2 Modelling

7.9 Stage 2 modelling comprises of 2028/38 forecast years with committed development, proposed development and Local Plan allocations with the proposed mitigation scheme that have been determined as a result of the Stage 1 VISSIM Modelling.

7.10 Upon receiving the Stage 2 outputs, the outputs were furnessed using option 4 methodology but as option 4 is based on the survey turning proportions it was not encapsulating the rerouting of traffic due to the mitigation strategy and provided unrealistic O-D Matrices.

7.11 Therefore, an alternative methodology has been used for the Stage 2 furnessing, which retains the Stage 1A furnessed flows and applies the difference between PRTM forecast flows for Stage 1A and Stage 2A. This accounts for the re-routing as a result of the mitigation while maintaining consistency in the matrix build process from Stage 1A. This approach has been discussed and agreed with NH..

8. TRAFFIC FLOW FURNESSING

8.1 Future forecast traffic flows for the 2028 and 2038 assessment years have been derived in line with the Option 4 methodology, using outputs from the PRTM and the survey data (noting the junctions included in VISSIM have used separate outputs from the cordon model flows).

8.2 A copy of the furnessing spreadsheet has been issued separately which show that the vast majority of link flows are converged so that furnessed link flows are within a GEH of 5 of calculated link flows. In calculating the final Passenger Car Unit (PCU) flows, a PCU factor of 2.0 has been applied to all HGVs and 1.0 for light vehicles, which mirrors the PRTM for consistency.

8.3 A worked example of how the traffic flows have been furnessed is shown on the 'Furness Process' tab within the spreadsheets.

9. SUMMARY

9.1 This Technical Note has been produced to set out the furnessing methodology to derive future forecast traffic flow matrices for each junction being assessed in the Transport Assessment.

9.2 To understand how the 2022 PRTM flows compare to the 2022 observed counts at each junction, the GEH Statistics formula has been used to provide an indication of the statistical significance of any differences. This will then provide a gauge as to which of the four furnessing methodologies considered up until this point is most appropriate, which are summarised below:

- **Option 1** – Extraction of target entry and exit flows directly from PRTM
- **Option 2** – Use 2022 PRTM model base in conjunction with future PRTM flows to calculate percentage growth factors and apply this to the 2022 observed counts
- **Option 3** – Use 2022 PRTM base in conjunction with future PRTM flows to calculate absolute increases in turning movements and apply this to the 2022 observed counts
- **Option 4** – Use 2022 PRTM base in conjunction with future PRTM flows to calculate absolute increases in link flows and apply the increase propotionatley to the 2022 observed turning counts

9.3 A comparison of GEH indicated that several movements for all surveyed junctions did not meet the GEH threshold therefore Options 1 and 3 had been discounted.

9.4 Furthermore, a review of the percentage increase between PRTM base and forecast traffic flow matrices was calculated however this resulted in a significant overestimate of traffic flow movements in some instances therefore Option 2 has also been discounted.

9.5 Based on the above, it is considered that Option 4 is the most appropriate furnessing methodology to be utilised in this instance.

9.6 Discussions were undertaken with AECOM and LCC/NDI and it was concluded that 'Actual' flows should be utilised in the forecast modelling scenarios.

9.7 Additionally, NH was consulted on the approach to utilise forecast flows within the VISSIM modelling and it was concluded that a cordon of the VISSIM extent should be used to extract OD flows from PRTM. Subsequently Option 4 furnessing methodology will be used to derive forecast traffic flow matrices.

9.8 A review of the Stage 1a VISSIM cordon model was undertaken, which indicated that the 2022 flows provided as part of Stage 1a were lower than that provided previously. The agreed Option 4 furnessing methodology would provide a higher furnessed link flow to be modelled in VISSIM as a result.

9.9 An alternative methodology has been applied to Stage 2 furnessing which is retaining Stage 1A furnessed flows, with the difference between PRTM forecast flows for Stage 1A and Stage 2A added which accounts for the rerouting.

9.10 The scenarios will be tested within VISSIM to determine if the suggested mitigation still provides significant benefits. The final furnessed traffic flows at this stage of the process for the forecast years have been provided within separate spreadsheets.

National Highway's Review

9.11 All the forecast modelling inputs have yet to be accepted and signed off by National Highway (NH) and therefore, are potentially subject to change. As a result of this, this Furnessing Approach report will be revised once NH and any other highway authority have accepted and signed off the modelling inputs methodology with the agreed information.

APPENDIX 1 – A453/Hunter Road Roundabout Turning Count Results

Road Data Services Ltd

East Midlands Gateway
Thursday 3rd November 2022
Junction: 3
Approach: Hunter Road

	Left to A453 (E)									Right to A453 (W)								
TIME	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs
07:00 - 07:15	0	0	23	1	0	1	3	28	32.3	0	0	6	0	1	0	0	7	7.5
07:15 - 07:30	0	0	16	0	2	1	0	19	21.3	0	0	2	0	0	0	0	2	2.0
07:30 - 07:45	0	0	17	4	4	0	4	29	35.0	0	0	6	0	0	0	0	6	6.0
07:45 - 08:00	0	0	16	0	0	0	1	17	18.0	0	0	3	2	0	0	0	5	5.0
Hourly Total	**0**	**0**	**72**	**5**	**6**	**2**	**8**	**93**	**106.6**	**0**	**0**	**17**	**2**	**1**	**0**	**0**	**20**	**20.5**
08:00 - 08:15	0	0	23	3	2	3	2	33	39.9	0	0	6	4	0	0	0	10	10.0
08:15 - 08:30	0	0	19	7	0	1	1	28	30.3	0	0	5	0	0	0	0	5	5.0
08:30 - 08:45	0	0	28	4	2	0	2	36	39.0	0	0	5	1	0	0	0	6	6.0
08:45 - 09:00	0	0	9	3	2	2	2	18	23.6	0	0	0	1	0	0	0	1	1.0
Hourly Total	**0**	**0**	**79**	**17**	**6**	**6**	**7**	**115**	**132.8**	**0**	**0**	**16**	**6**	**0**	**0**	**0**	**22**	**22.0**
09:00 - 09:15	0	0	4	1	1	2	2	10	15.1	0	0	0	0	0	0	0	0	0.0
09:15 - 09:30	0	0	11	5	2	0	3	21	25.0	0	0	2	2	2	0	0	6	7.0
09:30 - 09:45	0	0	13	6	2	0	1	22	24.0	0	0	4	1	0	0	0	5	5.0
09:45 - 10:00	0	0	5	3	1	0	4	13	17.5	0	0	2	0	0	1	0	3	4.3
Hourly Total	**0**	**0**	**33**	**15**	**6**	**2**	**10**	**66**	**81.6**	**0**	**0**	**8**	**3**	**2**	**1**	**0**	**14**	**16.3**
TOTAL	**0**	**0**	**184**	**37**	**18**	**10**	**25**	**274**	**321.0**	**0**	**0**	**41**	**11**	**3**	**1**	**0**	**56**	**58.8**
16:00 - 16:15	0	0	118	6	0	3	4	131	138.9	0	0	20	0	0	0	0	20	20.0
16:15 - 16:30	0	0	70	4	1	3	1	79	84.4	0	0	6	0	0	0	1	7	8.0
16:30 - 16:45	0	0	80	7	0	1	1	89	91.3	0	0	12	0	0	0	0	12	12.0
16:45 - 17:00	0	0	64	1	1	1	3	70	74.8	0	0	6	0	0	0	1	7	8.0
Hourly Total	**0**	**0**	**332**	**18**	**2**	**8**	**9**	**369**	**389.4**	**0**	**0**	**44**	**0**	**0**	**0**	**2**	**46**	**48.0**
17:00 - 17:15	0	0	101	3	1	1	2	108	111.8	0	0	14	0	0	0	0	14	14.0
17:15 - 17:30	0	0	85	7	2	2	1	97	101.6	0	0	7	1	0	0	0	8	8.0
17:30 - 17:45	0	0	60	7	2	2	1	72	76.6	0	0	5	0	0	0	0	5	5.0
17:45 - 18:00	0	0	64	8	1	4	0	77	82.7	0	0	7	0	1	0	0	8	8.5
Hourly Total	**0**	**0**	**310**	**25**	**6**	**9**	**4**	**354**	**372.7**	**0**	**0**	**33**	**1**	**1**	**0**	**0**	**35**	**35.5**
18:00 - 18:15	0	0	41	2	0	0	3	46	49.0	0	0	7	0	0	0	0	7	7.0
18:15 - 18:30	0	0	38	3	0	1	2	44	47.3	0	0	1	0	0	0	0	1	1.0
18:30 - 18:45	0	0	29	0	2	8	1	40	52.4	0	0	1	1	0	0	0	2	2.0
18:45 - 19:00	0	0	23	0	1	2	3	29	35.1	0	0	0	0	0	0	0	0	0.0
Hourly Total	**0**	**0**	**131**	**5**	**3**	**11**	**9**	**159**	**183.8**	**0**	**0**	**9**	**1**	**0**	**0**	**0**	**10**	**10.0**
TOTAL	**0**	**0**	**773**	**48**	**11**	**28**	**22**	**882**	**945.9**	**0**	**0**	**86**	**2**	**1**	**0**	**2**	**91**	**93.5**

PCU Factors:	
CYCLE	0.2
M/CYCLE	0.4
CAR	1.0
LGV	1.0
OGV1	1.5
OGV2	2.3
BUS	2.0

East Midlands Gateway
Thursday 3rd November 2022
Junction: 3
Approach: A453 East

	Ahead to A453 (W)									Right to Hunter Road									U-Turn								
TIME	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs
07:00 - 07:15	0	0	118	18	6	4	0	146	154.2	0	1	29	1	0	3	1	35	39.3	0	0	0	0	0	0	0	0	0.0
07:15 - 07:30	0	0	99	28	6	3	0	136	142.9	0	0	38	0	2	1	2	43	47.3	0	0	0	0	0	0	0	0	0.0
07:30 - 07:45	0	0	135	15	2	7	0	159	169.1	0	0	54	4	1	3	3	65	72.4	0	0	0	0	0	0	0	0	0.0
07:45 - 08:00	0	0	101	14	5	5	1	126	136.0	0	0	102	3	1	2	2	110	115.1	0	0	0	0	0	0	0	0	0.0
Hourly Total	**0**	**0**	**453**	**75**	**19**	**19**	**1**	**567**	**602.2**	**0**	**1**	**223**	**8**	**4**	**9**	**8**	**253**	**274.1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**
08:00 - 08:15	0	0	102	15	3	5	0	125	133.0	0	1	81	8	2	0	1	93	94.4	0	0	0	0	0	0	0	0	0.0
08:15 - 08:30	0	0	127	16	3	9	0	155	168.2	0	0	108	6	1	0	1	116	117.5	0	0	0	1	0	0	0	1	1.0
08:30 - 08:45	0	0	122	19	8	6	2	157	170.8	0	0	96	5	0	0	2	103	105.0	0	0	2	1	0	0	0	3	3.0
08:45 - 09:00	0	0	97	16	4	4	0	121	128.2	0	0	82	4	1	1	0	88	89.8	0	0	1	0	0	0	0	1	1.0
Hourly Total	**0**	**0**	**448**	**66**	**18**	**24**	**2**	**558**	**600.2**	**0**	**1**	**367**	**23**	**4**	**1**	**4**	**400**	**406.7**	**0**	**0**	**3**	**2**	**0**	**0**	**0**	**5**	**5.0**
09:00 - 09:15	0	0	77	11	7	4	1	100	109.7	0	1	78	6	1	3	3	92	98.8	0	0	1	0	0	0	0	1	1.0
09:15 - 09:30	0	0	58	13	5	5	0	81	90.0	0	0	68	4	1	2	2	77	82.1	0	0	1	1	0	0	0	2	2.0
09:30 - 09:45	0	1	53	8	4	7	0	73	83.5	0	0	31	4	3	2	2	42	48.1	0	0	3	0	0	0	0	3	3.0
09:45 - 10:00	0	2	41	12	6	9	1	71	85.5	0	0	31	7	1	1	2	42	45.8	0	0	3	0	0	0	0	3	3.0
Hourly Total	**0**	**3**	**229**	**44**	**22**	**25**	**2**	**325**	**368.7**	**0**	**1**	**208**	**21**	**6**	**8**	**9**	**253**	**274.8**	**0**	**0**	**8**	**1**	**0**	**0**	**0**	**9**	**9.0**
TOTAL	**0**	**3**	**1130**	**185**	**59**	**68**	**5**	**1450**	**1571.1**	**0**	**3**	**798**	**52**	**14**	**18**	**21**	**906**	**955.6**	**0**	**0**	**11**	**3**	**0**	**0**	**0**	**14**	**14.0**
16:00 - 16:15	0	0	92	14	3	7	0	116	126.6	0	0	18	2	1	1	3	25	29.8	0	0	3	1	1	0	0	5	5.5
16:15 - 16:30	0	0	83	13	1	8	0	105	115.9	0	0	21	3	4	2	2	32	38.6	0	0	1	0	0	0	0	1	1.0
16:30 - 16:45	0	0	92	24	3	4	0	123	129.7	0	0	16	2	0	1	1	20	22.3	0	0	1	2	0	0	0	3	3.0
16:45 - 17:00	0	0	122	27	2	3	1	155	160.9	0	0	18	2	0	2	2	24	28.6	0	0	2	2	0	0	0	4	4.0
Hourly Total	**0**	**0**	**389**	**78**	**9**	**22**	**1**	**499**	**533.1**	**0**	**0**	**73**	**9**	**5**	**6**	**8**	**101**	**119.3**	**0**	**0**	**7**	**5**	**1**	**0**	**0**	**13**	**13.5**
17:00 - 17:15	0	2	120	12	4	2	0	140	143.4	0	0	15	4	2	1	1	23	26.3	0	0	3	0	1	0	0	4	4.5
17:15 - 17:30	0	0	112	15	6	5	0	138	147.5	0	0	27	3	0	3	3	36	42.9	0	0	3	0	0	0	0	3	3.0
17:30 - 17:45	0	0	102	14	3	2	0	121	125.1	0	0	26	2	1	0	2	31	33.5	0	0	1	0	0	0	0	1	1.0
17:45 - 18:00	0	0	98	13	3	1	0	115	117.8	0	0	29	4	1	2	0	36	39.1	0	0	3	0	0	0	0	3	3.0
Hourly Total	**0**	**2**	**432**	**54**	**16**	**10**	**0**	**514**	**533.8**	**0**	**0**	**97**	**13**	**4**	**6**	**6**	**126**	**141.8**	**0**	**0**	**10**	**0**	**1**	**0**	**0**	**11**	**11.5**
18:00 - 18:15	0	0	92	12	2	3	0	109	113.9	0	0	19	4	0	2	2	27	31.6	0	0	2	0	0	0	0	2	2.0
18:15 - 18:30	0	1	103	10	3	2	0	119	122.5	0	0	24	2	0	6	3	35	45.8	0	0	2	0	0	0	0	2	2.0
18:30 - 18:45	0	2	77	6	2	2	0	89	91.4	0	0	13	1	1	1	0	16	17.8	0	0	2	0	0	0	0	2	2.0
18:45 - 19:00	0	0	69	5	2	5	0	81	88.5	0	0	27	3	2	1	3	36	41.3	0	0	0	0	0	1	0	1	2.3
Hourly Total	**0**	**3**	**341**	**33**	**9**	**12**	**0**	**398**	**416.3**	**0**	**0**	**83**	**10**	**3**	**10**	**8**	**114**	**136.5**	**0**	**0**	**6**	**0**	**0**	**1**	**0**	**7**	**8.3**
TOTAL	**0**	**5**	**1162**	**165**	**34**	**44**	**1**	**1411**	**1483.2**	**0**	**0**	**253**	**32**	**12**	**22**	**22**	**341**	**397.6**	**0**	**0**	**23**	**5**	**2**	**1**	**0**	**31**	**33.3**

PCU Factors:	
CYCLE	0.2
M/CYCLE	0.4
CAR	1.0
LGV	1.0
OGV1	1.5
OGV2	2.3
BUS	2.0

Road Data Services Ltd

East Midlands Gateway
Thursday 3rd November 2022
Junction: 3
Approach: A453 West

	Left to Hunter Road									Ahead to A453 (E)								
TIME	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs
07:00 - 07:15	0	0	3	1	1	0	0	5	5.5	0	0	64	11	2	9	0	86	98.7
07:15 - 07:30	0	0	9	1	0	0	0	10	10.0	0	2	99	21	6	7	0	135	145.9
07:30 - 07:45	0	0	3	0	0	0	0	3	3.0	0	1	100	17	5	14	0	137	157.1
07:45 - 08:00	0	0	25	0	1	0	0	26	26.5	0	0	103	17	4	5	1	130	139.5
Hourly Total	**0**	**0**	**40**	**2**	**2**	**0**	**0**	**44**	**45.0**	**0**	**3**	**366**	**66**	**17**	**35**	**1**	**488**	**541.2**
08:00 - 08:15	0	0	10	0	0	0	0	10	10.0	0	0	103	26	3	8	1	141	153.9
08:15 - 08:30	0	0	12	0	0	0	0	12	12.0	0	0	117	28	6	12	1	164	183.6
08:30 - 08:45	0	0	7	1	0	0	0	8	8.0	0	0	66	19	5	12	1	103	122.1
08:45 - 09:00	0	0	8	1	0	0	0	9	9.0	0	0	65	9	4	14	1	93	114.2
Hourly Total	**0**	**0**	**37**	**2**	**0**	**0**	**0**	**39**	**39.0**	**0**	**0**	**351**	**82**	**18**	**46**	**4**	**501**	**573.8**
09:00 - 09:15	0	0	11	1	0	0	0	12	12.0	0	0	48	7	9	7	0	71	84.6
09:15 - 09:30	0	0	3	0	0	0	0	3	3.0	0	1	38	11	4	6	1	61	71.2
09:30 - 09:45	0	0	2	0	0	0	0	2	2.0	0	0	27	11	6	5	1	50	60.5
09:45 - 10:00	0	0	6	0	0	0	0	6	6.0	0	0	37	10	2	7	0	56	66.1
Hourly Total	**0**	**0**	**22**	**1**	**0**	**0**	**0**	**23**	**23.0**	**0**	**1**	**150**	**39**	**21**	**25**	**2**	**238**	**282.4**
TOTAL	**0**	**0**	**99**	**5**	**2**	**0**	**0**	**106**	**107.0**	**0**	**4**	**867**	**187**	**56**	**106**	**7**	**1227**	**1397.4**
16:00 - 16:15	0	0	2	0	0	0	0	2	2.0	0	0	110	18	5	8	0	141	153.9
16:15 - 16:30	0	0	2	0	0	0	0	2	2.0	0	0	98	17	5	1	0	121	124.8
16:30 - 16:45	0	0	4	0	0	0	0	4	4.0	0	0	122	17	2	3	0	144	148.9
16:45 - 17:00	0	0	3	2	0	0	0	5	5.0	0	0	125	15	0	2	1	143	146.6
Hourly Total	**0**	**0**	**11**	**2**	**0**	**0**	**0**	**13**	**13.0**	**0**	**0**	**455**	**67**	**12**	**14**	**1**	**549**	**574.2**
17:00 - 17:15	0	0	6	0	0	0	0	6	6.0	0	0	136	11	1	3	1	152	157.4
17:15 - 17:30	0	0	8	0	0	0	0	8	8.0	0	0	73	4	1	3	0	81	85.4
17:30 - 17:45	0	0	5	3	0	0	0	8	8.0	0	0	135	9	2	3	1	150	155.9
17:45 - 18:00	0	0	6	0	0	0	0	6	6.0	0	0	134	7	1	1	0	143	144.8
Hourly Total	**0**	**0**	**25**	**3**	**0**	**0**	**0**	**28**	**28.0**	**0**	**0**	**478**	**31**	**5**	**10**	**2**	**526**	**543.5**
18:00 - 18:15	0	0	5	0	0	0	0	5	5.0	0	0	94	9	1	2	0	106	109.1
18:15 - 18:30	0	0	6	0	0	0	0	6	6.0	0	0	79	8	2	1	0	90	92.3
18:30 - 18:45	0	0	1	0	0	0	0	1	1.0	0	1	62	6	0	1	0	70	70.7
18:45 - 19:00	0	0	5	1	0	0	0	6	6.0	0	0	55	6	1	2	0	64	67.1
Hourly Total	**0**	**0**	**17**	**1**	**0**	**0**	**0**	**18**	**18.0**	**0**	**1**	**290**	**29**	**4**	**6**	**0**	**330**	**339.2**
TOTAL	**0**	**0**	**53**	**6**	**0**	**0**	**0**	**59**	**59.0**	**0**	**1**	**1223**	**127**	**21**	**30**	**3**	**1405**	**1456.9**

PCU Factors:	
CYCLE	0.2
M/CYCLE	0.4
CAR	1.0
LGV	1.0
OGV1	1.5
OGV2	2.3
BUS	2.0

APPENDIX 2 – Finger Farm Roundabout Turning Count Results

East Midlands Gateway
Thursday 3rd November 2022
Junction: 4
Approach: A453 North

	To M1 J23A Access									To Donington Services Access										To A453 (W)									
TIME	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs
07:00 - 07:15	0	0	47	13	4	10	0	74	89.0	0	0	4	5	4	11	0	24	40.3	0	1	78	4	2	1	1	87	89.7
07:15 - 07:30	0	0	41	10	1	0	1	53	54.5	0	0	7	0	3	4	0	14	20.7	0	0	77	10	3	3	2	95	102.4
07:30 - 07:45	0	0	63	23	7	12	0	105	124.1	0	1	5	3	0	0	0	9	8.4	0	0	93	6	1	3	3	106	113.4
07:45 - 08:00	0	0	119	42	6	18	0	185	211.4	0	0	9	2	0	3	0	14	17.9	0	0	73	4	2	4	3	86	95.2
Hourly Total	**0**	**0**	**270**	**88**	**18**	**40**	**1**	**417**	**479.0**	**0**	**1**	**25**	**10**	**7**	**18**	**0**	**61**	**87.3**	**0**	**1**	**321**	**24**	**8**	**11**	**9**	**374**	**400.7**
08:00 - 08:15	0	0	122	30	4	10	0	166	181.0	0	0	12	7	1	4	0	24	29.7	0	1	82	9	1	2	1	96	99.5
08:15 - 08:30	0	0	67	20	2	15	0	104	124.5	0	0	16	2	0	2	0	20	22.6	0	0	117	10	2	2	1	132	136.6
08:30 - 08:45	0	0	48	15	7	12	1	83	103.1	0	0	13	2	0	4	0	19	24.2	0	0	122	11	0	2	3	138	143.6
08:45 - 09:00	0	0	49	9	3	12	1	74	92.1	0	0	18	3	0	4	0	25	30.2	0	0	76	12	0	1	0	89	90.3
Hourly Total	**0**	**0**	**286**	**74**	**16**	**49**	**2**	**427**	**500.7**	**0**	**0**	**59**	**14**	**1**	**14**	**0**	**88**	**106.7**	**0**	**1**	**397**	**42**	**3**	**7**	**5**	**455**	**470.0**
09:00 - 09:15	0	0	18	4	8	11	0	41	59.3	0	0	14	4	1	2	0	21	24.1	0	1	81	6	3	3	4	98	106.8
09:15 - 09:30	0	0	28	5	4	9	0	46	59.7	0	0	18	4	2	5	1	30	38.5	0	0	77	8	1	1	1	88	90.8
09:30 - 09:45	0	0	11	4	6	7	0	28	40.1	0	0	19	2	3	6	0	30	39.3	0	1	44	7	0	4	2	58	64.6
09:45 - 10:00	0	0	12	7	3	11	1	34	50.8	0	1	14	5	2	3	0	25	29.3	0	2	37	6	5	4	2	56	64.5
Hourly Total	**0**	**0**	**69**	**20**	**21**	**38**	**1**	**149**	**209.9**	**0**	**1**	**65**	**15**	**8**	**16**	**1**	**106**	**131.2**	**0**	**4**	**239**	**27**	**9**	**12**	**9**	**300**	**326.7**
TOTAL	**0**	**0**	**625**	**182**	**55**	**127**	**4**	**993**	**1189.6**	**0**	**2**	**149**	**39**	**16**	**48**	**1**	**255**	**325.2**	**0**	**6**	**957**	**93**	**20**	**30**	**23**	**1129**	**1197.4**
16:00 - 16:15	0	0	72	14	2	10	0	98	112.0	0	0	12	4	4	5	0	25	33.5	0	0	21	8	0	1	2	32	35.3
16:15 - 16:30	0	0	78	18	4	11	0	111	127.3	0	0	9	5	0	3	0	17	20.9	0	0	39	6	0	1	2	48	51.3
16:30 - 16:45	0	0	81	11	0	6	1	99	107.8	0	0	12	2	0	4	0	18	23.2	0	0	9	9	2	2	1	23	27.6
16:45 - 17:00	0	0	67	6	2	7	0	82	92.1	0	0	14	3	0	3	0	20	23.9	0	0	28	14	0	1	3	46	50.3
Hourly Total	**0**	**0**	**298**	**49**	**8**	**34**	**1**	**390**	**439.2**	**0**	**0**	**47**	**14**	**4**	**15**	**0**	**80**	**101.5**	**0**	**0**	**97**	**37**	**2**	**5**	**8**	**149**	**164.5**
17:00 - 17:15	0	0	95	4	1	3	0	103	107.4	0	0	9	2	3	6	0	20	29.3	0	1	24	6	5	2	1	39	44.5
17:15 - 17:30	0	0	64	5	3	7	0	79	89.6	0	0	12	2	0	5	0	19	25.5	0	0	50	12	3	1	3	69	74.8
17:30 - 17:45	0	0	72	7	1	7	0	87	96.6	0	0	13	0	0	4	0	17	22.2	0	0	21	7	2	2	2	34	39.6
17:45 - 18:00	0	0	77	8	3	10	0	98	112.5	0	0	19	5	0	8	0	32	42.4	0	0	29	4	1	2	0	36	39.1
Hourly Total	**0**	**0**	**308**	**24**	**8**	**27**	**0**	**367**	**406.1**	**0**	**0**	**53**	**9**	**3**	**23**	**0**	**88**	**119.4**	**0**	**1**	**124**	**29**	**11**	**7**	**6**	**178**	**198.0**
18:00 - 18:15	0	0	105	6	2	7	1	121	132.1	0	0	11	0	2	4	0	17	23.2	0	0	40	11	0	4	2	57	64.2
18:15 - 18:30	0	0	58	2	3	5	1	69	78.0	0	1	10	1	1	3	0	16	19.8	0	1	79	9	1	3	3	96	102.8
18:30 - 18:45	0	0	78	3	2	5	0	88	95.5	0	0	11	2	0	2	0	15	17.6	0	1	58	3	2	0	0	64	64.4
18:45 - 19:00	0	0	34	2	1	5	0	42	49.0	0	0	16	6	0	4	0	26	31.2	0	0	47	5	3	1	3	59	64.8
Hourly Total	**0**	**0**	**275**	**13**	**8**	**22**	**2**	**320**	**354.6**	**0**	**1**	**48**	**9**	**3**	**13**	**0**	**74**	**91.8**	**0**	**2**	**224**	**28**	**6**	**8**	**8**	**276**	**296.2**
TOTAL	**0**	**0**	**881**	**86**	**24**	**83**	**3**	**1077**	**1199.9**	**0**	**1**	**148**	**32**	**10**	**51**	**0**	**242**	**312.7**	**0**	**3**	**445**	**94**	**19**	**20**	**22**	**603**	**658.7**

PCU Factors:	
CYCLE	0.2
M/CYCLE	0.4
CAR	1.0
LGV	1.0
OGV1	1.5
OGV2	2.3
BUS	2.0

East Midlands Gateway
Thursday 3rd November 2022
Junction: 4
Approach: M1 J23A Access

	To Donington Services Access									To A453 (W)									To A453 (N)								
TIME	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs
07:00 - 07:15	0	0	16	6	3	5	0	30	38.0	0	0	60	14	2	6	0	82	90.8	0	0	97	28	7	27	2	161	201.6
07:15 - 07:30	0	0	13	6	4	5	0	28	36.5	0	0	53	17	3	1	0	74	76.8	0	0	172	29	8	19	0	228	256.7
07:30 - 07:45	0	0	11	7	2	7	1	28	39.1	0	0	89	10	2	7	0	108	118.1	0	0	184	38	10	23	2	257	293.9
07:45 - 08:00	0	0	21	11	2	3	0	37	41.9	0	0	121	12	2	2	0	137	140.6	0	1	199	28	9	22	0	259	291.5
Hourly Total	**0**	**0**	**61**	**30**	**11**	**20**	**1**	**123**	**155.5**	**0**	**0**	**323**	**53**	**9**	**16**	**0**	**401**	**426.3**	**0**	**1**	**652**	**123**	**34**	**91**	**4**	**905**	**1043.7**
08:00 - 08:15	0	0	19	3	2	3	0	27	31.9	0	0	89	12	3	3	0	107	112.4	0	0	152	29	8	13	0	202	222.9
08:15 - 08:30	0	0	17	13	4	8	0	42	54.4	0	0	107	8	1	7	0	123	132.6	0	0	163	34	15	22	0	234	270.1
08:30 - 08:45	0	0	20	7	2	7	0	36	46.1	0	0	85	13	6	4	1	109	118.2	0	0	102	15	8	25	1	151	188.5
08:45 - 09:00	0	0	22	5	0	6	0	33	40.8	0	0	90	6	3	4	0	103	109.7	0	0	106	21	10	15	0	152	176.5
Hourly Total	**0**	**0**	**78**	**28**	**8**	**24**	**0**	**138**	**173.2**	**0**	**0**	**371**	**39**	**13**	**18**	**1**	**442**	**472.9**	**0**	**0**	**523**	**99**	**41**	**75**	**1**	**739**	**858.0**
09:00 - 09:15	0	0	24	8	3	9	0	44	57.2	0	0	69	8	5	4	0	86	93.7	0	0	108	18	8	19	0	153	181.7
09:15 - 09:30	0	0	19	7	1	9	0	36	48.2	0	0	40	8	4	5	1	58	67.5	0	0	67	20	6	19	0	112	139.7
09:30 - 09:45	0	0	22	6	2	10	0	40	54.0	0	0	31	3	6	5	0	45	54.5	0	0	74	17	7	9	1	108	124.2
09:45 - 10:00	0	0	16	6	2	6	0	30	38.8	0	0	30	11	1	6	0	48	56.3	0	0	56	15	9	16	0	96	121.3
Hourly Total	**0**	**0**	**81**	**27**	**8**	**34**	**0**	**150**	**198.2**	**0**	**0**	**170**	**30**	**16**	**20**	**1**	**237**	**272.0**	**0**	**0**	**305**	**70**	**30**	**63**	**1**	**469**	**566.9**
TOTAL	**0**	**0**	**220**	**85**	**27**	**78**	**1**	**411**	**526.9**	**0**	**0**	**864**	**122**	**38**	**54**	**2**	**1080**	**1171.2**	**0**	**1**	**1480**	**292**	**105**	**229**	**6**	**2113**	**2468.6**
16:00 - 16:15	0	0	27	5	2	9	0	43	55.7	0	0	79	5	4	6	1	95	105.8	0	0	81	35	9	13	0	138	159.4
16:15 - 16:30	0	0	20	5	2	3	0	30	34.9	0	0	59	9	4	8	0	80	92.4	0	0	97	36	2	16	2	153	176.8
16:30 - 16:45	0	0	25	6	1	5	0	37	44.0	0	0	85	17	1	3	0	106	110.4	0	1	110	27	5	16	0	159	181.7
16:45 - 17:00	0	0	26	13	2	4	0	45	51.2	0	0	101	16	2	4	0	123	129.2	0	1	101	23	4	0	0	129	130.4
Hourly Total	**0**	**0**	**98**	**29**	**7**	**21**	**0**	**155**	**185.8**	**0**	**0**	**324**	**47**	**11**	**21**	**1**	**404**	**437.8**	**0**	**2**	**389**	**121**	**20**	**45**	**2**	**579**	**648.3**
17:00 - 17:15	0	0	19	6	4	7	0	36	47.1	0	1	105	7	2	1	0	116	117.7	0	0	141	19	6	18	0	184	210.4
17:15 - 17:30	0	0	26	5	0	4	0	35	40.2	0	0	84	5	2	7	0	98	108.1	0	0	194	20	7	17	0	238	263.6
17:30 - 17:45	0	0	17	12	0	6	0	35	42.8	0	0	95	6	2	0	0	103	104.0	0	0	174	15	2	11	0	202	217.3
17:45 - 18:00	0	0	24	2	3	3	0	32	37.4	0	0	88	11	3	1	0	103	105.8	0	0	130	7	0	9	1	147	159.7
Hourly Total	**0**	**0**	**86**	**25**	**7**	**20**	**0**	**138**	**167.5**	**0**	**1**	**372**	**29**	**9**	**9**	**0**	**420**	**435.6**	**0**	**0**	**639**	**61**	**15**	**55**	**1**	**771**	**851.0**
18:00 - 18:15	0	0	23	2	1	6	0	32	40.3	0	0	60	3	1	0	0	64	64.5	0	0	105	3	6	14	0	128	149.2
18:15 - 18:30	0	0	12	4	0	2	0	18	20.6	0	0	38	1	1	4	0	44	49.7	0	0	76	6	1	7	0	90	99.6
18:30 - 18:45	0	0	3	1	1	0	0	5	5.5	0	0	25	4	1	2	0	32	35.1	0	0	26	1	1	4	0	32	37.7
18:45 - 19:00	0	0	32	7	2	4	0	45	51.2	0	0	39	3	1	6	0	49	57.3	0	0	93	8	3	9	0	113	126.2
Hourly Total	**0**	**0**	**70**	**14**	**4**	**12**	**0**	**100**	**117.6**	**0**	**0**	**162**	**11**	**4**	**12**	**0**	**189**	**206.6**	**0**	**0**	**300**	**18**	**11**	**34**	**0**	**363**	**412.7**
TOTAL	**0**	**0**	**254**	**68**	**18**	**53**	**0**	**393**	**470.9**	**0**	**1**	**858**	**87**	**24**	**42**	**1**	**1013**	**1080.0**	**0**	**2**	**1328**	**200**	**46**	**134**	**3**	**1713**	**1912.0**

PCU Factors:	
CYCLE	0.2
M/CYCLE	0.4
CAR	1.0
LGV	1.0
OGV1	1.5
OGV2	2.3
BUS	2.0

East Midlands Gateway
Thursday 3rd November 2022
Junction: 4
Approach: Donington Services Access

	To A453 (W)									To A453 (N)									To M1 J23A Access								
TIME	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs
07:00 - 07:15	0	0	9	1	2	0	0	12	13.0	0	0	8	10	3	8	0	29	40.9	0	0	8	3	1	7	0	19	28.6
07:15 - 07:30	0	0	7	1	2	0	0	10	11.0	0	0	10	8	3	2	0	23	27.1	0	0	9	4	4	6	0	23	32.8
07:30 - 07:45	0	0	7	3	0	0	0	10	10.0	0	0	7	8	2	10	0	27	41.0	0	0	6	2	2	3	0	13	17.9
07:45 - 08:00	0	0	9	1	2	1	0	13	15.3	0	0	8	5	5	14	0	32	52.7	0	0	14	5	0	5	0	24	30.5
Hourly Total	**0**	**0**	**32**	**6**	**6**	**1**	**0**	**45**	**49.3**	**0**	**0**	**33**	**31**	**13**	**34**	**0**	**111**	**161.7**	**0**	**0**	**37**	**14**	**7**	**21**	**0**	**79**	**109.8**
08:00 - 08:15	0	0	12	2	1	0	0	15	15.5	0	0	1	4	3	5	0	13	21.0	0	0	24	5	2	4	0	35	41.2
08:15 - 08:30	0	0	11	5	1	0	0	17	17.5	0	0	4	4	2	7	0	17	27.1	0	0	23	10	1	6	0	40	48.3
08:30 - 08:45	0	0	13	1	2	0	0	16	17.0	0	0	5	7	3	3	0	18	23.4	0	0	21	6	2	6	0	35	43.8
08:45 - 09:00	0	0	14	2	2	0	0	18	19.0	0	0	0	2	1	3	1	7	12.4	0	0	19	3	3	3	0	28	33.4
Hourly Total	**0**	**0**	**50**	**10**	**6**	**0**	**0**	**66**	**69.0**	**0**	**0**	**10**	**17**	**9**	**18**	**1**	**55**	**83.9**	**0**	**0**	**87**	**24**	**8**	**19**	**0**	**138**	**166.7**
09:00 - 09:15	0	0	6	3	0	0	0	9	9.0	0	0	7	6	1	7	0	21	30.6	0	0	27	3	2	5	0	37	44.5
09:15 - 09:30	0	0	10	2	1	1	0	14	15.8	0	0	20	5	3	6	0	34	43.3	0	0	16	7	2	4	0	29	35.2
09:30 - 09:45	0	0	12	2	1	0	0	15	15.5	0	0	10	2	0	6	0	18	25.8	0	0	20	5	4	3	0	32	37.9
09:45 - 10:00	0	0	8	2	1	0	1	12	13.5	0	0	13	8	0	11	0	32	46.3	0	0	12	4	1	6	0	23	31.3
Hourly Total	**0**	**0**	**36**	**9**	**3**	**1**	**1**	**50**	**53.8**	**0**	**0**	**50**	**21**	**4**	**30**	**0**	**105**	**146.0**	**0**	**0**	**75**	**19**	**9**	**18**	**0**	**121**	**148.9**
TOTAL	**0**	**0**	**118**	**25**	**15**	**2**	**1**	**161**	**172.1**	**0**	**0**	**93**	**69**	**26**	**82**	**1**	**271**	**391.6**	**0**	**0**	**199**	**57**	**24**	**58**	**0**	**338**	**425.4**
16:00 - 16:15	0	0	13	4	1	1	0	19	20.8	0	0	23	2	0	5	0	30	36.5	0	0	18	5	2	5	0	30	37.5
16:15 - 16:30	0	0	7	1	1	1	0	10	11.8	0	0	15	4	2	4	0	25	31.2	0	0	21	3	1	6	0	31	39.3
16:30 - 16:45	0	0	15	2	0	0	0	17	17.0	0	1	25	1	5	7	0	39	50.0	0	0	20	5	3	5	0	33	41.0
16:45 - 17:00	0	0	13	1	0	0	0	14	14.0	0	0	10	2	2	4	0	18	24.2	0	0	22	5	0	3	0	30	33.9
Hourly Total	**0**	**0**	**48**	**8**	**2**	**2**	**0**	**60**	**63.6**	**0**	**1**	**73**	**9**	**9**	**20**	**0**	**112**	**141.9**	**0**	**0**	**81**	**18**	**6**	**19**	**0**	**124**	**151.7**
17:00 - 17:15	0	0	9	3	0	0	0	12	12.0	0	0	9	7	0	5	0	21	27.5	0	0	31	4	0	2	0	37	39.6
17:15 - 17:30	0	0	8	1	1	0	0	10	10.5	0	0	21	1	2	1	0	25	27.3	0	0	19	8	2	4	0	33	39.2
17:30 - 17:45	0	0	13	3	0	0	0	16	16.0	0	0	13	0	0	1	0	14	15.3	0	0	22	2	0	4	0	28	33.2
17:45 - 18:00	0	0	13	2	0	0	0	15	15.0	0	0	17	8	0	3	0	28	31.9	0	0	21	2	0	3	0	26	29.9
Hourly Total	**0**	**0**	**43**	**9**	**1**	**0**	**0**	**53**	**53.5**	**0**	**0**	**60**	**16**	**2**	**10**	**0**	**88**	**102.0**	**0**	**0**	**93**	**16**	**2**	**13**	**0**	**124**	**141.9**
18:00 - 18:15	0	0	13	2	1	1	0	17	18.8	0	0	26	4	0	3	0	33	36.9	0	0	12	2	1	5	0	20	27.0
18:15 - 18:30	0	0	12	2	1	1	0	16	17.8	0	0	15	2	0	2	0	19	21.6	0	0	11	3	3	4	0	21	27.7
18:30 - 18:45	0	1	9	0	0	1	0	11	11.7	0	0	17	2	0	4	0	23	28.2	0	0	9	0	0	1	0	10	11.3
18:45 - 19:00	0	0	10	0	0	0	0	10	10.0	0	0	14	2	0	0	0	16	16.0	0	0	13	1	1	3	0	18	22.4
Hourly Total	**0**	**1**	**44**	**4**	**2**	**3**	**0**	**54**	**58.3**	**0**	**0**	**72**	**10**	**0**	**9**	**0**	**91**	**102.7**	**0**	**0**	**45**	**6**	**5**	**13**	**0**	**69**	**88.4**
TOTAL	**0**	**1**	**135**	**21**	**5**	**5**	**0**	**167**	**175.4**	**0**	**1**	**205**	**35**	**11**	**39**	**0**	**291**	**346.6**	**0**	**0**	**219**	**40**	**13**	**45**	**0**	**317**	**382.0**

PCU Factors:	
CYCLE	0.2
M/CYCLE	0.4
CAR	1.0
LGV	1.0
OGV1	1.5
OGV2	2.3
BUS	2.0

East Midlands Gateway
Thursday 3rd November 2022
Junction: 4
Approach: A453 West

	To A453 (N)									To M1 J23A Access									To Donington Services Access								
TIME	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs
07:00 - 07:15	0	0	46	10	0	6	3	65	75.8	0	0	29	1	2	4	0	36	42.2	0	0	12	1	0	0	0	13	13.0
07:15 - 07:30	0	0	85	16	2	6	0	109	117.8	0	1	25	3	5	2	0	36	40.5	0	1	5	2	1	0	0	9	8.9
07:30 - 07:45	0	1	81	11	5	8	3	109	124.3	0	0	32	10	4	6	1	53	63.8	0	0	4	0	0	0	0	4	4.0
07:45 - 08:00	0	0	77	12	0	2	0	91	93.6	0	0	35	5	4	3	2	49	56.9	0	0	7	0	0	0	0	7	7.0
Hourly Total	**0**	**1**	**289**	**49**	**7**	**22**	**6**	**374**	**411.5**	**0**	**1**	**121**	**19**	**15**	**15**	**3**	**174**	**203.4**	**0**	**1**	**28**	**3**	**1**	**0**	**0**	**33**	**32.9**
08:00 - 08:15	0	0	76	12	4	6	2	100	111.8	0	0	48	16	1	5	1	71	79.0	0	0	2	1	0	0	0	3	3.0
08:15 - 08:30	0	0	81	17	3	5	2	108	118.0	0	0	48	19	1	8	0	76	86.9	0	0	7	0	2	0	0	9	10.0
08:30 - 08:45	0	0	60	15	4	7	2	88	101.1	0	0	30	8	3	5	1	47	56.0	0	0	6	1	0	0	0	7	7.0
08:45 - 09:00	0	0	48	7	3	8	3	69	83.9	0	0	24	3	3	7	0	37	47.6	0	0	3	2	0	1	0	6	7.3
Hourly Total	**0**	**0**	**265**	**51**	**14**	**26**	**9**	**365**	**414.8**	**0**	**0**	**150**	**46**	**8**	**25**	**2**	**231**	**269.5**	**0**	**0**	**18**	**4**	**2**	**1**	**0**	**25**	**27.3**
09:00 - 09:15	0	0	26	3	5	8	2	44	58.9	0	0	20	4	4	1	0	29	32.3	0	0	7	1	1	0	0	9	9.5
09:15 - 09:30	0	1	25	9	6	2	4	47	56.0	0	0	21	4	0	4	0	29	34.2	0	0	4	4	0	0	0	8	8.0
09:30 - 09:45	0	0	24	11	7	1	2	45	51.8	0	0	12	3	1	3	0	19	23.4	0	0	7	3	0	1	0	11	12.3
09:45 - 10:00	0	0	31	8	2	4	4	49	59.2	0	0	9	5	0	2	0	16	18.6	0	0	5	0	1	1	0	7	8.8
Hourly Total	**0**	**1**	**106**	**31**	**20**	**15**	**12**	**185**	**225.9**	**0**	**0**	**62**	**16**	**5**	**10**	**0**	**93**	**108.5**	**0**	**0**	**23**	**8**	**2**	**2**	**0**	**35**	**38.6**
TOTAL	**0**	**2**	**660**	**131**	**41**	**63**	**27**	**924**	**1052.2**	**0**	**1**	**333**	**81**	**28**	**50**	**5**	**498**	**581.4**	**0**	**1**	**69**	**15**	**5**	**3**	**0**	**93**	**98.8**
16:00 - 16:15	0	0	161	12	2	3	3	181	188.9	0	0	66	11	2	8	1	88	100.4	0	0	4	2	2	0	0	8	9.0
16:15 - 16:30	0	0	136	12	3	2	1	154	159.1	0	0	25	7	3	2	0	37	41.1	0	0	8	2	0	0	0	10	10.0
16:30 - 16:45	0	0	126	9	0	2	1	138	141.6	0	0	68	15	0	2	0	85	87.6	0	0	9	2	2	0	0	13	14.0
16:45 - 17:00	0	0	133	16	0	1	3	153	157.3	0	0	48	1	1	2	1	53	57.1	0	0	10	1	0	0	0	11	11.0
Hourly Total	**0**	**0**	**556**	**49**	**5**	**8**	**8**	**626**	**646.9**	**0**	**0**	**207**	**34**	**6**	**14**	**2**	**263**	**286.2**	**0**	**0**	**31**	**7**	**4**	**0**	**0**	**42**	**44.0**
17:00 - 17:15	0	0	132	8	2	4	3	149	158.2	0	0	97	4	0	0	0	101	101.0	0	0	11	2	1	0	0	14	14.5
17:15 - 17:30	0	0	113	2	2	1	1	119	122.3	0	0	36	9	1	3	0	49	53.4	0	0	12	0	0	1	0	13	14.3
17:30 - 17:45	0	0	154	8	0	2	2	166	170.6	0	0	30	6	2	3	0	41	45.9	0	0	12	2	2	0	0	16	17.0
17:45 - 18:00	0	0	143	8	1	1	0	153	154.8	0	0	51	6	1	4	0	62	67.7	0	0	7	1	0	0	0	8	8.0
Hourly Total	**0**	**0**	**542**	**26**	**5**	**8**	**6**	**587**	**605.9**	**0**	**0**	**214**	**25**	**4**	**10**	**0**	**253**	**268.0**	**0**	**0**	**42**	**5**	**3**	**1**	**0**	**51**	**53.8**
18:00 - 18:15	0	0	88	7	0	0	3	98	101.0	0	0	41	3	1	2	0	47	50.1	0	0	8	1	0	0	0	9	9.0
18:15 - 18:30	0	0	83	7	1	1	2	94	97.8	0	0	28	4	1	1	0	34	35.8	0	0	8	0	0	0	0	8	8.0
18:30 - 18:45	0	1	74	4	0	7	1	87	96.5	0	0	16	2	1	2	0	21	24.1	0	0	3	0	1	0	0	4	4.5
18:45 - 19:00	0	0	57	3	2	2	3	67	73.6	0	0	16	2	0	3	0	21	24.9	0	0	5	1	0	0	0	6	6.0
Hourly Total	**0**	**1**	**302**	**21**	**3**	**10**	**9**	**346**	**368.9**	**0**	**0**	**101**	**11**	**3**	**8**	**0**	**123**	**134.9**	**0**	**0**	**24**	**2**	**1**	**0**	**0**	**27**	**27.5**
TOTAL	**0**	**1**	**1400**	**96**	**13**	**26**	**23**	**1559**	**1621.7**	**0**	**0**	**522**	**70**	**13**	**32**	**2**	**639**	**689.1**	**0**	**0**	**97**	**14**	**8**	**1**	**0**	**120**	**125.3**

PCU Factors:	
CYCLE	0.2
M/CYCLE	0.4
CAR	1.0
LGV	1.0
OGV1	1.5
OGV2	2.3
BUS	2.0

APPENDIX 3 – A453/EMGP1 Gyratory Turning Count Results

East Midlands Gateway
Wednesday 23rd November 2022
Junction: 1
Approach: A453 North

	Left to A6 Kegworth Bypass									Ahead to A453 (S)										Right to Wilders Way										U-Turn									
TIME	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs
07:00 - 07:15	0	0	2	4	0	1	0	7	8.3	0	0	70	10	4	7	1	92	104.1	0	0	90	5	3	7	0	105	115.6	0	0	0	0	0	0	0	0	0.0
07:15 - 07:30	0	0	15	2	2	1	0	20	22.3	0	0	66	12	2	7	0	87	97.1	0	0	107	5	1	7	1	121	131.6	0	0	1	0	0	0	0	1	1.0
07:30 - 07:45	0	0	5	2	2	2	0	11	14.6	0	0	65	8	0	6	0	79	86.8	0	1	106	5	2	5	0	119	125.9	0	0	1	1	0	0	0	2	2.0
07:45 - 08:00	0	0	8	0	2	6	0	16	24.8	0	0	88	12	1	4	0	105	110.7	0	0	83	2	1	7	1	94	104.6	0	0	1	0	0	0	0	1	1.0
Hourly Total	**0**	**0**	**30**	**8**	**6**	**10**	**0**	**54**	**70.0**	**0**	**0**	**289**	**42**	**7**	**24**	**1**	**363**	**398.7**	**0**	**1**	**386**	**17**	**7**	**26**	**2**	**439**	**477.7**	**0**	**0**	**3**	**1**	**0**	**0**	**0**	**4**	**4.0**
08:00 - 08:15	0	0	9	2	5	3	0	19	25.4	0	0	95	7	1	5	0	108	115.0	0	0	42	11	5	5	0	63	72.0	0	0	0	0	0	0	0	0	0.0
08:15 - 08:30	0	0	6	1	1	0	0	8	8.5	0	0	91	4	3	3	0	101	106.4	0	0	35	4	3	5	0	47	55.0	0	0	3	0	1	0	0	4	4.5
08:30 - 08:45	0	0	7	1	1	1	0	10	11.8	0	0	107	7	4	0	0	118	120.0	0	1	28	9	1	10	1	50	63.9	0	0	0	0	0	1	0	1	2.3
08:45 - 09:00	0	1	5	3	4	5	0	18	25.9	0	0	87	10	4	5	0	106	114.5	0	0	40	5	1	3	1	50	55.4	0	0	2	0	0	0	0	2	2.0
Hourly Total	**0**	**1**	**27**	**7**	**11**	**9**	**0**	**55**	**71.6**	**0**	**0**	**380**	**28**	**12**	**13**	**0**	**433**	**455.9**	**0**	**1**	**145**	**29**	**10**	**23**	**2**	**210**	**246.3**	**0**	**0**	**5**	**0**	**1**	**1**	**0**	**7**	**8.8**
09:00 - 09:15	0	0	3	1	1	5	0	10	17.0	0	0	87	4	6	5	0	102	111.5	0	0	48	9	0	6	0	63	70.8	0	0	1	0	0	0	0	1	1.0
09:15 - 09:30	0	0	6	1	0	0	0	7	7.0	0	0	74	6	3	14	0	97	116.7	0	0	52	11	3	5	0	71	79.0	0	0	1	1	0	0	0	2	2.0
09:30 - 09:45	0	0	4	3	3	4	0	14	20.7	0	0	56	3	6	8	0	73	86.4	0	0	55	15	0	9	2	81	94.7	0	0	0	0	0	0	0	0	0.0
09:45 - 10:00	0	0	2	2	2	2	0	8	11.6	0	0	54	6	2	5	0	67	74.5	0	0	66	20	1	9	0	96	108.2	0	0	2	0	0	0	0	2	2.0
Hourly Total	**0**	**0**	**15**	**7**	**6**	**11**	**0**	**39**	**56.3**	**0**	**0**	**271**	**19**	**17**	**32**	**0**	**339**	**389.1**	**0**	**0**	**221**	**55**	**4**	**29**	**2**	**311**	**352.7**	**0**	**0**	**4**	**1**	**0**	**0**	**0**	**5**	**5.0**
TOTAL	**0**	**1**	**72**	**22**	**23**	**30**	**0**	**148**	**197.9**	**0**	**0**	**940**	**89**	**36**	**69**	**1**	**1135**	**1243.7**	**0**	**2**	**752**	**101**	**21**	**78**	**6**	**960**	**1076.7**	**0**	**0**	**12**	**2**	**1**	**1**	**0**	**16**	**17.8**
16:00 - 16:15	0	0	9	2	1	1	0	13	14.8	0	0	54	11	2	6	1	74	83.8	0	0	10	5	1	3	0	19	23.4	0	0	0	0	0	0	0	0	0.0
16:15 - 16:30	0	0	19	3	2	1	0	25	27.3	0	0	45	14	3	3	0	65	70.4	0	0	10	9	0	4	1	24	30.2	0	0	1	0	0	0	0	1	1.0
16:30 - 16:45	0	0	15	4	1	0	0	20	20.5	0	0	41	8	3	11	0	63	78.8	0	0	16	3	0	4	0	23	28.2	0	0	2	0	0	0	0	2	2.0
16:45 - 17:00	0	1	15	0	1	0	0	17	16.9	0	0	40	6	4	3	0	53	58.9	0	0	15	7	0	6	1	29	37.8	0	0	3	1	0	0	0	4	4.0
Hourly Total	**0**	**1**	**58**	**9**	**5**	**2**	**0**	**75**	**79.5**	**0**	**0**	**180**	**39**	**12**	**23**	**1**	**255**	**291.9**	**0**	**0**	**51**	**24**	**1**	**17**	**2**	**95**	**119.6**	**0**	**0**	**6**	**1**	**0**	**0**	**0**	**7**	**7.0**
17:00 - 17:15	0	0	13	2	0	0	0	15	15.0	0	0	45	8	4	8	1	66	79.4	0	0	19	13	0	4	0	36	41.2	0	0	1	0	0	0	0	1	1.0
17:15 - 17:30	0	0	22	1	1	1	0	25	26.8	0	1	58	1	3	10	0	73	86.9	0	1	31	13	0	6	1	52	60.2	0	0	3	0	0	0	0	3	3.0
17:30 - 17:45	0	1	17	0	2	1	0	21	22.7	0	0	73	4	3	4	0	84	90.7	0	3	54	11	0	4	0	72	75.4	0	0	2	0	0	0	0	2	2.0
17:45 - 18:00	0	0	11	5	0	0	0	16	16.0	0	0	70	2	3	7	0	82	92.6	0	0	66	14	0	3	0	83	86.9	0	0	0	0	0	0	0	0	0.0
Hourly Total	**0**	**1**	**63**	**8**	**3**	**2**	**0**	**77**	**80.5**	**0**	**1**	**246**	**15**	**13**	**29**	**1**	**305**	**349.6**	**0**	**4**	**170**	**51**	**0**	**17**	**1**	**243**	**263.7**	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**6**	**6.0**
18:00 - 18:15	0	0	7	0	0	2	0	9	11.6	0	0	42	3	2	7	0	54	64.1	0	1	103	10	0	3	0	117	120.3	0	0	2	0	0	0	0	2	2.0
18:15 - 18:30	0	0	12	3	0	0	0	15	15.0	0	1	59	3	0	4	0	67	71.6	0	1	103	14	0	2	1	121	124.0	0	0	1	0	0	0	0	1	1.0
18:30 - 18:45	0	0	10	0	1	1	0	12	13.8	0	0	84	0	4	4	0	92	99.2	0	0	54	12	0	4	0	70	75.2	0	0	0	0	0	1	0	1	2.3
18:45 - 19:00	0	0	10	0	0	2	0	12	14.6	0	0	80	1	1	4	0	86	91.7	0	0	43	9	0	4	1	57	63.2	0	0	0	0	0	0	0	0	0.0
Hourly Total	**0**	**0**	**39**	**3**	**1**	**5**	**0**	**48**	**55.0**	**0**	**1**	**265**	**7**	**7**	**19**	**0**	**299**	**326.6**	**0**	**2**	**303**	**45**	**0**	**13**	**2**	**365**	**382.7**	**0**	**0**	**3**	**0**	**0**	**1**	**0**	**4**	**5.3**
TOTAL	**0**	**2**	**160**	**20**	**9**	**9**	**0**	**200**	**215.0**	**0**	**2**	**691**	**61**	**32**	**71**	**2**	**859**	**968.1**	**0**	**6**	**524**	**120**	**1**	**47**	**5**	**703**	**766.0**	**0**	**0**	**15**	**1**	**0**	**1**	**0**	**17**	**18.3**

PCU Factors:	
CYCLE	0.2
M/CYCLE	0.4
CAR	1.0
LGV	1.0
OGV1	1.5
OGV2	2.3
BUS	2.0

East Midlands Gateway
Wednesday 23rd November 2022
Junction: 1
Approach: A6 Kegworth Bypass

	Left to A453 (S)									Ahead to Wilders Way									Right to A453 (N)								
TIME	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs
07:00 - 07:15	0	2	15	3	0	0	0	20	18.8	0	1	87	11	10	2	0	111	118.0	0	0	74	10	8	3	2	97	106.9
07:15 - 07:30	0	0	26	2	1	0	0	29	29.5	0	1	101	16	4	1	1	124	127.7	0	1	65	18	5	0	0	89	90.9
07:30 - 07:45	0	0	29	3	1	0	1	34	35.5	0	0	76	10	2	0	2	90	93.0	0	0	61	10	1	0	0	72	72.5
07:45 - 08:00	0	0	29	5	0	1	0	35	36.3	0	0	109	21	3	3	1	137	143.4	0	0	92	21	4	2	0	119	123.6
Hourly Total	**0**	**2**	**99**	**13**	**2**	**1**	**1**	**118**	**120.1**	**0**	**2**	**373**	**58**	**19**	**6**	**4**	**462**	**482.1**	**0**	**1**	**292**	**59**	**18**	**5**	**2**	**377**	**393.9**
08:00 - 08:15	0	0	35	1	0	0	0	36	36.0	1	0	74	15	3	1	1	95	98.0	0	0	73	13	3	1	0	90	92.8
08:15 - 08:30	0	0	30	2	2	2	1	37	41.6	0	3	69	19	2	1	0	94	94.5	0	3	66	16	1	2	0	88	89.3
08:30 - 08:45	0	1	41	7	1	3	0	53	56.8	0	1	46	14	3	1	1	66	69.2	0	1	43	12	2	2	0	60	63.0
08:45 - 09:00	0	0	31	0	4	0	0	35	37.0	0	0	54	11	6	3	0	74	80.9	0	0	51	10	6	3	0	70	76.9
Hourly Total	**0**	**1**	**137**	**10**	**7**	**5**	**1**	**161**	**171.4**	**1**	**4**	**243**	**59**	**14**	**6**	**2**	**329**	**342.6**	**0**	**4**	**233**	**51**	**12**	**8**	**0**	**308**	**322.0**
09:00 - 09:15	0	0	24	5	0	1	0	30	31.3	0	0	61	13	6	3	3	86	95.9	0	0	54	12	7	3	1	77	85.4
09:15 - 09:30	0	0	17	4	1	0	0	22	22.5	0	0	34	12	3	4	1	54	61.7	0	0	32	12	4	4	0	52	59.2
09:30 - 09:45	0	0	17	5	0	1	0	23	24.3	0	0	30	12	1	2	0	45	48.1	0	0	28	9	1	1	0	39	40.8
09:45 - 10:00	0	0	9	4	0	1	1	15	17.3	0	0	37	19	3	3	0	62	67.4	0	0	26	16	4	3	0	49	54.9
Hourly Total	**0**	**0**	**67**	**18**	**1**	**3**	**1**	**90**	**95.4**	**0**	**0**	**162**	**56**	**13**	**12**	**4**	**247**	**273.1**	**0**	**0**	**140**	**49**	**16**	**11**	**1**	**217**	**240.3**
TOTAL	**0**	**3**	**303**	**41**	**10**	**9**	**3**	**369**	**386.9**	**1**	**6**	**778**	**173**	**46**	**24**	**10**	**1038**	**1097.8**	**0**	**5**	**665**	**159**	**46**	**24**	**3**	**902**	**956.2**
16:00 - 16:15	0	0	20	6	0	0	1	27	28.0	0	0	50	9	7	4	0	70	78.7	0	0	47	13	7	4	0	71	79.7
16:15 - 16:30	0	0	16	5	2	0	0	23	24.0	0	0	77	17	2	5	1	102	110.5	0	1	67	16	2	5	0	91	97.9
16:30 - 16:45	0	0	28	9	0	1	1	39	41.3	0	0	74	20	1	1	2	98	101.8	0	0	76	21	1	1	0	99	100.8
16:45 - 17:00	0	0	17	4	0	0	0	21	21.0	0	0	85	15	2	0	1	103	105.0	0	0	88	16	1	1	0	106	107.8
Hourly Total	**0**	**0**	**81**	**24**	**2**	**1**	**2**	**110**	**114.3**	**0**	**0**	**286**	**61**	**12**	**10**	**4**	**373**	**396.0**	**0**	**1**	**278**	**66**	**11**	**11**	**0**	**367**	**386.2**
17:00 - 17:15	0	0	25	4	2	0	0	31	32.0	0	0	80	13	2	4	1	100	107.2	0	0	76	16	2	2	0	96	99.6
17:15 - 17:30	0	0	33	3	1	0	0	37	37.5	0	0	94	8	2	0	0	104	105.0	0	0	88	9	2	0	0	99	100.0
17:30 - 17:45	0	0	28	3	1	1	0	33	34.8	0	0	90	15	2	0	1	108	110.0	0	1	87	16	2	0	0	106	106.4
17:45 - 18:00	0	0	26	2	3	0	0	31	32.5	0	0	81	6	2	0	1	90	92.0	0	0	81	6	1	0	0	88	88.5
Hourly Total	**0**	**0**	**112**	**12**	**7**	**1**	**0**	**132**	**136.8**	**0**	**0**	**345**	**42**	**8**	**4**	**3**	**402**	**414.2**	**0**	**1**	**332**	**47**	**7**	**2**	**0**	**389**	**394.5**
18:00 - 18:15	0	0	24	4	1	0	0	29	29.5	0	0	71	2	1	1	0	75	76.8	0	0	55	4	1	1	0	61	62.8
18:15 - 18:30	0	0	14	3	0	0	0	17	17.0	0	1	55	6	1	0	2	65	66.9	0	0	45	8	1	0	0	54	54.5
18:30 - 18:45	0	0	24	2	0	0	1	27	28.0	0	0	47	7	0	0	1	55	56.0	0	0	37	6	0	0	0	43	43.0
18:45 - 19:00	0	0	14	3	0	1	0	18	19.3	0	1	30	2	0	0	0	33	32.4	0	1	24	4	0	0	0	29	28.4
Hourly Total	**0**	**0**	**76**	**12**	**1**	**1**	**1**	**91**	**93.8**	**0**	**2**	**203**	**17**	**2**	**1**	**3**	**228**	**232.1**	**0**	**1**	**161**	**22**	**2**	**1**	**0**	**187**	**188.7**
TOTAL	**0**	**0**	**269**	**48**	**10**	**3**	**3**	**333**	**344.9**	**0**	**2**	**834**	**120**	**22**	**15**	**10**	**1003**	**1042.3**	**0**	**3**	**771**	**135**	**20**	**14**	**0**	**943**	**969.4**

PCU Factors:	
CYCLE	0.2
M/CYCL	0.4
CAR	1.0
LGV	1.0
OGV1	1.5
OGV2	2.3
BUS	2.0

East Midlands Gateway
Wednesday 23rd November 2022
Junction: 1
Approach: A453 South

	Left to Wilders Way									Ahead to A453 (N)									Right to A6 Kegworth Bypass									U-Turn								
TIME	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs
07:00 - 07:15	0	0	36	1	3	5	2	47	57.0	0	0	102	22	5	8	0	137	149.9	0	0	13	2	1	1	0	17	18.8	0	0	0	0	0	0	0	0	0.0
07:15 - 07:30	0	0	102	3	3	11	1	120	136.8	0	0	143	24	4	15	0	186	207.5	0	0	17	11	1	1	1	31	33.8	0	0	2	0	0	0	0	2	2.0
07:30 - 07:45	0	0	66	2	1	7	3	79	91.6	0	2	162	35	5	19	1	224	251.0	0	0	21	6	1	1	0	29	30.8	0	0	2	0	0	0	0	2	2.0
07:45 - 08:00	0	0	57	2	1	9	1	70	83.2	0	0	184	43	8	20	0	255	285.0	0	0	26	10	1	0	1	38	39.5	0	0	0	0	0	0	0	0	0.0
Hourly Total	**0**	**0**	**261**	**8**	**8**	**32**	**7**	**316**	**368.6**	**0**	**2**	**591**	**124**	**22**	**62**	**1**	**802**	**893.4**	**0**	**0**	**77**	**29**	**4**	**3**	**2**	**115**	**122.9**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**4**	**4.0**
08:00 - 08:15	0	0	25	4	1	4	1	35	41.7	0	0	215	40	9	2	1	267	275.1	0	0	24	5	3	0	0	32	33.5	0	0	0	0	0	0	0	0	0.0
08:15 - 08:30	0	0	15	2	3	12	3	35	55.1	0	0	191	49	9	18	1	268	296.9	0	0	17	11	0	0	0	28	28.0	0	0	2	0	0	0	0	2	2.0
08:30 - 08:45	0	0	16	2	1	11	1	31	46.8	0	1	143	30	8	31	0	213	256.7	0	0	17	10	4	2	1	34	39.6	0	0	0	0	0	0	0	0	0.0
08:45 - 09:00	0	0	27	6	1	9	2	45	59.2	0	0	92	24	6	19	0	141	168.7	0	0	23	2	0	0	0	25	25.0	0	0	1	0	0	0	0	1	1.0
Hourly Total	**0**	**0**	**83**	**14**	**6**	**36**	**7**	**146**	**202.8**	**0**	**1**	**641**	**143**	**32**	**70**	**2**	**889**	**997.4**	**0**	**0**	**81**	**28**	**7**	**2**	**1**	**119**	**126.1**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**3**	**3.0**
09:00 - 09:15	0	0	18	3	3	5	2	31	41.0	0	0	86	28	5	25	0	144	179.0	0	0	18	7	1	1	0	27	28.8	0	0	2	0	0	0	0	2	2.0
09:15 - 09:30	0	0	20	6	1	7	1	35	45.6	0	0	88	22	11	19	0	140	170.2	0	0	26	6	0	2	0	34	36.6	0	0	1	0	0	0	0	1	1.0
09:30 - 09:45	0	0	28	12	1	2	3	46	52.1	0	0	81	19	4	21	0	125	154.3	0	0	22	2	3	1	0	28	30.8	0	0	0	0	0	0	0	0	0.0
09:45 - 10:00	0	0	21	12	2	7	2	44	56.1	0	0	76	17	14	11	0	118	139.3	0	0	7	6	0	1	0	14	15.3	0	0	1	0	0	0	0	1	1.0
Hourly Total	**0**	**0**	**87**	**33**	**7**	**21**	**8**	**156**	**194.8**	**0**	**0**	**331**	**86**	**34**	**76**	**0**	**527**	**642.8**	**0**	**0**	**73**	**21**	**4**	**5**	**0**	**103**	**111.5**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**4**	**4.0**
TOTAL	**0**	**0**	**431**	**55**	**21**	**89**	**22**	**618**	**766.2**	**0**	**3**	**1563**	**353**	**88**	**208**	**3**	**2218**	**2533.6**	**0**	**0**	**231**	**78**	**15**	**10**	**3**	**337**	**360.5**	**0**	**0**	**11**	**0**	**0**	**0**	**0**	**11**	**11.0**
16:00 - 16:15	0	0	3	2	1	6	4	16	28.3	0	0	205	50	10	20	0	285	316.0	0	0	26	8	0	0	0	34	34.0	0	0	0	0	0	0	0	0	0.0
16:15 - 16:30	0	0	4	3	0	3	1	11	15.9	0	0	153	37	4	15	0	209	230.5	0	0	31	2	2	1	0	36	38.3	0	0	0	0	0	0	0	0	0.0
16:30 - 16:45	0	1	8	0	2	5	1	17	24.9	0	1	198	39	10	15	0	263	286.9	0	0	28	6	2	0	1	37	39.0	0	0	0	0	0	0	0	0	0.0
16:45 - 17:00	0	0	6	0	1	5	2	14	23.0	0	1	203	38	9	21	0	272	303.2	0	0	35	5	1	1	0	42	43.8	0	0	0	0	0	0	0	0	0.0
Hourly Total	**0**	**1**	**21**	**5**	**4**	**19**	**8**	**58**	**92.1**	**0**	**2**	**759**	**164**	**33**	**71**	**0**	**1029**	**1136.6**	**0**	**0**	**120**	**21**	**5**	**2**	**1**	**149**	**155.1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**
17:00 - 17:15	0	0	8	0	1	9	2	20	34.2	0	1	243	30	10	23	0	307	341.3	0	0	29	7	1	0	0	37	37.5	0	0	0	0	0	0	0	0	0.0
17:15 - 17:30	0	0	13	0	3	3	3	22	30.4	0	0	206	19	5	17	1	248	273.6	0	0	46	7	1	0	0	54	54.5	0	0	0	0	0	0	0	0	0.0
17:30 - 17:45	0	0	10	0	4	6	1	21	31.8	0	0	211	27	8	11	0	257	275.3	0	0	53	2	0	0	0	55	55.0	0	0	0	0	0	0	0	0	0.0
17:45 - 18:00	0	0	18	1	1	5	2	27	36.0	0	0	179	23	2	10	0	214	228.0	0	1	36	1	1	2	0	41	43.5	0	0	0	0	0	0	0	0	0.0
Hourly Total	**0**	**0**	**49**	**1**	**9**	**23**	**8**	**90**	**132.4**	**0**	**1**	**839**	**99**	**25**	**61**	**1**	**1026**	**1118.2**	**0**	**1**	**164**	**17**	**3**	**2**	**0**	**187**	**190.5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**
18:00 - 18:15	0	0	34	1	1	2	3	41	47.1	0	1	156	23	3	14	1	198	218.1	0	0	30	5	0	1	1	37	39.3	0	0	0	0	0	0	0	0	0.0
18:15 - 18:30	0	1	51	0	0	2	0	54	56.0	0	0	154	9	6	8	0	177	190.4	0	0	24	3	1	0	0	28	28.5	0	0	0	0	0	0	0	0	0.0
18:30 - 18:45	0	0	28	0	0	3	1	32	36.9	0	0	91	6	6	13	0	116	135.9	0	0	23	7	1	0	0	31	31.5	0	0	0	0	0	0	0	0	0.0
18:45 - 19:00	0	0	24	0	0	8	1	33	44.4	0	0	98	10	4	7	0	119	130.1	0	1	27	2	0	1	0	31	31.7	0	0	0	0	0	0	0	0	0.0
Hourly Total	**0**	**1**	**137**	**1**	**1**	**15**	**5**	**160**	**184.4**	**0**	**1**	**499**	**48**	**19**	**42**	**1**	**610**	**674.5**	**0**	**1**	**104**	**17**	**2**	**2**	**1**	**127**	**131.0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**
TOTAL	**0**	**2**	**207**	**7**	**14**	**57**	**21**	**308**	**408.9**	**0**	**4**	**2097**	**311**	**77**	**174**	**2**	**2665**	**2929.3**	**0**	**2**	**388**	**55**	**10**	**6**	**2**	**463**	**476.6**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**

PCU Factors	
CYCLE	0.2
M/CYCLE	0.4
CAR	1.0
LGV	1.0
OGV1	1.3
OGV2	2.3
BUS	2.0

East Midlands Gateway
Wednesday 23rd November 2022
Junction: 1
Approach: Wilders Way

	Left to A453 (N)									Ahead to A6 Kegworth Bypass									Right to A453 (S)								
TIME	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs
07:00 - 07:15	0	0	30	0	2	5	0	37	44.5	0	0	2	0	0	0	0	2	2.0	0	1	12	1	0	7	0	21	29.5
07:15 - 07:30	0	0	8	1	1	5	0	15	22.0	0	0	2	1	1	1	0	5	6.8	0	0	4	1	0	9	0	14	25.7
07:30 - 07:45	0	0	18	1	1	9	0	29	41.2	0	0	2	0	0	2	0	4	6.6	0	0	9	0	3	5	0	17	25.0
07:45 - 08:00	0	0	22	2	0	5	0	29	35.5	0	0	0	0	0	0	0	0	0.0	0	0	13	1	2	6	0	22	30.8
Hourly Total	**0**	**0**	**78**	**4**	**4**	**24**	**0**	**110**	**143.2**	**0**	**0**	**6**	**1**	**1**	**3**	**0**	**11**	**15.4**	**0**	**1**	**38**	**3**	**5**	**27**	**0**	**74**	**111.0**
08:00 - 08:15	0	0	23	3	1	5	0	32	39.0	0	0	0	0	0	0	0	0	0.0	0	0	11	3	0	5	0	19	25.5
08:15 - 08:30	0	0	11	1	2	3	0	17	21.9	0	0	2	1	0	0	0	3	3.0	0	0	13	1	1	7	0	22	31.6
08:30 - 08:45	0	0	8	3	3	6	0	20	29.3	0	0	1	1	0	0	0	2	2.0	0	0	7	1	1	6	0	15	23.3
08:45 - 09:00	0	0	5	2	0	10	0	17	30.0	0	0	1	0	0	0	0	1	1.0	0	0	2	2	0	6	0	10	17.8
Hourly Total	**0**	**0**	**47**	**9**	**6**	**24**	**0**	**86**	**120.2**	**0**	**0**	**4**	**2**	**0**	**0**	**0**	**6**	**6.0**	**0**	**0**	**33**	**7**	**2**	**24**	**0**	**66**	**98.2**
09:00 - 09:15	0	0	3	2	0	8	0	13	23.4	0	0	3	0	0	1	0	4	5.3	0	0	2	1	1	6	1	11	20.3
09:15 - 09:30	0	0	7	1	2	6	0	16	24.8	0	0	0	0	0	0	0	0	0.0	0	0	2	2	1	8	0	13	23.9
09:30 - 09:45	0	0	12	2	0	8	0	22	32.4	0	0	0	1	1	1	0	3	4.8	0	0	3	2	0	9	0	14	25.7
09:45 - 10:00	0	0	31	48	2	6	1	88	97.8	0	0	6	1	1	0	0	8	8.5	0	0	6	6	1	7	2	22	33.6
Hourly Total	**0**	**0**	**53**	**53**	**4**	**28**	**1**	**139**	**178.4**	**0**	**0**	**9**	**2**	**2**	**2**	**0**	**15**	**18.6**	**0**	**0**	**13**	**11**	**3**	**30**	**3**	**60**	**103.5**
TOTAL	**0**	**0**	**178**	**66**	**14**	**76**	**1**	**335**	**441.8**	**0**	**0**	**19**	**5**	**3**	**5**	**0**	**32**	**40.0**	**0**	**1**	**84**	**21**	**10**	**81**	**3**	**200**	**312.7**
16:00 - 16:15	0	1	76	9	1	5	0	92	98.4	0	0	8	0	2	0	0	10	11.0	0	0	27	2	3	5	0	37	45.0
16:15 - 16:30	0	1	54	2	2	2	0	61	64.0	0	0	2	1	0	1	0	4	5.3	0	0	21	2	3	3	0	29	34.4
16:30 - 16:45	0	0	65	6	1	1	0	73	74.8	0	0	9	0	0	0	0	9	9.0	0	0	14	5	0	6	0	25	32.8
16:45 - 17:00	0	0	47	3	4	2	0	56	60.6	0	1	1	3	0	0	0	5	4.4	0	0	19	2	1	5	0	27	34.0
Hourly Total	**0**	**2**	**242**	**20**	**8**	**10**	**0**	**282**	**297.8**	**0**	**1**	**20**	**4**	**2**	**1**	**0**	**28**	**29.7**	**0**	**0**	**81**	**11**	**7**	**19**	**0**	**118**	**146.2**
17:00 - 17:15	0	0	40	7	1	5	0	53	60.0	0	0	2	0	0	0	0	2	2.0	0	0	25	2	3	10	1	41	56.5
17:15 - 17:30	0	0	42	8	0	4	0	54	59.2	0	0	4	1	0	1	0	6	7.3	0	1	26	2	2	5	0	36	42.9
17:30 - 17:45	0	0	58	4	0	7	0	69	78.1	0	1	2	1	0	0	0	4	3.4	0	0	21	2	3	7	0	33	43.6
17:45 - 18:00	0	0	33	4	4	4	0	45	52.2	0	0	6	0	1	0	0	7	7.5	0	1	16	4	3	6	0	30	38.7
Hourly Total	**0**	**0**	**173**	**23**	**5**	**20**	**0**	**221**	**249.5**	**0**	**1**	**14**	**2**	**1**	**1**	**0**	**19**	**20.2**	**0**	**2**	**88**	**10**	**11**	**28**	**1**	**140**	**181.7**
18:00 - 18:15	0	0	203	9	1	2	0	215	218.1	0	0	24	1	0	0	0	25	25.0	0	0	74	1	4	6	1	86	96.8
18:15 - 18:30	0	1	59	2	2	2	0	66	69.0	0	0	10	0	0	0	0	10	10.0	0	0	31	2	1	7	0	41	50.6
18:30 - 18:45	0	2	170	3	2	2	0	179	181.4	0	0	24	2	1	0	0	27	27.5	0	0	63	1	1	4	0	69	74.7
18:45 - 19:00	0	0	49	4	1	0	0	54	54.5	0	0	9	1	0	0	0	10	10.0	0	0	13	3	1	1	0	18	19.8
Hourly Total	**0**	**3**	**481**	**18**	**6**	**6**	**0**	**514**	**523.0**	**0**	**0**	**67**	**4**	**1**	**0**	**0**	**72**	**72.5**	**0**	**0**	**181**	**7**	**7**	**18**	**1**	**214**	**241.9**
TOTAL	**0**	**5**	**896**	**61**	**19**	**36**	**0**	**1017**	**1070.3**	**0**	**2**	**101**	**10**	**4**	**2**	**0**	**119**	**122.4**	**0**	**2**	**350**	**28**	**25**	**65**	**2**	**472**	**569.8**

PCU Factors:	
CYCLE	0.2
M/CYCLE	0.4
CAR	1.0
LGV	1.0
OGV1	1.5
OGV2	2.3
BUS	2.0

Road Data Services Ltd

East Midlands Gateway
Wednesday 23rd November 2022
Junction: 1
Bus Moves

	Bus Moves							
TIME	Move 1	Move 2	Move 3	Move 4	Move 5	Move 6	Move 7	Move 8
07:00 - 07:15	1	1	0	1	1	0	0	2
07:15 - 07:30	2	3	1	0	3	1	2	1
07:30 - 07:45	1	2	1	1	2	0	2	2
07:45 - 08:00	2	2	0	2	2	1	1	2
Hourly Total	**6**	**8**	**2**	**4**	**8**	**2**	**5**	**7**
08:00 - 08:15	1	1	1	0	1	0	1	1
08:15 - 08:30	2	1	0	1	1	0	0	2
08:30 - 08:45	1	3	0	1	3	1	1	1
08:45 - 09:00	2	0	1	1	0	1	0	2
Hourly Total	**6**	**5**	**2**	**3**	**5**	**2**	**2**	**6**
09:00 - 09:15	1	2	1	1	2	0	2	2
09:15 - 09:30	2	1	0	1	1	0	1	1
09:30 - 09:45	1	2	0	1	2	1	0	3
09:45 - 10:00	2	1	1	1	1	0	0	2
Hourly Total	**6**	**6**	**2**	**4**	**6**	**1**	**3**	**8**
TOTAL	**18**	**19**	**6**	**11**	**19**	**5**	**10**	**21**

16:00 - 16:15	1	2	1	2	2	0	0	3
16:15 - 16:30	2	2	0	1	2	1	1	1
16:30 - 16:45	1	2	1	0	2	0	2	1
16:45 - 17:00	2	1	0	1	1	1	1	2
Hourly Total	**6**	**7**	**2**	**4**	**7**	**2**	**4**	**7**
17:00 - 17:15	1	1	1	1	1	0	1	2
17:15 - 17:30	2	3	1	1	3	1	0	3
17:30 - 17:45	1	1	1	0	1	0	1	1
17:45 - 18:00	2	0	0	1	0	0	1	1
Hourly Total	**6**	**5**	**3**	**3**	**5**	**1**	**3**	**7**
18:00 - 18:15	1	1	0	2	1	0	0	3
18:15 - 18:30	2	3	0	1	3	1	2	1
18:30 - 18:45	1	2	0	1	2	0	1	2
18:45 - 19:00	2	1	1	0	1	1	0	1
Hourly Total	**6**	**7**	**1**	**4**	**7**	**2**	**3**	**7**
TOTAL	**18**	**19**	**6**	**11**	**19**	**5**	**10**	**21**

APPENDIX 4 – M1 Junction 24 Turning Count Results

East Midlands Gateway
Thursday 3rd November 2022
Junction: 5
Approach: M1 J24 North

	To A453 (N)									To Derby Road										To M1 J24 (S)										To A453 (S)										To A50										To Hilton Hotel Lane									
TIME	CYCLE	M/CYCL	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCL	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCL	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCL	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCL	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCL	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs
07:00 - 07:15	0	1	138	48	11	9	0	207	223.6	0	0	97	31	8	1	0	137	142.3	0	0	0	0	0	0	0	0	0.0	0	2	94	11	6	12	0	125	142.4	0	0	36	23	2	4	0	65	71.2	0	0	1	0	0	0	0	1	1.0
07:15 - 07:30	0	0	123	36	9	9	1	178	195.2	0	0	97	34	2	0	0	133	134.0	0	0	0	0	0	0	0	0	0.0	0	1	119	11	9	9	0	149	164.6	0	0	40	29	2	7	0	78	88.1	0	0	1	1	0	0	0	2	2.0
07:30 - 07:45	0	0	152	55	8	5	0	220	230.5	0	0	139	38	7	0	0	184	187.5	0	0	0	0	0	0	0	0	0.0	0	0	110	16	2	8	0	136	147.4	0	0	69	14	2	6	0	91	99.8	0	0	3	1	0	0	0	4	4.0
07:45 - 08:00	0	0	146	37	9	7	0	199	212.6	0	0	79	22	0	1	0	102	103.3	0	0	0	0	0	0	0	0	0.0	0	0	124	28	4	13	0	169	187.9	0	0	62	20	4	6	0	92	101.8	0	0	3	0	0	0	0	3	3.0
Hourly Total	**0**	**1**	**559**	**176**	**37**	**30**	**1**	**804**	**861.9**	**0**	**0**	**412**	**125**	**17**	**2**	**0**	**556**	**567.1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**	**0**	**3**	**447**	**66**	**21**	**42**	**0**	**579**	**642.3**	**0**	**0**	**207**	**86**	**10**	**23**	**0**	**326**	**360.9**	**0**	**0**	**8**	**2**	**0**	**0**	**0**	**10**	**10.0**
08:00 - 08:15	0	3	151	47	5	18	0	224	248.1	0	0	92	25	6	0	0	123	126.0	0	0	0	0	0	0	0	0	0.0	0	0	100	15	6	4	0	125	133.2	0	0	55	16	2	4	0	77	83.2	0	0	3	0	0	0	0	3	3.0
08:15 - 08:30	0	0	196	33	15	13	0	257	281.4	0	0	85	25	7	0	0	117	120.5	0	0	0	0	0	0	0	0	0.0	0	0	88	10	2	12	0	112	128.6	0	0	40	11	3	7	0	61	71.6	0	0	3	1	0	0	0	4	4.0
08:30 - 08:45	0	1	179	42	16	17	0	255	284.5	0	2	78	29	1	0	0	110	109.3	0	0	1	0	0	0	0	1	1.0	0	0	88	7	4	12	0	111	128.6	0	0	35	13	3	5	1	57	66.0	0	0	2	1	0	0	0	3	3.0
08:45 - 09:00	0	0	157	45	11	16	1	230	257.3	0	1	82	29	7	0	0	119	121.9	0	0	0	0	0	0	0	0	0.0	0	0	62	14	2	10	0	88	102.0	0	0	26	15	2	2	0	45	48.6	0	1	2	1	0	0	0	4	3.4
Hourly Total	**0**	**4**	**683**	**167**	**47**	**64**	**1**	**966**	**1071.3**	**0**	**3**	**337**	**108**	**21**	**0**	**0**	**469**	**477.7**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**1.0**	**0**	**0**	**338**	**46**	**14**	**38**	**0**	**436**	**492.4**	**0**	**0**	**156**	**55**	**10**	**18**	**1**	**240**	**269.4**	**0**	**1**	**10**	**3**	**0**	**0**	**0**	**14**	**13.4**
09:00 - 09:15	0	0	117	34	14	21	0	186	220.3	0	0	59	17	1	0	0	77	77.5	0	0	0	0	0	0	0	0	0.0	0	2	55	6	5	12	0	80	96.9	0	1	36	8	4	8	0	57	68.8	0	0	3	1	0	0	0	4	4.0
09:15 - 09:30	0	1	111	21	8	22	0	163	195.0	0	0	53	21	1	2	0	77	80.1	0	0	1	0	0	0	0	1	1.0	0	0	62	10	7	8	0	87	100.9	0	0	28	11	4	6	1	50	60.8	0	0	2	0	0	0	0	2	2.0
09:30 - 09:45	0	0	79	27	6	16	0	128	151.8	0	0	51	23	0	0	0	74	74.0	0	0	0	1	0	0	0	1	1.0	0	0	56	7	3	13	0	79	97.4	0	0	33	8	3	4	0	48	54.7	0	0	3	0	0	0	0	3	3.0
09:45 - 10:00	0	0	74	29	9	17	0	129	155.6	0	0	52	14	4	0	0	70	72.0	0	0	0	0	0	0	0	0	0.0	0	1	46	9	4	10	0	70	84.4	0	0	27	3	2	6	0	38	46.8	0	0	2	1	0	0	0	3	3.0
Hourly Total	**0**	**1**	**381**	**111**	**37**	**76**	**0**	**606**	**722.7**	**0**	**0**	**215**	**75**	**6**	**2**	**0**	**298**	**303.6**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**2**	**2.0**	**0**	**3**	**219**	**32**	**19**	**43**	**0**	**316**	**379.6**	**0**	**1**	**124**	**30**	**13**	**24**	**1**	**193**	**231.1**	**0**	**0**	**10**	**2**	**0**	**0**	**0**	**12**	**12.0**
TOTAL	**0**	**6**	**1623**	**454**	**121**	**170**	**2**	**2376**	**2655.9**	**0**	**3**	**964**	**308**	**44**	**4**	**0**	**1323**	**1348.4**	**0**	**0**	**2**	**1**	**0**	**0**	**0**	**3**	**3.0**	**0**	**6**	**1004**	**144**	**54**	**123**	**0**	**1331**	**1514.3**	**0**	**1**	**487**	**171**	**33**	**65**	**2**	**759**	**861.4**	**0**	**1**	**28**	**7**	**0**	**0**	**0**	**36**	**35.4**
16:00 - 16:15	0	0	124	30	8	9	0	171	186.7	0	0	88	17	4	0	0	109	111.0	0	0	0	0	0	0	0	0	0.0	0	0	24	3	2	5	0	34	41.5	0	0	32	9	3	3	0	47	52.4	0	0	2	0	0	0	0	2	2.0
16:15 - 16:30	0	0	163	28	3	6	0	200	209.3	0	0	103	20	0	0	0	123	123.0	0	0	1	0	0	0	0	1	1.0	0	0	29	3	2	4	0	38	44.2	0	0	38	6	3	7	0	54	64.6	0	0	1	0	0	0	0	1	1.0
16:30 - 16:45	0	0	154	33	2	9	0	198	210.7	0	0	101	19	1	0	0	121	121.5	0	0	0	0	0	0	0	0	0.0	0	0	24	4	4	5	0	37	45.5	0	0	31	7	4	3	0	45	50.9	0	0	1	0	0	0	0	1	1.0
16:45 - 17:00	0	1	176	27	6	8	0	218	230.8	0	0	92	12	0	0	0	104	104.0	0	0	2	0	0	0	0	2	2.0	0	0	28	3	3	6	0	40	49.3	0	0	33	15	3	4	0	55	61.7	0	0	1	0	0	0	0	1	1.0
Hourly Total	**0**	**1**	**617**	**118**	**19**	**32**	**0**	**787**	**837.5**	**0**	**0**	**384**	**68**	**5**	**0**	**0**	**457**	**459.5**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**3**	**3.0**	**0**	**0**	**105**	**13**	**11**	**20**	**0**	**149**	**180.5**	**0**	**0**	**134**	**37**	**13**	**17**	**0**	**201**	**229.6**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**5**	**5.0**
17:00 - 17:15	0	1	181	32	5	10	0	229	243.9	0	0	94	18	1	2	0	115	118.1	0	0	0	0	0	0	0	0	0.0	0	0	27	2	4	9	0	42	55.7	0	0	34	8	2	5	0	49	56.5	0	0	2	0	0	0	0	2	2.0
17:15 - 17:30	0	0	186	34	3	8	0	231	242.9	0	0	143	20	4	0	0	167	169.0	0	0	1	0	0	0	0	1	1.0	0	1	36	2	2	0	0	41	41.4	0	0	52	6	1	6	0	65	73.3	0	0	2	1	0	0	0	3	3.0
17:30 - 17:45	0	0	191	28	2	7	2	230	242.1	0	0	120	19	2	0	0	141	142.0	0	0	2	0	0	0	0	2	2.0	0	2	34	4	0	2	0	42	43.4	0	1	49	9	1	2	0	62	64.5	0	0	2	0	0	0	0	2	2.0
17:45 - 18:00	0	0	191	13	4	9	0	217	230.7	0	1	103	12	5	0	1	122	124.9	0	0	0	1	0	0	0	1	1.0	0	0	48	4	0	5	0	57	63.5	0	0	46	13	2	3	0	64	68.9	0	0	2	1	0	0	0	3	3.0
Hourly Total	**0**	**1**	**749**	**107**	**14**	**34**	**2**	**907**	**959.6**	**0**	**1**	**460**	**69**	**12**	**2**	**1**	**545**	**554.0**	**0**	**0**	**3**	**1**	**0**	**0**	**0**	**4**	**4.0**	**0**	**3**	**145**	**12**	**6**	**16**	**0**	**182**	**204.0**	**0**	**1**	**181**	**36**	**6**	**16**	**0**	**240**	**263.2**	**0**	**0**	**8**	**2**	**0**	**0**	**0**	**10**	**10.0**
18:00 - 18:15	0	0	173	13	3	5	0	194	202.0	0	0	98	10	0	0	0	108	108.0	0	0	1	0	0	0	0	1	1.0	0	0	55	2	0	7	0	64	73.1	0	0	43	13	1	4	0	61	66.7	0	0	2	0	0	0	0	2	2.0
18:15 - 18:30	0	0	136	11	1	4	0	152	157.7	0	0	103	5	0	0	0	108	108.0	0	0	0	0	0	0	0	0	0.0	0	0	80	4	2	5	0	91	98.5	0	0	47	5	2	3	0	57	61.9	0	0	2	0	0	0	0	2	2.0
18:30 - 18:45	0	0	94	15	4	10	0	123	138.0	0	0	53	5	1	0	0	59	59.5	0	0	0	0	0	0	0	0	0.0	0	1	67	8	1	8	0	85	95.3	0	0	42	5	2	4	0	53	59.2	0	0	2	0	0	0	0	2	2.0
18:45 - 19:00	0	0	95	7	2	6	0	110	118.8	0	0	83	2	0	1	0	86	87.3	0	0	0	0	0	0	0	0	0.0	0	0	53	5	0	7	0	65	74.1	0	0	32	6	2	3	0	43	47.9	0	0	2	0	0	0	0	2	2.0
Hourly Total	**0**	**0**	**498**	**46**	**10**	**25**	**0**	**579**	**616.5**	**0**	**0**	**337**	**22**	**1**	**1**	**0**	**361**	**362.8**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**1.0**	**0**	**1**	**255**	**19**	**3**	**27**	**0**	**305**	**341.0**	**0**	**0**	**164**	**29**	**7**	**14**	**0**	**214**	**235.7**	**0**	**0**	**8**	**0**	**0**	**0**	**0**	**8**	**8.0**
TOTAL	**0**	**2**	**1864**	**271**	**43**	**91**	**2**	**2273**	**2413.6**	**0**	**1**	**1181**	**159**	**18**	**3**	**1**	**1363**	**1376.3**	**0**	**0**	**7**	**1**	**0**	**0**	**0**	**8**	**8.0**	**0**	**4**	**505**	**44**	**20**	**63**	**0**	**636**	**725.5**	**0**	**1**	**479**	**102**	**26**	**47**	**0**	**655**	**728.5**	**0**	**0**	**21**	**2**	**0**	**0**	**0**	**23**	**23.0**

PCU Factors:	
CYCLE	0.2
M/CYCLE	0.4
CAR	1.0
LGV	1.0
OGV1	1.5
OGV2	2.3
BUS	2.0

East Midlands Gateway
Thursday 3rd November 2022
Junction: 5
Approach: A453 North

	To Derby Road									To M1 J24 (S)										To A453 (S)										To A50										To Hilton Hotel Lane										To M1 J24 (N)									
TIME	CYCLE	M/CYCL	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCL	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCL	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCL	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCL	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCL	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs
07:00 - 07:15	0	1	8	3	0	0	0	12	11.4	0	0	103	29	3	14	0	149	168.7	0	0	69	9	6	6	0	90	100.8	0	0	31	19	4	3	0	57	62.9	0	0	1	0	0	0	0	1	1.0	0	0	24	10	2	1	0	37	39.3
07:15 - 07:30	0	0	10	3	1	0	0	14	14.5	0	0	96	16	3	14	2	131	152.7	0	0	82	8	4	9	2	105	120.7	0	0	29	21	2	7	0	59	69.1	0	0	1	1	0	0	0	2	2.0	0	0	32	10	2	6	0	50	58.8
07:30 - 07:45	0	0	20	4	0	0	0	24	24.0	0	0	68	13	5	6	0	92	102.3	0	4	87	18	2	9	1	121	132.3	0	0	49	13	2	5	0	69	76.5	0	0	3	1	0	0	0	4	4.0	0	0	37	6	2	5	0	50	57.5
07:45 - 08:00	0	1	6	0	1	0	0	8	7.9	0	1	81	16	8	8	0	114	127.8	0	0	89	9	4	9	0	111	124.7	0	1	44	7	8	4	0	64	72.6	0	0	3	0	0	0	0	3	3.0	0	0	30	9	3	4	0	46	52.7
Hourly Total	**0**	**2**	**44**	**10**	**2**	**0**	**0**	**58**	**57.8**	**0**	**1**	**348**	**74**	**19**	**42**	**2**	**486**	**551.5**	**0**	**4**	**327**	**44**	**16**	**33**	**3**	**427**	**478.5**	**0**	**1**	**153**	**60**	**16**	**19**	**0**	**249**	**####**	**0**	**0**	**8**	**2**	**0**	**0**	**0**	**10**	**10.0**	**0**	**0**	**123**	**35**	**9**	**16**	**0**	**183**	**208.3**
08:00 - 08:15	0	0	9	2	0	0	0	11	11.0	0	0	100	21	6	8	0	135	148.4	0	0	81	12	3	4	0	100	106.7	0	0	44	13	1	6	0	64	72.3	0	0	3	0	0	0	0	3	3.0	0	0	41	11	1	3	0	56	60.4
08:15 - 08:30	0	0	15	2	0	0	0	17	17.0	0	0	97	26	11	7	1	142	157.6	0	0	73	8	2	8	1	92	104.4	0	0	32	9	2	6	0	49	57.8	0	0	3	1	0	0	0	4	4.0	0	0	22	6	2	5	0	35	42.5
08:30 - 08:45	0	0	11	2	1	0	0	14	14.5	0	0	98	24	10	8	0	140	155.4	0	0	71	7	3	8	0	89	100.9	0	0	28	13	3	6	1	51	61.3	0	0	2	1	0	0	0	3	3.0	0	0	18	8	5	5	0	36	45.0
08:45 - 09:00	0	0	7	2	1	0	0	10	10.5	0	0	74	18	8	11	1	112	131.3	0	0	49	7	2	5	0	63	70.5	0	0	24	6	2	2	1	35	39.6	0	0	2	1	0	0	0	3	3.0	0	0	13	6	2	2	0	23	26.6
Hourly Total	**0**	**0**	**42**	**8**	**2**	**0**	**0**	**52**	**53.0**	**0**	**0**	**369**	**89**	**35**	**34**	**2**	**529**	**592.7**	**0**	**0**	**274**	**34**	**10**	**25**	**1**	**344**	**382.5**	**0**	**0**	**128**	**41**	**8**	**20**	**2**	**199**	**####**	**0**	**0**	**10**	**3**	**0**	**0**	**0**	**13**	**13.0**	**0**	**0**	**94**	**31**	**10**	**15**	**0**	**150**	**174.5**
09:00 - 09:15	0	0	5	0	2	0	0	7	8.0	0	0	69	20	3	11	2	105	122.8	0	0	40	5	6	7	2	60	74.1	0	0	25	5	4	4	0	38	45.2	0	0	2	1	0	0	0	3	3.0	0	0	19	2	2	3	0	26	30.9
09:15 - 09:30	0	0	4	3	0	1	0	8	9.3	0	0	88	26	2	18	0	134	158.4	0	0	44	5	2	9	0	60	72.7	0	0	19	5	3	5	2	34	44.0	0	0	2	0	0	0	0	2	2.0	0	0	15	4	2	5	0	26	33.5
09:30 - 09:45	0	0	9	3	0	0	0	12	12.0	0	0	70	13	3	12	0	98	115.1	0	0	38	8	6	8	0	60	73.4	0	0	26	6	4	4	0	40	47.2	0	0	2	0	0	0	0	2	2.0	0	0	27	6	0	4	0	37	42.2
09:45 - 10:00	0	0	5	3	0	0	0	8	8.0	0	0	82	24	10	9	0	125	141.7	0	1	42	9	4	12	0	68	85.0	0	1	26	7	2	9	0	45	57.1	0	0	2	1	0	0	0	3	3.0	0	0	20	4	0	6	0	30	37.8
Hourly Total	**0**	**0**	**23**	**9**	**2**	**1**	**0**	**35**	**37.3**	**0**	**0**	**309**	**83**	**18**	**50**	**2**	**462**	**538.0**	**0**	**1**	**164**	**27**	**18**	**36**	**2**	**248**	**305.2**	**0**	**1**	**96**	**23**	**13**	**22**	**2**	**157**	**####**	**0**	**0**	**8**	**2**	**0**	**0**	**0**	**10**	**10.0**	**0**	**0**	**81**	**16**	**4**	**18**	**0**	**119**	**144.4**
TOTAL	**0**	**2**	**109**	**27**	**6**	**1**	**0**	**145**	**148.1**	**0**	**1**	**1026**	**246**	**72**	**126**	**6**	**1477**	**1682.2**	**0**	**5**	**765**	**105**	**44**	**94**	**6**	**1019**	**1166.2**	**0**	**2**	**377**	**124**	**37**	**61**	**4**	**605**	**####**	**0**	**0**	**26**	**7**	**0**	**0**	**0**	**33**	**33.0**	**0**	**0**	**298**	**82**	**23**	**49**	**0**	**452**	**527.2**
16:00 - 16:15	0	1	8	0	1	0	0	10	9.9	0	0	160	23	7	9	1	200	216.2	0	0	43	11	2	7	0	63	73.1	0	1	76	27	6	8	0	118	####	0	0	2	0	0	0	0	2	2.0	0	0	52	26	2	4	0	84	90.2
16:15 - 16:30	0	0	9	1	0	0	0	10	10.0	0	2	167	33	2	10	0	214	226.8	0	0	47	7	2	6	0	62	70.8	0	0	64	26	3	8	0	101	####	0	0	2	0	0	0	0	2	2.0	0	0	51	16	5	6	0	78	88.3
16:30 - 16:45	0	0	13	1	0	0	0	14	14.0	0	2	181	45	9	2	0	239	244.9	0	0	30	6	3	7	0	46	56.6	0	2	52	17	3	6	0	80	88.1	0	0	1	0	0	0	0	1	1.0	0	0	54	25	4	4	0	87	94.2
16:45 - 17:00	0	0	15	3	0	0	0	18	18.0	0	0	193	35	4	4	0	236	243.2	0	1	58	10	1	3	1	74	78.8	0	0	68	23	1	3	0	95	99.4	0	0	2	0	0	0	0	2	2.0	0	0	60	21	2	3	0	86	90.9
Hourly Total	**0**	**1**	**45**	**5**	**1**	**0**	**0**	**52**	**51.9**	**0**	**4**	**701**	**136**	**22**	**25**	**1**	**889**	**931.1**	**0**	**1**	**178**	**34**	**8**	**23**	**1**	**245**	**279.3**	**0**	**3**	**260**	**93**	**13**	**25**	**0**	**394**	**####**	**0**	**0**	**7**	**0**	**0**	**0**	**0**	**7**	**7.0**	**0**	**0**	**217**	**88**	**13**	**17**	**0**	**335**	**363.6**
17:00 - 17:15	0	0	10	3	0	0	0	13	13.0	0	1	184	22	2	2	0	211	214.0	0	1	47	3	3	5	0	59	66.4	0	0	66	12	2	1	0	81	83.3	0	0	2	0	0	0	0	2	2.0	0	1	53	15	3	2	0	74	77.5
17:15 - 17:30	0	0	27	1	0	0	0	28	28.0	0	0	175	25	0	8	0	208	218.4	0	1	59	2	6	0	0	68	70.4	0	0	93	17	2	4	0	116	####	0	0	2	1	0	0	0	3	3.0	0	0	58	12	0	6	0	76	83.8
17:30 - 17:45	0	0	18	0	0	0	0	18	18.0	0	0	171	14	4	5	0	194	202.5	0	0	66	6	0	2	0	74	76.6	0	0	89	13	2	5	0	109	####	0	0	2	0	0	0	0	2	2.0	0	0	45	8	0	3	0	56	59.9
17:45 - 18:00	0	1	12	1	1	0	0	15	14.9	0	0	173	12	4	11	0	200	216.3	0	0	81	4	0	8	0	93	103.4	0	0	74	15	4	6	0	99	####	0	0	3	1	0	0	0	4	4.0	0	0	49	6	0	2	0	57	59.6
Hourly Total	**0**	**1**	**67**	**5**	**1**	**0**	**0**	**74**	**73.9**	**0**	**1**	**703**	**73**	**10**	**26**	**0**	**813**	**851.2**	**0**	**2**	**253**	**15**	**9**	**15**	**0**	**294**	**316.8**	**0**	**0**	**322**	**57**	**10**	**16**	**0**	**405**	**####**	**0**	**0**	**9**	**2**	**0**	**0**	**0**	**11**	**11.0**	**0**	**1**	**205**	**41**	**3**	**13**	**0**	**263**	**280.8**
18:00 - 18:15	0	0	17	0	0	0	0	17	17.0	0	0	171	9	3	8	2	193	206.9	0	1	71	2	1	4	0	79	84.1	0	0	54	17	1	2	0	74	77.1	0	0	2	0	0	0	0	2	2.0	0	0	33	8	0	3	0	44	47.9
18:15 - 18:30	0	0	6	1	0	0	0	7	7.0	0	0	144	14	0	6	0	164	171.8	0	0	77	5	2	3	0	87	91.9	0	0	46	6	2	4	0	58	64.2	0	0	3	1	0	0	0	4	4.0	0	0	28	3	1	2	0	34	37.1
18:30 - 18:45	0	0	13	3	1	0	0	17	17.5	0	0	116	9	1	3	0	129	133.4	0	0	63	11	2	4	0	80	86.2	0	0	36	6	2	1	0	45	47.3	0	0	2	0	0	0	0	2	2.0	0	0	40	5	2	2	0	49	52.6
18:45 - 19:00	0	0	7	1	0	1	0	9	10.3	0	0	104	8	1	6	0	119	127.3	0	0	43	9	2	5	0	59	66.5	0	0	23	10	1	2	1	37	41.1	0	0	2	0	0	0	0	2	2.0	0	0	31	4	1	3	0	39	43.4
Hourly Total	**0**	**0**	**43**	**5**	**1**	**1**	**0**	**50**	**51.8**	**0**	**0**	**535**	**40**	**5**	**23**	**2**	**605**	**639.4**	**0**	**1**	**254**	**27**	**7**	**16**	**0**	**305**	**328.7**	**0**	**0**	**159**	**39**	**6**	**9**	**1**	**214**	**####**	**0**	**0**	**9**	**1**	**0**	**0**	**0**	**10**	**10.0**	**0**	**0**	**132**	**20**	**4**	**10**	**0**	**166**	**181.0**
TOTAL	**0**	**2**	**155**	**15**	**3**	**1**	**0**	**176**	**177.6**	**0**	**5**	**1939**	**249**	**37**	**74**	**3**	**2307**	**2421.7**	**0**	**4**	**685**	**76**	**24**	**54**	**1**	**844**	**924.8**	**0**	**3**	**741**	**189**	**29**	**50**	**1**	**1013**	**####**	**0**	**0**	**25**	**3**	**0**	**0**	**0**	**28**	**28.0**	**0**	**1**	**554**	**149**	**20**	**40**	**0**	**764**	**825.4**

PCU Factors:	
CYCLE	0.2
M/CYCLE	0.4
CAR	1.0
LGV	1.0
OGV1	1.5
OGV2	2.3
BUS	2.0

East Midlands Gateway
Thursday 3rd November 2022
Junction: 5
Approach: Derby Road

	To M1 J24 (S)									To A453 (S)										To A50										To Hilton Hotel Lane										To M1 J24 (N)										To A453 (N)									
TIME	CYCLE	M/CYCL	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCL	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCL	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCL	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCL	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCL	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs
07:00 - 07:15	0	0	18	1	0	1	0	20	21.3	0	0	26	2	0	0	1	29	30.0	0	0	10	2	0	1	0	13	14.3	0	0	0	0	0	0	0	0	0.0	0	0	9	0	0	0	0	9	9.0	0	0	7	2	0	0	0	9	9.0
07:15 - 07:30	0	0	9	3	0	0	0	12	12.0	0	0	27	2	0	0	0	29	29.0	0	0	10	3	1	2	0	16	19.1	0	0	0	0	0	0	0	0	0.0	0	0	9	0	0	0	0	9	9.0	0	0	8	2	1	0	0	11	11.5
07:30 - 07:45	0	0	11	3	0	0	0	14	14.0	0	0	35	2	0	0	0	37	37.0	0	0	18	2	2	1	0	23	25.3	0	0	1	0	0	0	0	1	1.0	0	0	10	0	0	0	0	10	10.0	0	0	12	4	1	0	0	17	17.5
07:45 - 08:00	0	0	7	0	1	1	0	9	10.8	0	0	46	7	0	0	1	54	55.0	0	0	24	5	1	1	0	31	32.8	0	0	1	0	0	0	0	1	1.0	0	0	16	9	0	0	0	25	25.0	0	0	16	4	1	0	0	21	21.5
Hourly Total	**0**	**0**	**45**	**7**	**1**	**2**	**0**	**55**	**58.1**	**0**	**0**	**134**	**13**	**0**	**0**	**2**	**149**	**151.0**	**0**	**0**	**62**	**12**	**4**	**5**	**0**	**83**	**91.5**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**2**	**2.0**	**0**	**0**	**44**	**9**	**0**	**0**	**0**	**53**	**53.0**	**0**	**0**	**43**	**12**	**3**	**0**	**0**	**58**	**59.5**
08:00 - 08:15	0	0	11	5	2	0	0	18	19.0	0	0	33	3	0	0	0	36	36.0	0	0	20	3	0	2	0	25	27.6	0	0	0	0	0	0	0	0	0.0	0	0	11	2	0	0	0	13	13.0	0	0	17	4	0	0	0	21	21.0
08:15 - 08:30	0	0	11	1	1	0	0	13	13.5	0	0	43	4	0	0	0	47	47.0	0	0	19	3	4	2	0	28	32.6	0	0	0	0	0	0	0	0	0.0	0	0	10	3	0	0	0	13	13.0	0	0	12	4	0	0	0	16	16.0
08:30 - 08:45	0	0	8	4	0	1	0	13	14.3	0	0	32	3	0	0	0	35	35.0	0	0	16	9	3	0	1	29	31.5	0	0	1	0	0	0	0	1	1.0	0	0	11	4	0	0	0	15	15.0	0	0	9	3	1	0	0	13	13.5
08:45 - 09:00	0	0	3	2	0	0	0	5	5.0	0	0	24	2	0	0	0	26	26.0	0	0	13	2	2	1	2	20	24.3	0	0	0	0	0	0	0	0	0.0	0	0	7	3	2	0	0	12	13.0	0	0	9	2	2	0	0	13	14.0
Hourly Total	**0**	**0**	**33**	**12**	**3**	**1**	**0**	**49**	**51.8**	**0**	**0**	**132**	**12**	**0**	**0**	**0**	**144**	**144.0**	**0**	**0**	**68**	**17**	**9**	**5**	**3**	**102**	**116.0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**1.0**	**0**	**0**	**39**	**12**	**2**	**0**	**0**	**53**	**54.0**	**0**	**0**	**47**	**13**	**3**	**0**	**0**	**63**	**64.5**
09:00 - 09:15	0	0	10	5	1	1	0	17	18.8	0	0	21	5	0	0	0	26	26.0	0	0	14	3	0	1	0	18	19.3	0	0	0	0	0	0	0	0	0.0	0	0	14	3	0	0	0	17	17.0	0	0	11	2	0	1	0	14	15.3
09:15 - 09:30	0	0	12	0	0	0	0	12	12.0	0	0	22	4	0	0	0	26	26.0	0	0	9	3	1	2	0	15	18.1	0	0	0	0	0	0	0	0	0.0	0	0	6	3	0	0	0	9	9.0	0	0	8	1	1	0	0	10	10.5
09:30 - 09:45	0	0	5	0	1	1	0	7	8.8	0	0	17	2	0	0	0	19	19.0	0	0	10	2	2	0	0	14	15.0	0	0	1	0	0	0	0	1	1.0	0	0	7	2	0	0	0	9	9.0	0	0	5	2	0	0	0	7	7.0
09:45 - 10:00	0	0	6	2	0	2	0	10	12.6	0	1	11	4	0	0	0	16	15.4	0	1	5	4	1	0	0	11	10.9	0	0	0	0	0	0	0	0	0.0	0	0	5	2	0	0	0	7	7.0	0	0	5	2	1	0	0	8	8.5
Hourly Total	**0**	**0**	**33**	**7**	**2**	**4**	**0**	**46**	**52.2**	**0**	**1**	**71**	**15**	**0**	**0**	**0**	**87**	**86.4**	**0**	**1**	**38**	**12**	**4**	**3**	**0**	**58**	**63.3**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**1.0**	**0**	**0**	**32**	**10**	**0**	**0**	**0**	**42**	**42.0**	**0**	**0**	**29**	**7**	**2**	**1**	**0**	**39**	**41.3**
TOTAL	**0**	**0**	**111**	**26**	**6**	**7**	**0**	**150**	**162.1**	**0**	**1**	**337**	**40**	**0**	**0**	**2**	**380**	**381.4**	**0**	**1**	**168**	**41**	**17**	**13**	**3**	**243**	**270.8**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**4**	**4.0**	**0**	**0**	**115**	**31**	**2**	**0**	**0**	**148**	**149.0**	**0**	**0**	**119**	**32**	**8**	**1**	**0**	**160**	**165.3**
16:00 - 16:15	0	0	14	0	0	0	0	14	14.0	0	0	20	2	0	0	0	22	22.0	0	0	33	9	0	0	0	42	42.0	0	0	1	0	0	0	0	1	1.0	0	0	23	7	0	0	0	30	30.0	0	0	16	3	0	0	0	19	19.0
16:15 - 16:30	0	0	8	1	2	0	0	11	12.0	0	0	20	2	0	0	0	22	22.0	0	0	27	14	2	0	0	43	44.0	0	0	0	0	0	0	0	0	0.0	0	0	21	6	0	0	0	27	27.0	0	0	13	6	0	0	0	19	19.0
16:30 - 16:45	0	0	10	4	0	0	0	14	14.0	0	0	14	4	0	0	0	18	18.0	0	4	26	9	0	0	0	39	36.6	0	0	0	0	0	0	0	0	0.0	0	0	23	3	0	0	0	26	26.0	0	0	11	7	0	0	0	18	18.0
16:45 - 17:00	0	0	6	2	0	1	0	9	10.3	0	0	22	2	0	0	0	24	24.0	0	0	26	4	0	2	0	32	34.6	0	0	0	0	0	0	0	0	0.0	0	0	20	4	0	0	0	24	24.0	0	0	11	2	0	0	0	13	13.0
Hourly Total	**0**	**0**	**38**	**7**	**2**	**1**	**0**	**48**	**50.3**	**0**	**0**	**76**	**10**	**0**	**0**	**0**	**86**	**86.0**	**0**	**4**	**112**	**36**	**2**	**2**	**0**	**156**	**157.2**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**1.0**	**0**	**0**	**87**	**20**	**0**	**0**	**0**	**107**	**107.0**	**0**	**0**	**51**	**18**	**0**	**0**	**0**	**69**	**69.0**
17:00 - 17:15	0	0	17	5	0	1	0	23	24.3	0	0	25	0	0	2	0	27	29.6	0	0	31	10	0	1	0	42	43.3	0	0	1	0	0	0	0	1	1.0	0	0	25	6	0	0	0	31	31.0	0	0	9	1	0	0	0	10	10.0
17:15 - 17:30	0	0	8	1	0	0	0	9	9.0	0	1	16	0	0	0	0	17	16.4	0	0	28	4	0	0	0	32	32.0	0	0	0	0	0	0	0	0	0.0	0	0	16	2	0	0	0	18	18.0	0	0	16	1	0	0	0	17	17.0
17:30 - 17:45	0	0	15	0	0	0	0	15	15.0	0	0	25	2	0	0	0	27	27.0	0	0	33	3	1	1	0	38	39.8	0	0	1	0	0	0	0	1	1.0	0	0	19	2	0	0	0	21	21.0	0	0	17	2	0	0	1	20	21.0
17:45 - 18:00	0	0	4	0	0	0	0	4	4.0	0	0	17	0	0	0	0	17	17.0	0	0	16	4	1	2	0	23	26.1	0	0	0	0	0	0	0	0	0.0	0	0	14	3	0	0	0	17	17.0	0	0	8	2	0	0	0	10	10.0
Hourly Total	**0**	**0**	**44**	**6**	**0**	**1**	**0**	**51**	**52.3**	**0**	**1**	**83**	**2**	**0**	**2**	**0**	**88**	**90.0**	**0**	**0**	**108**	**21**	**2**	**4**	**0**	**135**	**141.2**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**2**	**2.0**	**0**	**0**	**74**	**13**	**0**	**0**	**0**	**87**	**87.0**	**0**	**0**	**50**	**6**	**0**	**0**	**1**	**57**	**58.0**
18:00 - 18:15	0	0	14	0	0	0	0	14	14.0	0	0	36	1	0	0	0	37	37.0	0	0	27	5	1	0	0	33	33.5	0	0	1	0	0	0	0	1	1.0	0	0	18	5	0	0	0	23	23.0	0	0	12	4	1	0	0	17	17.5
18:15 - 18:30	0	0	8	1	1	0	0	10	10.5	0	0	28	0	0	0	0	28	28.0	0	0	17	4	0	0	0	21	21.0	0	0	1	0	0	0	0	1	1.0	0	0	12	0	0	0	0	12	12.0	0	0	9	0	0	0	0	9	9.0
18:30 - 18:45	0	0	6	0	0	0	0	6	6.0	0	0	12	1	0	0	0	13	13.0	0	0	10	1	1	0	0	12	12.5	0	0	1	0	0	0	0	1	1.0	0	0	7	1	0	0	0	8	8.0	0	0	10	2	1	0	0	13	13.5
18:45 - 19:00	0	0	3	0	1	0	0	4	4.5	0	0	29	3	0	0	0	32	32.0	0	0	16	4	3	0	0	23	24.5	0	0	0	0	0	0	0	0	0.0	0	0	16	1	0	0	0	17	17.0	0	0	10	1	0	0	1	12	13.0
Hourly Total	**0**	**0**	**31**	**1**	**2**	**0**	**0**	**34**	**35.0**	**0**	**0**	**105**	**5**	**0**	**0**	**0**	**110**	**110.0**	**0**	**0**	**70**	**14**	**5**	**0**	**0**	**89**	**91.5**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**3**	**3.0**	**0**	**0**	**53**	**7**	**0**	**0**	**0**	**60**	**60.0**	**0**	**0**	**41**	**7**	**2**	**0**	**1**	**51**	**53.0**
TOTAL	**0**	**0**	**113**	**14**	**4**	**2**	**0**	**133**	**137.6**	**0**	**1**	**264**	**17**	**0**	**2**	**0**	**284**	**286.0**	**0**	**4**	**290**	**71**	**9**	**6**	**0**	**380**	**389.9**	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**6**	**6.0**	**0**	**0**	**214**	**40**	**0**	**0**	**0**	**254**	**254.0**	**0**	**0**	**142**	**31**	**2**	**0**	**2**	**177**	**180.0**

PCU Factors:	
CYCLE	0.2
M/CYCLE	0.4
CAR	1.0
LGV	1.0
OGV1	1.5
OGV2	2.3
BUS	2.0

East Midlands Gateway
Thursday 3rd November 2022
Junction: 5
Approach: M1 J24 South

	To A453 (S)									To A50										To Hilton Hotel Lane										To M1 J24 (N)										To A453 (N)										To Derby Road									
TIME	CYCLE	M/CYCL	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCL	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCL	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCL	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCL	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCL	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs
07:00 - 07:15	0	0	0	0	0	0	0	0	0.0	0	0	139	42	11	38	0	230	284.9	0	0	1	0	0	0	0	1	1.0	0	0	0	0	0	0	0	0	0.0	0	0	87	35	9	17	0	148	174.6	0	0	8	5	1	1	0	15	16.8
07:15 - 07:30	0	0	0	0	0	0	0	0	0.0	0	0	181	50	12	32	0	275	322.6	0	0	2	1	0	0	0	3	3.0	0	0	0	0	0	0	0	0	0.0	0	0	130	39	8	12	0	189	208.6	0	0	15	6	1	1	0	23	24.8
07:30 - 07:45	0	0	0	0	0	1	0	1	2.3	0	0	197	45	15	35	0	292	345.0	0	0	4	1	0	0	0	5	5.0	0	0	0	0	0	0	0	0	0.0	0	0	119	37	11	18	0	185	213.9	0	0	17	5	1	2	0	25	28.1
07:45 - 08:00	0	0	1	1	0	1	0	3	4.3	0	0	202	40	14	29	0	285	329.7	0	0	6	0	0	0	0	6	6.0	0	0	3	1	0	0	0	4	4.0	0	0	130	30	8	7	0	175	188.1	0	0	16	2	1	1	0	20	21.8
Hourly Total	**0**	**0**	**1**	**1**	**0**	**2**	**0**	**4**	**6.6**	**0**	**0**	**719**	**177**	**52**	**134**	**0**	**1082**	**1282.2**	**0**	**0**	**13**	**2**	**0**	**0**	**0**	**15**	**15.0**	**0**	**0**	**3**	**1**	**0**	**0**	**0**	**4**	**4.0**	**0**	**0**	**466**	**141**	**36**	**54**	**0**	**697**	**785.2**	**0**	**0**	**56**	**18**	**4**	**5**	**0**	**83**	**91.5**
08:00 - 08:15	0	0	1	0	0	0	0	1	1.0	0	0	186	27	14	37	0	264	319.1	0	0	4	0	0	0	0	4	4.0	0	0	0	0	0	0	0	0	0.0	0	0	145	36	5	6	0	192	202.3	0	0	24	5	3	0	0	32	33.5
08:15 - 08:30	0	0	0	0	0	0	0	0	0.0	0	0	220	40	21	28	0	309	355.9	0	0	5	1	0	0	0	6	6.0	0	0	0	1	0	0	0	1	1.0	0	0	138	26	4	11	0	179	195.3	0	0	16	2	2	1	0	21	23.3
08:30 - 08:45	0	0	1	0	0	0	0	1	1.0	0	0	203	43	9	29	0	284	326.2	0	0	9	1	0	0	0	10	10.0	0	0	0	0	0	0	0	0	0.0	0	0	104	18	7	7	0	136	148.6	0	0	11	1	3	1	0	16	18.8
08:45 - 09:00	0	0	0	0	0	0	0	0	0.0	0	0	202	29	9	36	0	276	327.3	0	0	6	1	0	0	0	7	7.0	0	0	0	0	0	0	0	0	0.0	0	0	89	20	7	6	0	122	133.3	0	0	9	4	2	0	0	15	16.0
Hourly Total	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**2**	**2.0**	**0**	**0**	**811**	**139**	**53**	**130**	**0**	**1133**	**1328.5**	**0**	**0**	**24**	**3**	**0**	**0**	**0**	**27**	**27.0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**1.0**	**0**	**0**	**476**	**100**	**23**	**30**	**0**	**629**	**679.5**	**0**	**0**	**60**	**12**	**10**	**2**	**0**	**84**	**91.6**
09:00 - 09:15	0	0	1	1	0	0	0	2	2.0	0	0	138	42	10	31	0	221	266.3	0	0	7	2	0	0	0	9	9.0	0	0	0	0	1	0	0	1	1.5	0	0	120	28	9	18	0	175	202.9	0	0	14	5	2	0	0	21	22.0
09:15 - 09:30	0	0	1	1	0	1	0	3	4.3	0	0	161	47	11	29	1	249	293.2	0	0	3	0	0	0	0	3	3.0	0	0	0	0	0	0	0	0	0.0	0	0	106	27	13	8	0	154	170.9	0	0	5	2	2	2	0	11	14.6
09:30 - 09:45	0	0	3	0	2	0	0	5	6.0	0	0	141	29	16	36	0	222	276.8	0	0	3	0	0	0	0	3	3.0	0	0	1	0	0	0	0	1	1.0	0	1	92	15	6	4	0	118	125.6	0	0	10	4	3	0	0	17	18.5
09:45 - 10:00	0	0	1	0	1	0	0	2	2.5	0	0	121	29	16	30	0	196	243.0	0	0	4	1	0	0	0	5	5.0	0	0	0	0	0	0	0	0	0.0	0	0	67	24	10	13	0	114	135.9	0	0	6	4	2	0	0	12	13.0
Hourly Total	**0**	**0**	**6**	**2**	**3**	**1**	**0**	**12**	**14.8**	**0**	**0**	**561**	**147**	**53**	**126**	**1**	**888**	**1079.3**	**0**	**0**	**17**	**3**	**0**	**0**	**0**	**20**	**20.0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**2**	**2.5**	**0**	**1**	**385**	**94**	**38**	**43**	**0**	**561**	**635.3**	**0**	**0**	**35**	**15**	**9**	**2**	**0**	**61**	**68.1**
TOTAL	**0**	**0**	**9**	**3**	**3**	**3**	**0**	**18**	**23.4**	**0**	**0**	**2091**	**463**	**158**	**390**	**1**	**3103**	**3690.0**	**0**	**0**	**54**	**8**	**0**	**0**	**0**	**62**	**62.0**	**0**	**0**	**4**	**2**	**1**	**0**	**0**	**7**	**7.5**	**0**	**1**	**1327**	**335**	**97**	**127**	**0**	**1887**	**2100.0**	**0**	**0**	**151**	**45**	**23**	**9**	**0**	**228**	**251.2**
16:00 - 16:15	0	0	0	0	0	0	0	0	0.0	0	0	146	41	11	37	0	235	288.6	0	0	2	0	0	0	0	2	2.0	0	0	1	0	0	0	0	1	1.0	0	0	48	16	3	6	0	73	82.3	0	0	7	3	0	1	0	11	12.3
16:15 - 16:30	0	0	0	0	1	0	0	1	1.5	0	0	138	48	7	34	0	227	274.7	0	0	1	0	0	0	0	1	1.0	0	0	0	0	0	0	0	0	0.0	0	0	65	17	3	11	2	98	115.8	0	0	9	5	0	2	0	16	18.6
16:30 - 16:45	0	0	1	0	0	0	0	1	1.0	0	0	182	29	7	30	0	248	290.5	0	0	3	0	0	0	0	3	3.0	0	0	1	0	0	0	0	1	1.0	0	0	73	21	6	4	0	104	112.2	0	0	12	5	1	0	0	18	18.5
16:45 - 17:00	0	0	1	0	0	0	0	1	1.0	0	0	174	38	8	23	0	243	276.9	0	0	2	0	0	0	0	2	2.0	0	0	0	0	0	0	0	0	0.0	0	0	82	21	3	4	0	110	116.7	0	0	9	4	2	0	0	15	16.0
Hourly Total	**0**	**0**	**2**	**0**	**1**	**0**	**0**	**3**	**3.5**	**0**	**0**	**640**	**156**	**33**	**124**	**0**	**953**	**1130.7**	**0**	**0**	**8**	**0**	**0**	**0**	**0**	**8**	**8.0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**2**	**2.0**	**0**	**0**	**268**	**75**	**15**	**25**	**2**	**385**	**427.0**	**0**	**0**	**37**	**17**	**3**	**3**	**0**	**60**	**65.4**
17:00 - 17:15	0	0	0	0	0	0	0	0	0.0	0	0	216	38	4	22	0	280	310.6	0	0	3	0	0	0	0	3	3.0	0	0	0	0	0	0	0	0	0.0	0	0	91	16	7	7	0	121	133.6	0	0	11	4	1	2	0	18	21.1
17:15 - 17:30	0	0	1	0	0	0	0	1	1.0	0	0	185	25	8	16	0	234	258.8	0	0	2	1	0	0	0	3	3.0	0	0	0	0	0	0	0	0	0.0	0	0	96	14	1	6	1	118	127.3	0	0	15	4	0	2	0	21	23.6
17:30 - 17:45	0	0	1	0	0	1	0	2	3.3	0	1	225	21	4	24	0	275	307.6	0	0	3	0	0	0	0	3	3.0	0	0	0	0	0	0	0	0	0.0	0	0	112	21	4	5	3	145	156.5	0	0	12	4	1	2	0	19	22.1
17:45 - 18:00	0	0	2	0	0	0	0	2	2.0	0	0	228	39	8	25	0	300	336.5	0	0	3	2	0	0	0	5	5.0	0	0	0	0	0	0	0	0	0.0	0	0	122	17	2	3	0	144	148.9	0	0	12	5	1	0	0	18	18.5
Hourly Total	**0**	**0**	**4**	**0**	**0**	**1**	**0**	**5**	**6.3**	**0**	**1**	**854**	**123**	**24**	**87**	**0**	**1089**	**1213.5**	**0**	**0**	**11**	**3**	**0**	**0**	**0**	**14**	**14.0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**	**0**	**0**	**421**	**68**	**14**	**21**	**4**	**528**	**566.3**	**0**	**0**	**50**	**17**	**3**	**6**	**0**	**76**	**85.3**
18:00 - 18:15	0	0	0	1	0	0	0	1	1.0	0	0	174	20	4	34	0	232	278.2	0	0	2	0	0	0	0	2	2.0	0	0	0	0	0	0	0	0	0.0	0	0	79	9	3	2	0	93	97.1	0	0	8	2	0	0	0	10	10.0
18:15 - 18:30	0	0	2	0	0	0	0	2	2.0	0	0	94	18	4	11	0	127	143.3	0	0	2	1	0	0	0	3	3.0	0	0	0	0	0	0	0	0	0.0	0	0	59	5	0	5	0	69	75.5	0	0	5	1	0	2	0	8	10.6
18:30 - 18:45	0	0	0	0	0	0	0	0	0.0	0	0	27	3	0	4	0	34	39.2	0	0	1	0	0	0	0	1	1.0	0	0	0	0	0	0	0	0	0.0	0	0	29	4	0	1	0	34	35.3	0	0	2	3	0	0	0	5	5.0
18:45 - 19:00	0	0	0	1	0	0	0	1	1.0	0	0	127	18	4	13	0	162	180.9	0	0	2	0	0	0	0	2	2.0	0	0	0	0	0	0	0	0	0.0	0	0	119	6	1	7	0	133	142.6	0	0	12	1	0	2	0	15	17.6
Hourly Total	**0**	**0**	**2**	**2**	**0**	**0**	**0**	**4**	**4.0**	**0**	**0**	**422**	**59**	**12**	**62**	**0**	**555**	**641.6**	**0**	**0**	**7**	**1**	**0**	**0**	**0**	**8**	**8.0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**	**0**	**0**	**286**	**24**	**4**	**15**	**0**	**329**	**350.5**	**0**	**0**	**27**	**7**	**0**	**4**	**0**	**38**	**43.2**
TOTAL	**0**	**0**	**8**	**2**	**1**	**1**	**0**	**12**	**13.8**	**0**	**1**	**1916**	**338**	**69**	**273**	**0**	**2597**	**2985.8**	**0**	**0**	**26**	**4**	**0**	**0**	**0**	**30**	**30.0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**2**	**2.0**	**0**	**0**	**975**	**167**	**33**	**61**	**6**	**1242**	**1343.8**	**0**	**0**	**114**	**41**	**6**	**13**	**0**	**174**	**193.9**

PCU Factors:	
CYCLE	0.2
M/CYCLE	0.4
CAR	1.0
LGV	1.0
OGV1	1.5
OGV2	2.3
BUS	2.0

East Midlands Gateway
Thursday 3rd November 2022
Junction: 5
Approach: A453 South

	To A50									To Hilton Hotel Lane									To M1 J24 (N)									To A453 (N)									To Derby Road									To M1 J24 (S)								
TIME	CYCLE	M/CYCL	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCL	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCL	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCL	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCL	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCL	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs
07:00 - 07:15	0	1	128	30	19	17	0	195	226.0	0	0	0	0	0	0	0	0	0.0	0	0	30	2	2	7	0	41	51.1	0	0	23	11	1	2	0	37	40.1	0	0	3	2	1	1	0	7	8.8	0	0	4	2	1	3	0	10	14.4
07:15 - 07:30	0	0	154	30	7	17	0	208	233.6	0	0	0	1	0	0	0	1	1.0	0	0	33	5	0	7	0	45	54.1	0	0	25	9	1	2	1	38	42.1	0	0	4	3	1	1	0	9	10.8	0	0	4	3	1	4	0	12	17.7
07:30 - 07:45	0	0	180	37	10	23	1	251	286.9	0	0	1	0	0	0	0	1	1.0	0	0	43	5	0	4	0	52	57.2	0	0	36	7	2	2	1	48	52.6	0	0	5	2	1	0	0	8	8.5	0	0	4	2	1	3	0	10	14.4
07:45 - 08:00	0	0	180	26	12	19	0	237	267.7	0	0	2	0	0	0	0	2	2.0	0	0	50	10	0	10	0	70	83.0	0	0	55	8	2	5	0	70	77.5	0	0	6	1	0	1	0	8	9.3	0	0	9	2	2	5	0	18	25.5
Hourly Total	**0**	**1**	**642**	**123**	**48**	**76**	**1**	**891**	**1014.2**	**0**	**0**	**3**	**1**	**0**	**0**	**0**	**4**	**4.0**	**0**	**0**	**156**	**22**	**2**	**28**	**0**	**208**	**245.4**	**0**	**0**	**139**	**35**	**6**	**11**	**2**	**193**	**212.3**	**0**	**0**	**18**	**8**	**3**	**3**	**0**	**32**	**37.4**	**0**	**0**	**21**	**9**	**5**	**15**	**0**	**50**	**72.0**
08:00 - 08:15	0	1	173	42	13	8	0	237	253.3	0	0	1	0	0	0	0	1	1.0	0	0	37	1	3	10	0	51	65.5	0	0	38	7	3	1	0	49	51.8	0	0	5	2	1	0	0	8	8.5	0	0	8	3	1	1	0	13	14.8
08:15 - 08:30	0	0	183	24	15	10	0	232	252.5	0	0	2	0	0	0	0	2	2.0	0	0	51	7	2	7	0	67	77.1	0	0	51	9	3	2	0	65	69.1	0	0	5	1	0	0	0	6	6.0	0	0	8	2	2	4	0	16	22.2
08:30 - 08:45	0	1	125	18	15	17	1	177	207.0	0	0	0	0	0	0	0	0	0.0	0	0	58	8	0	7	0	73	82.1	0	0	60	9	2	4	0	75	81.2	0	0	6	1	0	1	0	8	9.3	0	0	11	1	2	3	0	17	21.9
08:45 - 09:00	0	0	107	22	10	18	0	157	185.4	0	0	2	0	0	0	0	2	2.0	0	0	51	8	2	12	0	73	89.6	0	0	51	4	2	1	0	58	60.3	0	0	5	2	1	0	0	8	8.5	0	0	6	1	1	2	2	12	17.1
Hourly Total	**0**	**2**	**588**	**106**	**53**	**53**	**1**	**803**	**898.2**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**5**	**5.0**	**0**	**0**	**197**	**24**	**7**	**36**	**0**	**264**	**314.3**	**0**	**0**	**200**	**29**	**10**	**8**	**0**	**247**	**262.4**	**0**	**0**	**21**	**6**	**2**	**1**	**0**	**30**	**32.3**	**0**	**0**	**33**	**7**	**6**	**10**	**2**	**58**	**76.0**
09:00 - 09:15	0	0	101	17	10	23	1	152	187.9	0	0	1	0	0	0	0	1	1.0	0	0	16	3	2	5	0	26	33.5	0	0	16	3	2	6	0	27	35.8	0	0	3	2	1	0	0	6	6.5	0	0	5	2	2	3	0	12	16.9
09:15 - 09:30	0	0	84	17	10	19	1	131	161.7	0	0	0	0	0	0	0	0	0.0	0	0	29	8	2	12	0	51	67.6	0	0	30	5	4	4	0	43	50.2	0	0	2	1	1	0	0	4	4.5	0	0	4	1	2	2	0	9	12.6
09:30 - 09:45	0	0	74	18	14	12	2	120	144.6	0	0	0	0	0	0	0	0	0.0	0	0	22	8	0	9	0	39	50.7	0	0	17	5	3	2	0	27	31.1	0	0	3	2	0	0	0	5	5.0	0	0	5	2	0	2	0	9	11.6
09:45 - 10:00	0	0	63	16	10	12	0	101	121.6	0	0	1	0	0	0	0	1	1.0	0	0	16	2	0	6	0	24	31.8	0	0	17	9	0	7	1	34	44.1	0	0	2	2	0	0	0	4	4.0	0	0	5	2	0	4	0	11	16.2
Hourly Total	**0**	**0**	**322**	**68**	**44**	**66**	**4**	**504**	**615.8**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**2**	**2.0**	**0**	**0**	**83**	**21**	**4**	**32**	**0**	**140**	**183.6**	**0**	**0**	**80**	**22**	**9**	**19**	**1**	**131**	**161.2**	**0**	**0**	**10**	**7**	**2**	**0**	**0**	**19**	**20.0**	**0**	**0**	**19**	**7**	**4**	**11**	**0**	**41**	**57.3**
TOTAL	**0**	**3**	**1552**	**297**	**145**	**195**	**6**	**2198**	**2528.2**	**0**	**0**	**10**	**1**	**0**	**0**	**0**	**11**	**11.0**	**0**	**0**	**436**	**67**	**13**	**96**	**0**	**612**	**743.3**	**0**	**0**	**419**	**86**	**25**	**38**	**3**	**571**	**635.9**	**0**	**0**	**49**	**21**	**7**	**4**	**0**	**81**	**89.7**	**0**	**0**	**73**	**23**	**15**	**36**	**2**	**149**	**205.3**
16:00 - 16:15	0	0	178	44	14	13	0	249	272.9	0	0	2	0	0	0	0	2	2.0	0	0	95	16	0	4	0	115	120.2	0	0	44	10	0	3	0	57	60.9	0	0	6	2	0	0	0	8	8.0	0	0	5	2	0	2	0	9	11.6
16:15 - 16:30	0	1	181	33	7	12	1	235	254.5	0	0	1	0	0	0	0	1	1.0	0	0	85	8	3	1	0	97	99.8	0	0	48	9	2	1	0	60	62.3	0	0	6	3	0	0	0	9	9.0	0	0	7	2	2	1	0	12	14.3
16:30 - 16:45	0	0	192	55	9	13	0	269	290.4	0	0	1	0	0	0	0	1	1.0	0	0	88	15	6	9	0	118	132.7	0	0	33	10	1	5	0	49	56.0	0	0	5	2	1	0	0	8	8.5	0	0	7	3	1	2	0	13	16.1
16:45 - 17:00	0	0	130	20	7	8	0	165	178.9	0	0	1	0	0	0	0	1	1.0	0	0	94	9	3	2	0	108	112.1	0	0	53	7	1	1	0	62	63.8	0	0	7	2	0	0	0	9	9.0	0	0	7	2	1	2	0	12	15.1
Hourly Total	**0**	**1**	**681**	**152**	**37**	**46**	**1**	**918**	**996.7**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**5**	**5.0**	**0**	**0**	**362**	**48**	**12**	**16**	**0**	**438**	**464.8**	**0**	**0**	**178**	**36**	**4**	**10**	**0**	**228**	**243.0**	**0**	**0**	**24**	**9**	**1**	**0**	**0**	**34**	**34.5**	**0**	**0**	**26**	**9**	**4**	**7**	**0**	**46**	**57.1**
17:00 - 17:15	0	0	204	26	7	16	1	254	279.3	0	0	0	0	0	0	0	0	0.0	0	0	91	16	2	3	0	112	116.9	0	0	44	6	1	4	1	56	62.7	0	0	7	2	0	1	0	10	11.3	0	0	8	2	1	1	0	12	13.8
17:15 - 17:30	0	0	255	26	6	20	0	307	336.0	0	0	1	0	0	0	0	1	1.0	0	0	56	2	0	2	0	60	62.6	0	0	49	4	4	1	0	58	61.3	0	0	9	2	0	0	0	11	11.0	0	0	5	2	0	2	0	9	11.6
17:30 - 17:45	0	1	191	23	4	9	0	228	241.1	0	0	1	0	0	0	0	1	1.0	0	0	60	1	0	3	0	64	67.9	0	0	67	6	0	2	1	76	79.6	0	0	7	2	0	0	0	9	9.0	0	0	6	2	0	2	0	10	12.6
17:45 - 18:00	0	0	181	19	2	8	0	210	221.4	0	0	2	1	0	0	0	3	3.0	0	0	78	5	0	4	0	87	92.2	0	0	59	7	0	0	0	66	66.0	0	0	7	4	0	0	0	11	11.0	0	0	7	3	0	1	0	11	12.3
Hourly Total	**0**	**1**	**831**	**94**	**19**	**53**	**1**	**999**	**1077.8**	**0**	**0**	**4**	**1**	**0**	**0**	**0**	**5**	**5.0**	**0**	**0**	**285**	**24**	**2**	**12**	**0**	**323**	**339.6**	**0**	**0**	**219**	**23**	**5**	**7**	**2**	**256**	**269.6**	**0**	**0**	**30**	**10**	**0**	**1**	**0**	**41**	**42.3**	**0**	**0**	**26**	**9**	**1**	**6**	**0**	**42**	**50.3**
18:00 - 18:15	0	1	172	14	5	11	1	204	221.2	0	0	1	0	0	0	0	1	1.0	0	0	86	12	0	0	0	98	98.0	0	1	63	10	0	2	0	76	78.0	0	0	6	2	0	0	0	8	8.0	0	0	8	1	0	1	0	10	11.3
18:15 - 18:30	0	0	106	11	1	6	0	124	132.3	0	0	0	0	0	0	0	0	0.0	0	0	64	5	6	0	0	75	78.0	0	0	57	4	0	0	0	61	61.0	0	0	5	0	0	0	0	5	5.0	0	0	6	1	0	0	0	7	7.0
18:30 - 18:45	0	0	115	7	1	5	0	128	135.0	0	0	2	0	0	0	0	2	2.0	0	0	49	3	0	0	0	52	52.0	0	0	67	4	0	3	1	75	79.9	0	0	4	2	0	0	0	6	6.0	0	0	8	3	0	1	0	12	13.3
18:45 - 19:00	0	0	114	13	2	6	0	135	143.8	0	0	0	0	0	0	0	0	0.0	0	0	41	3	1	5	0	50	57.0	0	0	36	3	3	2	1	45	50.1	0	0	5	1	0	1	0	7	8.3	0	0	6	1	0	1	0	8	9.3
Hourly Total	**0**	**1**	**507**	**45**	**9**	**28**	**1**	**591**	**632.3**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**3**	**3.0**	**0**	**0**	**240**	**23**	**7**	**5**	**0**	**275**	**285.0**	**0**	**1**	**223**	**21**	**3**	**7**	**2**	**257**	**269.0**	**0**	**0**	**20**	**5**	**0**	**1**	**0**	**26**	**27.3**	**0**	**0**	**28**	**6**	**0**	**3**	**0**	**37**	**40.9**
TOTAL	**0**	**3**	**2019**	**291**	**65**	**127**	**3**	**2508**	**2706.8**	**0**	**0**	**12**	**1**	**0**	**0**	**0**	**13**	**13.0**	**0**	**0**	**887**	**95**	**21**	**33**	**0**	**1036**	**1089.4**	**0**	**1**	**620**	**80**	**12**	**24**	**4**	**741**	**781.6**	**0**	**0**	**74**	**24**	**1**	**2**	**0**	**101**	**104.1**	**0**	**0**	**80**	**24**	**5**	**16**	**0**	**125**	**148.3**

PCU Factors:	
CYCLE	0.2
M/CYCLE	0.4
CAR	1.0
LGV	1.0
OGV1	1.5
OGV2	2.3
BUS	2.0

East Midlands Gateway
Thursday 3rd November 2022
Junction: 5
Approach: A50

	To Hilton Hotel Lane								To M1 J24 (N)								To A453 (N)								To Derby Road								To M1 J24 (S)								To A453 (S)							
TIME	CYCLE	M/CYCL	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCL	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCL	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCL	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCL	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCL	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs
07:00 - 07:15	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0
07:15 - 07:30	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0
07:30 - 07:45	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0
07:45 - 08:00	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**
08:00 - 08:15	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0
08:15 - 08:30	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0
08:30 - 08:45	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0
08:45 - 09:00	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**
09:00 - 09:15	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0
09:15 - 09:30	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0
09:30 - 09:45	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0
09:45 - 10:00	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**
16:00 - 16:15	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0
16:15 - 16:30	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0
16:30 - 16:45	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0
16:45 - 17:00	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**
17:00 - 17:15	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0
17:15 - 17:30	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0
17:30 - 17:45	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0
17:45 - 18:00	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**
18:00 - 18:15	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0
18:15 - 18:30	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0
18:30 - 18:45	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0
18:45 - 19:00	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**

PCU Factors:	
CYCLE	0.2
M/CYCLE	0.4
CAR	1.0
LGV	1.0
OGV1	1.5
OGV2	2.3
BUS	2.0

East Midlands Gateway
Thursday 3rd November 2022
Junction: 5
Approach: Hilton Hotel Lane

	To M1 J24 (N)									To A453 (N)									To Derby Road									To M1 J24 (S)									To A453 (S)									To A50								
TIME	CYCLE	M/CYCL	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCL	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCL	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCL	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCL	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCL	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs
07:00 - 07:15	0	0	0	2	0	0	0	2	2.0	0	0	1	0	0	0	0	1	1.0	0	0	1	0	0	0	0	1	1.0	0	0	1	0	0	0	0	1	1.0	0	0	1	0	0	0	0	1	1.0	0	0	1	0	0	0	0	1	1.0
07:15 - 07:30	0	0	1	0	0	0	0	1	1.0	0	0	1	1	0	0	0	2	2.0	0	0	0	0	0	0	0	0	0.0	0	0	2	0	0	0	0	2	2.0	0	0	3	0	0	0	0	3	3.0	0	0	1	1	0	0	0	2	2.0
07:30 - 07:45	0	0	1	0	0	0	0	1	1.0	0	0	15	0	0	0	0	15	15.0	0	0	1	0	0	0	0	1	1.0	0	0	5	0	0	0	0	5	5.0	0	0	5	0	0	0	0	5	5.0	0	0	0	0	0	0	0	0	0.0
07:45 - 08:00	0	0	2	0	0	0	0	2	2.0	0	0	10	3	0	0	0	13	13.0	0	0	2	1	0	0	0	3	3.0	0	0	4	0	0	0	0	4	4.0	0	0	2	1	0	0	0	3	3.0	0	0	1	1	0	0	0	2	2.0
Hourly Total	**0**	**0**	**4**	**2**	**0**	**0**	**0**	**6**	**6.0**	**0**	**0**	**27**	**4**	**0**	**0**	**0**	**31**	**31.0**	**0**	**0**	**4**	**1**	**0**	**0**	**0**	**5**	**5.0**	**0**	**0**	**12**	**0**	**0**	**0**	**0**	**12**	**12.0**	**0**	**0**	**11**	**1**	**0**	**0**	**0**	**12**	**12.0**	**0**	**0**	**3**	**2**	**0**	**0**	**0**	**5**	**5.0**
08:00 - 08:15	0	0	1	0	0	0	0	1	1.0	0	0	20	1	0	0	0	21	21.0	0	0	3	1	0	0	0	4	4.0	0	0	7	1	0	0	0	8	8.0	0	0	2	1	0	0	0	3	3.0	0	0	2	1	0	0	0	3	3.0
08:15 - 08:30	0	0	1	0	0	0	0	1	1.0	0	1	10	3	0	0	0	14	13.4	0	0	1	0	0	0	0	1	1.0	0	0	5	1	0	0	0	6	6.0	0	0	6	0	0	0	0	6	6.0	0	0	2	2	0	0	0	4	4.0
08:30 - 08:45	0	0	1	0	0	0	0	1	1.0	0	0	9	0	0	0	0	9	9.0	0	0	1	0	0	0	0	1	1.0	0	0	3	0	0	0	0	3	3.0	0	0	3	0	0	0	0	3	3.0	0	0	2	5	0	0	0	7	7.0
08:45 - 09:00	0	0	2	2	0	0	0	4	4.0	0	0	1	1	0	0	0	2	2.0	0	1	2	0	0	0	0	3	2.4	0	0	1	0	0	0	0	1	1.0	0	0	2	0	0	0	0	2	2.0	0	0	1	1	0	0	0	2	2.0
Hourly Total	**0**	**0**	**5**	**2**	**0**	**0**	**0**	**7**	**7.0**	**0**	**1**	**40**	**5**	**0**	**0**	**0**	**46**	**45.4**	**0**	**1**	**7**	**1**	**0**	**0**	**0**	**9**	**8.4**	**0**	**0**	**16**	**2**	**0**	**0**	**0**	**18**	**18.0**	**0**	**0**	**13**	**1**	**0**	**0**	**0**	**14**	**14.0**	**0**	**0**	**7**	**9**	**0**	**0**	**0**	**16**	**16.0**
09:00 - 09:15	0	0	1	0	0	0	0	1	1.0	0	0	2	0	0	0	0	2	2.0	0	0	1	0	0	0	0	1	1.0	0	0	2	0	0	0	0	2	2.0	0	0	2	0	0	0	0	2	2.0	0	0	2	0	0	0	0	2	2.0
09:15 - 09:30	0	0	0	0	0	0	0	0	0.0	0	0	1	1	1	0	0	3	3.5	0	0	1	0	0	0	0	1	1.0	0	0	1	0	0	0	0	1	1.0	0	0	0	0	0	0	0	0	0.0	0	0	1	0	0	0	0	1	1.0
09:30 - 09:45	0	0	2	0	0	0	0	2	2.0	0	0	1	1	0	0	0	2	2.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	3	0	0	0	0	3	3.0	0	0	1	0	0	0	0	1	1.0
09:45 - 10:00	0	0	0	0	0	0	0	0	0.0	0	0	1	0	0	0	0	1	1.0	0	0	0	0	0	0	0	0	0.0	0	0	1	0	0	0	0	1	1.0	0	0	1	0	0	0	0	1	1.0	0	0	1	0	0	0	0	1	1.0
Hourly Total	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**3**	**3.0**	**0**	**0**	**5**	**2**	**1**	**0**	**0**	**8**	**8.5**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**2**	**2.0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**4**	**4.0**	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**6**	**6.0**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**5**	**5.0**
TOTAL	**0**	**0**	**12**	**4**	**0**	**0**	**0**	**16**	**16.0**	**0**	**1**	**72**	**11**	**1**	**0**	**0**	**85**	**84.9**	**0**	**1**	**13**	**2**	**0**	**0**	**0**	**16**	**15.4**	**0**	**0**	**32**	**2**	**0**	**0**	**0**	**34**	**34.0**	**0**	**0**	**30**	**2**	**0**	**0**	**0**	**32**	**32.0**	**0**	**0**	**15**	**11**	**0**	**0**	**0**	**26**	**26.0**
16:00 - 16:15	0	0	8	1	0	0	0	9	9.0	0	0	5	0	0	0	0	5	5.0	0	0	4	0	0	0	0	4	4.0	0	0	1	0	0	0	0	1	1.0	0	0	2	0	0	0	0	2	2.0	0	0	1	1	0	0	0	2	2.0
16:15 - 16:30	0	0	2	0	0	0	0	2	2.0	0	0	2	0	0	0	0	2	2.0	0	0	2	0	0	0	0	2	2.0	0	0	2	0	0	0	0	2	2.0	0	0	2	0	0	0	0	2	2.0	0	0	2	0	0	0	0	2	2.0
16:30 - 16:45	0	0	6	0	0	0	0	6	6.0	0	0	12	0	0	0	0	12	12.0	0	0	2	0	0	0	0	2	2.0	0	0	4	0	0	0	0	4	4.0	0	0	1	0	0	0	0	1	1.0	0	0	0	0	0	0	0	0	0.0
16:45 - 17:00	0	0	5	1	0	0	0	6	6.0	0	0	9	0	0	0	0	9	9.0	0	0	4	0	0	0	0	4	4.0	0	0	2	0	0	0	0	2	2.0	0	0	2	0	0	0	0	2	2.0	0	0	2	0	0	0	0	2	2.0
Hourly Total	**0**	**0**	**21**	**2**	**0**	**0**	**0**	**23**	**23.0**	**0**	**0**	**28**	**0**	**0**	**0**	**0**	**28**	**28.0**	**0**	**0**	**12**	**0**	**0**	**0**	**0**	**12**	**12.0**	**0**	**0**	**9**	**0**	**0**	**0**	**0**	**9**	**9.0**	**0**	**0**	**7**	**0**	**0**	**0**	**0**	**7**	**7.0**	**0**	**0**	**5**	**1**	**0**	**0**	**0**	**6**	**6.0**
17:00 - 17:15	0	0	7	0	0	0	0	7	7.0	0	0	9	0	0	0	0	9	9.0	0	0	3	0	0	0	0	3	3.0	0	0	1	0	0	0	0	1	1.0	0	0	1	0	0	0	0	1	1.0	0	0	2	0	0	0	0	2	2.0
17:15 - 17:30	0	0	4	1	0	0	0	5	5.0	0	0	6	1	0	0	0	7	7.0	0	0	1	0	0	0	0	1	1.0	0	0	3	0	0	0	0	3	3.0	0	0	2	0	0	0	0	2	2.0	0	0	2	1	0	0	0	3	3.0
17:30 - 17:45	0	0	3	0	0	0	0	3	3.0	0	0	2	0	0	0	0	2	2.0	0	0	2	0	0	0	0	2	2.0	0	0	2	0	0	0	0	2	2.0	0	0	0	0	0	0	0	0	0.0	0	0	5	0	0	0	0	5	5.0
17:45 - 18:00	0	0	0	0	0	0	0	0	0.0	0	0	2	0	0	0	0	2	2.0	0	0	4	0	0	0	0	4	4.0	0	0	2	0	0	0	0	2	2.0	0	0	1	0	0	0	0	1	1.0	0	0	1	0	0	0	0	1	1.0
Hourly Total	**0**	**0**	**14**	**1**	**0**	**0**	**0**	**15**	**15.0**	**0**	**0**	**19**	**1**	**0**	**0**	**0**	**20**	**20.0**	**0**	**0**	**10**	**0**	**0**	**0**	**0**	**10**	**10.0**	**0**	**0**	**8**	**0**	**0**	**0**	**0**	**8**	**8.0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**4**	**4.0**	**0**	**0**	**10**	**1**	**0**	**0**	**0**	**11**	**11.0**
18:00 - 18:15	0	0	3	0	0	0	0	3	3.0	0	0	2	0	0	0	0	2	2.0	0	0	1	0	0	0	0	1	1.0	0	0	2	0	0	0	0	2	2.0	0	0	1	0	0	0	0	1	1.0	0	0	0	0	0	0	0	0	0.0
18:15 - 18:30	0	0	3	0	0	0	0	3	3.0	0	0	2	0	0	0	0	2	2.0	0	0	0	0	0	0	0	0	0.0	0	0	3	0	0	0	0	3	3.0	0	0	1	0	0	0	0	1	1.0	0	0	0	0	0	0	0	0	0.0
18:30 - 18:45	0	0	1	1	0	0	0	2	2.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	2	0	0	0	0	2	2.0	0	0	0	0	0	0	0	0	0.0
18:45 - 19:00	0	0	2	0	0	0	0	2	2.0	0	0	1	0	0	0	0	1	1.0	0	0	1	0	0	0	0	1	1.0	0	0	1	0	0	0	0	1	1.0	0	0	1	0	0	0	0	1	1.0	0	0	1	0	0	0	0	1	1.0
Hourly Total	**0**	**0**	**9**	**1**	**0**	**0**	**0**	**10**	**10.0**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**5**	**5.0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**2**	**2.0**	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**6**	**6.0**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**5**	**5.0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**1.0**
TOTAL	**0**	**0**	**44**	**4**	**0**	**0**	**0**	**48**	**48.0**	**0**	**0**	**52**	**1**	**0**	**0**	**0**	**53**	**53.0**	**0**	**0**	**24**	**0**	**0**	**0**	**0**	**24**	**24.0**	**0**	**0**	**23**	**0**	**0**	**0**	**0**	**23**	**23.0**	**0**	**0**	**16**	**0**	**0**	**0**	**0**	**16**	**16.0**	**0**	**0**	**16**	**2**	**0**	**0**	**0**	**18**	**18.0**

PCU Factors:	
CYCLE	0.2
M/CYCLE	0.4
CAR	1.0
LGV	1.0
OGV1	1.5
OGV2	2.3
BUS	2.0

APPENDIX 5 – A453/Grimes Gate Priority Junction Turning Count Results

Road Data Services Ltd

East Midlands Gateway
Wednesday 23rd November 2022
Junction: 3
Approach: A453 East

	To Grimes Gate				To A453 (W)			
TIME	LIGHT	HEAVY	TOTAL	PCUs	LIGHT	HEAVY	TOTAL	PCUs
07:00 - 07:15	4	0	4	4.0	50	7	57	66.1
07:15 - 07:30	2	1	3	4.3	55	8	63	73.4
07:30 - 07:45	5	0	5	5.0	53	5	58	64.5
07:45 - 08:00	6	0	6	6.0	63	11	74	88.3
Hourly Total	**17**	**1**	**18**	**19.3**	**221**	**31**	**252**	**292.3**
08:00 - 08:15	4	0	4	4.0	61	9	70	81.7
08:15 - 08:30	5	0	5	5.0	57	6	63	70.8
08:30 - 08:45	7	1	8	9.3	92	11	103	117.3
08:45 - 09:00	3	1	4	5.3	75	6	81	88.8
Hourly Total	**19**	**2**	**21**	**23.6**	**285**	**32**	**317**	**358.6**
09:00 - 09:15	7	0	7	7.0	46	7	53	62.1
09:15 - 09:30	6	0	6	6.0	53	6	59	66.8
09:30 - 09:45	7	1	8	9.3	31	5	36	42.5
09:45 - 10:00	2	1	3	4.3	41	9	50	61.7
Hourly Total	**22**	**2**	**24**	**26.6**	**171**	**27**	**198**	**233.1**
TOTAL	**58**	**5**	**63**	**69.5**	**677**	**90**	**767**	**884.0**
16:00 - 16:15	21	0	21	21.0	86	9	95	106.7
16:15 - 16:30	12	0	12	12.0	63	7	70	79.1
16:30 - 16:45	9	0	9	9.0	75	4	79	84.2
16:45 - 17:00	9	2	11	13.6	78	7	85	94.1
Hourly Total	**51**	**2**	**53**	**55.6**	**302**	**27**	**329**	**364.1**
17:00 - 17:15	15	2	17	19.6	80	6	86	93.8
17:15 - 17:30	20	0	20	20.0	90	6	96	103.8
17:30 - 17:45	20	0	20	20.0	98	6	104	111.8
17:45 - 18:00	15	0	15	15.0	92	6	98	105.8
Hourly Total	**70**	**2**	**72**	**74.6**	**360**	**24**	**384**	**415.2**
18:00 - 18:15	8	1	9	10.3	78	2	80	82.6
18:15 - 18:30	16	0	16	16.0	79	4	83	88.2
18:30 - 18:45	7	1	8	9.3	99	5	104	110.5
18:45 - 19:00	11	0	11	11.0	77	3	80	83.9
Hourly Total	**42**	**2**	**44**	**46.6**	**333**	**14**	**347**	**365.2**
TOTAL	**163**	**6**	**169**	**176.8**	**995**	**65**	**1060**	**1144.5**

PCU Factors:	
LIGHT	1.0
HEAVY	2.3

Road Data Services Ltd

East Midlands Gateway
Wednesday 23rd November 2022
Junction: 3
Approach: Grimes Gate

	To A453 (W)				To A453 (E)			
TIME	LIGHT	HEAVY	TOTAL	PCUs	LIGHT	HEAVY	TOTAL	PCUs
07:00 - 07:15	0	0	0	0.0	12	0	12	12.0
07:15 - 07:30	0	0	0	0.0	15	1	16	17.3
07:30 - 07:45	1	0	1	1.0	15	0	15	15.0
07:45 - 08:00	4	0	4	4.0	21	1	22	23.3
Hourly Total	**5**	**0**	**5**	**5.0**	**63**	**2**	**65**	**67.6**
08:00 - 08:15	0	0	0	0.0	9	0	9	9.0
08:15 - 08:30	1	0	1	1.0	17	0	17	17.0
08:30 - 08:45	2	0	2	2.0	15	1	16	17.3
08:45 - 09:00	7	0	7	7.0	14	0	14	14.0
Hourly Total	**10**	**0**	**10**	**10.0**	**55**	**1**	**56**	**57.3**
09:00 - 09:15	1	0	1	1.0	5	0	5	5.0
09:15 - 09:30	3	0	3	3.0	11	0	11	11.0
09:30 - 09:45	1	0	1	1.0	8	1	9	10.3
09:45 - 10:00	1	1	2	3.3	5	2	7	9.6
Hourly Total	**6**	**1**	**7**	**8.3**	**29**	**3**	**32**	**35.9**
TOTAL	**21**	**1**	**22**	**23.3**	**147**	**6**	**153**	**160.8**
16:00 - 16:15	1	0	1	1.0	5	0	5	5.0
16:15 - 16:30	3	0	3	3.0	4	0	4	4.0
16:30 - 16:45	0	0	0	0.0	3	0	3	3.0
16:45 - 17:00	1	0	1	1.0	9	1	10	11.3
Hourly Total	**5**	**0**	**5**	**5.0**	**21**	**1**	**22**	**23.3**
17:00 - 17:15	2	0	2	2.0	7	0	7	7.0
17:15 - 17:30	3	0	3	3.0	4	0	4	4.0
17:30 - 17:45	3	0	3	3.0	11	0	11	11.0
17:45 - 18:00	1	0	1	1.0	6	0	6	6.0
Hourly Total	**9**	**0**	**9**	**9.0**	**28**	**0**	**28**	**28.0**
18:00 - 18:15	1	0	1	1.0	10	1	11	12.3
18:15 - 18:30	3	0	3	3.0	6	0	6	6.0
18:30 - 18:45	1	0	1	1.0	7	0	7	7.0
18:45 - 19:00	2	0	2	2.0	4	0	4	4.0
Hourly Total	**7**	**0**	**7**	**7.0**	**27**	**1**	**28**	**29.3**
TOTAL	**21**	**0**	**21**	**21.0**	**76**	**2**	**78**	**80.6**

PCU Factors:	
LIGHT	1.0
HEAVY	2.3

Road Data Services Ltd

East Midlands Gateway
Wednesday 23rd November 2022
Junction: 3
Approach: A453 West

	To A453 (E)				To Grimes Gate			
TIME	LIGHT	HEAVY	TOTAL	PCUs	LIGHT	HEAVY	TOTAL	PCUs
07:00 - 07:15	67	12	79	94.6	1	0	1	1.0
07:15 - 07:30	99	16	115	135.8	0	0	0	0.0
07:30 - 07:45	121	13	134	150.9	2	0	2	2.0
07:45 - 08:00	132	8	140	150.4	1	0	1	1.0
Hourly Total	**419**	**49**	**468**	**531.7**	**4**	**0**	**4**	**4.0**
08:00 - 08:15	116	9	125	136.7	3	0	3	3.0
08:15 - 08:30	98	10	108	121.0	1	0	1	1.0
08:30 - 08:45	80	16	96	116.8	7	0	7	7.0
08:45 - 09:00	74	9	83	94.7	2	0	2	2.0
Hourly Total	**368**	**44**	**412**	**469.2**	**13**	**0**	**13**	**13.0**
09:00 - 09:15	61	8	69	79.4	0	0	0	0.0
09:15 - 09:30	42	13	55	71.9	0	0	0	0.0
09:30 - 09:45	38	15	53	72.5	2	0	2	2.0
09:45 - 10:00	42	8	50	60.4	1	0	1	1.0
Hourly Total	**183**	**44**	**227**	**284.2**	**3**	**0**	**3**	**3.0**
TOTAL	**970**	**137**	**1107**	**1285.1**	**20**	**0**	**20**	**20.0**
16:00 - 16:15	69	8	77	87.4	3	0	3	3.0
16:15 - 16:30	60	5	65	71.5	3	0	3	3.0
16:30 - 16:45	93	2	95	97.6	3	0	3	3.0
16:45 - 17:00	45	2	47	49.6	3	0	3	3.0
Hourly Total	**267**	**17**	**284**	**306.1**	**12**	**0**	**12**	**12.0**
17:00 - 17:15	76	2	78	80.6	5	0	5	5.0
17:15 - 17:30	52	7	59	68.1	1	0	1	1.0
17:30 - 17:45	97	4	101	106.2	3	0	3	3.0
17:45 - 18:00	63	2	65	67.6	3	0	3	3.0
Hourly Total	**288**	**15**	**303**	**322.5**	**12**	**0**	**12**	**12.0**
18:00 - 18:15	51	3	54	57.9	1	0	1	1.0
18:15 - 18:30	40	2	42	44.6	2	0	2	2.0
18:30 - 18:45	32	5	37	43.5	1	0	1	1.0
18:45 - 19:00	32	2	34	36.6	3	0	3	3.0
Hourly Total	**155**	**12**	**167**	**182.6**	**7**	**0**	**7**	**7.0**
TOTAL	**710**	**44**	**754**	**811.2**	**31**	**0**	**31**	**31.0**

PCU Factors:	
LIGHT	1.0
HEAVY	2.3

APPENDIX 6 – A453/The Green Priority Junction Turning Count Results

Road Data Services Ltd

East Midlands Gateway
Wednesdsay 23rd November 2022
Junction: 2
Approach: A453 East

	To The Green				To A453 (W)			
TIME	LIGHT	HEAVY	TOTAL	PCUs	LIGHT	HEAVY	TOTAL	PCUs
07:00 - 07:15	3	0	3	3.0	47	7	54	63.1
07:15 - 07:30	1	0	1	1.0	54	8	62	72.4
07:30 - 07:45	0	0	0	0.0	54	5	59	65.5
07:45 - 08:00	0	1	1	2.3	67	10	77	90.0
Hourly Total	**4**	**1**	**5**	**6.3**	**222**	**30**	**252**	**291.0**
08:00 - 08:15	2	0	2	2.0	59	9	68	79.7
08:15 - 08:30	8	0	8	8.0	50	6	56	63.8
08:30 - 08:45	11	0	11	11.0	83	11	94	108.3
08:45 - 09:00	4	0	4	4.0	78	6	84	91.8
Hourly Total	**25**	**0**	**25**	**25.0**	**270**	**32**	**302**	**343.6**
09:00 - 09:15	2	0	2	2.0	45	7	52	61.1
09:15 - 09:30	4	0	4	4.0	52	6	58	65.8
09:30 - 09:45	0	0	0	0.0	32	5	37	43.5
09:45 - 10:00	3	0	3	3.0	39	10	49	62.0
Hourly Total	**9**	**0**	**9**	**9.0**	**168**	**28**	**196**	**232.4**
TOTAL	**38**	**1**	**39**	**40.3**	**660**	**90**	**750**	**867.0**
16:00 - 16:15	7	0	7	7.0	80	9	89	100.7
16:15 - 16:30	0	1	1	2.3	66	6	72	79.8
16:30 - 16:45	3	0	3	3.0	72	4	76	81.2
16:45 - 17:00	5	0	5	5.0	74	7	81	90.1
Hourly Total	**15**	**1**	**16**	**17.3**	**292**	**26**	**318**	**351.8**
17:00 - 17:15	2	0	2	2.0	80	6	86	93.8
17:15 - 17:30	4	0	4	4.0	89	6	95	102.8
17:30 - 17:45	3	0	3	3.0	98	6	104	111.8
17:45 - 18:00	3	0	3	3.0	90	6	96	103.8
Hourly Total	**12**	**0**	**12**	**12.0**	**357**	**24**	**381**	**412.2**
18:00 - 18:15	3	0	3	3.0	76	2	78	80.6
18:15 - 18:30	0	0	0	0.0	82	4	86	91.2
18:30 - 18:45	1	0	1	1.0	99	5	104	110.5
18:45 - 19:00	3	0	3	3.0	76	3	79	82.9
Hourly Total	**7**	**0**	**7**	**7.0**	**333**	**14**	**347**	**365.2**
TOTAL	**34**	**1**	**35**	**36.3**	**982**	**64**	**1046**	**1129.2**

PCU Factors:	
LIGHT	1.0
HEAVY	2.3

East Midlands Gateway
Wednesdsay 23rd November 2022
Junction: 2
Approach: The Green

	To A453 (W)				To A453 (E)			
TIME	LIGHT	HEAVY	TOTAL	PCUs	LIGHT	HEAVY	TOTAL	PCUs
07:00 - 07:15	6	1	7	8.3	2	0	2	2.0
07:15 - 07:30	10	0	10	10.0	3	0	3	3.0
07:30 - 07:45	17	0	17	17.0	6	0	6	6.0
07:45 - 08:00	18	0	18	18.0	2	1	3	4.3
Hourly Total	**51**	**1**	**52**	**53.3**	**13**	**1**	**14**	**15.3**
08:00 - 08:15	16	0	16	16.0	3	0	3	3.0
08:15 - 08:30	34	0	34	34.0	5	0	5	5.0
08:30 - 08:45	23	2	25	27.6	2	0	2	2.0
08:45 - 09:00	22	0	22	22.0	3	0	3	3.0
Hourly Total	**95**	**2**	**97**	**99.6**	**13**	**0**	**13**	**13.0**
09:00 - 09:15	10	1	11	12.3	1	0	1	1.0
09:15 - 09:30	9	0	9	9.0	2	0	2	2.0
09:30 - 09:45	6	0	6	6.0	1	0	1	1.0
09:45 - 10:00	11	2	13	15.6	2	0	2	2.0
Hourly Total	**36**	**3**	**39**	**42.9**	**6**	**0**	**6**	**6.0**
TOTAL	**182**	**6**	**188**	**195.8**	**32**	**1**	**33**	**34.3**
16:00 - 16:15	20	0	20	20.0	2	0	2	2.0
16:15 - 16:30	16	0	16	16.0	2	0	2	2.0
16:30 - 16:45	16	0	16	16.0	4	0	4	4.0
16:45 - 17:00	19	1	20	21.3	1	0	1	1.0
Hourly Total	**71**	**1**	**72**	**73.3**	**9**	**0**	**9**	**9.0**
17:00 - 17:15	11	0	11	11.0	5	0	5	5.0
17:15 - 17:30	14	0	14	14.0	2	0	2	2.0
17:30 - 17:45	15	0	15	15.0	3	0	3	3.0
17:45 - 18:00	18	0	18	18.0	4	0	4	4.0
Hourly Total	**58**	**0**	**58**	**58.0**	**14**	**0**	**14**	**14.0**
18:00 - 18:15	13	1	14	15.3	2	0	2	2.0
18:15 - 18:30	8	0	8	8.0	2	0	2	2.0
18:30 - 18:45	10	0	10	10.0	1	0	1	1.0
18:45 - 19:00	9	0	9	9.0	2	0	2	2.0
Hourly Total	**40**	**1**	**41**	**42.3**	**7**	**0**	**7**	**7.0**
TOTAL	**169**	**2**	**171**	**173.6**	**30**	**0**	**30**	**30.0**

PCU Factors:	
LIGHT	1.0
HEAVY	2.3

Road Data Services Ltd

East Midlands Gateway
Wednesdsay 23rd November 2022
Junction: 2
Approach: A453 West

	To A453 (E)				To The Green			
TIME	LIGHT	HEAVY	TOTAL	PCUs	LIGHT	HEAVY	TOTAL	PCUs
07:00 - 07:15	66	12	78	93.6	10	1	11	12.3
07:15 - 07:30	96	16	112	132.8	27	0	27	27.0
07:30 - 07:45	117	13	130	146.9	17	0	17	17.0
07:45 - 08:00	131	7	138	147.1	16	1	17	18.3
Hourly Total	**410**	**48**	**458**	**520.4**	**70**	**2**	**72**	**74.6**
08:00 - 08:15	116	9	125	136.7	14	1	15	16.3
08:15 - 08:30	94	10	104	117.0	22	0	22	22.0
08:30 - 08:45	85	16	101	121.8	12	0	12	12.0
08:45 - 09:00	73	9	82	93.7	18	1	19	20.3
Hourly Total	**368**	**44**	**412**	**469.2**	**66**	**2**	**68**	**70.6**
09:00 - 09:15	60	8	68	78.4	7	0	7	7.0
09:15 - 09:30	40	13	53	69.9	6	0	6	6.0
09:30 - 09:45	39	15	54	73.5	6	0	6	6.0
09:45 - 10:00	41	8	49	59.4	4	1	5	6.3
Hourly Total	**180**	**44**	**224**	**281.2**	**23**	**1**	**24**	**25.3**
TOTAL	**958**	**136**	**1094**	**1270.8**	**159**	**5**	**164**	**170.5**
16:00 - 16:15	70	8	78	88.4	33	0	33	33.0
16:15 - 16:30	61	5	66	72.5	15	0	15	15.0
16:30 - 16:45	92	2	94	96.6	30	0	30	30.0
16:45 - 17:00	47	2	49	51.6	28	0	28	28.0
Hourly Total	**270**	**17**	**287**	**309.1**	**106**	**0**	**106**	**106.0**
17:00 - 17:15	76	2	78	80.6	28	0	28	28.0
17:15 - 17:30	51	7	58	67.1	22	0	22	22.0
17:30 - 17:45	97	4	101	106.2	37	0	37	37.0
17:45 - 18:00	62	2	64	66.6	17	0	17	17.0
Hourly Total	**286**	**15**	**301**	**320.5**	**104**	**0**	**104**	**104.0**
18:00 - 18:15	50	3	53	56.9	14	0	14	14.0
18:15 - 18:30	40	2	42	44.6	9	0	9	9.0
18:30 - 18:45	32	5	37	43.5	5	0	5	5.0
18:45 - 19:00	33	2	35	37.6	8	0	8	8.0
Hourly Total	**155**	**12**	**167**	**182.6**	**36**	**0**	**36**	**36.0**
TOTAL	**711**	**44**	**755**	**812.2**	**246**	**0**	**246**	**246.0**

PCU Factors:	
LIGHT	1.0
HEAVY	2.3

APPENDIX 7 – A453/East Midlands Airport Signal Junction Turning Count Results

East Midlands Gateway
Thursday 3rd November 2022
Junction: 2
Approach: East Midlands Airport Access

	Left to A453 (E)									Right to A453 (W)								
TIME	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs
07:00 - 07:15	0	0	33	0	0	0	0	33	33.0	0	0	9	5	0	0	0	14	14.0
07:15 - 07:30	0	0	34	4	1	0	0	39	39.5	0	0	7	1	1	0	1	10	11.5
07:30 - 07:45	0	0	19	0	0	0	0	19	19.0	0	0	6	3	0	0	0	9	9.0
07:45 - 08:00	0	0	17	3	1	1	0	22	23.8	0	0	6	4	0	0	0	10	10.0
Hourly Total	**0**	**0**	**103**	**7**	**2**	**1**	**0**	**113**	**115.3**	**0**	**0**	**28**	**13**	**1**	**0**	**1**	**43**	**44.5**
08:00 - 08:15	0	0	23	4	1	0	0	28	28.5	0	0	10	1	0	0	0	11	11.0
08:15 - 08:30	0	0	35	3	1	1	0	40	41.8	0	0	3	2	0	1	1	7	9.3
08:30 - 08:45	0	0	23	1	0	0	1	25	26.0	0	0	4	1	1	0	0	6	6.5
08:45 - 09:00	0	0	14	2	0	1	1	18	20.3	0	0	2	0	0	1	0	3	4.3
Hourly Total	**0**	**0**	**95**	**10**	**2**	**2**	**2**	**111**	**116.6**	**0**	**0**	**19**	**4**	**1**	**2**	**1**	**27**	**31.1**
09:00 - 09:15	0	0	9	0	1	0	0	10	10.5	0	0	5	0	0	0	0	5	5.0
09:15 - 09:30	0	0	5	0	1	0	0	6	6.5	0	0	3	2	0	0	1	6	7.0
09:30 - 09:45	0	0	7	2	1	0	0	10	10.5	0	0	2	0	1	1	0	4	5.8
09:45 - 10:00	0	0	8	3	0	0	0	11	11.0	0	0	1	2	0	1	0	4	5.3
Hourly Total	**0**	**0**	**29**	**5**	**3**	**0**	**0**	**37**	**38.5**	**0**	**0**	**11**	**4**	**1**	**2**	**1**	**19**	**23.1**
TOTAL	**0**	**0**	**227**	**22**	**7**	**3**	**2**	**261**	**270.4**	**0**	**0**	**58**	**21**	**3**	**4**	**3**	**89**	**98.7**
16:00 - 16:15	0	0	66	4	1	0	0	71	71.5	0	0	25	4	1	0	0	30	30.5
16:15 - 16:30	0	0	55	5	0	0	0	60	60.0	0	0	18	6	0	0	0	24	24.0
16:30 - 16:45	0	0	60	5	0	0	0	65	65.0	0	0	26	2	0	0	1	29	30.0
16:45 - 17:00	0	0	69	7	0	0	1	77	78.0	0	0	8	2	0	0	0	10	10.0
Hourly Total	**0**	**0**	**250**	**21**	**1**	**0**	**1**	**273**	**274.5**	**0**	**0**	**77**	**14**	**1**	**0**	**1**	**93**	**94.5**
17:00 - 17:15	0	0	57	3	0	0	1	61	62.0	0	0	18	4	0	0	0	22	22.0
17:15 - 17:30	0	0	27	0	1	0	0	28	28.5	0	0	15	2	0	0	0	17	17.0
17:30 - 17:45	0	0	64	6	0	0	0	70	70.0	0	0	15	0	0	0	0	15	15.0
17:45 - 18:00	0	0	59	4	0	0	0	63	63.0	0	0	10	1	0	0	0	11	11.0
Hourly Total	**0**	**0**	**207**	**13**	**1**	**0**	**1**	**222**	**223.5**	**0**	**0**	**58**	**7**	**0**	**0**	**0**	**65**	**65.0**
18:00 - 18:15	0	0	49	5	0	0	0	54	54.0	0	1	12	2	0	0	1	16	16.4
18:15 - 18:30	0	0	47	6	0	0	0	53	53.0	0	0	6	1	0	0	0	7	7.0
18:30 - 18:45	0	0	44	6	0	0	0	50	50.0	0	0	4	1	0	0	1	6	7.0
18:45 - 19:00	0	0	20	0	0	1	0	21	22.3	0	0	10	2	1	0	0	13	13.5
Hourly Total	**0**	**0**	**160**	**17**	**0**	**1**	**0**	**178**	**179.3**	**0**	**1**	**32**	**6**	**1**	**0**	**2**	**42**	**43.9**
TOTAL	**0**	**0**	**617**	**51**	**2**	**1**	**2**	**673**	**677.3**	**0**	**1**	**167**	**27**	**2**	**0**	**3**	**200**	**203.4**

PCU Factors:	
CYCLE	0.2
M/CYCLE	0.4
CAR	1.0
LGV	1.0
OGV1	1.5
OGV2	2.3
BUS	2.0

East Midlands Gateway
Thursday 3rd November 2022
Junction: 2
Approach: A453 East

	Ahead to A453 (W)									Right to East Midlands Airport Access								
TIME	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs
07:00 - 07:15	0	0	59	12	6	4	0	81	89.2	0	0	65	6	1	0	0	72	72.5
07:15 - 07:30	0	0	36	16	5	3	0	60	66.4	0	0	65	12	1	0	0	78	78.5
07:30 - 07:45	0	0	78	10	2	7	0	97	107.1	0	0	63	5	0	0	0	68	68.0
07:45 - 08:00	0	0	47	10	5	5	1	68	78.0	0	0	57	6	0	0	0	63	63.0
Hourly Total	**0**	**0**	**220**	**48**	**18**	**19**	**1**	**306**	**340.7**	**0**	**0**	**250**	**29**	**2**	**0**	**0**	**281**	**282.0**
08:00 - 08:15	0	0	56	16	3	5	0	80	88.0	0	0	52	3	0	0	0	55	55.0
08:15 - 08:30	0	0	81	14	2	9	0	106	118.7	0	0	51	2	1	0	0	54	54.5
08:30 - 08:45	0	0	72	18	7	4	0	101	109.7	0	0	55	2	1	2	2	62	67.1
08:45 - 09:00	0	0	67	15	4	4	0	90	97.2	0	0	30	2	0	0	0	32	32.0
Hourly Total	**0**	**0**	**276**	**63**	**16**	**22**	**0**	**377**	**413.6**	**0**	**0**	**188**	**9**	**2**	**2**	**2**	**203**	**208.6**
09:00 - 09:15	0	0	55	8	7	4	1	75	84.7	0	0	22	3	0	0	0	25	25.0
09:15 - 09:30	0	0	37	11	6	3	0	57	63.9	0	0	23	4	1	2	0	30	33.1
09:30 - 09:45	0	1	25	8	4	7	0	45	55.5	0	0	32	1	0	0	0	33	33.0
09:45 - 10:00	0	2	22	10	5	9	1	49	63.0	0	0	21	2	1	1	0	25	26.8
Hourly Total	**0**	**3**	**139**	**37**	**22**	**23**	**2**	**226**	**267.1**	**0**	**0**	**98**	**10**	**2**	**3**	**0**	**113**	**117.9**
TOTAL	**0**	**3**	**635**	**148**	**56**	**64**	**3**	**909**	**1021.4**	**0**	**0**	**536**	**48**	**6**	**5**	**2**	**597**	**608.5**
16:00 - 16:15	0	0	75	9	2	7	0	93	103.1	0	0	37	5	1	0	0	43	43.5
16:15 - 16:30	0	0	62	10	1	8	0	81	91.9	0	0	27	3	0	0	1	31	32.0
16:30 - 16:45	0	0	74	21	3	4	0	102	108.7	0	0	30	3	0	0	0	33	33.0
16:45 - 17:00	0	0	86	19	2	3	0	110	114.9	0	0	42	8	0	0	2	52	54.0
Hourly Total	**0**	**0**	**297**	**59**	**8**	**22**	**0**	**386**	**418.6**	**0**	**0**	**136**	**19**	**1**	**0**	**3**	**159**	**162.5**
17:00 - 17:15	0	2	102	11	4	2	0	121	124.4	0	0	32	1	0	0	0	33	33.0
17:15 - 17:30	0	0	87	15	5	4	0	111	118.7	0	0	32	1	1	1	0	35	36.8
17:30 - 17:45	0	0	86	12	2	2	0	102	105.6	0	0	21	2	1	0	0	24	24.5
17:45 - 18:00	0	0	73	9	3	1	0	86	88.8	0	0	32	4	1	0	0	37	37.5
Hourly Total	**0**	**2**	**348**	**47**	**14**	**9**	**0**	**420**	**437.5**	**0**	**0**	**117**	**8**	**3**	**1**	**0**	**129**	**131.8**
18:00 - 18:15	0	0	78	8	2	3	0	91	95.9	0	0	21	4	0	0	0	25	25.0
18:15 - 18:30	0	1	68	8	3	2	0	82	85.5	0	0	36	2	0	0	0	38	38.0
18:30 - 18:45	0	2	51	3	2	2	0	60	62.4	0	0	27	4	0	0	0	31	31.0
18:45 - 19:00	0	0	50	2	2	5	0	59	66.5	0	0	19	3	0	0	0	22	22.0
Hourly Total	**0**	**3**	**247**	**21**	**9**	**12**	**0**	**292**	**310.3**	**0**	**0**	**103**	**13**	**0**	**0**	**0**	**116**	**116.0**
TOTAL	**0**	**5**	**892**	**127**	**31**	**43**	**0**	**1098**	**1166.4**	**0**	**0**	**356**	**40**	**4**	**1**	**3**	**404**	**410.3**

PCU Factors:	
CYCLE	0.2
M/CYCLE	0.4
CAR	1.0
LGV	1.0
OGV1	1.5
OGV2	2.3
BUS	2.0

East Midlands Gateway
Thursday 3rd November 2022
Junction: 2
Approach: A453 West

	Left to East Midlands Airport Access									Ahead to A453 (E				
TIME	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCLE	CAR	LGV	OGV1
07:00 - 07:15	0	0	18	2	0	0	0	20	20.0	0	0	34	12	3
07:15 - 07:30	0	0	18	1	0	0	1	20	21.0	0	2	74	18	5
07:30 - 07:45	0	0	26	5	0	0	0	31	31.0	0	1	84	17	5
07:45 - 08:00	0	0	31	6	0	1	0	38	39.3	0	0	111	14	4
Hourly Total	**0**	**0**	**93**	**14**	**0**	**1**	**1**	**109**	**111.3**	**0**	**3**	**303**	**61**	**17**
08:00 - 08:15	0	0	24	6	0	0	0	30	30.0	0	0	90	22	2
08:15 - 08:30	0	0	28	1	0	0	0	29	29.0	0	0	94	25	5
08:30 - 08:45	0	0	20	1	2	0	1	24	26.0	0	0	50	19	5
08:45 - 09:00	0	0	18	1	0	0	0	19	19.0	0	0	59	8	4
Hourly Total	**0**	**0**	**90**	**9**	**2**	**0**	**1**	**102**	**104.0**	**0**	**0**	**293**	**74**	**16**
09:00 - 09:15	0	0	11	0	0	0	0	11	11.0	0	0	50	8	8
09:15 - 09:30	0	0	7	1	0	1	0	9	10.3	0	1	36	11	3
09:30 - 09:45	0	0	4	2	1	0	1	8	9.5	0	0	22	9	5
09:45 - 10:00	0	0	9	3	0	0	0	12	12.0	0	0	35	7	2
Hourly Total	**0**	**0**	**31**	**6**	**1**	**1**	**1**	**40**	**42.8**	**0**	**1**	**143**	**35**	**18**
TOTAL	**0**	**0**	**214**	**29**	**3**	**2**	**3**	**251**	**258.1**	**0**	**4**	**739**	**170**	**51**
16:00 - 16:15	0	0	6	1	1	0	0	8	8.5	0	0	46	14	4
16:15 - 16:30	0	0	11	3	0	0	0	14	14.0	0	0	45	12	5
16:30 - 16:45	0	0	10	2	1	0	0	13	13.5	0	0	66	12	2
16:45 - 17:00	0	0	8	3	0	0	1	12	13.0	0	0	59	10	0
Hourly Total	**0**	**0**	**35**	**9**	**2**	**0**	**1**	**47**	**49.0**	**0**	**0**	**216**	**48**	**11**
17:00 - 17:15	0	0	9	0	0	0	0	9	9.0	0	0	85	8	1
17:15 - 17:30	0	0	6	1	0	0	0	7	7.0	0	0	54	4	0
17:30 - 17:45	0	0	9	0	0	0	1	10	11.0	0	0	76	6	2
17:45 - 18:00	0	0	11	1	0	0	1	13	14.0	0	0	81	3	1
Hourly Total	**0**	**0**	**35**	**2**	**0**	**0**	**2**	**39**	**41.0**	**0**	**0**	**296**	**21**	**4**
18:00 - 18:15	0	0	6	0	0	0	0	6	6.0	0	0	50	4	1
18:15 - 18:30	0	0	6	2	0	0	0	8	8.0	0	0	38	2	2
18:30 - 18:45	0	0	6	1	0	0	0	7	7.0	0	1	19	0	0
18:45 - 19:00	0	0	9	2	1	0	0	12	12.5	0	0	40	7	1
Hourly Total	**0**	**0**	**27**	**5**	**1**	**0**	**0**	**33**	**33.5**	**0**	**1**	**147**	**13**	**4**
TOTAL	**0**	**0**	**97**	**16**	**3**	**0**	**3**	**119**	**123.5**	**0**	**1**	**659**	**82**	**19**

APPENDIX 8 – A453/East Midlands Airport Roundabout Turning Count Results

Road Data Services Ltd

East Midlands Gateway
Wednesday 23rd November 2022
Junction: 1
Approach: Northern Arm

	To A453 (E)				To A453 (W)			
TIME	LIGHT	HEAVY	TOTAL	PCUs	LIGHT	HEAVY	TOTAL	PCUs
07:00 - 07:15	21	3	24	27.9	13	4	17	22.2
07:15 - 07:30	10	3	13	16.9	12	1	13	14.3
07:30 - 07:45	8	4	12	17.2	4	6	10	17.8
07:45 - 08:00	11	4	15	20.2	7	5	12	18.5
Hourly Total	**50**	**14**	**64**	**82.2**	**36**	**16**	**52**	**72.8**
08:00 - 08:15	13	1	14	15.3	13	2	15	17.6
08:15 - 08:30	10	2	12	14.6	4	3	7	10.9
08:30 - 08:45	5	3	8	11.9	9	4	13	18.2
08:45 - 09:00	5	2	7	9.6	8	4	12	17.2
Hourly Total	**33**	**8**	**41**	**51.4**	**34**	**13**	**47**	**63.9**
09:00 - 09:15	5	2	7	9.6	5	4	9	14.2
09:15 - 09:30	1	5	6	12.5	6	1	7	8.3
09:30 - 09:45	5	5	10	16.5	10	2	12	14.6
09:45 - 10:00	5	3	8	11.9	7	2	9	11.6
Hourly Total	**16**	**15**	**31**	**50.5**	**28**	**9**	**37**	**48.7**
TOTAL	**99**	**37**	**136**	**184.1**	**98**	**38**	**136**	**185.4**
16:00 - 16:15	22	6	28	35.8	55	2	57	59.6
16:15 - 16:30	5	4	9	14.2	40	2	42	44.6
16:30 - 16:45	50	1	51	52.3	64	3	67	70.9
16:45 - 17:00	29	1	30	31.3	47	3	50	53.9
Hourly Total	**106**	**12**	**118**	**133.6**	**206**	**10**	**216**	**229.0**
17:00 - 17:15	31	1	32	33.3	62	1	63	64.3
17:15 - 17:30	18	3	21	24.9	18	3	21	24.9
17:30 - 17:45	67	3	70	73.9	88	2	90	92.6
17:45 - 18:00	28	2	30	32.6	39	1	40	41.3
Hourly Total	**144**	**9**	**153**	**164.7**	**207**	**7**	**214**	**223.1**
18:00 - 18:15	16	2	18	20.6	25	1	26	27.3
18:15 - 18:30	9	1	10	11.3	12	2	14	16.6
18:30 - 18:45	10	2	12	14.6	24	5	29	35.5
18:45 - 19:00	9	2	11	13.6	11	2	13	15.6
Hourly Total	**44**	**7**	**51**	**60.1**	**72**	**10**	**82**	**95.0**
TOTAL	**294**	**28**	**322**	**358.4**	**485**	**27**	**512**	**547.1**

PCU Factors:	
LIGHT	1.0
HEAVY	2.3

Road Data Services Ltd

East Midlands Gateway
Wednesday 23rd November 2022
Junction: 1
Approach: A453 East

	To A453 (W)				To Northern Arm			
TIME	LIGHT	HEAVY	TOTAL	PCUs	LIGHT	HEAVY	TOTAL	PCUs
07:00 - 07:15	32	3	35	38.9	19	5	24	30.5
07:15 - 07:30	31	5	36	42.5	31	3	34	37.9
07:30 - 07:45	43	4	47	52.2	28	1	29	30.3
07:45 - 08:00	47	8	55	65.4	38	2	40	42.6
Hourly Total	**153**	**20**	**173**	**199.0**	**116**	**11**	**127**	**141.3**
08:00 - 08:15	48	6	54	61.8	27	3	30	33.9
08:15 - 08:30	67	5	72	78.5	17	1	18	19.3
08:30 - 08:45	62	10	72	85.0	44	3	47	50.9
08:45 - 09:00	67	4	71	76.2	33	2	35	37.6
Hourly Total	**244**	**25**	**269**	**301.5**	**121**	**9**	**130**	**141.7**
09:00 - 09:15	44	4	48	53.2	11	4	15	20.2
09:15 - 09:30	42	4	46	51.2	19	2	21	23.6
09:30 - 09:45	27	1	28	29.3	11	4	15	20.2
09:45 - 10:00	39	7	46	55.1	11	5	16	22.5
Hourly Total	**152**	**16**	**168**	**188.8**	**52**	**15**	**67**	**86.5**
TOTAL	**549**	**61**	**610**	**689.3**	**289**	**35**	**324**	**369.5**
16:00 - 16:15	94	4	98	103.2	6	5	11	17.5
16:15 - 16:30	69	4	73	78.2	11	2	13	15.6
16:30 - 16:45	74	1	75	76.3	12	3	15	18.9
16:45 - 17:00	75	6	81	88.8	14	2	16	18.6
Hourly Total	**312**	**15**	**327**	**346.5**	**43**	**12**	**55**	**70.6**
17:00 - 17:15	77	2	79	81.6	12	4	16	21.2
17:15 - 17:30	92	4	96	101.2	11	2	13	15.6
17:30 - 17:45	85	2	87	89.6	24	4	28	33.2
17:45 - 18:00	88	3	91	94.9	20	3	23	26.9
Hourly Total	**342**	**11**	**353**	**367.3**	**67**	**13**	**80**	**96.9**
18:00 - 18:15	65	2	67	69.6	22	1	23	24.3
18:15 - 18:30	46	1	47	48.3	44	3	47	50.9
18:30 - 18:45	58	0	58	58.0	51	5	56	62.5
18:45 - 19:00	40	0	40	40.0	45	3	48	51.9
Hourly Total	**209**	**3**	**212**	**215.9**	**162**	**12**	**174**	**189.6**
TOTAL	**863**	**29**	**892**	**929.7**	**272**	**37**	**309**	**357.1**

PCU Factors:	
LIGHT	1.0
HEAVY	2.3

Road Data Services Ltd

East Midlands Gateway
Wednesday 23rd November 2022
Junction: 1
Approach: A453 West

	To Northern Arm				To A453 (E)			
TIME	LIGHT	HEAVY	TOTAL	PCUs	LIGHT	HEAVY	TOTAL	PCUs
07:00 - 07:15	41	3	44	47.9	55	10	65	78.0
07:15 - 07:30	40	4	44	49.2	113	13	126	142.9
07:30 - 07:45	62	5	67	73.5	126	9	135	146.7
07:45 - 08:00	51	3	54	57.9	136	4	140	145.2
Hourly Total	**194**	**15**	**209**	**228.5**	**430**	**36**	**466**	**512.8**
08:00 - 08:15	35	2	37	39.6	117	9	126	137.7
08:15 - 08:30	60	6	66	73.8	106	8	114	124.4
08:30 - 08:45	88	5	93	99.5	92	13	105	121.9
08:45 - 09:00	57	2	59	61.6	86	8	94	104.4
Hourly Total	**240**	**15**	**255**	**274.5**	**401**	**38**	**439**	**488.4**
09:00 - 09:15	31	4	35	40.2	62	6	68	75.8
09:15 - 09:30	19	1	20	21.3	45	8	53	63.4
09:30 - 09:45	24	4	28	33.2	40	10	50	63.0
09:45 - 10:00	13	3	16	19.9	40	6	46	53.8
Hourly Total	**87**	**12**	**99**	**114.6**	**187**	**30**	**217**	**256.0**
TOTAL	**521**	**42**	**563**	**617.6**	**1018**	**104**	**1122**	**1257.2**
16:00 - 16:15	8	1	9	10.3	81	2	83	85.6
16:15 - 16:30	13	0	13	13.0	71	1	72	73.3
16:30 - 16:45	9	4	13	18.2	72	1	73	74.3
16:45 - 17:00	15	4	19	24.2	46	1	47	48.3
Hourly Total	**45**	**9**	**54**	**65.7**	**270**	**5**	**275**	**281.5**
17:00 - 17:15	17	3	20	23.9	73	1	74	75.3
17:15 - 17:30	32	1	33	34.3	55	4	59	64.2
17:30 - 17:45	34	1	35	36.3	67	1	68	69.3
17:45 - 18:00	27	7	34	43.1	51	0	51	51.0
Hourly Total	**110**	**12**	**122**	**137.6**	**246**	**6**	**252**	**259.8**
18:00 - 18:15	27	3	30	33.9	48	1	49	50.3
18:15 - 18:30	35	3	38	41.9	40	1	41	42.3
18:30 - 18:45	69	2	71	73.6	27	3	30	33.9
18:45 - 19:00	49	4	53	58.2	32	0	32	32.0
Hourly Total	**180**	**12**	**192**	**207.6**	**147**	**5**	**152**	**158.5**
TOTAL	**335**	**33**	**368**	**410.9**	**663**	**16**	**679**	**699.8**

PCU Factors:	
LIGHT	1.0
HEAVY	2.3