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Keepmoat

Proposed Residential Development Lincolnshire Lakes, Scunthorpe Transport Assessment

May 2023

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May 2023

Client Commission			
Client:	Keepmoat	Date Commissioned:	February 2022

LTP Quality Control						
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				Authorised for Issue:		SW

LTP PROJECT TEAM

As part of our commitment to quality the following team of transport professionals was assembled specifically for the delivery of this project. Relevant qualifications are shown and CVs are available upon request to demonstrate our experience and credentials.

Team Member	LTP Designation	Qualifications
Steven Windass	*Technical Director (Developments)*	*BSc(Hons) MSc(Eng) CEng FIHE MCIHT*
Jack Hearnshaw	*Principal Transport Planner*	*BA(Hons) MIHE*
Zoe Boote	*Transport Planner*	*BA(Hons) EngTech MIHE*
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PROPOSED RESIDENTIAL DEVELOPMENT LINCOLNSHIRE LAKES, SCUNTHORPE TRANSPORT ASSESSMENT

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EXECUTIVE SUMMARY

This Transport Assessment (TA) provides a detailed appraisal of the expected transport impact associated with a proposed residential development of 599 dwellings at a site which is to form part of the wider Lincolnshire Lakes development in Scunthorpe, North Lincolnshire. The key findings of this TA are summarised below:

- The proposed development site forms part of the wider Lincolnshire Lakes development, although the application represents a new full planning application and does not form a reserved matters application associated with the previous outline consent.
- The proposed development is to be accessed via a new simple priority T-junction and roundabout with Burringham Road on the southern boundary of the site. Pedestrian and cycle access to the site will also be provided via this access, with footways and shared foot/cycleways to be provided internal to the site.
- A Travel Plan (LTP, 2023) that provides a strategy for encouraging sustainable travel at the proposed development site has been produced in conjunction with this TA as a separate document.
- The application site is well placed to generate trips by sustainable modes of transport, particularly when considering that improvements to sustainable infrastructure within the vicinity of the site are to be provided as part of the wider development, with walking and cycling realistic travel modes for local journeys. There are a number of local amenities, including schools and retail facilities within a 2km walk of the site. There are bus stops on Burringham Road within an 900m walk of the site that accommodate services to Ashby and Scunthorpe town centre.
- A road casualty study showed that 22 Personal Injury Collisions (PICs) occurred within the study area around the proposed development site during the five-year study period. If the proposed access junctions and internal roads of the development are designed with due consideration to road safety, then the proposals should not have a detrimental road safety impact on the local transport network and should not adversely affect the safety of pedestrians and cyclists.
- The proposed development could be expected to generate up to 433 two-way vehicle trips during the AM peak hour and 422 two-way vehicle trips during the PM peak hour. The distribution of these trips across the local highway network was previously assessed as part of the outline application, including capacity assessments at key local junctions.
- The number of dwellings proposed does not trigger the need for additional mitigation measures agreed as part of the previous outline planning approval, therefore it is considered that the local highway network has suitable capacity to accommodate vehicle movements generated by the site.

This TA demonstrates that the proposed development would not be expected to have a severe impact in road safety, traffic and highway terms. As the impact of the proposals is not expected to be severe, the proposals are therefore considered to be in accordance with the National Planning Policy Framework (NPPF).

1. INTRODUCTION

1.1 Background

1.1.1 Local Transport Projects Ltd (LTP) has been commissioned to produce a Transport Assessment (TA) in support of a planning application for a residential development which is to form part of the wider Lincolnshire Lakes development in Scunthorpe, North Lincolnshire. This TA provides a detailed appraisal of the expected transport impacts of the proposals. A plan of the proposed site layout is attached as Appendix 1.

1.1.2 The local planning and highway authority for the site is North Lincolnshire Council (NLC).

1.1.3 LTP has also been commissioned to prepare a Travel Plan (LTP, 2023) for the proposed development, which outlines the approach to encouraging travel by sustainable modes at the site. Although the TP has been prepared as a standalone document, both the TA and TP are linked and should be read in conjunction with each other.

1.2 Scope

1.2.1 The scope of this report has been written in accordance with the Government's *'National Planning Policy Framework'* (MHCLG, 2021) and *'Planning Practice Guidance'* (MHCLG, 2014), as summarised below:

- ***Executive Summary:*** A non-technical summary of the report outlining the key outcomes of the assessment.
- ***Introduction & Description of Proposals:***
  - Description of the development site, including location and any existing access arrangements;
  - Summary of relevant planning and allocation history for the site;
  - Description of the proposed development including site layout, pedestrian/cycle facilities and proposed access arrangements.
- ***Site Assessment:***
  - Site assessments to determine existing traffic conditions, such as posted speed limits, road restrictions, highway geometry, on-street parking restrictions and any other relevant features of the local area;
  - Assessment of the sustainable transport infrastructure (pedestrian, cycle and public transport) local to the site;
- ***Road Casualty Appraisal:*** Examination of road collision records (5-year study period) and assessment of the road safety impact of the proposed development on the local highway network.

- ***Traffic Impact:***
  - Calculation of the projected trip generation for the proposed development;
  - Consideration of any relevant consented developments within the local area, including consideration of the wider Lincolnshire Lakes development;
  - Assessment of the likely traffic impact of the proposed development on the operation of the local highway network.
- ***Access, Parking & Internal Layout:*** Description of the proposed access arrangements and internal layout of the site, including consideration of the proposed parking provision and access/servicing arrangements.
- ***Conclusions:*** Conclusions summarising the outcomes of the TA, including a commentary on the suitability of the proposals in terms of sustainable travel, traffic impact and road safety.

1.2.2 This TA report has been prepared in accordance with the above scope and reference has been made to the following documents where appropriate:

- National Planning Policy Framework (MHCLG, 2021);
- North Lincolnshire Housing and Employment Land Allocations Development Plan Document (DPD) (NLC, 2016a)
- Lincolnshire Lakes Area Action Plan (NLC, 2016b);
- Planning Practice Guidance (MHCLG, 2014);
- North Lincolnshire Local Development Framework: Core Strategy (NLC, 2011a);
- North Lincolnshire Local Transport Plan 2011-2026 (NLC, 2011b);
- Manual for Streets 2: Wider Application of the Principles (CIHT, 2010);
- Guidance on Transport Assessment (DfT, 2007a);
- Manual for Streets (DfT, 2007b);
- North Lincolnshire Local Plan (Saved Policies) (NLC, 2003); and
- North Lincolnshire Council Residential Roads Design Guide (NLC, undated).

2. SITE BACKGROUND

2.1 Site Location & Existing Use

2.1.1 The proposed development site is located to the north of Burringham Road in Scunthorpe and currently forms agricultural land. The site is bound by agricultural land to the north, Carisbrooke Manor Lane which serves an assisted living facility (Carisbrooke Manor) to the east, Burringham Road to the south and the M181 to the west. The approximate boundary of the site is highlighted in red in Figure 1:

Figure 1: Site Location

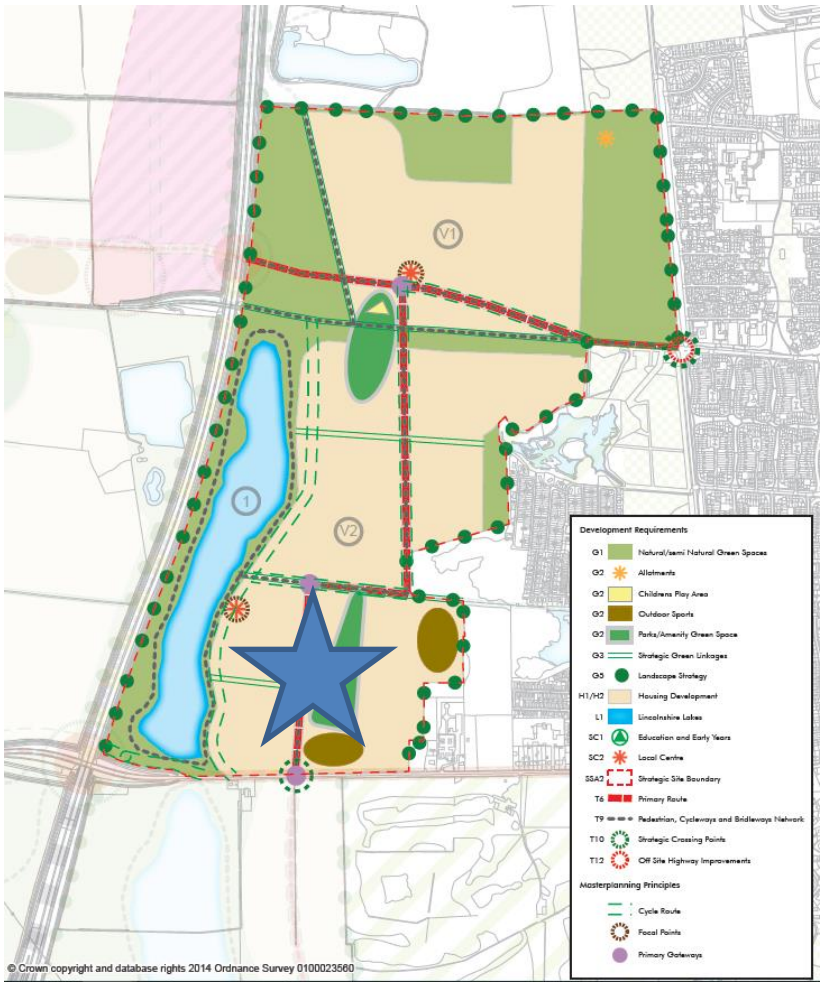
Source Imagery: Copyright Google Earth Pro (License Key-JCPMR5M58LXF2GE)

2.2 Allocation Status & Planning History

2.2.1 The proposed development site forms part of the Lincolnshire Lakes development located at land east of M181 and north of Burringham Road, Scunthorpe. The wider Lincolnshire Lakes development involves the provision of up to 6,000 new homes along with recreation and sports facilities in a series of waterside village settlements. The *'Lincolnshire Lakes Area Action Plan (AAP)'* (NLC, 2016b) was adopted in 2016 and sets out the strategy for bringing forward the delivery of the development.

2.2.2 The proposed development site forms approximately half of *'Village 2'*, which is identified for approximately 1,188 dwellings, a local centre and a primary school within the Lincolnshire Lakes AAP. An indicative land use plan of Village 2 is provided within Figure 2, with the blue star highlighting the approximate location of the development within the wider site.

Figure 2: Lincolnshire Lakes AAP – Village 2



Source: NLC, 2016b

2.2.3 There are no relevant recent planning applications relating to the exact boundary of the proposed development site, however there are a number of applications pertinent to the wider Lincolnshire Lakes development in which the site is situated.

2.2.4 An outline planning application (ref: PA/2015/0396) was submitted to NLC in May 2015 for '*…the development of up to 2500 new homes including a village centre (Use Classes A1, A2, A3, A4, A5, B1 and D1), a health care facility (Use Class D1), community facilities (Use Class D1), a 3 form of entry primary school (Use Class D1), new roads and footpaths, informal areas of open space, play spaces and new wildlife habitats, water bodies and wetlands with all matters reserved for subsequent approval*'. The application relates to land to the north of Burringham Road (B1450) and to the east and west of the M181 motorway and was submitted alongside two other applications, including an application for amendments to the local highway infrastructure, namely a new M181 terminating roundabout and associated roundabouts (ref: PA/2015/0627) and an application for landscaping, lakes and a great lake (ref: PA/2015/0628). The applications were all subsequently approved in August 2021. A TA was produced in support of all three applications (ARUP, 2016).

2.2.5 The outline approval (ref: PA/2015/0396) is subject to a number of planning conditions, including trigger points for the implementation of highway mitigation measures/improvement schemes, including the following:

- **Condition 35:** "*Prior to the occupation of the 601st dwelling approved under PA/2015/0396 a comprehensive mitigation scheme covering works to the existing Burringham Road/Scotter Road roundabout to mitigate traffic impact generated by the development and provision of enhanced footway/cycleway facilities along Burringham Road shall be submitted to and approved in writing by the Local Planning Authority*";
- **Condition 36:** *"Prior to the occupation of the 801st dwelling approved under PA/2015/0396 all highway improvement measures identified in condition 35 shall be completed in accordance with the approved details and shall be operational and accessible to all users"*; and
- **Condition 37:** *"Prior to the occupation of the 250th dwelling approved under PA/2015/0396 (served off Burringham Road), works to the M181 southern (terminating) junction roundabout including connection to the existing Burringham Road and associated roundabouts approved under PA/2015/0627, must be constructed and operational and accessible to motor vehicles"*.

2.2.6 The mitigation scheme identified within Condition #35 is also secured within the Section 106 agreement for the outline consent, with a preliminary design of the proposed roundabout layout identified and approved as part of a separate planning application (ref: PA/2020/1295).

2.2.7 A separate subsequent full planning application (ref: PA/2017/1386) was submitted to NLC in August 2017 and was approved in January 2019 for *'highway works to deliver a new terminating junction to the M181 motorway comprising a new at-grade roundabout to access the B1450 Burringham Road from the M181, new B1450 side roads and realignment of the existing B1450, two new additional roundabouts on the realigned B1450, drainage ponds and outfalls, landscaping and associated re-profiling and ancillary works'*. The works involve the de-trunking of the existing M181 and the provision of a new four-arm roundabout connecting the M181 with Burringham Road (B1450). The M181 will be de-trunked to the north of the proposed roundabout and become part of the A1077. Two new roundabouts will also be provided to the east and west of the proposed M181 roundabout and will serve Village 2 and Village 6 of the Lincolnshire Lakes development, which were previously given outline approval (ref: PA/2015/0396) in August 2021, as outlined previously. The proposed highway works will facilitate links between the Lincolnshire Lakes development (including the proposed development site) and the Strategic Road Network (SRN).

2.3 Development Proposals & Access Arrangements

2.3.1 The current proposals involve the development of 599no. dwellings and lake, along with associated infrastructure, including landscaping, public open space and play area, pedestrian and cycle links, pumping station and sub-station. A mix of dwelling types are expected to be provided at the site, with a range of property sizes. A proposed site layout plan is attached as Appendix 1.

2.3.2 It should be noted that the application represents a new full planning application for the development and does not form a reserved matters application associated with the previous outline consent, although the context of the wider outline consent and Lincolnshire Lakes development is still considered to be pertinent.

2.3.3 Although the planning application for the development is currently seeking consent for 599 dwellings, it is intended that the development will be extended to the north in the future to accommodate additional dwellings as part of the wider Lincolnshire Lakes development. The proposed site access arrangements and internal roads have therefore been designed with these future development aspirations in mind.

2.3.4 The proposed residential development is to be served via a new simple priority T-junction with Burringham Road, which is to serve up to 250 dwellings before a roundabout is constructed to the west of this access, which is also to provide access to the site. The proposed roundabout will form the eastern roundabout previously approved as part of a separate full planning application (ref: PA/2017/1386), as detailed in Section 2.2 above. The visibility splay from the access junctions are understood to have been designed to provide sufficient SSD in line with Manual for Streets (MfS) (DfT 2007b) and Design Manual for Roads and Bridges (DMRB) (NH, 2021), respectively.

2.3.5 The main spine road is expected to have a carriageway width of approximately 6.75m, in line with the requirements for Secondary Distributor Roads outlined in the *'North Lincolnshire Council Residential Roads Design Guide'* (NLC, undated), and is to provide access to off-street parking areas for residents rather than providing direct access to driveways. The main spine road is to provide access to culs-de-sacs which are generally expected to have a carriageway width of 5.5m, with 2m wide footways to be provided on at least one side. Footways measuring 2m in width will be provided one sides of the main spine road, with a 3m shared foot/cycleway on the other side.

2.3.6 A footway will also be provided on the northern side of Burringham Road within the site frontage, connecting with the existing provision to the east of Carisbrooke Manor Lane to the east of the site. Cyclists are to access the site via the proposed cycle/footway.

2.3.7 It is expected that the internal highway network of the site has been designed to ensure that refuse vehicles can utilise the highway alignment to enter and exit the site in a forward gear, with appropriate turning heads provided in connecting culs-de-sac.

2.3.8 NLC's adopted parking standards are provided within the *'North Lincolnshire Council Residential Roads Design Guide'* (NLC, undated) and state that dwellings with two or three beds should be provided with 1 off-street parking space, with two spaces required at dwellings with more than four beds. The standards also state that 0.5 communal spaces should be provided per dwelling. At least one allocated car parking space will be provided per dwelling at the site, with the majority of the larger dwellings provided with a driveway suitable to accommodate at least two off-street car parking spaces. Visitor car parking spaces will also be provided throughout the development. The proposed parking provision therefore accords with the adopted standards.

3. SITE ASSESSMENT

3.1 Local Highway Network

3.1.1 As previously outlined, the proposed development will be accessed via a new roundabout and simple priority T-junction on the southern boundary of the site. As mentioned in Section 2.2, up to 250 dwelling will be served via the proposed simple priority T-junction prior to the construction of the site access roundabout.

3.1.2 As existing, Burringham Road is a two-way single carriageway that measures approximately 5.5m in width and is subject to a derestricted speed limit (60mph) along the majority of the site frontage, decreasing to a 40mph speed limit approximately 250m to the east of the proposed site access roundabout. There are not any parking or waiting restrictions on Burringham Road within the vicinity of the site. Approximately 400m to the west of the proposed roundabout location, Burringham Road forms a bridge crossing over the M181 and forms South View approximately 1.7km further west, before providing access to Burringham village. Approximately 1.2km to the east, Burringham Road provides access to the four-arm Scotter Road/Scotter Road South roundabout.

Photo 1: Burringham Road

3.1.3 Approximately 360m to the west of the access roundabout, Burringham Road is to provide access to the M181 via an approved roundabout (ref: PA/2017/1386), with the M181 is to be de-trunked as part of the wider Lincolnshire Lakes scheme. As existing the M181 is a dual carriageway that measures approximately 24m in width, comprising two hard shoulders, two traffic lanes in both directions and a central reservation. The road currently forms part of the Strategic Road Network (SRN) and is subject to a derestricted speed limit (70mph) within the vicinity of the Burringham Road over-pass. Approximately 990m to the south of Burringham Road, the M181 provides access to the M180 at Midmoor Interchange, and approximately 1.3km to the north the M181 provides access to the A1077 via a newly constructed roundabout.

3.1.4 Proposed changes to the local highway network are discussed further within Section 2.2 of this report, including the construction of the new roundabout with the M181 motorway at Burringham Road to facilitate improved access to the SRN.

3.2 Pedestrian Provision

3.2.1 Guidance from the Chartered Institution of Highways & Transportation (CIHT) suggests a preferred maximum walking distance of 2km for a number of trips, including commuting and school trips (IHT, 2000). The proposed development site is located within a 2km walking distance of a number of local trip attractors, as outlined within Table 1.

Table 1: Key Trip Attractors by Foot

Trip Attractor	Walking Route	Walking Distance*
Education		
Westcliffe Primary School	Burringham Road – Dryden Road	1.8km
Mellior Community College (south site)	Burringham Road – Enderby Road	2km
Retail/Commercial		
Asda Scunthorpe Superstore	Burringham Road	900m
Silicia Lodge Garden Centre	Burringham Road – Scotter Road South	1.6km
South Park Industrial Estate	Burringham Road – Scotter Road South	1.9km
Leisure		
Ashby Decoy Golf Club/Oglesby Park	Burringham Road	500m
Ashfield Caravan Site	Burringham Road	700m
The Iron Forge Public House	Burringham Road	900m
Church of Jesus Christ of Latter Day Saints	Burringham Road – Whitestone Road	1.4km
Silica Country Park	Burringham Road – Scotter Road South	1.5km
Manor Park	Burringham Road	1.6km
Healthcare		
Lindsey Lodge Hospice	Burringham Road	300m

*Walking distances are approximate (measured along footways, rather than as the crow flies) and have been measured from the proposed site access on Burringham Road.

3.2.2 Table 1 shows that the proposed development site is located within a reasonable walking distance (up to 2km) of local amenities, including education, retail and leisure facilities.

3.2.3 As discussed within Section 1.5 of this report, the wider Lincolnshire Lakes development is expected to include a variety of new amenities, including local centres, primary schools and recreation/sports facilities. It is stated in the AAP that "*all new dwellings will be within 800m of a Local Centre and education provision. Where they are not, they will be accessible via bus routes and/or children will attend existing schools on the western edge of Scunthorpe*" (NLC, 2016b).

3.2.4 There is a footway provided on the northern side of Burringham Road which measures approximately 2m in width and is accessible directly east of the site, extending to Scotter Road/Burringham Road roundabout, providing access to local amenities and the wider pedestrian infrastructure in Scunthorpe. This footway is proposed to be widened to form a 3m wide shared foot/cycleway as part of a separate planning application (ref: PA/2020/1295).

Photo 2: Footway on Burringham Road

3.2.5 The local footways are complemented by existing crossing facilities, including a pedestrian refuge island on the Scotter Road and Burringham Road (east) arms of the roundabout to the east of the site.

Photo 3: Pedestrian Refuge Island on Scotter Road

3.2.6 There are no Public Rights of Way (PRoW) within the vicinity of the site.

3.2.7 Whilst it is acknowledged that there are no pedestrian facilities along the site frontage as existing, as part of the proposals the footway to the east of the site is to be extended along the site frontage and further pedestrian infrastructure is proposed as part of the wider Lincolnshire Lakes site to ensure connectivity.

3.2.8 The existing and proposed pedestrian infrastructure within the vicinity of the site appears to generally be sufficient to facilitate the movements of mobility and visually impaired people, with provision of dropped kerbs at most local junctions and crossing points within the local area. The footways are generally of sufficient width and surface quality to accommodate the passage of wheelchairs (DfT, 2021).

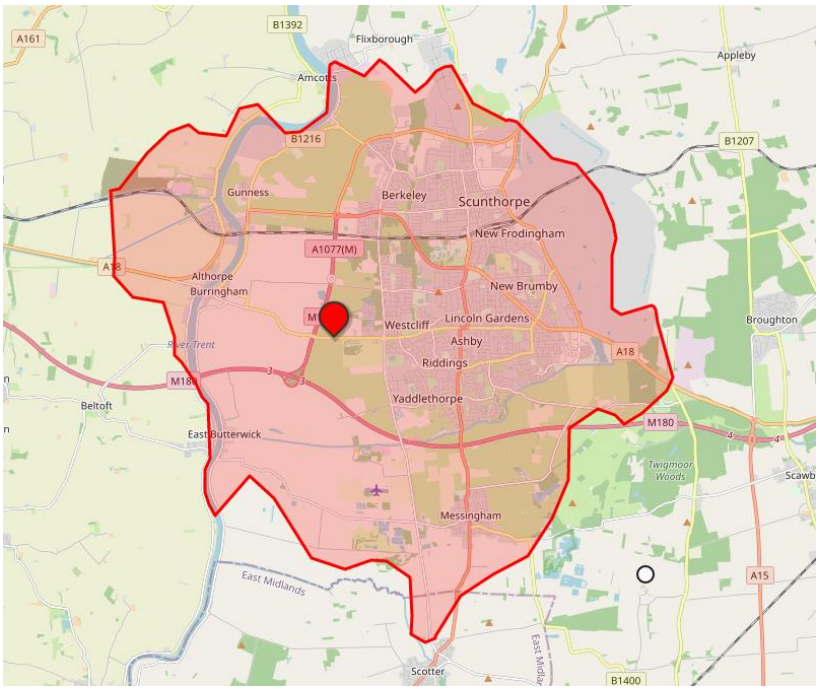
3.2.9 The proposed internal pedestrian routes are expected to be of adequate width, with step-free access between the site and the local footway network. It is therefore considered that the site can be suitably accessed on foot by all users, including those accompanied by young children and the mobility impaired.

3.2.10 A number of measures to promote walking trips to and from the site are outlined within the site Travel Plan (LTP, 2023).

3.3 Cycling Provision

3.3.1 Cycling is a low cost and healthy alternative to car use, which can substitute for short car trips, or can form part of a longer journey by public transport. The Department for Transport (DfT) state that journeys up to five miles (circa 8km) are *"an achievable distance to cycle for most people"* (DfT, 2020). The site is located within a reasonable cycle ride, up to 8km (approximately 25 minutes at the average cycling speed of 12mph), of a number of settlements within Scunthorpe, including Riddings, Yaddlethorpe, Westcliff, Ashby and Burringham as shown in Figure 3.

Figure 3: 8km Cycling Isochrone Map



Source: ORS, 2022

3.3.2 National Cycle Network (NCN) Route 169 is accessible approximately 2.2km to the north-east of the site on Burringham Road. The NCN Route 169 is a short north-south route through Scunthorpe. The majority of the length of the route is off-road, with some of it on-road. The Trent Valley Way is within cycling distance of the site; approximately 2.6km to the west, running between Newark-on-Trent and Barton-upon-Humber.

3.3.3 As discussed within Section 3.2 above, the wider Lincolnshire Lakes development is expected to include a variety of local amenities, all of which are expected to be within a short cycle ride of the site.

3.3.4 As discussed in Section 2.3, shared foot/cycleways measuring 3m in width are to be provided on at least one side of the main spine roads within the site, and will connect with wider future provision within the Lincolnshire Lakes development. As discussed in Section 3.2 above, a 3m shared foot/cycleway is proposed to be provided on the northern side of Burringham Road between the site boundary and Scotter Road/Burringham Road roundabout as part of a separate planning application (ref: PA/2020/1295).

3.3.5 A number of measures to promote cycling trips to and from the site are outlined within the site Travel Plan (LTP, 2023).

3.4 Public Transport Provision

3.4.1 Guidance outlined within *'Guidelines for Public Transport in Development'* (IHT, 1999) states that the generally acceptable maximum walking distance that a bus stop should be located from a development site is 400m, although it is acknowledged that actual walking distances can be notably longer.

3.4.2 The nearest bus stops to the proposed development site are located on Burringham Road approximately 900m east of the site adjacent to Asda Superstore, providing travel in both directions. This stop is served by route #12, which operates on an hourly basis and serves Riddings, Ashby, OId Brumby and Scunthorpe Bus Station, where a plethora of additional services are available. The service is operated by Hornsby Travel.

Photo 4: Bus Stop on Burringham Road

3.4.3 As previously mentioned in Section 2.2 of this report, the proposed site is part of the wider Lincolnshire Lakes development and it is expected that the '*primary route network*' identified within the AAP will accommodate bus routes and cover the proposed site, providing better access to bus services (NLC, 2016b).

3.4.4 The nearest rail station to the site is Scunthorpe Rail Station, located approximately 5.3km to the north-east of the site and accessible by bus via service #12. Scunthorpe Rail Station is operated by TransPennine Express and provides services to local, regional and national destinations. The station is served by hourly TransPennine Express services between Manchester Piccadilly and Cleethorpes via Doncaster, with additional hourly Northern services also available between Scunthorpe and Doncaster.

3.4.5 A number of measures to encourage public transport use to and from the site are outlined within the site Travel Plan (LTP, 2023).

4. ROAD CASUALTY APPRAISAL

4.1 Collision Record

4.1.1 Personal Injury Collision (PIC) data for the highway network local to the site for the most recent available five-year study period (01/01/2016 to 31/12/2020) was obtained via a search of the Department for Transport's (DfT) road safety data (DfT, 2021).

4.1.2 A total of 22 collisions occurred within the study area, which includes sections of Burringham Road, the M181 and a number of local junctions. The study area extents and the locations of the collisions are indicated on the plan attached as Appendix 2. Table 2 below outlines the collision history of the study area:

Table 2: Collision History

Year	2016	2017	2018	2019	2020	Total
Fatal	0	0	0	0	0	**0**
Serious	0	1	2	2	0	**5**
Slight	4	5	1	3	4	**17**
Total	**4**	**6**	**3**	**5**	**4**	**22**

4.1.3 The collision records show that the number of recorded collisions was relatively consistent across the study period, with a peak of six collisions in 2017. There were five KSI (Killed or Seriously Injured) collisions recorded during the study period, resulting in a severity ratio of 22.7%, with no fatal collisions were recorded.

4.2 Collision Conditions

4.2.1 Table 3 below summarises the collisions by road surface, weather and lighting conditions:

Table 3: Collision Conditions

Road Surface	Collisions	%
Dry	18	**81.8%**
Wet or damp	4	**18.2%**
Weather	**Collisions**	**%**
Fine	19	**86.4%**
Rain	3	**13.6%**
Lighting	**Collisions**	**%**
Daylight	16	**72.7%**
Dark	6	**27.3%**

4.2.2 As illustrated in Table 3, the majority of collisions occurred with no adverse weather, road surface or lighting conditions.

4.3 Collision Times

4.3.1 Table 4 below summarises the collisions by time of year:

Table 4: Collisions by Time of Year

Time of Year	Collisions	%
Winter (Dec-Feb)	5	**27.3%**
Spring (Mar-May)	6	**22.7%**
Summer (Jun-Aug)	5	**27.3%**
Autumn (Sep-Nov)	6	**22.7%**

4.3.2 Table 4 shows that collisions were relatively evenly spread across seasons, with slight peaks of six collisions (27.3%) during the summer and winter months, respectively.

4.3.3 Table 5 below summarises the collisions by day of week and also the time of day:

Table 5: Collisions by Day & Time

	Morning (06:00-11:00)	Lunch (11:00-14:00)	Afternoon (14:00-19:00)	Evening (19:00-01:00)	Night (01:00-06:00)	Total	%
Monday	0	1	1	0	0	**2**	**9.1%**
Tuesday	0	1	0	1	0	**2**	**9.1%**
Wednesday	0	1	0	0	0	**1**	**4.5%**
Thursday	0	1	1	1	0	**3**	**13.6%**
Friday	0	1	1	1	0	**3**	**13.6%**
Saturday	1	1	1	3	0	**6**	**27.3%**
Sunday	0	0	2	3	0	**5**	**22.7%**
Total	**1**	**6**	**6**	**9**	**0**	**22**	
%	**4.5%**	**27.3%**	**27.3%**	**40.9%**	**0.0%**		

4.3.4 Table 5 shows that almost half of the collisions occurred during the evening period (40.9%), with no collisions recorded during the night period. Most collisions were recorded on a weekend, with just over a quarter of collisions recorded on a Saturday (27.3%).

4.4 Collision Locations

4.4.1 The locations of the 22 study collisions (shown on the plot attached as Appendix 2) can be summarised as follows:

- 7 PICs occurred on Burringham Road (not at a junction), west of the Scotter Road roundabout;
- 5 PICs occurred at the Burringham Road/Scotter Road (B1450) roundabout;
- 4 PICs occurred on the M181; and
- 3 PICs occurred at the Scotter Road/Asda signalised access junction; and
- 2 PICs occurred on Burringham Road (not at a junction), east of the Scotter Road roundabout;

- 1 PIC occurred on Whitestone Road (not at a junction).

4.4.2 It should be noted that no collisions occurred along the site frontage during the study period.

4.5 Casualties

4.5.1 A total of 31 casualties occurred as a result of the 22 recorded injury collisions during the study period. Table 6 below provides a breakdown of the casualties according to the mode of travel and age group:

Table 6: Casualty Road User Groups

	Age (years)							
Road User Group	**0 to 15**	**16 to 20**	**21 to 25**	**26 to 45**	**46 to 65**	**66 +**	**Total**	**%**
Pedestrian	1	0	1	2	1	0	**5**	**16.1%**
Cyclist	0	0	0	1	1	0	**2**	**6.5%**
Powered Two-Wheeler	0	1	0	0	0	0	**1**	**3.2%**
Car Driver	0	1	3	5	2	1	**12**	**38.7%**
Car Passenger	0	0	1	3	1	0	**5**	**16.1%**
Goods Vehicle Occupant	0	0	0	3	2	0	**5**	**16.1%**
Minibus/Bus passenger	0	0	0	1	0	0	**1**	**3.2%**
Total	**1**	**2**	**5**	**15**	**7**	**1**	**31**	
%	**3.2%**	**6.5%**	**16.1%**	**48.4%**	**22.6%**	**3.2%**		

4.5.2 Table 6 shows that almost half of casualties were aged between 26 and 45 years (48.4%), whilst those aged 66 and over only represented 3.2% of casualties. The majority of casualties were vehicle occupants (74.1%), with low proportions of vulnerable road users (pedestrians, cyclists and powered two-wheelers).

4.6 Road Safety Impact

4.6.1 A total of 22 collisions, resulting in 31 casualties, have occurred within the study period during the five-year study period. Analysis of the study collisions has not revealed any identifiable existing collision issues associated with the expected movements of the proposed development, therefore it is considered that there are no existing road safety issues pertinent to the development of the site.

4.6.2 If the proposed site access junctions and internal roads are designed with consideration to road safety, with appropriate highway design features incorporated into the detailed design, then the potential development should not have a detrimental road safety impact on the local highway network and should not adversely affect the safety of pedestrians and cyclists.

4.7 2021 Update

4.7.1 The DfT has released provisional part-year 2021 collision data covering the period 01/01/2021 to 30/06/2021. Given that the data is provisional, it does not contain all the information to allow a full analysis to be undertaken, however an additional slight collision occurred at the Burringham Road/Scotter Road (B1450) roundabout within the study area in 2021. Given the low number of additional collisions, it is considered that the findings of the above appraisal are still pertinent.

5. TRIP GENERATION PROJECTIONS

5.1 Proposed Person Trip Generation

5.1.1 As previously outlined, a TA (ARUP, 2016) was submitted in association with a previously approved outline planning application for a development of up to 2,500 dwellings at the site (ref: PA/2015/0396). The approved person trip rates utilised within the outline application TA were derived from a previous TA (WSP, 2013) submitted in support of an application for a wider section of the Lincolnshire Lakes site. These approved person trip rates have also been used to predict the number of person trips expected to be generated by the proposed development (599 dwellings). The approved person trip rates and proposed person trip generation are shown in Table 7, with the full projections attached as Appendix 3.

Table 7: Projected Person Trip Rates

	AM Peak (08:00-09:00)		PM Peak (17:00-18:00)	
Houses Privately Owned (03-A)	**Arrivals**	**Departures**	**Arrivals**	**Departures**
Approved Person Trip Rates (per dwelling)	0.220	0.844	0.634	0.404
Person Trips (599 dwellings)	**132**	**506**	**380**	**242**

5.1.2 The person trip generation projections shown in Table 7 indicates that the development could be expected to generate up to 638 two-way person trip movements during the AM peak hour (08:00-09:00) and 622 two-way person trips during the PM peak hour (17:00-18:00).

5.2 Modal Split & Projected Traffic Generation

5.2.1 The modal split predicted as part of the TA submitted in support of the outline application (ARUP, 2016) was forecast based on existing local travel patterns derived using the *'Method of Travel to Work'* data from the 2011 National Census (ONS, 2011). The site modal split was predicted based on the average for the workplace population of eight Middle-Layer Super Output Areas (MSOAs) in Scunthorpe *'Burringham & Guinness', 'Frodingham Town', 'Crosby & Park', 'Bottlesford, 'Kingsway with Lincoln Gardens', 'Ashby'* and *'Brumby'*. The same methodology has been utilised within this TA, with the number of trips generated by each mode calculated based on the approved modal split and person trip rates for development, as summarised in Table 8.

Table 8: Modal Split & Projected Vehicle Trip Generation

Person Trips	Modal Split	AM Peak (08:00-09:00)		PM Peak (17:00-18:00)	
		Arrivals	Departures	Arrivals	Departures
Driving a Car or Van	65.94%	87	334	251	160
Motorcycle, scooter or moped	1.33%	2	7	5	3
Taxi or minicab	0.44%	1	2	2	1
Vehicle Trip Generating	**67.71%**	**90**	**343**	**258**	**164**
Passenger in a Car or Van	8.77%	12	44	33	21
On foot	13.04%	17	66	50	32
Bicycle	5.97%	8	30	23	14
Bus, minibus or coach	3.56%	5	18	14	9
Train	0.35%	0	2	1	1
Other	0.59%	1	3	2	1
TOTAL	**100%**	**132**	**506**	**380**	**242**

*The total may not represent the sum of its parts due to rounding

5.2.2 These modal split predictions indicate that just under a third of person trips (31.7%) generated by the development would be expected to be made by sustainable modes (pedestrian, cycle, public transport and car passenger).

5.2.3 The vehicle trip generation projections shown in Table 8 indicate that the proposed development could be expected to generate up to 433 two-way vehicle trips during the AM peak hour (08:00-09:00) and 422 two-way vehicle trips during the PM peak hour (17:00-18:00).

5.2.4 A Travel Plan (LTP, 2023) has been produced in association with this TA to help promote and encourage sustainable travel to/from the proposed development. In order to ensure that this assessment robustly analyses a *'worst-case scenario'*, the potential vehicle trip reducing benefits of the site Travel Plan have not been taken into account within trip generation projections. However, it is worth noting that the Travel Plan would be expected to increase the number of trips generated by sustainable modes, and reduce the number of car trips.

5.3 Traffic Impact Summary & Trigger Points

5.3.1 The DfT has previously issued guidance that transport assessment of development impacts could be based on a threshold of *"30 two-way peak hour vehicle trips"* (DfT, 2007a). This guidance acknowledged that this threshold was not to be applied rigidly, but rather that it provided *"a useful point of reference from which to commence discussions"*.

5.3.2 This national DfT guidance has now been superseded and replaced with the *'National Planning Policy Framework'* (NPPF) (MHCLG, 2021) and its accompanying *'Planning Practice Guidance'* (PPG) (MHCLG, 2014). NPPF and PPG require that transport assessment is undertaken for *"developments that generate significant amounts of movement"*, although this is not defined. It is therefore acknowledged that there is no set threshold for assessment within the current national planning policy.

5.3.3 Based on the approved trip rates and modal split projections outlined in the TA submitted in support of the outline application (ARUP, 2016), the proposed development could be expected to generate up to 433 two-way vehicle trips during the AM peak hour (08:00-09:00) and 422 two-way vehicle trips during the PM peak hour (17:00-18:00). The distribution of these trips across the local highway network was previously assessed as part of the outline application, including capacity assessments at key local junctions.

5.3.4 As previously mentioned in Section 2.2, the outline planning approval is subject to a number of planning conditions, including trigger points for the implementation of mitigation measures/improvement schemes. Condition 37 states that *"no more than 250 dwellings are to be occupied until the M181 terminating junction and associated roundabouts are constructed and operational"*. The proposals include the construction of the eastern roundabout of the M181 terminating junction upon the completion of 250 dwellings at the site, with the wider M181 junction expected to be developed as part of the wider Lincolnshire Lakes development.

5.3.5 The number of dwellings proposed does not trigger the need for additional mitigation measures agreed as part of the previous outline planning approval, therefore it is considered that the local highway network has suitable capacity to accommodate vehicle movements generated by the site. It is therefore expected that the proposals will not have a significant impact on the operation of the local highway network. Therefore, as the impact of the development is not expected to be severe, the proposals are considered to be in accordance with the *'National Planning Policy Framework'*, which states that *"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"* (MHCLG, 2021).

6. CONCLUSIONS

6.1.1 This TA provides a detailed appraisal of the expected transport impacts associated with proposals for a residential development which is to form part of the wider Lincolnshire Lakes development in Scunthorpe, North Lincolnshire.

6.1.2 The proposals involve the development of the site to accommodate 599 dwellings, with vehicular access to the site to be provided via a new simple priority T-junction and roundabout with Burringham Road on the southern boundary of the site.

6.1.3 Pedestrian and cycle access to the site will also be provided via this access, with footways and shared foot/cycleways to be provided internal to the site, to connect with existing provision on Burringham Road to the east of Carisbrooke Manor Lane. The proposed development site forms part of the wider Lincolnshire Lakes development, which is allocated for up to 6,000 new homes.

6.1.4 It should be noted that the application represents a new full planning application for the development and does not form a reserved matters application associated with the previous outline consent, although the context of the wider outline consent and Lincolnshire Lakes development is still considered to be pertinent.

6.1.5 The application site is well placed to generate trips by sustainable modes of transport with walking and cycling realistic travel modes for local journeys given that much of the greater Scunthorpe area lies within 8km of the site, with a number of local amenities (including schools and retail facilities) within a 2km walking distance. Bus services are available from Burringham Road within an approximately 900m walk to the east of the site and provides access to services to areas including Ashby and Scunthorpe town centre. Scunthorpe Rail Station is located approximately 5.3km north-east of the site and accommodates hourly services between Manchester Airport and Cleethorpes. A Travel Plan (LTP, 2023) that provides a strategy for encouraging sustainable travel at the proposed development site has been produced in conjunction with this TA as a separate document.

6.1.6 A road casualty study showed that 22 collisions occurred within the study area around the proposed development site during a 5-year study period. Analysis of the study collisions has not revealed any identifiable existing collision issues associated with the expected movements of the proposed development, therefore it is considered that there are no existing road safety issues pertinent to the development of the site. If the proposed access junction and internal roads of the proposed development are designed with due consideration to road safety, then the proposals should not have a detrimental road safety impact on the local transport network and should not adversely affect the safety of pedestrians and cyclists.

6.1.7 Based on the approved trip rates and modal split projections outlined in the TA submitted in support of the outline application (ARUP, 2016), the proposed development could be expected to generate up to 433 two-way vehicle trips during the AM peak hour (08:00-09:00) and 422 two-way vehicle trips during the PM peak hour (17:00-18:00). The distribution of these trips across the local highway network was previously assessed as part of the outline application, including capacity assessments at key local junctions.

6.1.8 As previously mentioned in Section 2.2, the outline planning approval is subject to a number of planning conditions, including trigger points for the implementation of mitigation measures/improvement schemes. Condition 37 states that *"no more than 250 dwellings are to be occupied until the M181 terminating junction and associated roundabouts are constructed and operational".* The proposals include the construction of the eastern roundabout of the M181 terminating junction upon the completion of 250 dwellings at the site, with the wider M181 junction expected to be developed as part of the wider Lincolnshire Lakes development.

6.1.9 The number of dwellings proposed does not trigger the need for additional mitigation measures agreed as part of the previous outline planning approval, therefore it is considered that the local highway network has suitable capacity to accommodate vehicle movements generated by the site.

6.1.10 It is therefore expected that the proposals will not have a significant impact on the operation of the local highway network. Therefore, as the impact of the development is not expected to be severe, the proposals are considered to be in accordance with the *'National Planning Policy Framework',* which states that *"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"* (MHCLG, 2021).

6.1.11 It is concluded from the assessments within this TA that the proposed development would not be expected to have a significant impact in terms of sustainable travel, traffic impact and road safety.

7. REFERENCES

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Appendix 1 – Site Layout Plan

Housing Schedule							
House Type	Storey	Bed	Number	House Sq ft	Total Sq ft		
Watergrove	1	2	10	822	8,220		
Padbury	2	2	57	778	44,346		
Ashburn	2	2	52	778	40,456		
Darracott	2	2	32	874	27,968		
Covenham	2	2	31	874	27,094	182	30%
Eldwick	2	3	7	1,004	7,028		
Fewston	2	3	21	933	19,593		
Seacourt	2	3	26	933	24,258		
Farley	2	3	67	1,037	69,479		
Westbourne	2	3	31	1,034	32,054		
Holgate	2	3	46	1,034	47,564		
Selset	2.5	3	49	1,094	53,606		
Denton	2.5	3	40	1,122	44,880		
Killington	2	3	12	1,030	12,360	299	50%
Longford	2	4	30	1,169	35,070		
Prenton	2	4	30	1,169	35,070		
Oldbury	2.5	4	9	1,287	11,583		
Thirlmere	2	4	22	1,318	28,996		
Devoke	3	4	12	1,321	15,852		
Newham	2	4	15	1,309	19,635	118	20%
Total			599		605,112		
Net Dev				37.95	acres		
Coverage				15,946	sq ft/acre		
2.5 Storey Above				110	18.4%		

Key

- Application site boundary
- Existing (retained) trees & hedgerow
- Indicative proposed planting
- Open space
- Indicative surface water attenuation basin
- Proposed pedestrian/cycle link
- Potential for equipped play/LEAP
- Proposed buildings

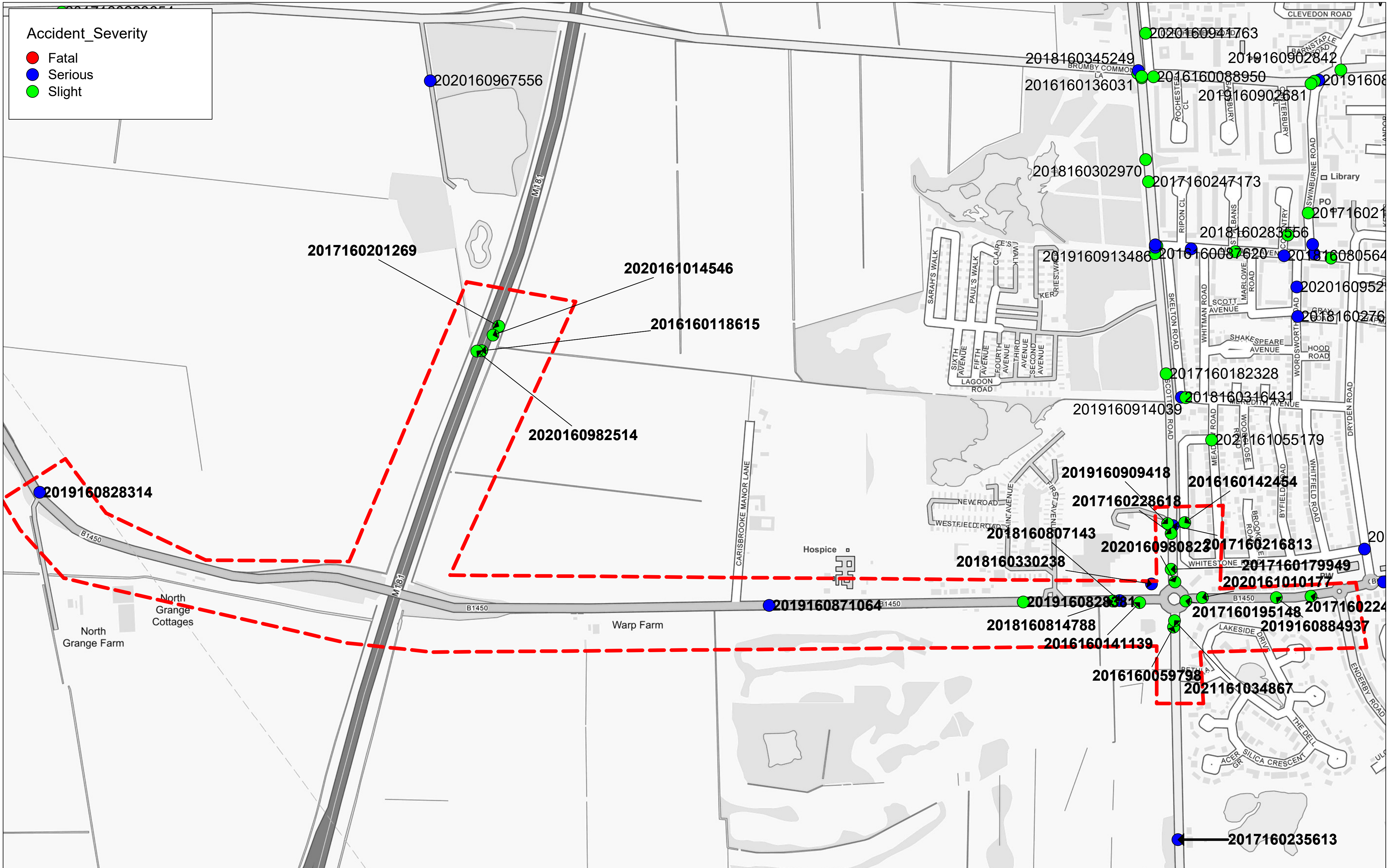
nineteen47
CHARTERED TOWN PLANNERS & URBAN DESIGNERS

Project
Lincolnshire Lakes

Drawing Title
Planning Layout

Project Code	Drawing Nr	Rev
n1720	008	
Date	Drawing Scale	
26.05.2023	1:1,000 @ A1	

Appendix 2 – Collision Plot



Accident_Severity
Fatal
Serious
Slight
2017160201269
2020161014546
2016160118615
2020160982514
2019160828314
2020160967556
2019160871064
2019160909418
2016160142454
2017160228618
2018160807143
2020160980823
2017160216813
2018160330238
2017160179949
2020161010177
2018160814788
2016160141139
2017160195148
2019160884937
2016160059798
2021161034867
2017160235613
2018160345249
2016160136031
2016160088950
2019160902842
2019160902681
2018160302970
2017160247173
2018160283556
2019160913486
2018160087620
2017160182328
2018160316431
2019160914039
2021161055179
North Grange Cottages
North Grange Farm
Warp Farm
Hospice
M181
B1450

Lincolnshire Lakes, Scunthorpe
Collision Plot 2016-2021 Q1/Q2, Produced by Local Transport Projects Ltd (LTP/4772/KN) 01/03/2022

Collision data supplied by the Department for Transport under the Open Government licence

Appendix 3 – Approved TRICS Output

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : A - HOUSES PRIVATELY OWNED
MULTI-MODAL VEHICLES

Selected regions and areas:

02	**SOUTH EAST**		
	EX	ESSEX	1 days
04	**EAST ANGLIA**		
	SF	SUFFOLK	1 days
05	**EAST MIDLANDS**		
	LN	LINCOLNSHIRE	2 days
	NT	NOTTINGHAMSHIRE	1 days
06	**WEST MIDLANDS**		
	WO	WORCESTERSHIRE	1 days
08	**NORTH WEST**		
	LC	LANCASHIRE	1 days
	MS	MERSEYSIDE	1 days
09	**NORTH**		
	TV	TEES VALLEY	1 days
10	**WALES**		
	CF	CARDIFF	1 days
11	**SCOTLAND**		
	FI	FIFE	1 days

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

Filtering Stage 2 selection:

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

Parameter: Number of dwellings
Actual Range: 150 to 372 (units:)
Range Selected by User: 150 to 491 (units:)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/04 to 20/07/08

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

Selected survey days:

Monday	2 days
Tuesday	2 days
Wednesday	1 days
Thursday	5 days
Friday	1 days

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

Selected survey types:

Manual count	11 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:

Suburban Area (PPS6 Out of Centre)	2
Edge of Town	8
Neighbourhood Centre (PPS6 Local Centre)	1

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

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.

Filtering Stage 3 selection:

Use Class:

C3	11 days

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

Population within 1 mile:

10,001 to 15,000	1 days
15,001 to 20,000	8 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:

75,001 to 100,000	3 days
100,001 to 125,000	2 days
125,001 to 250,000	6 days

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

Car ownership within 5 miles:

0.6 to 1.0	6 days
1.1 to 1.5	5 days

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

Travel Plan:

No	11 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.

LIST OF SITES relevant to selection parameters

1 **CF-03-A-02** **MIXED HOUSES** **CARDIFF**
DROPE ROAD

CARDIFF
Edge of Town
Residential Zone
Total Number of dwellings: 196
Survey date: FRIDAY 05/10/07 Survey Type: MANUAL

2 **EX-03-A-01** **SEMI-DET.** **ESSEX**
MILTON ROAD
CORRINGHAM
STANFORD-LE-HOPE
Edge of Town
Residential Zone
Total Number of dwellings: 237
Survey date: TUESDAY 13/05/08 Survey Type: MANUAL

3 **FI-03-A-03** **MIXED HOUSES** **FIFE**
WOODMILL ROAD

DUNFERMLINE
Edge of Town
Residential Zone
Total Number of dwellings: 155
Survey date: MONDAY 30/04/07 Survey Type: MANUAL

4 **LC-03-A-29** **DETACHED/SEMI D.** **LANCASHIRE**
REVIDGE ROAD
FOUR LANE ENDS
BLACKBURN
Edge of Town
Residential Zone
Total Number of dwellings: 185
Survey date: THURSDAY 10/06/04 Survey Type: MANUAL

5 **LN-03-A-01** **MIXED HOUSES** **LINCOLNSHIRE**
BRANT ROAD
BRACEBRIDGE
LINCOLN
Edge of Town
Residential Zone
Total Number of dwellings: 150
Survey date: TUESDAY 15/05/07 Survey Type: MANUAL

6 **LN-03-A-02** **MIXED HOUSES** **LINCOLNSHIRE**
HYKEHAM ROAD

LINCOLN
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 186
Survey date: MONDAY 14/05/07 Survey Type: MANUAL

7 **MS-03-A-01** **TERRACED** **MERSEYSIDE**
PALACE FIELDS AVENUE

RUNCORN
Neighbourhood Centre (PPS6 Local Centre)
Residential Zone
Total Number of dwellings: 372
Survey date: THURSDAY 06/10/05 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

8 **NT-03-A-03** **SEMI DETACHED** **NOTTINGHAMSHIRE**
B6018 SUTTON ROAD

KIRKBY-IN-ASHFIELD
Edge of Town
Residential Zone
Total Number of dwellings: 166
Survey date: WEDNESDAY 28/06/06 Survey Type: MANUAL

9 **SF-03-A-02** **SEMI DET./TERRACED** **SUFFOLK**
STOKE PARK DRIVE
MAIDENHALL
IPSWICH
Edge of Town
Residential Zone
Total Number of dwellings: 230
Survey date: THURSDAY 24/05/07 Survey Type: MANUAL

10 **TV-03-A-01** **HOUSES & FLATS** **TEES VALLEY**
POWLETT ROAD

HARTLEPOOL
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Number of dwellings: 225
Survey date: THURSDAY 14/04/05 Survey Type: MANUAL

11 **WO-03-A-06** **DET./TERRACED** **WORCESTERSHIRE**
ST GODWALDS ROAD
ASTON FIELDS
BROMSGROVE
Edge of Town
No Sub Category
Total Number of dwellings: 232
Survey date: THURSDAY 30/06/05 Survey Type: MANUAL

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

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

MULTI-MODAL VEHICLES

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	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	11	212	0.081	11	212	0.290	11	212	0.371
08:00 - 09:00	11	212	0.145	**11**	**212**	**0.430**	11	212	0.575
09:00 - 10:00	11	212	0.163	11	212	0.207	11	212	0.370
10:00 - 11:00	11	212	0.143	11	212	0.190	11	212	0.333
11:00 - 12:00	11	212	0.178	11	212	0.175	11	212	0.353
12:00 - 13:00	11	212	0.191	11	212	0.185	11	212	0.376
13:00 - 14:00	11	212	0.179	11	212	0.177	11	212	0.356
14:00 - 15:00	11	212	0.188	11	212	0.186	11	212	0.374
15:00 - 16:00	11	212	0.295	11	212	0.205	11	212	0.500
16:00 - 17:00	11	212	0.337	11	212	0.211	11	212	0.548
17:00 - 18:00	**11**	**212**	**0.423**	11	212	0.247	**11**	**212**	**0.670**
18:00 - 19:00	11	212	0.287	11	212	0.243	11	212	0.530
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.610			2.746			5.356

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.

Parameter summary

Trip rate parameter range selected:	150 - 372 (units:)
Survey date date range:	01/01/04 - 20/07/08
Number of weekdays (Monday-Friday):	11
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

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

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

MULTI-MODAL OGVS

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	11	212	0.004	11	212	0.003	11	212	0.007
08:00 - 09:00	11	212	0.003	11	212	0.003	11	212	0.006
09:00 - 10:00	**11**	**212**	**0.005**	**11**	**212**	**0.005**	**11**	**212**	**0.010**
10:00 - 11:00	11	212	0.002	11	212	0.002	11	212	0.004
11:00 - 12:00	11	212	0.001	11	212	0.003	11	212	0.004
12:00 - 13:00	11	212	0.005	11	212	0.004	11	212	0.009
13:00 - 14:00	11	212	0.003	11	212	0.004	11	212	0.007
14:00 - 15:00	11	212	0.002	11	212	0.003	11	212	0.005
15:00 - 16:00	11	212	0.002	11	212	0.002	11	212	0.004
16:00 - 17:00	11	212	0.002	11	212	0.001	11	212	0.003
17:00 - 18:00	11	212	0.001	11	212	0.001	11	212	0.002
18:00 - 19:00	11	212	0.000	11	212	0.001	11	212	0.001
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.030			0.032			0.062

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.

Parameter summary

Trip rate parameter range selected:	150 - 372 (units:)
Survey date date range:	01/01/04 - 20/07/08
Number of weekdays (Monday-Friday):	11
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

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

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

MULTI-MODAL PSVS

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	11	212	0.000	11	212	0.000	11	212	0.000
08:00 - 09:00	**11**	**212**	**0.001**	**11**	**212**	**0.001**	**11**	**212**	**0.002**
09:00 - 10:00	11	212	0.000	11	212	0.000	11	212	0.000
10:00 - 11:00	11	212	0.000	11	212	0.000	11	212	0.000
11:00 - 12:00	11	212	0.000	11	212	0.000	11	212	0.000
12:00 - 13:00	11	212	0.000	11	212	0.000	11	212	0.000
13:00 - 14:00	11	212	0.000	11	212	0.000	11	212	0.000
14:00 - 15:00	11	212	0.000	11	212	0.000	11	212	0.000
15:00 - 16:00	11	212	0.000	11	212	0.000	11	212	0.000
16:00 - 17:00	11	212	0.000	11	212	0.000	11	212	0.000
17:00 - 18:00	11	212	0.000	11	212	0.000	11	212	0.000
18:00 - 19:00	11	212	0.000	11	212	0.000	11	212	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.001			0.001			0.002

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.

Parameter summary

Trip rate parameter range selected:	150 - 372 (units:)
Survey date date range:	01/01/04 - 20/07/08
Number of weekdays (Monday-Friday):	11
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

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

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

MULTI-MODAL CYCLISTS

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	11	212	0.006	11	212	0.007	11	212	0.013
08:00 - 09:00	11	212	0.004	**11**	**212**	**0.013**	11	212	0.017
09:00 - 10:00	11	212	0.004	11	212	0.003	11	212	0.007
10:00 - 11:00	11	212	0.001	11	212	0.003	11	212	0.004
11:00 - 12:00	11	212	0.003	11	212	0.003	11	212	0.006
12:00 - 13:00	11	212	0.003	11	212	0.003	11	212	0.006
13:00 - 14:00	11	212	0.003	11	212	0.003	11	212	0.006
14:00 - 15:00	11	212	0.002	11	212	0.003	11	212	0.005
15:00 - 16:00	**11**	**212**	**0.015**	11	212	0.012	**11**	**212**	**0.027**
16:00 - 17:00	11	212	0.009	11	212	0.006	11	212	0.015
17:00 - 18:00	11	212	0.013	11	212	0.010	11	212	0.023
18:00 - 19:00	11	212	0.011	11	212	0.008	11	212	0.019
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.074			0.074			0.148

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.

Parameter summary

Trip rate parameter range selected:	150 - 372 (units:)
Survey date date range:	01/01/04 - 20/07/08
Number of weekdays (Monday-Friday):	11
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

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

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

MULTI-MODAL VEHICLE OCCUPANTS

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	11	212	0.091	11	212	0.343	11	212	0.434
08:00 - 09:00	11	212	0.183	**11**	**212**	**0.665**	11	212	0.848
09:00 - 10:00	11	212	0.186	11	212	0.260	11	212	0.446
10:00 - 11:00	11	212	0.171	11	212	0.242	11	212	0.413
11:00 - 12:00	11	212	0.215	11	212	0.213	11	212	0.428
12:00 - 13:00	11	212	0.234	11	212	0.235	11	212	0.469
13:00 - 14:00	11	212	0.226	11	212	0.231	11	212	0.457
14:00 - 15:00	11	212	0.240	11	212	0.239	11	212	0.479
15:00 - 16:00	11	212	0.468	11	212	0.284	11	212	0.752
16:00 - 17:00	11	212	0.456	11	212	0.307	11	212	0.763
17:00 - 18:00	**11**	**212**	**0.555**	11	212	0.342	**11**	**212**	**0.897**
18:00 - 19:00	11	212	0.382	11	212	0.358	11	212	0.740
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			3.407			3.719			7.126

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.

Parameter summary

Trip rate parameter range selected:	150 - 372 (units:)
Survey date date range:	01/01/04 - 20/07/08
Number of weekdays (Monday-Friday):	11
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

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

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

MULTI-MODAL PEDESTRIANS

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	11	212	0.023	11	212	0.048	11	212	0.071
08:00 - 09:00	11	212	0.030	**11**	**212**	**0.147**	11	212	0.177
09:00 - 10:00	11	212	0.032	11	212	0.051	11	212	0.083
10:00 - 11:00	11	212	0.024	11	212	0.030	11	212	0.054
11:00 - 12:00	11	212	0.033	11	212	0.032	11	212	0.065
12:00 - 13:00	11	212	0.033	11	212	0.024	11	212	0.057
13:00 - 14:00	11	212	0.028	11	212	0.030	11	212	0.058
14:00 - 15:00	11	212	0.032	11	212	0.028	11	212	0.060
15:00 - 16:00	**11**	**212**	**0.158**	11	212	0.056	**11**	**212**	**0.214**
16:00 - 17:00	11	212	0.065	11	212	0.045	11	212	0.110
17:00 - 18:00	11	212	0.052	11	212	0.047	11	212	0.099
18:00 - 19:00	11	212	0.047	11	212	0.051	11	212	0.098
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.557			0.589			1.146

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.

Parameter summary

Trip rate parameter range selected:	150 - 372 (units:)
Survey date date range:	01/01/04 - 20/07/08
Number of weekdays (Monday-Friday):	11
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

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

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

MULTI-MODAL PUBLIC TRANSPORT USERS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	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	11	212	0.000	11	212	0.014	11	212	0.014
08:00 - 09:00	11	212	0.003	**11**	**212**	**0.020**	**11**	**212**	**0.023**
09:00 - 10:00	11	212	0.002	11	212	0.007	11	212	0.009
10:00 - 11:00	11	212	0.004	11	212	0.006	11	212	0.010
11:00 - 12:00	11	212	0.003	11	212	0.006	11	212	0.009
12:00 - 13:00	11	212	0.007	11	212	0.007	11	212	0.014
13:00 - 14:00	11	212	0.012	11	212	0.004	11	212	0.016
14:00 - 15:00	11	212	0.004	11	212	0.003	11	212	0.007
15:00 - 16:00	11	212	0.011	11	212	0.004	11	212	0.015
16:00 - 17:00	**11**	**212**	**0.016**	11	212	0.003	11	212	0.019
17:00 - 18:00	11	212	0.015	11	212	0.004	11	212	0.019
18:00 - 19:00	11	212	0.008	11	212	0.003	11	212	0.011
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.085			0.081			0.166

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.

Parameter summary

Trip rate parameter range selected:	150 - 372 (units:)
Survey date date range:	01/01/04 - 20/07/08
Number of weekdays (Monday-Friday):	11
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

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

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

MULTI-MODAL TOTAL PEOPLE

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	11	212	0.120	11	212	0.412	11	212	0.532
08:00 - 09:00	11	212	0.220	**11**	**212**	**0.844**	**11**	**212**	**1.064**
09:00 - 10:00	11	212	0.223	11	212	0.321	11	212	0.544
10:00 - 11:00	11	212	0.201	11	212	0.281	11	212	0.482
11:00 - 12:00	11	212	0.253	11	212	0.254	11	212	0.507
12:00 - 13:00	11	212	0.278	11	212	0.269	11	212	0.547
13:00 - 14:00	11	212	0.268	11	212	0.267	11	212	0.535
14:00 - 15:00	11	212	0.278	11	212	0.272	11	212	0.550
15:00 - 16:00	**11**	**212**	**0.652**	11	212	0.356	11	212	1.008
16:00 - 17:00	11	212	0.546	11	212	0.362	11	212	0.908
17:00 - 18:00	11	212	0.634	11	212	0.404	11	212	1.038
18:00 - 19:00	11	212	0.448	11	212	0.420	11	212	0.868
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			4.121			4.462			8.583

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.

Parameter summary

Trip rate parameter range selected:	150 - 372 (units:)
Survey date date range:	01/01/04 - 20/07/08
Number of weekdays (Monday-Friday):	11
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

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

Calculation Reference: AUDIT-701005-151014-1047

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 07 - LEISURE
Category : P - WATERSPORTS CENTRES

VEHICLES

Selected regions and areas:

02 SOUTH EAST

SC	SURREY	2 days

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

Filtering Stage 2 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:	Parking spaces
Actual Range:	136 to 300 (units:)
Range Selected by User:	27 to 300 (units:)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/90 to 15/06/16

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:

Friday	2 days

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

Selected survey types:

Manual count	2 days
Directional ATC Count	0 days

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

Selected Locations:

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

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

Selected Location Sub Categories:

Residential Zone	1
Out of Town	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.

Filtering Stage 3 selection:

Use Class:

D2	2 days

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

Population within 1 mile:

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

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

Population within 5 miles:

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	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:

Not Known	2 days

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

LIST OF SITES relevant to selection parameters

1 SC-07-P-03 SAILING CLUB SURREY
LITTLETON LANE

NEAR LALEHAM
Free Standing (PPS6 Out of Town)
Out of Town
Total Parking spaces: 136
Survey date: FRIDAY 17/07/98 Survey Type: MANUAL

2 SC-07-P-04 SAILING CLUB SURREY
STAINES ROAD

ASHFORD
Edge of Town
Residential Zone
Total Parking spaces: 300
Survey date: FRIDAY 10/07/98 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
SC-07-P-01	n/a
SC-07-P-02	n/a

TRIP RATE for Land Use 07 - LEISURE/P - WATERSPORTS CENTRES

VEHICLES

Calculation factor: 1 PARKING SPACES

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. PARKING	Trip Rate	No. Days	Ave. PARKING	Trip Rate	No. Days	Ave. PARKING	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									
08:00 - 09:00									
09:00 - 10:00	**2**	**218**	**0.119**	2	218	0.064	2	218	0.183
10:00 - 11:00	2	218	0.032	2	218	0.046	2	218	0.078
11:00 - 12:00	2	218	0.030	2	218	0.014	2	218	0.044
12:00 - 13:00	2	218	0.050	2	218	0.037	2	218	0.087
13:00 - 14:00	2	218	0.055	2	218	0.050	2	218	0.105
14:00 - 15:00	2	218	0.046	2	218	0.039	2	218	0.085
15:00 - 16:00	2	218	0.094	2	218	0.025	2	218	0.119
16:00 - 17:00	1	300	0.050	**1**	**300**	**0.157**	**1**	**300**	**0.207**
17:00 - 18:00	1	300	0.050	1	300	0.147	1	300	0.197
18:00 - 19:00	1	300	0.033	1	300	0.083	1	300	0.116
19:00 - 20:00	1	300	0.010	1	300	0.023	1	300	0.033
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.569			0.685			1.254

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.

Parameter summary

Trip rate parameter range selected:	136 - 300 (units:)
Survey date date range:	01/01/90 - 15/06/16
Number of weekdays (Monday-Friday):	2
Number of Saturdays:	0
Number of Sundays:	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.