

TRANSPORT STATEMENT

LAND AT, BARTON LANE,
CONGERSTONE, LEICESTERSHIRE.

Proposed development of 20No
residential dwellings.



SEPTEMBER 14 2023

NAYLORS ESTATE AGENTS

LENNON TRANSPORT PLANNING LTD





TRANSPORT STATEMENT

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1. INTRODUCTION

- 1.1 This Transport Statement (TS) has been prepared by Lennon Transport Planning Ltd (LTP) on behalf of Naylors Estate Agents. The Statement is intended to support a future Outline Planning Application for the erection of 20No dwellings which will be determined by Hinckley & Bosworth Borough Council.
- 1.2 The purpose of this Statement is to satisfy both the Local Planning Authority (LPA) and the County Highway Authority (LHA) that the proposal will not lead to an unacceptable traffic impact on nearby roads or create unacceptable highway safety concerns and that a suitable form of vehicular access can be provided.
- 1.3 When considering the nature and scale of development, a Transport Statement has been prepared which does not contain unnecessary or over complicated input for the reviewer's consideration. Extensive experience is that often statements are 'bulked out' needlessly. In order to provide best value to the client whilst also providing the reviewer with more of a concise document with everything they need forms the basis of the approach by this Consultancy service.
- 1.4 The red line application site and location plan is presented below in figure 1:-

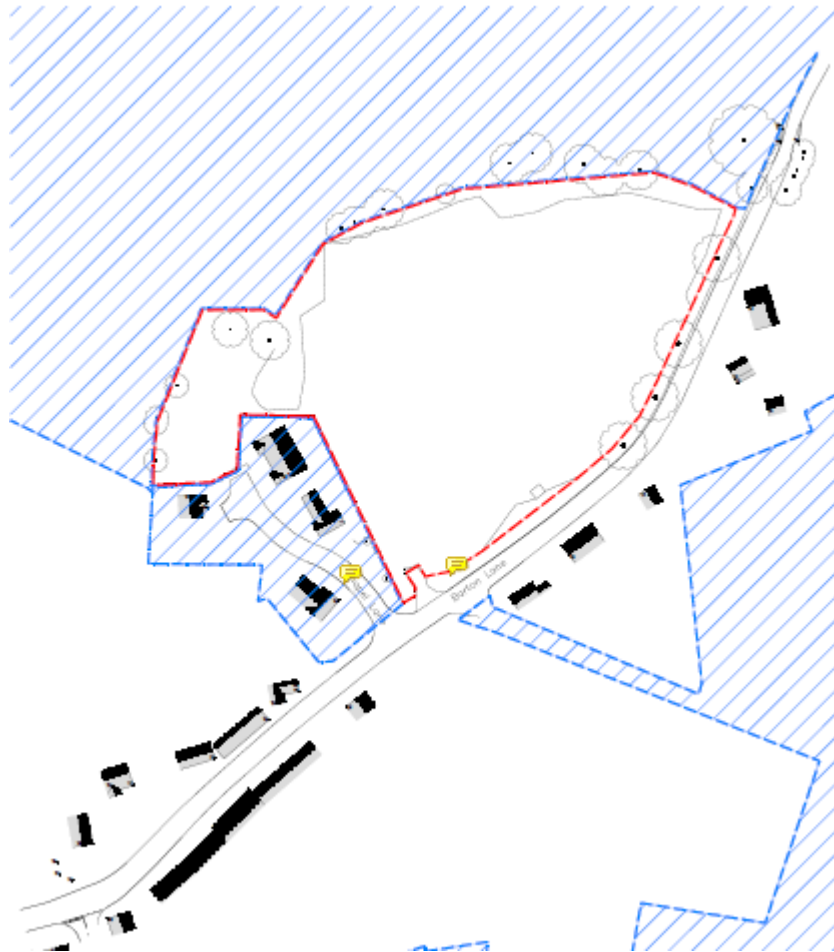


Figure 1: Site Location

2. SCOPE / POLICY / BACKGROUND

Scope

- 2.1 The brief to LTP was to provide a Transport Statement to support a future planning application for the provision of 20No residential dwellings.
- 2.2 The scope of this TS broadly reflects the principles of DfT's 'Guidance on Transport Assessments' (GTA) (March 2007), however, this guidance was withdrawn from circulation in October 2014.

2.3 GTA essentially set out a pragmatic approach to assessing the transport impacts of a development and suggested thresholds which were noted as a useful point of reference from which to commence discussions. Its withdrawal left ['Transport Evidence Bases in Plan Making'](#) as one of the only transport 'guidance' document left within PPG. That document didn't replace GTA, as it was for a different spatial scale, intended to ensure that the transportation principals of development are correctly assessed at the local plan / core strategy level. However, this wasn't relevant to assessing the impacts of developments on local highway networks.

2.4 Of more relevance is PPG guidance contained within ['Travel Plans, Transport Assessments & Statements'](#) which was published in March 2014. It provides some guidance in terms of scope and rationale, but it is not proscriptive like the Dft guidance was. In our opinion this leaves the development transport planning industry without any robust formal government guidance at present and the removal of GTA gives Consultants more flexibility to present what they consider necessary in order for the Highway Authority to come to an informed decision as to the appropriateness of the development proposal and whether it will result in a severe impact in traffic or safety terms?

2.5 When considering paragraph 1.3 of this statement, it is considered an unnecessary task to produce some information. There is a natural caveat that if any additional information is required in Highways or Transportation terms then this can be produced upon request. It is considered unnecessary to represent the following areas in this TS either at all or in any great detail : -

- **Junction Capacity Assessments** = *When considering the proposal is for just 20No dwellings and this is a 'brownfield' site with existing 'background' traffic which can be apportioned to it, then detailed Picardy junction capacity assessments are not considered necessary for nearby road junctions. Peak*

hour movements are considerably less 30 movements which is a former benchmark pertaining to 'material' impact.

Policy

National Planning Policy Framework (NPPF) (July 2021)

2.6 The National Planning Policy Framework (July 2018) was revised in July 2021 and is a material consideration in the determination of planning applications.

2.7 Paragraph 11 of the NPPF States;

- 'Plans and decisions should apply a presumption in favour of sustainable development'.

For plan-making this means that:

- a) plans should positively seek opportunities to meet the development needs of their area, and be sufficiently flexible to adapt to rapid change;
- b) strategic policies should, as a minimum, provide for objectively assessed needs for housing and other uses, as well as any needs that cannot be met within neighbouring areas, unless:
 - i. the application of policies in this Framework that protect areas or assets of particular importance provides a strong reason for restricting the overall scale, type or distribution of development in the plan area; or
 - ii. any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole.

For decision-taking this means:

- c) approving development proposals that accord with an up-to-date development plan without delay; or
- d) where there are no relevant development plan policies, or the policies which are most important for determining the application are out-of-date, granting permission unless:
 - i. the application of policies in this Framework that protect areas or assets of particular importance provides a clear reason for refusing the development proposed; or
 - ii. any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole.

2.8 Paragraph 107 provides guidance on setting off street car parking requirements. The following applies:-

- 'If setting local parking standards for residential and non-residential development, policies should take into account:
 - a. the accessibility of the development;
 - b. *the type, mix and use of development;
 - c. the availability of and opportunities for public transport;
 - d. local car ownership levels; and
 - e. the need to ensure an adequate provision of spaces for charging plug-in and other ultra-low emission vehicles.

2.9 Paragraph 108 is as follows:-

- Maximum parking standards for residential and non-residential development should only be set where there is a clear and compelling justification that they are necessary for managing the local road network, or for optimising the density of development in city and town centres and other locations that are well served by public transport (in accordance with chapter 11 of this Framework). In town centres, local authorities should seek to improve the quality of parking so that it is convenient, safe and secure, alongside measures to promote accessibility for pedestrians and cyclists.

2.10 When considering paragraph 11 of the NPPF in terms of 'decision taking' then in particular it needs to be assessed against Paragraph 110 & 111 of the Framework which are as follows: -

2.11 Paragraph 110 of the NPPF states:

"In assessing sites that may be allocated for development in plans, or specific applications for development, it should be ensured that:

- a) appropriate opportunities to promote sustainable transport modes can be or have been taken up, given the type of development and its location;
- b) safe and suitable access to the site can be achieved for all users; and
- c) any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree.

2.12 Paragraph 111 of the NPPF states:

“Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe.”

2.13 Paragraph 112 of the NPPF states:

- a) give priority first to pedestrian and cycle movements, both within the scheme and with neighbouring areas; and second – so far as possible – to facilitate access to high quality public transport, with layouts that maximise the catchment area for bus or other public transport services, and appropriate facilities that encourage public transport use;
- b) address the needs of people with disabilities and reduced mobility in relation to all modes of transport;
- c) create places that are safe, secure and attractive – which minimise the scope for conflicts between pedestrians, cyclists and vehicles, avoid unnecessary street clutter, and respond to local character and design standards;
- d) allow for the efficient delivery of goods, and access by service and emergency vehicles; and
- e) be designed to enable charging of plug-in and other ultra-low emission vehicles in safe, accessible and convenient locations.”

2.14 Paragraph 113 of the NPPF states:

“All developments that will generate significant amounts of movement should be required to provide a travel plan, and the application should be supported by a transport statement or transport assessment so that the likely impacts of the proposal can be assessed.”

2.15 Manual for Streets, Manual for Streets 2 are the relevant national design guidance documents to be considered.

2.16 Local design guidance needs to be considered as contained within the Leicestershire Highways Design Guide (LHDG).

2.17 **Hinckley & Bosworth Borough Councils adopted Site Allocations and Development Management Policies DPD** was adopted in July 2016 and is a material consideration. The DPD needs to be considered in terms of highway and transportation matters in the context of Policy DM17 which is in the following terms: -

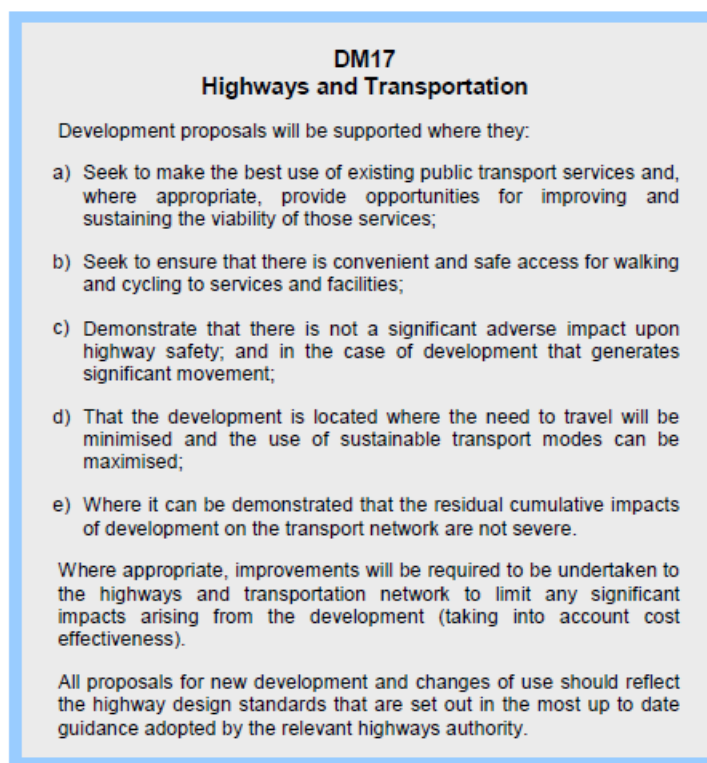


Figure 2: Policy DM 17

Background

2.6 The application site has not previously been subject to any similar planning application proposals.

Existing Development / Use

2.7 The current use of the application site in planning terms is agricultural land.

3 EXISTING LOCAL CONDITIONS

Vehicular Access & Existing Highway

3.1 The application site / agricultural field is served via an existing gated access at the sites south westerly corner on Barton Lane. See screenshot below:-



Figure 3: Existing Vehicular Access Arrangements

3.2 Barton Lane is an unclassified County Road. Traffic associated with the existing agricultural use currently use the access shown in figure 3 above which has a restricted visibility splay to the north east due to hedgerow and the horizontal alignment of the road.

3.3 Adjacent to the site access, Barton Lane is subject to a 30mph speed limit and is subject to a system of street lighting. The main carriageway is approximately 5.2 metres wide. Adjacent to the application sites highway boundary there is a narrow verge on the same side and a continuous footway on the opposite side of the road.

3.4 A 7-day traffic data capture survey was carried out at a point adjacent to the existing vehicular access between the 15th December and the 21st December 2022. Traffic flow was recorded and combined 2-way, 12hr average daily flows were 2485 vehicles. It is suggested that the route is lightly trafficked. Recorded 7 day, 85th percentile speeds were 26.8mph northbound and 26.3mph southbound (**See Appendix A**).

Wider Road Network

3.5 Barton Lane connects with the small village of Barton in the Beans to the east and then then A447. Market Bosworth is accessed via Bosworth Road a short distance to the south. To the west of the application site, Barton Lane connects with the village of Twycross and the A444. Both the A447 and the A444 form part of Leicestershire's strategic road network and provide connections to more major settlements and other strategic roads.

Personal Injury Accidents

3.6 Personal Injury Accident (PIA) data has been assessed to consider the existing safety situation on the immediate local road network. Patterns displayed in the data can be assessed with regards to the proximity, frequency and severity of incidents that have occurred that may require further in-depth consideration. PIA data has been considered for a period of 5 years from 2018 to 2023 via the Crashmap database.

There have been no recorded PIA's within the immediate vicinity of the sites vehicular or on the wider local road network access within the last 5 years.

3.7 In summary, when considering the accident data for the surrounding network, it is clear that there is no current persistent accident problem within the immediate vicinity of the sites vehicular access.

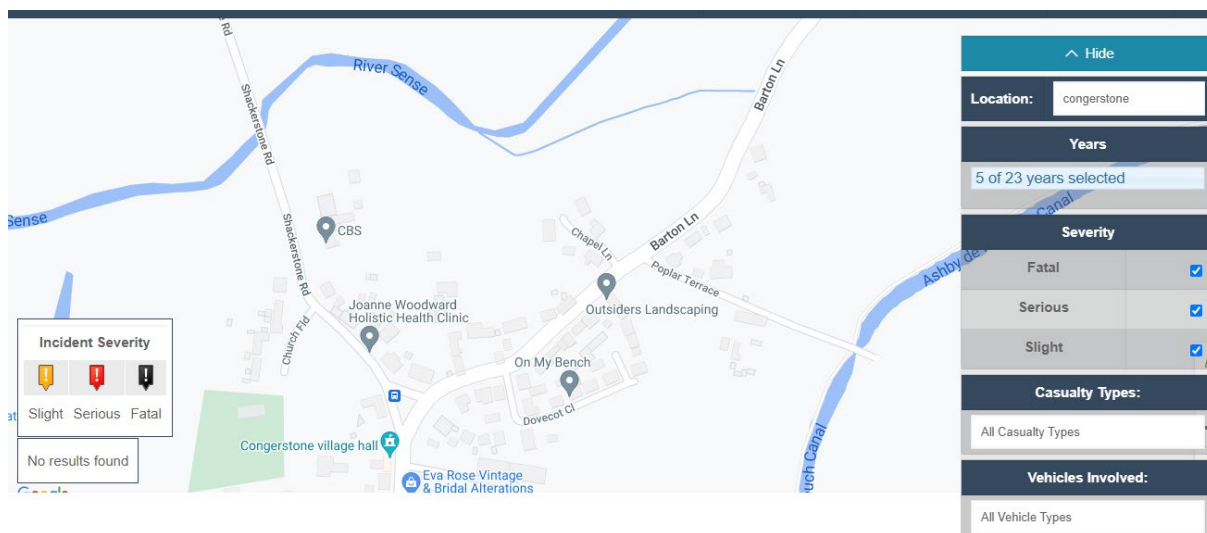


Figure 4: Recorded PIA Incidents

4 PROPOSED DEVELOPMENT

Amount & Layout

4.1 The proposal is for the erection of 20 No residential dwellings. The TS will support a future outline planning application with all matters reserved except for access. The indicative site layout is presented at figure 5 below (also see **Appendix B**). It should be noted, that the form of the internal layout is indicative only and may be subject to modest change at the reserved matters application stage. As such, detailed vehicle swept path analysis modelling has not been carried out for internal areas at this juncture. Detailed vehicular access and exact internal access arrangements will be dealt with at reserved matters. It is likely that internal roads will be offered for road adoption via section 38 of the Highways Act 1980.



Figure 5: Proposed Indicative Site Layout

Vehicular Access

4.2A new vehicular access to adoptable road standards is proposed and will be set out to the satisfaction of the LHA and in accordance with the design standards contained within the Leicestershire Highways Design Guide. LTP were commissioned to produce a junction design layout to adoptable standards (**See Appendix C**).

4.3 When considering measured speeds of 26.8mph northbound and 26.3mph southbound, then the Manual for Streets II method for visibility splay calculation can be applied. The required visibility splays at the existing access can be calculated by considering the recorded speed data. Manual for Streets 2 (para' 10.1.15, see Figure 6) presents a basic formula for visibility splay calculation which is used as the industry

recognised tool. When considering 85th percentile speeds then 2.4m by 32m splays are required in each direction. The splay calculation sheet is attached at **Appendix D**. The splays have been plotted onto the junction design drawing.

10.1.5 The basic formula for calculating SSD (in metres) is:

$$SSD = vt + v^2/2(d+0.1a)$$

where:

v = speed (m/s)

t = driver perception-reaction time (seconds)

d = deceleration (m/s²)

a = longitudinal gradient (%)

(+ for upgrades and - for downgrades)

Figure 6: Manual for Streets 2 visibility splay formula

4.4 The existing agricultural vehicular access will be permanently closed and reinstated to the satisfaction of the LHA.

4.5 Appropriate car parking will be provided within the curtilage of each dwelling in accordance with the requirements set out in the Leicestershire Highways Design Guide. Internal turning heads and areas will be provided within the site in order that all vehicles (including service and delivery vehicles) will be able to park where necessary or load and unload and then turn within the site before exiting in a forward gear.

5 ACCESSABILITY & SUSTAINABILITY

Pedestrian Infrastructure

5.1 The site is not connected to nearby villages by continuous footway links.

5.2 Guidelines for Providing for Journeys on Foot (Institution of Highways and Transportation 2000) suggests that for commuters and school pupils without mobility impairment walking to local amenities, up to 500 metres is the desirable walking distance, up to 1,000 metres is an acceptable walking distance, and up to 2,000

metres is the preferred maximum walking distance. Walking accounts for over a quarter of all journeys and four-fifths of journeys less than one mile (1.6km).

5.3 Figure 7 shows public rights of way within the vicinity and Figure 8 shows a isochrone for pedestrian movements within a 1km distance from the centre of the site.

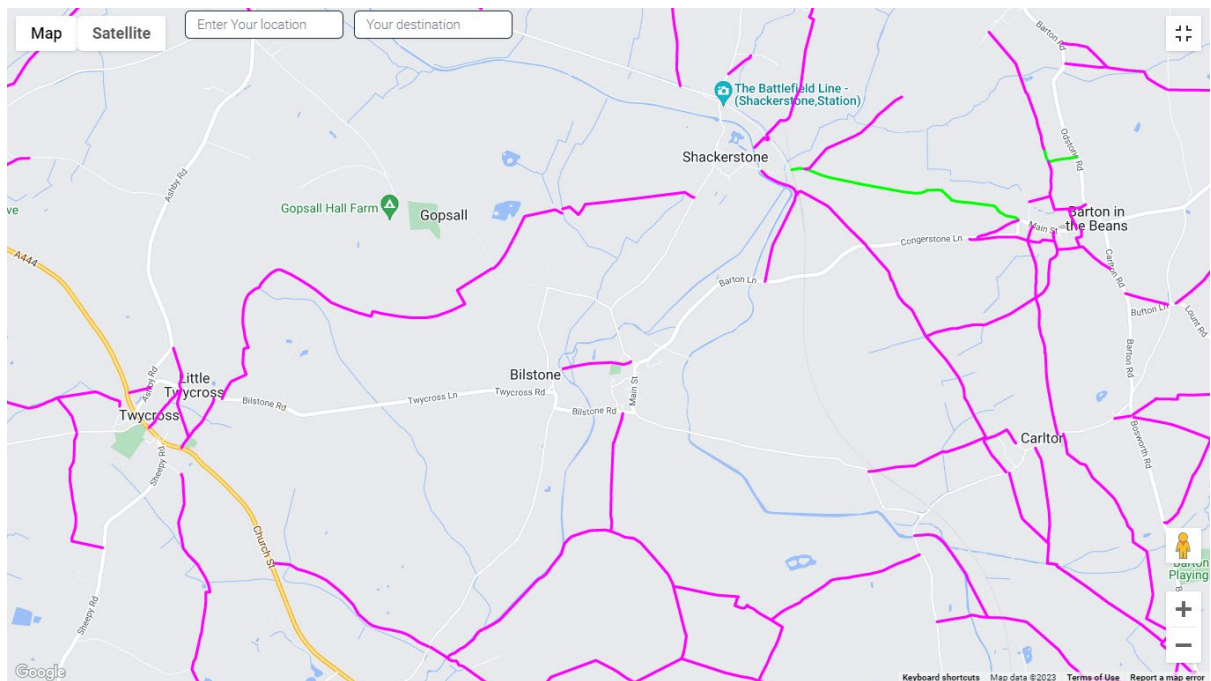
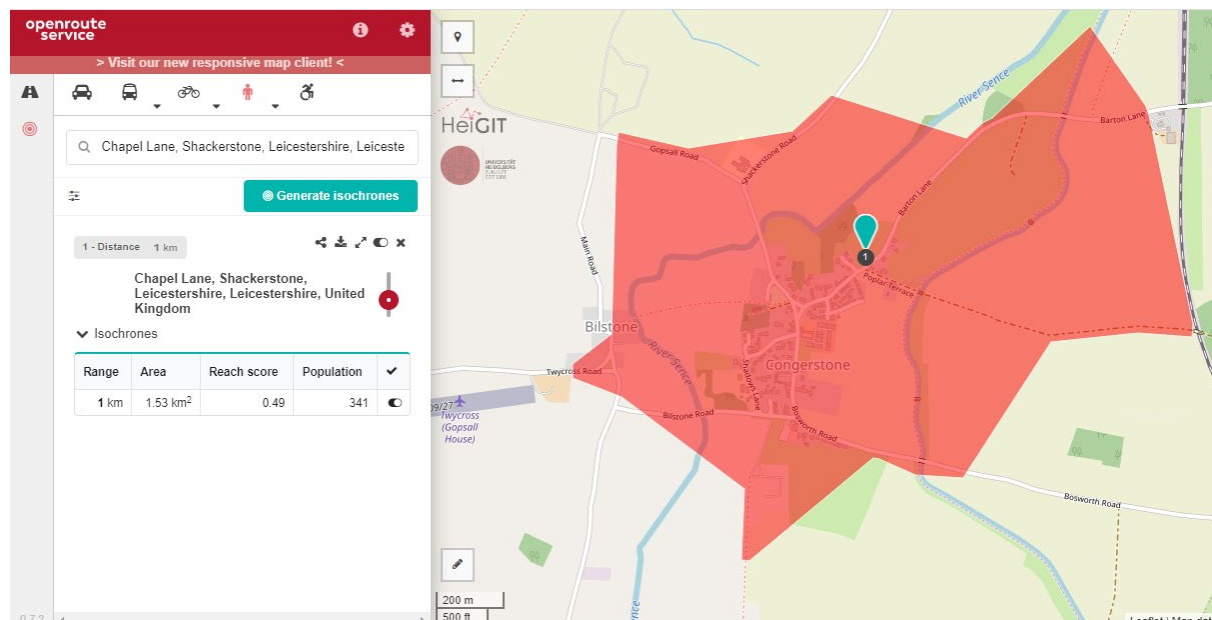


Figure 7: Definitive Public Rights of Way- Congerstone Area



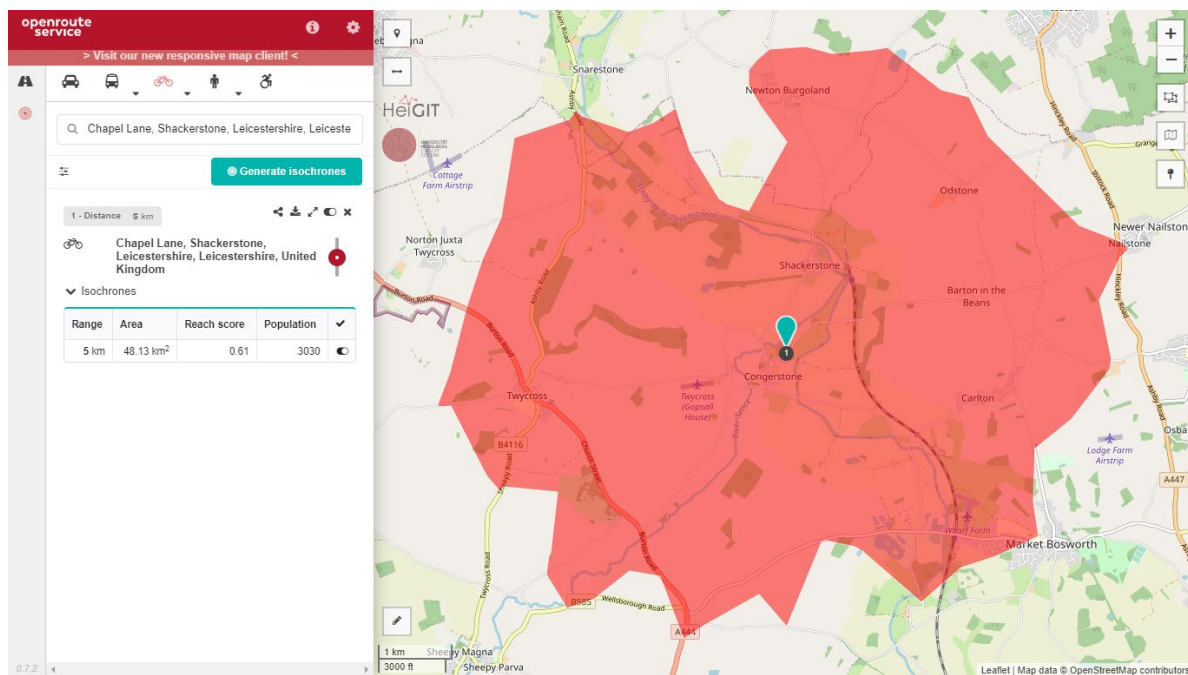
*Source Openrouteservice

Figure 8: 1 km Pedestrian Catchment Area

Cycle Facilities

5.4 NPPF Guidance suggests that cyclists are typically prepared to cycle up to 5km for non-leisure journeys, such as those to school or work. Figure 9 shows the cycle catchment based on a 5km distance from the centre of the application site.

5.5 As shown, the catchment area includes the primary rural centre of Market Bosworth which provides a multitude of local services, such as schools, libraries, retail (food and no-food), pubs, restaurants, take-aways, leisure facilities etc. Travelling by cycle to and from the application site could prove an attractive alternative for residents within the catchment area as an alternative to travelling via private motor vehicle. The proposed development presents a good opportunity to support sustainable transport in the context of cycling.



*Source Openrouteservice

Figure 9: 5 km Cycle Catchment Area

Public Transport

5.1 The site is not considered to be in a particularly sustainable transport choice location in terms of accessibility to public transport as services are limited. The nearest bus stops are approximately 250m to the southwest which are well within reasonable limits of the site close to the Barton Road / Main Street junction. The No7 service provides a roughly two hourly service between Measham and Atherstone. Unfortunately, at the time of writing this report the service operators (Stagecoach) were experiencing issues with their website. Accordingly, the timetable information could not be downloaded. The bus timetable information can be accessed however via the following link [Welcome to Stagecoach \(stagecoachbus.com\)](https://www.stagecoachbus.com).

6 TRAFFIC IMPACT / TRIP GENERATION

6.1 Post development trip generation has been considered via the Industry recognised TRICS database and the outputs are appended at **Appendix E**. TRICS comparator

sites have been chosen for surveys pertaining to detached residential dwellings privately owned. To provide a relevant sample of comparator sites, sites in the regions of Greater London, Ireland, Scotland and Wales were omitted. For housing, only free-standing site locations or those on the edge of town centre's or suburban areas were selected from the database (see below in figure 10).

Use	Parameter	Selection	Comments
Residential (C3)	Land Use	03 – Residential A – Houses Privately Owned	
	Regions	All excluding Greater London, Ireland / N. Ireland, Scotland & Wales	
	Parameter Range	6 to 30 units	
	Days of week	Weekdays	
	Dwelling Type	Detached	
	Location type	Suburban area Edge of Town Free Standing	

Figure 10: TRICS Parameters

6.2 To ensure predictions are robust, we have taken recorded vehicle flows from the generic peak hours, which are the peaks within the TRICS database (08:00-09:00 & 17:00-18:00).

6.3 Figure 11 provides a summary of the calculated average vehicular trips at peak traffic the TRICS outputs are presented at **Appendix E:-**

Development	Peak	Trip Rates		Total Peak Trip Generation		
		In	Out	In	Out	Total
20 Dwellings	AM (0800-0900)	0.063	0.326	1.260	6.520	7.780
	PM (1700-1800)	0.326	0.295	6.520	5.900	12.420

Figure 11: TRICS summary

6.4 The proposed development is forecast to generate approximately 8No trips in the AM peak and 12No trips in the PM peak. Total peak hour trip generation is far less than 30 two-way vehicle movements per hour which was a previously recognised benchmark for considering significant impact in the former GTA guidance (see para 2.4).

Therefore, it should follow that the proposal will not have a 'severe' impact on the local highway network in the context of NPPF. Similarly, when considering the amount of daily trips, then highway capacity mitigation works (or financial contributions towards such) are not considered necessary or justifiable.

6.5 In terms of daily flows, it is predicted that the proposed use could generate in the region of 106No overall daily vehicle movements (53 In and 53 Out).

6.6 An additional point to note is that there will be a reduction in existing agricultural vehicles turning into and out of the existing site access which is poor. Those vehicles could visit the site daily if the land were being grazed. The existing vehicular access has significantly restricted visibility splays both to and from emerging vehicles. To remove these vehicular movements would provide an element of highway safety gain.

6.7 The proposal will not lead to a severe increase in traffic generation, nor therefore lead to any traffic capacity issue or safety impact on the local highway network. The proposal will reduce turning traffic movements by large slow moving agricultural vehicles movements, which would provide an element of highway safety gain.

7 SUMMARY

7.1 This Transport Statement has been prepared by Lennon Transport Planning (LTP) Ltd on behalf of Naylors Estate Agents to support a future Outline Planning Application for the erection of 20No dwellings.

7.2 It is likely that the proposed internal roads will be offered for future adoption via S38 of the Highways Act 1980. The existing site access will be permanently closed. A new junction will be created onto Barton Lane to the satisfaction of the LHA and will be set

out in accordance with the standards contained within the Leicestershire Highways Design Guide.

7.3 It has been demonstrated that appropriate visibility splays of 2.4m x 32m will be provided to either side of the access. The splays have been calculated based on 85th percentile speed readings and have been plotted on the site layout drawing and the LTP junction design drawing.

7.4 Personal Injury Accidents (PIA's) have been assessed within the immediate vicinity of the application site and there have been no recorded injury accidents within the past 5 years. It is clear that there is no current persistent accident problem at the sites vehicular access.

7.3 Vehicle parking can be provided within the site to the satisfaction of the Local Planning Authority & Local Highway Authority. All vehicles both at the construction and post construction stage will be able to park and turn within the site. This includes service and delivery vehicles who will have uninterrupted access to the site. Internal roads will be designed in accordance with the Leicestershire Highways Design Guide.

7.4 It has been demonstrated that the proposal if permitted will not result in any severe traffic capacity or safety impact on the local highway network. The TRICS assessment predicts only limited peak hour traffic movements and modest daily total flows of 106No vehicular trips. The residual cumulative impacts of development can be mitigated and are not considered severe in accordance with Paragraph 111 of the NPPF. It is predicted that the proposal could generate in the region of just 8No additional vehicular trips in the AM peak hour and 12No trips in the PM peak hour.

7.5 This Transport Statement has demonstrated that the proposed development will not have a negative impact on the capacity or safety of the local road network. Accordingly, we therefore encourage the Local Planning Authority and Local Highway

Authority to look favorably upon the highway and transportation considerations of the application.

Appendix A - Traffic Data Survey

Site No.	Location.	Direction.	Speed Limit - PSL (mph)	Start Date.	End Date.	Total Vehicles.	5 Day Ave.	7 Day Ave.	No. > Speed Limit.	% > Speed Limit.	No. > ACPO Limit.	% > ACPO Limit.	No. > DfT Limit.	% > DfT Limit.	Mean Speed	85 th ile Speed
1	Barton Lane, Att - road sign, OSGR: SK 37059 05592	North bound	30	15 December 2022	21 December 2022	1183	189	169	48	4.1	6	0.5	0	0.0	22.8	26.8
		South bound	30	15 December 2022	21 December 2022	1302	208	186	19	1.5	1	0.1	0	0.0	22.7	26.3
		Two Way	30	15 December 2022	21 December 2022	2485	397	355	67	2.7	7	0.3	0	0.0	22.7	26.6

13624 / Congerstone
DECEMBER 2022
AUTOMATIC TRAFFIC COUNT

[illegible]NDC for

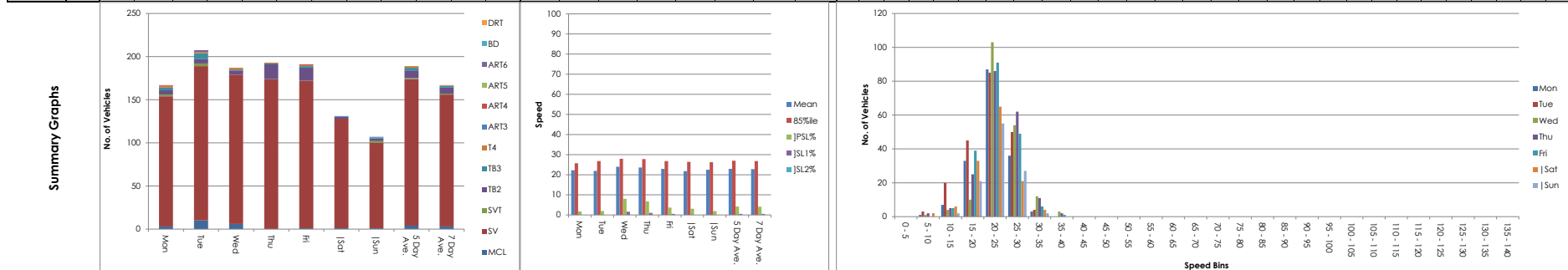
13624 / Congerstone
DECEMBER 2022
OMATIC TRAFFIC COUNT

[illegible]

13624 / Congerstone
DECEMBER 2022
AUTOMATIC TRAFFIC COUNT

[illegible]

13624 / Congerstone
DECEMBER 2022
AUTOMATIC TRAFFIC COUNT

[illegible]

13624 / Congerstone 1
DECEMBER 2022 Barton Lane, Att - road sign, OSGR: SK 37059 05592
AUTOMATIC TRAFFIC COUNT Southbound

[illegible][illegible][illegible]

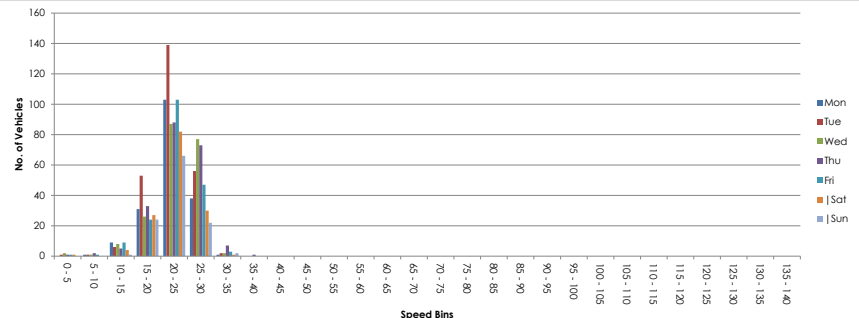
13624 / Congerstone
DECEMBER 2022
AUTOMATIC TRAFFIC COUNT

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13624 / Congerstone
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DECEMBER 2022
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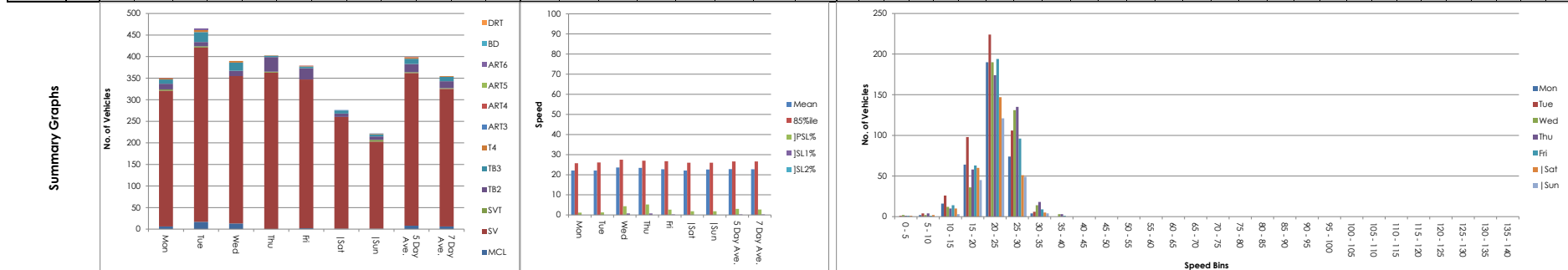
NDC for

13624 / Congerstone
DECEMBER 2022
AUTOMATIC TRAFFIC COUNT

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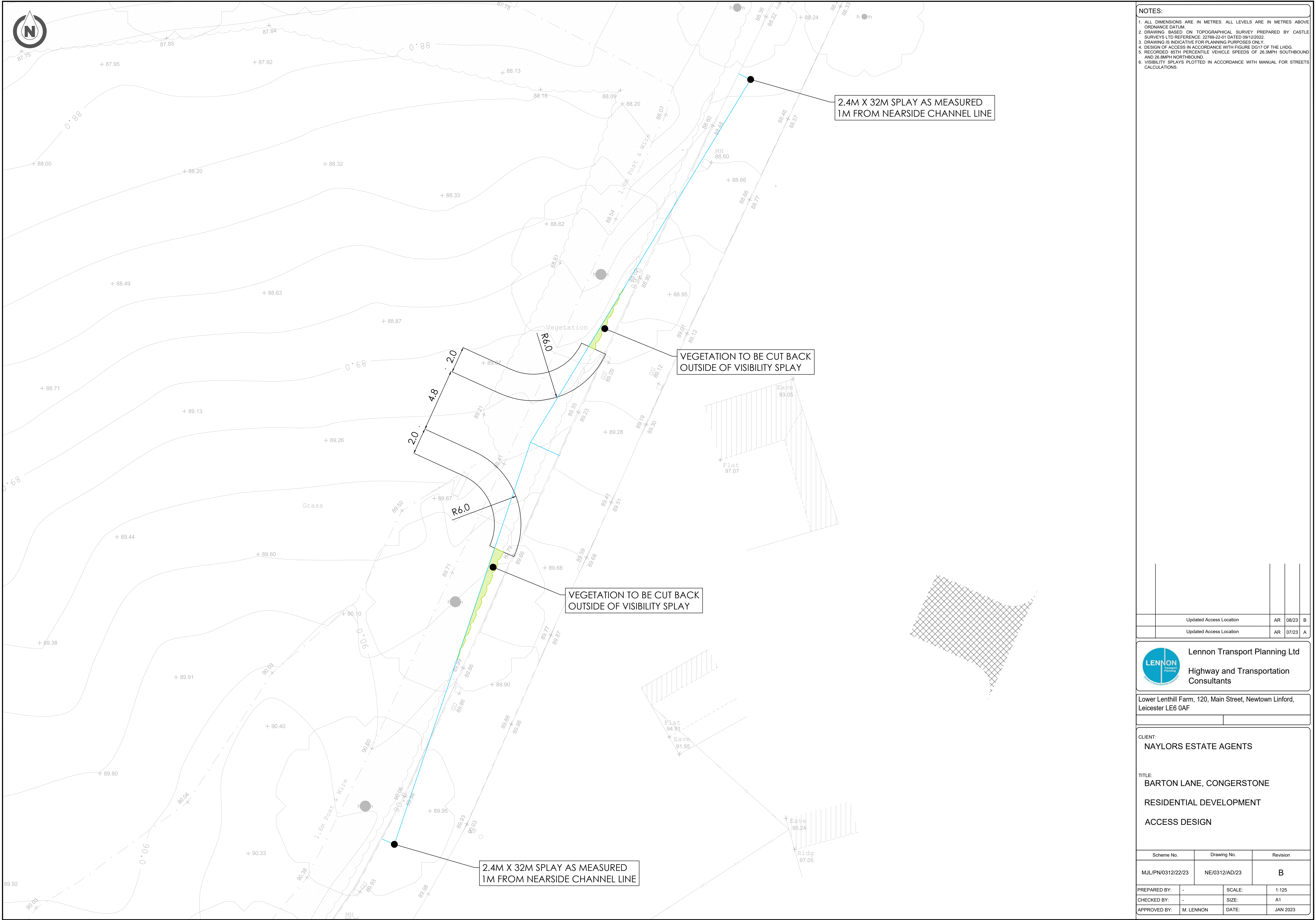
13624 / Congerstone
DECEMBER 2022
AUTOMATIC TRAFFIC COUNT

[illegible]

ATC VEHICLE CATEGORIES

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

Appendix B: LTP Junction Design Drawing



- NOTES:
1. ALL DIMENSIONS ARE IN METRES. ALL LEVELS ARE IN METRES ABOVE ORDNANCE DATUM.
 2. DRAWING BASED ON TOPOGRAPHICAL SURVEY PREPARED BY CASTLE SURVEYS LTD REFERENCE: 22769-22-01 DATED 09/12/2022.
 3. DRAWING IS INDICATIVE FOR PLANNING PURPOSES ONLY.
 4. DESIGN OF ACCESS IN ACCORDANCE WITH FIGURE DG17 OF THE LHDG.
 5. RECORDED 85TH PERCENTILE VEHICLE SPEEDS OF 26.3MPH SOUTHBOUND AND 26.8MPH NORTHBOUND.
 6. VISIBILITY SPLAYS PLOTTED IN ACCORDANCE WITH MANUAL FOR STREETS CALCULATIONS.

	Updated Access Location	AR	08/23	B
	Updated Access Location	AR	07/23	A

 Lennon Transport Planning Ltd

Highway and Transportation Consultants

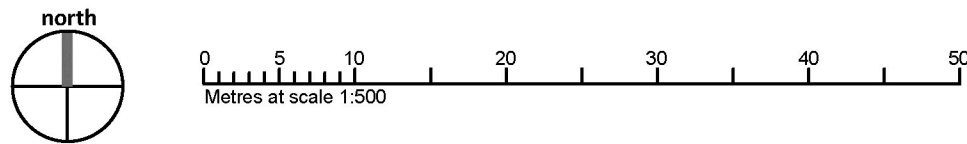
Lower Lenthill Farm, 120, Main Street, Newtown Linford, Leicester LE6 0AF

CLIENT:
NAYLORS ESTATE AGENTS

TITLE:
BARTON LANE, CONGERSTONE
RESIDENTIAL DEVELOPMENT
ACCESS DESIGN

Scheme No.		Drawing No.		Revision	
MJL/PN/0312/22/23		NE/0312/AD/23		B	
PREPARED BY:		-	SCALE:		1:125
CHECKED BY:		-	SIZE:		A1
APPROVED BY:		M. LENNON		DATE: JAN 2023	

Appendix C: Site Layout Drawing



Appendix D: Visibility Splay Calculation Sheet

Visibility to the North (towards Southbound traffic)

v t d a			Dry ATC 85th %ile Speed	26.3	mph
			Wet ATC 85th %ile Speed	23.8	mph
			Heavy veh % flow	4.8	%
			Gradient	0.0	%
	10.64	Speed in m/s			
	1.5	Reaction time (seconds)			
	4.41	Deceleration rate (m/s ²)			
	0.0	Longitudinal gradient (%)			

SSD= $vt + v^2/2(d+0.1a)$ From Manual For Streets 2

vt	15.96				
v ²	113.15				
2(d-0.1a)	8.82		Downhill approach visibility length (m)	31.18	m
2(d+0.1a)	8.82		Uphill approach visibility length (m)	31.18	m

Visibility to the South (towards Northbound traffic)

v t d a			Dry ATC 85th %ile Speed	26.8	mph
			Wet ATC 85th %ile Speed	24.3	mph
			Heavy veh % flow	2.6	%
			Gradient	0.0	%
	10.86	Speed in m/s			
	1.50	Reaction time (seconds)			
	4.41	Deceleration rate (m/s ²)			
	0.00	Longitudinal gradient (%)			

SSD= $vt + v^2/2(d+0.1a)$ From Manual For Streets 2

vt	16.29				
v ²	117.96				
2(d-0.1a)	8.82		Downhill approach visibility length (m)	32.06	m
2(d+0.1a)	8.82		Uphill approach visibility length (m)	32.06	m

Design Speed	Vehicle Type	Reaction Time	Decel. Rate (where g=9.81m/s ²)
60 kph and below	Light vehicles	1.5s	4.41 m/s ²
	HGV's	1.5s	3.68 m/s ²
	Buses	1.5s	3.68 m/s ²
Above 60kph	All	2.0s	3.68 m/s ² (Absolute min SSD)
	All	2.0s	2.45 m/s ² (Desirable min SSD)

Appendix E: TRICS Outputs

WYG Executive Park, Avalon Way Leicester

Licence No: 705102

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

TOTAL VEHICLESSelected regions and areas:

04	EAST ANGLIA	
	PB PETERBOROUGH	1 days
	SF SUFFOLK	1 days
06	WEST MIDLANDS	
	ST STAFFORDSHIRE	1 days
	WK WARWICKSHIRE	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: No of Dwellings
 Actual Range: 10 to 28 (units:)
 Range Selected by User: 6 to 30 (units:)

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/15 to 09/11/22

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

Selected survey days:

Monday	1 days
Wednesday	3 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 undertaken using machines.

Selected Locations:

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

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

Selected Location Sub Categories:

Residential 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	3 days - Selected
Servicing vehicles Excluded	16 days - Selected

WYG Executive Park, Avalon Way Leicester

Licence No: 705102

Secondary Filtering selection:Use Class:

C3 4 days

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

Population within 500m Range:

All Surveys Included

Population within 1 mile:

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

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

Population within 5 miles:

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

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

Car ownership within 5 miles:

0.6 to 1.0	2 days
1.1 to 1.5	2 days

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

Travel Plan:

No 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

This data displays the number of selected surveys with PTAL R

WYG Executive Park, Avalon Way Leicester

Licence No: 705102

LIST OF SITES relevant to selection parameters

1	PB-03-A-04	DETACHED HOUSES	PETERBOROUGH
	EASTFIELD ROAD		
	PETERBOROUGH		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total No of Dwellings:	28	
	Survey date: MONDAY	17/10/16	Survey Type: MANUAL
2	SF-03-A-05	DETACHED HOUSES	SUFFOLK
	VALE LANE		
	BURY ST EDMUNDS		
	Edge of Town		
	Residential Zone		
	Total No of Dwellings:	18	
	Survey date: WEDNESDAY	09/09/15	Survey Type: MANUAL
3	ST-03-A-08	DETACHED HOUSES	STAFFORDSHIRE
	SILKMORE CRESCENT		
	STAFFORD		
	MEADOWCROFT PARK		
	Edge of Town		
	Residential Zone		
	Total No of Dwellings:	26	
	Survey date: WEDNESDAY	22/11/17	Survey Type: MANUAL
4	WK-03-A-03	DETACHED HOUSES	WARWICKSHIRE
	BRESE AVENUE		
	WARWICK		
	GUY'S CLIFFE		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total No of Dwellings:	23	
	Survey date: WEDNESDAY	25/09/19	Survey Type: MANUAL

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

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
BO-03-A-01	cov
BY-03-A-01	cov
DC-03-A-10	ED
ES-03-A-06	cov
HF-03-A-04	cov
KC-03-A-09	cov
LN-03-A-04	ED
MW-03-A-01	ED
MW-03-A-02	ED
NF-03-A-03	ED

MANUALLY DESELECTED SURVEYS

Site Ref	Survey Date	Reason for Deselection
AC-03-A-04	06/06/19	Town
NY-03-A-13	10/05/17	TERR
SD-03-A-01	22/09/16	Semi
SE-03-A-01	10/09/20	COV

Trip Rates for Key Periods		Trips per 1 dwells DWELLS	
Period	Inbound	Outbound	Total
0800-0900	0.063	0.326	0.389
1700-1800	0.326	0.295	0.621

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

TOTAL VEHICLES

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	4	24	0.063	4	24	0.158	4	24	0.221
08:00 - 09:00	4	24	0.063	4	24	0.326	4	24	0.389
09:00 - 10:00	4	24	0.116	4	24	0.211	4	24	0.327
10:00 - 11:00	4	24	0.189	4	24	0.200	4	24	0.389
11:00 - 12:00	4	24	0.179	4	24	0.179	4	24	0.358
12:00 - 13:00	4	24	0.253	4	24	0.168	4	24	0.421
13:00 - 14:00	4	24	0.179	4	24	0.211	4	24	0.390
14:00 - 15:00	4	24	0.168	4	24	0.221	4	24	0.389
15:00 - 16:00	4	24	0.305	4	24	0.347	4	24	0.652
16:00 - 17:00	4	24	0.411	4	24	0.168	4	24	0.579
17:00 - 18:00	4	24	0.326	4	24	0.295	4	24	0.621
18:00 - 19:00	4	24	0.358	4	24	0.200	4	24	0.558
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.610			2.684			5.294

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

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

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Parameter summary

Trip rate parameter range selected:	10 - 28 (units:)
Survey date date range:	01/01/15 - 09/11/22
Number of weekdays (Monday-Friday):	8
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	5
Surveys manually removed from selection:	10

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.



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