



Transportation
Consultancy

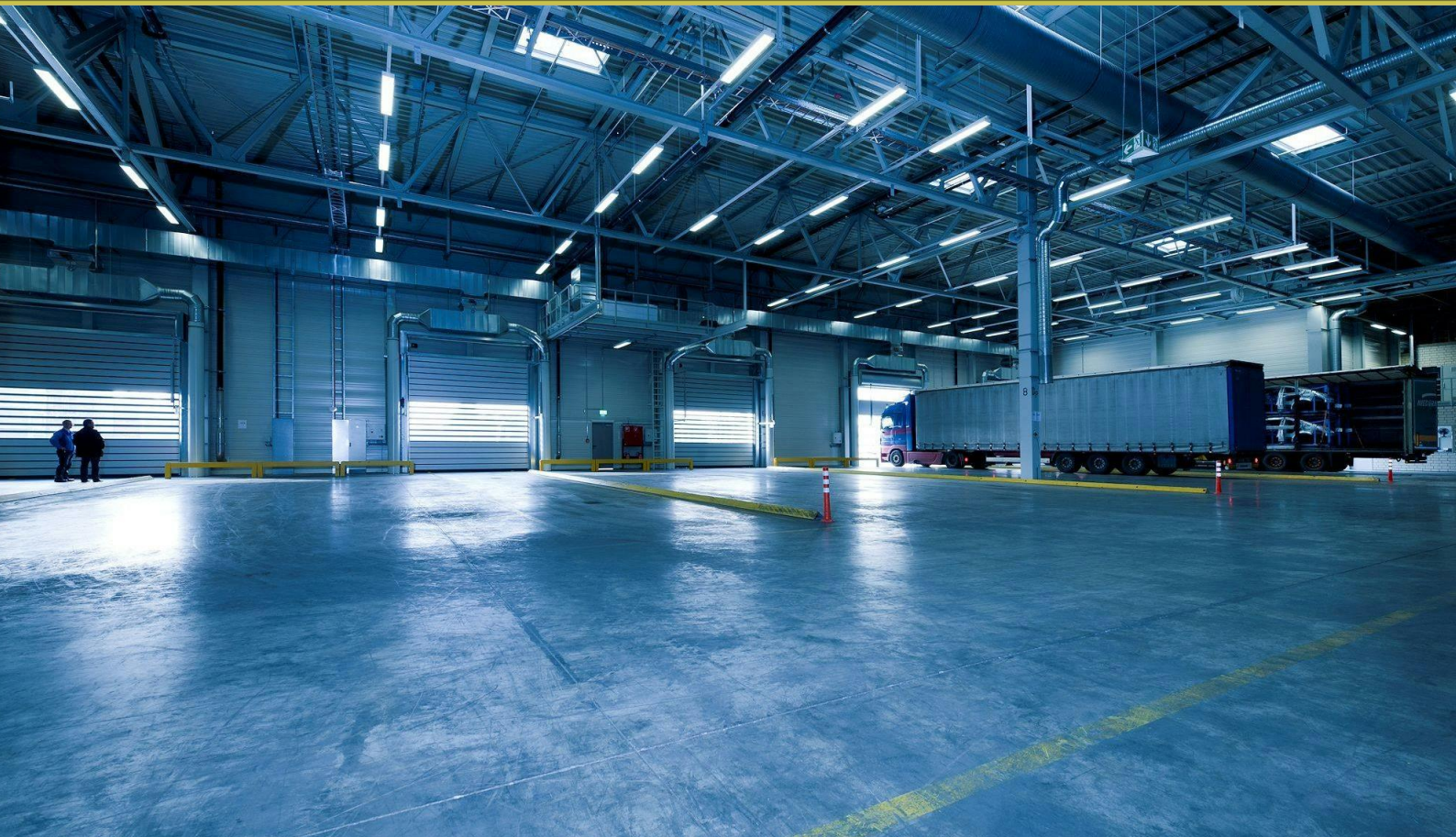
VALUE EXCEED TRUST EXCELLENCE CLARITY

Technical Note

Client: Mr Adrian Angrave

Project: Markfield Equestrian Centre, Leicestershire

Date: September 2024



1. Introduction

1.1 This Report

This report forms as a response to the comments received by Leicestershire County Council (LCC) in their capacity as the Local Highways Authority (LHA) on a live Planning Application reference: 24/00626/FUL for the *Change of Use of an equestrian centre building to commercial and storage and distribution use with ancillary office (Use Class B2 and B8) and HGV storage within the existing car park.*

As part of the Planning Application a Transport Statement was prepared by The Transportation Consultancy (ttc), on behalf of the applicant (Adrian Angrave). The purpose of this technical note is to address the comments received in full and where appropriate provide additional information where required. For ease of reference the LCC's full detailed response document is provided within **Appendix A**.

2. LHA Comments and Response

2.1 LHA Comment 1:

'The LHA have assessed the Transportation Consultancy Drawing Number 210944-01 contained within the TS and note the visibility splays demonstrated by the applicant are 122.5m northbound and 127.5m southbound, which is not in accordance with Table DG4 of the LHDG.'

'The LHA have considered the visibility splays using the calculations and appropriate formula in 'Design Manual for Roads and Bridges (DMRB). Using this method the LHA find that visibility splays 2.4m x 130m northbound and 2.4 x 124m southbound should be provided. The northbound visibility splay demonstrated is therefore insufficient. The LHA await further information on HGV trips generated for the site as detailed further below before commenting on the acceptability of the site access proposals'

2.2 TTC Response:

It should be noted that footnote F under table DG4 in LCC's Highway Design Guide states that LCC 'will accept calculated values for actual agreed 85th percentile speeds'. The speed calculations provided within the TS were based on weekday speeds, rather than 7-days a week, and this explains the difference between the calculation provided by TTC and LCC. The visibility splays originally shown are considered acceptable.

Nevertheless, based on table DG4 of LCC's Highway Design Guide, the requirements would relate to visibility splays of 2.4m x 160m to the north (looking right) and south (looking left) from the access location. Therefore, in the interests of robustness, drawings showing the revised visibility splays at the site access have been provided within **Appendix B** enclosed within drawing reference: 210944-01a Sheet 2. The drawing highlights that the visibility requirements of the proposed development can be accommodated within the extents of the land ownership and highway boundary.

2.3 LHA Comment 2:

'The LHA note that the applicant has assessed trips for use Class B2 on the site. Whilst the LHA find the TRICS assessment acceptable for a Class B2 development, as this proposal is for a change of use (Use Class B2 and B8), the LHA require the applicant to undertake the same assessment for a Class B8 development to ensure trip rates are acceptable to cater for this further development type. The LHA also request a breakdown of the number of HGV trips which could be generated by each use.'

2.4 TTC Response:

In order to maintain a robust assessment, the submitted transport statement provided trip rate analysis for the B2 element of development as this use is typically a higher trip generator compared to B8 uses. This concluded that the proposals would not result in a discernible impact on the surrounding local highway network.

At the request of the LHA an assessment of the B8 Land Use has also been undertaken to determine the level of traffic that could be expected to be generated if the entire development comprised of B8 Land Use; an assessment of the traffic generation has been based upon the entirety of the development to be B8 Use Class (1,116sq.m GFA).

Sites with similar characteristics have been selected for '02 – Employment, F – Warehousing (Commercial)' for developments situated in 'Edge of Town' locations and with a similar GFA to the proposed development, which have been extracted from the TRICS database. **Table 1.1** below summarises the trip rates and resultant traffic generation. A full detailed TRICS report is included within **Appendix C**.

Table 2.1 Proposed Trip Rate and Traffic Generation – Warehousing (Commercial)

Time Range	Trip Rate (100sq.m GFA)			Traffic Generation (1,116sq.m GFA)		
	Arrive	Depart	Two-way	Arrive	Depart	Two-way*
AM Peak Period (08:00 – 09:00)	0.148	0.047	0.195	2	1	3
PM Peak Period (17:00 – 18:00)	0.021	0.116	0.137	0	2	2
Daily	1.289	1.447	2.736	14	16	30

*Trips have been rounded to represent the worst-case

It can be identified from **Table 1.1** that if the proposed development consisted entirely of B8 Land Use, the site could be expected to be generating 3 and 2 two-way movements during the respective AM and PM peak periods, while over the course of a typical working day the site could be forecast to generate 30 two-way vehicular movements. These trips are considerably lower than the B2 element therefore the original assessment included with the TS is considered robust.

HGV Movements

As part of the development proposals, an element of HGV storage is proposed. This will provide 8 HGV storage spaces which will operate separately to the proposed B2/B8 element. In order to determine the level of HGV trips that could be generated as a result of the HGV storage element of the proposals, a 'first principles' approach has been undertaken based on information provided by the applicant, who have stated that each parking bay could be expected to generate a single arrival and departure per day, equating to a worst-case generation of 16 two-way trips from the HGV storage area. It should be noted that it is likely the actual generation will be less than this, however this assumes the worst-case scenario.

For the purpose of establishing the potential HGV generation as a result of the B2 / B8 element of the development proposals, a trip rate assessment has been undertaken, as per the following:

B8 Use Class

To determine the HGV movements that could be associated with the B8 Use Class, Other Goods Vehicles (OGV) trip rates have been extracted from the TRICS database utilising the same selection parameters as the assessment summarised within **Table 1.1**, for 'Warehousing (Commercial)' sites. A summary of the anticipated OGV movements associated with the development site are provided within **Table 1.2** below, with a full detailed TRICS report provided within **Appendix C**.

Table 2.2 Proposed OGV Trip Rate and Traffic Generation – Warehousing (Commercial) (B8-Use Class)

Time Range	OGV Trip Rate (100sq.m GFA)			OGV Traffic Generation (1,116sq.m GFA)		
	Arrive	Depart	Two-way	Arrive	Depart	Two-way*
AM Peak Period (08:00 – 09:00)	0.026	0.026	0.052	1	0	1
PM Peak Period (17:00 – 18:00)	0.005	0.021	0.026	0	0	0
Daily	0.283	0.268	0.551	3	3	6

*Trips have been rounded to represent the worst-case

As can be gauged from **Table 1.2** the proposed development site could be expected to generate a single OGV trip during the AM peak period and no OGV trips during the PM peak period, while over the course of a typical day there could be a total of 6no. HGV movements associated with the development.

B2 Use Class

In order to establish the HGV trips that could be associated with a B2 Use Class development, trip rates have been extracted from the TRICS database, in line with the selection parameters set out within this Technical Note and the submitted Transport Statement, **Table 1.3** below provides a summary of the expected OGV movements for the B2 Use Class.

Table 2.3 Proposed OGV Trip Rate and Traffic Generation – Industrial Unit (B2-Use Class)

Time Range	OGV Trip Rate (100sq.m GFA)			OGV Traffic Generation (1,116sq.m GFA)		
	Arrive	Depart	Two-way	Arrive	Depart	Two-way*
AM Peak Period (08:00 – 09:00)	0.017	0.017	0.034	0	0	0
PM Peak Period (17:00 – 18:00)	0.000	0.000	0.000	0	0	0
Daily	0.152	0.140	0.292	2	2	4

*Trips have been rounded to represent the worst-case

As can be seen from **Table 1.3** if the proposed development site comprised entirely of B2 Land Use, the site would not be expected to generate any two-way OGV movements during either of the AM or PM peak periods, while over the course of a typical day could be expected to be generating 4 two-way OGV movements.

Summary

As per the request of the LHA, an assessment of the HGV movements has determined that if the development comprised entirely B2 or B8 Land Use, in addition to the HGV storage area, it is estimated that the worst-case HGV generation of 22 two-way daily trips.

2.5 LHA Comment 3:

‘Whilst the parking provision proposed looks to be suitable to cater for Class B2/B8 development, the LHA note within ‘4.4 Parking Standards and Provision’ of the submitted TS, the applicant mentions the following.

'The proposed development will provide 23 car parking spaces, 3 HGV parking spaces and 3 cycle spaces.'

The above information conflicts with information provided within the submitted application form which states that 8 HGV spaces will be provided by the applicant. The LHA therefore seeks clarification on the HGV parking provision proposed by the applicant and the total HGV movements generated for the site.'

2.6 TTC Response:

The proposed parking provision at the development is as follows:

- B2 / B8 Land Use:
 - ▶ 23no. car parking spaces.
 - ▶ 5no. HGV parking bays.
 - ▶ 3no. cycle parking spaces.
- HGV Storage:
 - ▶ 8no HGV parking bays.

The parking requirements of the proposed development have been determined based on the guidance within both the Hinckley and Bosworth Borough Council (HBBC) and Leicestershire County Council.

Parking standards for new developments in Hinckley and Bosworth are partially presented within Appendix D of the HBBC Local Plan, in addition to Part 4 of the Leicestershire Highway Design Guide, for the purposes of this application, parking requirements have been based upon the LCC guidance, which states the following:

- B2 Use Class:
 - ▶ 1 space per 50sq.m GFA, and
 - ▶ 1 HGV space per 200 sq.m GFA.
- B8 Use Class:
 - ▶ 1 car space per 100sq.m GFA (1 space per 150sq.m over 9,300 sq.m)
 - ▶ 1 HGV space per 400sq.m GFA

The cycle parking standards are displayed within the LCC Highway Design Guide, which state:

- B2 / B8 Use Class:
 - ▶ 1 cycle space per 400sq.m GFA to be covered and secured.

It is important to note that the parking standards presented within the Hinckley and Bosworth Local Plan and the LCC highway design guide are consistent, with the exception of the B2 HGV requirements, which within the HBBC guidance states that 1 HGV space per 400sq.m is required, however for the purposes of this application the LCC guidance has been applied.

As the B2/B8 split is unknown at this time, the provision of 5 HGV spaces is considered appropriate.

2.7 Summary and Conclusion

This Technical Note has been prepared in response to comments received on Planning Application reference: 24/00626/FUL from Leicestershire County Council (LCC) in their capacity as the LHA. The comments received highlights the Highways concerns regarding visibility splays, B8 Land Use trip rates, HGV trip rates and parking provision.

This report has re-evaluated the access visibility requirements in line with the LCC guidance, established trip rates and traffic generation based on the B8 element of the proposed development, as well as the HGV generation of the HGV storage area and both the B2 and B8 Land Uses and clarified the parking proposals.



Appendix A

LHA Response

Substantive response of the Local Highway Authority to a planning consultation received under The Development Management Order.



Response provided under the delegated authority of the Director of Environment & Transport.

APPLICATION DETAILS

Planning Application Number: 24/00626/FUL

Highway Reference Number: 2024/0626/04/H/R1

Application Address: Markfield Equestrian Centre Stanton Lane Stanton Under Bardon Markfield Leicestershire LE67 9TT

Application Type: Full

Description of Application: Re-consultation. Change of Use of an equestrian building to commercial and storage and distribution use with ancillary offices (Use Class B2 and B8) and HGV storage within the existing car park.

GENERAL DETAILS

Planning Case Officer: Matt Jedruch

Applicant: Mr A Angrave

County Councillor: Cllr Peter Bedford

Parish: Markfield

Road Classification: Class C

Substantive Response provided in accordance with article 22(5) of The Town and Country Planning (Development Management Procedure) (England) Order 2015:

The Local Highway Authority does not consider that the application as submitted fully assesses the highway impact of the proposed development and further information is required as set out in this response. Without this information the Local Highway Authority is unable to provide final highway advice on this application.

Advice to Local Planning Authority

Background

The Local Highway Authority (LHA) has been consulted on a full application for the change of use of an equestrian building to commercial and storage and distribution use with ancillary offices (Class B2 and B8) and HGV storage within existing car park at Markfield Equestrian Centre, Stanton Lane, Stanton Under Bardon, Markfield.

The LHA has assessed the following documentation as part of this application.

- Document titled 'Transport Statement' (TS) prepared by The Transportation Consultancy (report reference 210994 dated April 2024).
- Drawing titled 'Site Location Plan' prepared by CT Planning (uploaded to the planning portal on 25th June 2024).

- Document titled 'Design and Access Statement' prepared by CT Planning (uploaded to the planning portal on 25th June 2024).
- The application form submitted by the applicant (uploaded to the planning portal on 25th June 2024).

Site Access

The site proposes to utilise an existing access which connects to Stanton Lane, a classified C road subject to a 60mph speed limit.

The LHA have assessed the Site Location Plan prepared by CT Planning which shows the site access arrangements. The existing access is approximately 15 metres wide and the LHA note that the applicant proposes no change to the site access arrangements as part of this application.

The LHA welcome that speed surveys have been commissioned along Stanton Lane near the access. The LHA have assessed the results to ascertain the 85th percentile of vehicle speeds to inform the visibility splays required at both sides of the site access. The visibility splays should be in accordance with Table DG4 of Part 3 of the LHDG, an extract of which is provided below for ease of reference.

Table DG4: Visibility splays			
Assessed likely vehicle 85 th percentile vehicle speed (mph)	Measured 85 th percentile vehicle speed (mph)	Visibility distance at junctions, bends and vertical crests (m) ^(a) Light vehicles	Visibility distance at junctions, bends and vertical crests (m) ^(f) HGV
15	11 to 15	17 ^(c)	19 ^(c)
20	16 to 20	25 ^(c)	27 ^(c)
Speeds on new residential development roads should normally be controlled to 20mph or less ^(b)	21 to 25	33 ^(c)	36 ^(c)
	26 to 30	43 ^(c)	47 ^(c)
	31 to 35	54 ^(c)	59 ^(c)
	36 to 40	65 ^(c)	73 ^(c)
	41 to 44	120 ^(d)	120 ^(d)
	45 to 53	160 ^(d)	160 ^(d)
	54 to 62	215 ^(d)	215 ^(d)
	63 to 75	295 ^(d)	295 ^(d)

^(a) See Figures DG2a to DG2c below for guidance on constructing splays.

^(b) Where speed is assessed to be over 20mph, splay provision will normally be based on the appropriate 'measured 85th percentile vehicle speed' distance.

^(c) Based on the Manual for Streets documents, 'adjusted for bonnet length'

^(d) Based on Design Manual for Roads and Bridges.

^(e) Use figures for HGV and buses if these vehicles make up more 5% of actual or predicted total traffic flow

^(f) We will accept calculated values for actual agreed 85th percentile speeds

The LHA note the 85th percentile of vehicle speeds at the site access shown by the speed survey were 46.5 mph northbound and 45.2 mph southbound as indicated within paragraph '4.3 Access

Arrangements' of the submitted TS. As such, vehicular visibility splays of 160 metres each direction from the site access are required.

The LHA have assessed the Transportation Consultancy Drawing Number 210944-01 contained within the TS and note the visibility splays demonstrated by the applicant are 122.5m northbound and 127.5m southbound, which is not in accordance with Table DG4 of the LHDG. Within paragraph '4.3 Access Arrangements' the applicant provided their reasoning for the visibility splays demonstrated which is detailed below:

The visibility splay requirements of the proposed access have been calculated using the recorded ATC vehicle speeds, the 85th percentile speeds were recorded to be 46.5mph and 45.2mph in the respective northbound and southbound. Therefore, as the speeds are greater than 37mph threshold, Stopping Sight Distance (SSD) from DMRB has been used to calculate the appropriate visibility. The visibility requirements have been calculated for the proposed access whereby 2.4m x 127.5m in the southbound direction (looking left) and 2.4m x 122.5m in the northbound direction (looking right) need to be accommodated.

The LHA have considered the visibility splays using the calculations and appropriate formula in 'Design Manual for Roads and Bridges (DMRB). Using this method the LHA find that visibility splays 2.4m x 130m northbound and 2.4 x 124m southbound should be provided. The northbound visibility splay demonstrated is therefore insufficient. The LHA await further information on HGV trips generated for the site as detailed further below before commenting on the acceptability of the site access proposals.

The LHA notes that Swept Path Analysis (SPA) is shown in Appendix E Drawing 210944-01 within the submitted TS. The LHA have assessed the aforementioned drawings with regards to the site access proposals and note that all ingress/egress HGV manoeuvres can be performed safely at the site access.

Highway Safety

There have been three Personal Injury Collision (PIC's) that has been recorded within 500m (either direction) of the site within the most recent five-year period. The three PIC's were recorded as slight and occurred on the Little Shaw lane roundabout junction approximately 300m north east of the development. The LHA has given consideration to the circumstances of the PIC's and does not consider that the development proposal would exacerbate the likelihood of further such incidents occurring.

Highway Impact Assessment/Trip Generation

The Applicant has demonstrated the existing trip generation and proposed trip generation for the site within Table 5.1 and Table 5.2 of the submitted TS.

The LHA notes that the Applicant has detailed how they have derived an anticipated vehicle trip generation utilising TRICS © software to establish 85th percentile vehicle trip rates in accordance with Part 7, Appendix C of the LHDG. The TRICS © outputs are provided within Appendix F of the submitted TS, and the proposed vehicle trip generation is indicated within Table 5.2 of the submitted TS, an extract of which is repeated below for ease of reference:

Table 5.2 Proposed Trip Rate and Traffic Generation

Time Range	Trip Rate (100sq.m GFA)			Traffic Generation (1,116sq.m GFA)		
	Arrive	Depart	Two-way	Arrive	Depart	Two-way
AM Peak Period (08:00 – 09:00)	0.275	0.046	0.321	3	1	4
PM Peak Period (17:00 – 18:00)	0.04	0.235	0.275	1	3	4
Daily	1.724	1.685	3.409	19	19	38

The LHA has reviewed the existing vehicle trip generation and vehicle trips anticipated and the TRICS report demonstrated within Appendix F.

The LHA note that the applicant has assessed trips for use Class B2 on the site. Whilst the LHA find the TRICS assessment acceptable for a Class B2 development, as this proposal is for a change of use (Use Class B2 and B8), the LHA require the applicant to undertake the same assessment for a Class B8 development to ensure trip rates are acceptable to cater for this further development type. The LHA also request a breakdown of the number of HGV trips which could be generated by each use.

Internal Layout

The LHA have assessed the submitted application form and note that the applicant proposes to keep the existing 23 car parking spaces and 8 HGV spaces on site to serve the proposed development. The applicant proposes to add 3 cycling spaces on site to serve the proposed development.

The existing gross internal floorspace on site is 1116m and the applicant proposes no change to the floorspace as part of this application. The LHA have assessed Highway Requirements Part Four and note the parking provision required for a B2 and B8 development with 1116m internal floorspace below.

Class B2: 23 car parking spaces and 5 HGV spaces

Class B8: 12 car parking spaces and 3 HGV spaces

Whilst the parking provision proposed looks to be suitable to cater for Class B2/B8 development, the LHA note within '4.4 Parking Standards and Provision' of the submitted TS, the applicant mentions the following.

'The proposed development will provide 23 car parking spaces, 3 HGV parking spaces and 3 cycle spaces.'

The above information conflicts with information provided within the submitted application form which states that 8 HGV spaces will be provided by the applicant. The LHA therefore seeks clarification on the HGV parking provision proposed by the applicant and the total HGV movements generated for the site.

Date Received
18 July 2024

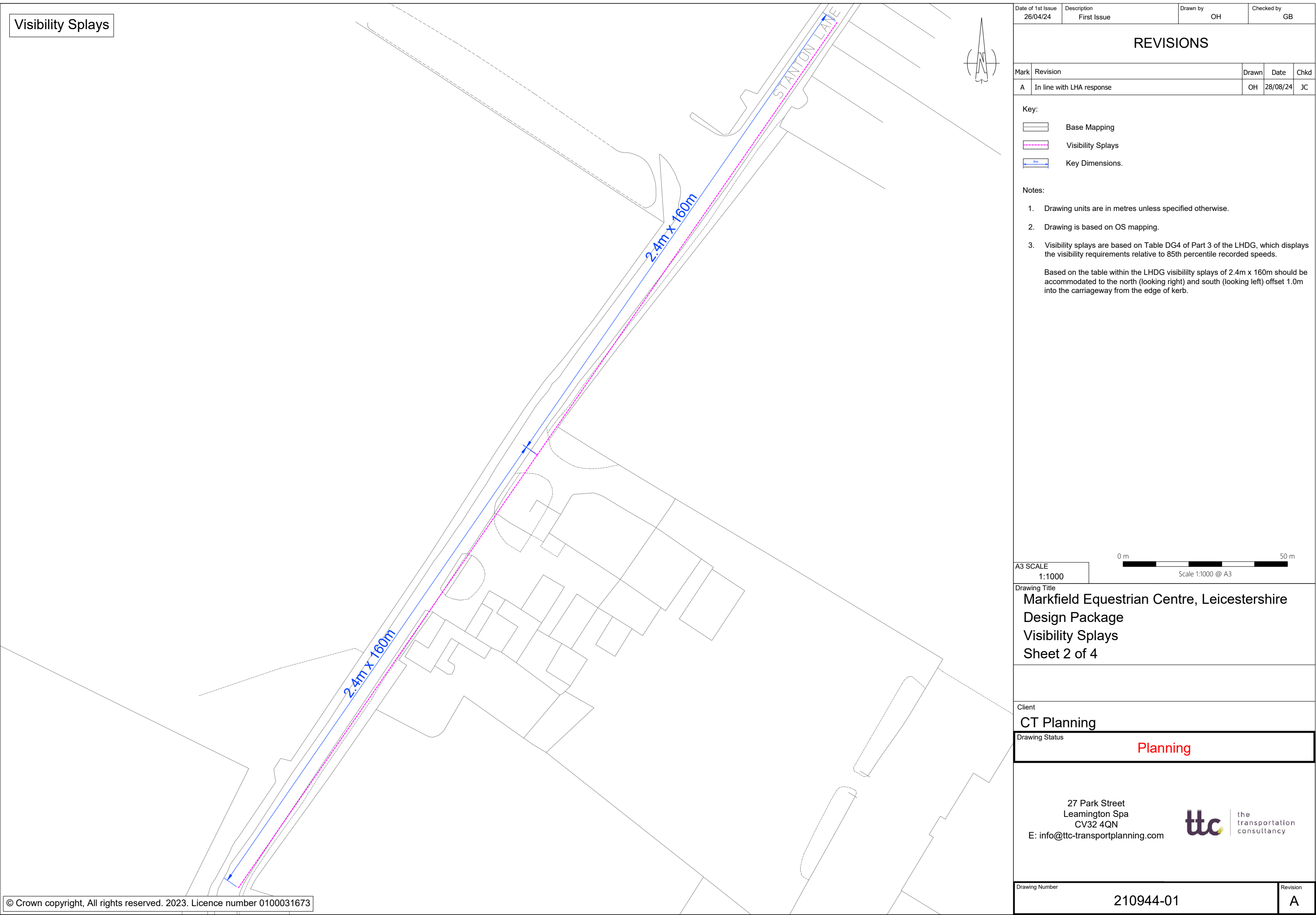
Case Officer
Oliver Rivera

Reviewer
BD

Date issued
23 August 2024

Appendix B

Revised Visibility Splays





Appendix C

TRICS Report

Calculation Reference: AUDIT-154301-240903-0926

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
Category : C - INDUSTRIAL UNIT
TOTAL VEHICLES

<u>Selected regions and areas:</u>		
05	EAST MIDLANDS	
	LE LEICESTERSHIRE	1 days
06	WEST MIDLANDS	
	WK WARWICKSHIRE	1 days
08	NORTH WEST	
	EC CHESHIRE EAST	1 days
	LC LANCASHIRE	1 days
09	NORTH	
	CU CUMBERLAND	1 days

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

Primary Filtering selection:

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

Parameter: Gross floor area

Actual Range: 175 to 9216 (units: sqm)

Range Selected by User: 150 to 67459 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/16 to 04/10/23

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

Selected survey days:

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

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

Selected survey types:

Manual count	5 days
Directional ATC Count	0 days

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

Selected Locations:

Edge of Town	4
Free Standing (PPS6 Out of Town)	1

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

Selected Location Sub Categories:

Industrial Zone	4
Development Zone	1

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

Inclusion of Servicing Vehicles Counts:

Servicing vehicles Included	2 days - Selected
Servicing vehicles Excluded	12 days - Selected

Secondary Filtering selection:

Use Class:

Not Known 5 days

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

Filter by Site Operations Breakdown:

All Surveys Included

Population within 500m Range:

All Surveys Included

Secondary Filtering selection (Cont.):

Population within 1 mile:

1,001 to 5,000	2 days
5,001 to 10,000	3 days

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

Population within 5 miles:

25,001 to 50,000	1 days
50,001 to 75,000	2 days
75,001 to 100,000	2 days

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

Car ownership within 5 miles:

0.6 to 1.0	1 days
1.1 to 1.5	4 days

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

Travel Plan:

No	5 days
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This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	5 days
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This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1	CU-02-C-01	STEEL FABRI CATION	CUMBERLAND
	BLACKDYKE ROAD		
	CARLISLE		
	KINGSTOWN IND. ESTATE		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	715 sqm	
	Survey date: FRIDAY	15/10/21	Survey Type: MANUAL
2	EC-02-C-01	OFFICE FURNI TURE	CHESHIRE EAST
	BRUNEL ROAD		
	MACCLESFIELD		
	LYME GREEN BUS. PARK		
	Edge of Town		
	Development Zone		
	Total Gross floor area:	6658 sqm	
	Survey date: MONDAY	19/09/16	Survey Type: MANUAL
3	LC-02-C-06	STEEL FABRI CATION	LANCASHIRE
	TOLLGATE ROAD		
	BURSCOUGH		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	700 sqm	
	Survey date: THURSDAY	21/04/22	Survey Type: MANUAL
4	LE-02-C-01	COMMERCIAL VEHICLE SERVI CES	LEI CESTERSHI RE
	WYMESWOLD ROAD		
	NEAR LOUGHBOROUGH		
	BURTON ON THE WOLDS		
	Free Standing (PPS6 Out of Town)		
	Industrial Zone		
	Total Gross floor area:	175 sqm	
	Survey date: FRIDAY	17/06/22	Survey Type: MANUAL
5	WK-02-C-01	MACHINE ENGINEERING	WARWICKSHIRE
	CASTLE MOUND WAY		
	RUGBY		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	9216 sqm	
	Survey date: WEDNESDAY	10/11/21	Survey Type: MANUAL

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

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
BO-02-C-01	COVID
BP-02-C-01	Too Big
EC-02-C-02	COVID
GS-02-C-02	COVID
HC-02-C-01	Too Big
LC-02-C-05	COVID
NF-02-C-03	N/A
NY-02-C-03	N/A
PB-02-C-01	N/A

The Transportation Consultancy 397 Birmingham Road Redditch

Licence No: 154301

TRIP RATE for Land Use 02 - EMPLOYMENT/C - INDUSTRIAL UNIT

TOTAL VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00	3	3364	0.099	3	3364	0.000	3	3364	0.099
06:00 - 07:00	3	3364	0.040	3	3364	0.010	3	3364	0.050
07:00 - 08:00	5	3493	0.441	5	3493	0.057	5	3493	0.498
08:00 - 09:00	5	3493	0.275	5	3493	0.046	5	3493	0.321
09:00 - 10:00	5	3493	0.132	5	3493	0.074	5	3493	0.206
10:00 - 11:00	5	3493	0.137	5	3493	0.086	5	3493	0.223
11:00 - 12:00	5	3493	0.046	5	3493	0.086	5	3493	0.132
12:00 - 13:00	5	3493	0.143	5	3493	0.195	5	3493	0.338
13:00 - 14:00	5	3493	0.103	5	3493	0.172	5	3493	0.275
14:00 - 15:00	5	3493	0.092	5	3493	0.097	5	3493	0.189
15:00 - 16:00	5	3493	0.097	5	3493	0.206	5	3493	0.303
16:00 - 17:00	5	3493	0.046	5	3493	0.378	5	3493	0.424
17:00 - 18:00	5	3493	0.040	5	3493	0.235	5	3493	0.275
18:00 - 19:00	5	3493	0.023	5	3493	0.023	5	3493	0.046
19:00 - 20:00	3	3364	0.010	3	3364	0.020	3	3364	0.030
20:00 - 21:00	3	3364	0.000	3	3364	0.000	3	3364	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.724			1.685			3.409

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

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Parameter summary

Trip rate parameter range selected:	175 - 9216 (units: sqm)
Survey date range:	01/01/16 - 04/10/23
Number of weekdays (Monday-Friday):	5
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	9

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

The Transportation Consultancy 397 Birmingham Road Redditch

Licence No: 154301

TRIP RATE for Land Use 02 - EMPLOYMENT/C - INDUSTRIAL UNIT

OGVS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00	3	3364	0.000	3	3364	0.000	3	3364	0.000
06:00 - 07:00	3	3364	0.010	3	3364	0.010	3	3364	0.020
07:00 - 08:00	5	3493	0.023	5	3493	0.023	5	3493	0.046
08:00 - 09:00	5	3493	0.017	5	3493	0.017	5	3493	0.034
09:00 - 10:00	5	3493	0.011	5	3493	0.000	5	3493	0.011
10:00 - 11:00	5	3493	0.040	5	3493	0.023	5	3493	0.063
11:00 - 12:00	5	3493	0.011	5	3493	0.017	5	3493	0.028
12:00 - 13:00	5	3493	0.006	5	3493	0.017	5	3493	0.023
13:00 - 14:00	5	3493	0.000	5	3493	0.011	5	3493	0.011
14:00 - 15:00	5	3493	0.011	5	3493	0.011	5	3493	0.022
15:00 - 16:00	5	3493	0.023	5	3493	0.011	5	3493	0.034
16:00 - 17:00	5	3493	0.000	5	3493	0.000	5	3493	0.000
17:00 - 18:00	5	3493	0.000	5	3493	0.000	5	3493	0.000
18:00 - 19:00	5	3493	0.000	5	3493	0.000	5	3493	0.000
19:00 - 20:00	3	3364	0.000	3	3364	0.000	3	3364	0.000
20:00 - 21:00	3	3364	0.000	3	3364	0.000	3	3364	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.152			0.140			0.292

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

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

Calculation Reference: AUDIT-154301-240829-0849

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
Category : F - WAREHOUSING (COMMERCIAL)
TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST	
	EX ESSEX	1 days
	HC HAMPSHIRE	1 days
05	EAST MIDLANDS	
	DS DERBYSHIRE	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	NY NORTH YORKSHIRE	1 days

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

Primary Filtering selection:

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

Parameter: Gross floor area
Actual Range: 1750 to 7000 (units: sqm)
Range Selected by User: 190 to 10000 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/16 to 04/10/23

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

Selected survey days:
Monday 2 days
Wednesday 1 days
Friday 1 days

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

Selected survey types:
Manual count 4 days
Directional ATC Count 0 days

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

Selected Locations:
Edge of Town 4

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

Selected Location Sub Categories:
Industrial Zone 4

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

Inclusion of Servicing Vehicles Counts:
Servicing vehicles Included 2 days - Selected
Servicing vehicles Excluded 4 days - Selected

Secondary Filtering selection:

Use Class:
n/a 1 days
B8 3 days

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

Filter by Site Operations Breakdown:
All Surveys Included

Population within 500m Range:
All Surveys Included

Secondary Filtering selection (Cont.):

Population within 1 mile:

5,001 to 10,000	1 days
10,001 to 15,000	3 days

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

Population within 5 miles:

5,001 to 25,000	1 days
75,001 to 100,000	1 days
125,001 to 250,000	2 days

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

Car ownership within 5 miles:

1.1 to 1.5	4 days
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This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

No	4 days
----	--------

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

PTAL Rating:

No PTAL Present	4 days
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This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1	DS-02-F-01 PARK ROAD HOLMEWOOD	LOGISTICS DEPOT	DERBYSHIRE
	Edge of Town Industrial Zone		
	Total Gross floor area:	7000 sqm	
	Survey date: WEDNESDAY	04/10/23	Survey Type: MANUAL
2	EX-02-F-01 BRUNEL WAY COLCHESTER	SPORTS SUPPLEMENTS	ESSEX
	SEVERALLS INDUSTRIAL PK Edge of Town Industrial Zone		
	Total Gross floor area:	6560 sqm	
	Survey date: FRIDAY	18/05/18	Survey Type: MANUAL
3	HC-02-F-03 WARSASH ROAD PARK GATE	PPE DISTRIBUTION	HAMPSHIRE
	Edge of Town Industrial Zone		
	Total Gross floor area:	3665 sqm	
	Survey date: MONDAY	27/09/21	Survey Type: MANUAL
4	NY-02-F-01 GRIMBALD CRAG CLOSE KNARESBOROUGH	REMOVALS SERVICE	NORTH YORKSHIRE
	Edge of Town Industrial Zone		
	Total Gross floor area:	1750 sqm	
	Survey date: MONDAY	19/06/23	Survey Type: MANUAL

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

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
BO-02-F-01	COVID
TB-02-F-01	Too Small

TRIP RATE for Land Use 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)
TOTAL VEHICLES
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00	1	7000	0.000	1	7000	0.000	1	7000	0.000
06:00 - 07:00	1	7000	0.029	1	7000	0.000	1	7000	0.029
07:00 - 08:00	4	4744	0.216	4	4744	0.069	4	4744	0.285
08:00 - 09:00	4	4744	0.148	4	4744	0.047	4	4744	0.195
09:00 - 10:00	4	4744	0.153	4	4744	0.074	4	4744	0.227
10:00 - 11:00	4	4744	0.126	4	4744	0.063	4	4744	0.189
11:00 - 12:00	4	4744	0.100	4	4744	0.105	4	4744	0.205
12:00 - 13:00	4	4744	0.137	4	4744	0.111	4	4744	0.248
13:00 - 14:00	4	4744	0.121	4	4744	0.063	4	4744	0.184
14:00 - 15:00	4	4744	0.095	4	4744	0.163	4	4744	0.258
15:00 - 16:00	4	4744	0.079	4	4744	0.232	4	4744	0.311
16:00 - 17:00	4	4744	0.047	4	4744	0.195	4	4744	0.242
17:00 - 18:00	4	4744	0.021	4	4744	0.116	4	4744	0.137
18:00 - 19:00	3	3992	0.017	3	3992	0.209	3	3992	0.226
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.289			1.447			2.736

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

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Parameter summary

Trip rate parameter range selected:	1750 - 7000 (units: sqm)
Survey date date range:	01/01/16 - 04/10/23
Number of weekdays (Monday-Friday):	4
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	2

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

TRIP RATE for Land Use 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)
 OGVS
 Calculation factor: 100 sqm
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00	1	7000	0.000	1	7000	0.000	1	7000	0.000
06:00 - 07:00	1	7000	0.000	1	7000	0.000	1	7000	0.000
07:00 - 08:00	4	4744	0.011	4	4744	0.026	4	4744	0.037
08:00 - 09:00	4	4744	0.026	4	4744	0.026	4	4744	0.052
09:00 - 10:00	4	4744	0.016	4	4744	0.016	4	4744	0.032
10:00 - 11:00	4	4744	0.058	4	4744	0.026	4	4744	0.084
11:00 - 12:00	4	4744	0.032	4	4744	0.037	4	4744	0.069
12:00 - 13:00	4	4744	0.047	4	4744	0.042	4	4744	0.089
13:00 - 14:00	4	4744	0.016	4	4744	0.016	4	4744	0.032
14:00 - 15:00	4	4744	0.021	4	4744	0.016	4	4744	0.037
15:00 - 16:00	4	4744	0.032	4	4744	0.026	4	4744	0.058
16:00 - 17:00	4	4744	0.011	4	4744	0.016	4	4744	0.027
17:00 - 18:00	4	4744	0.005	4	4744	0.021	4	4744	0.026
18:00 - 19:00	3	3992	0.008	3	3992	0.000	3	3992	0.008
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.283			0.268			0.551

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