
Transport Assessment

SITE: **ELDON GROVE, LIVERPOOL**

CLIENT: Eldonians

DATE: 29th January 2016

REFERENCE: VC0037 R2.1

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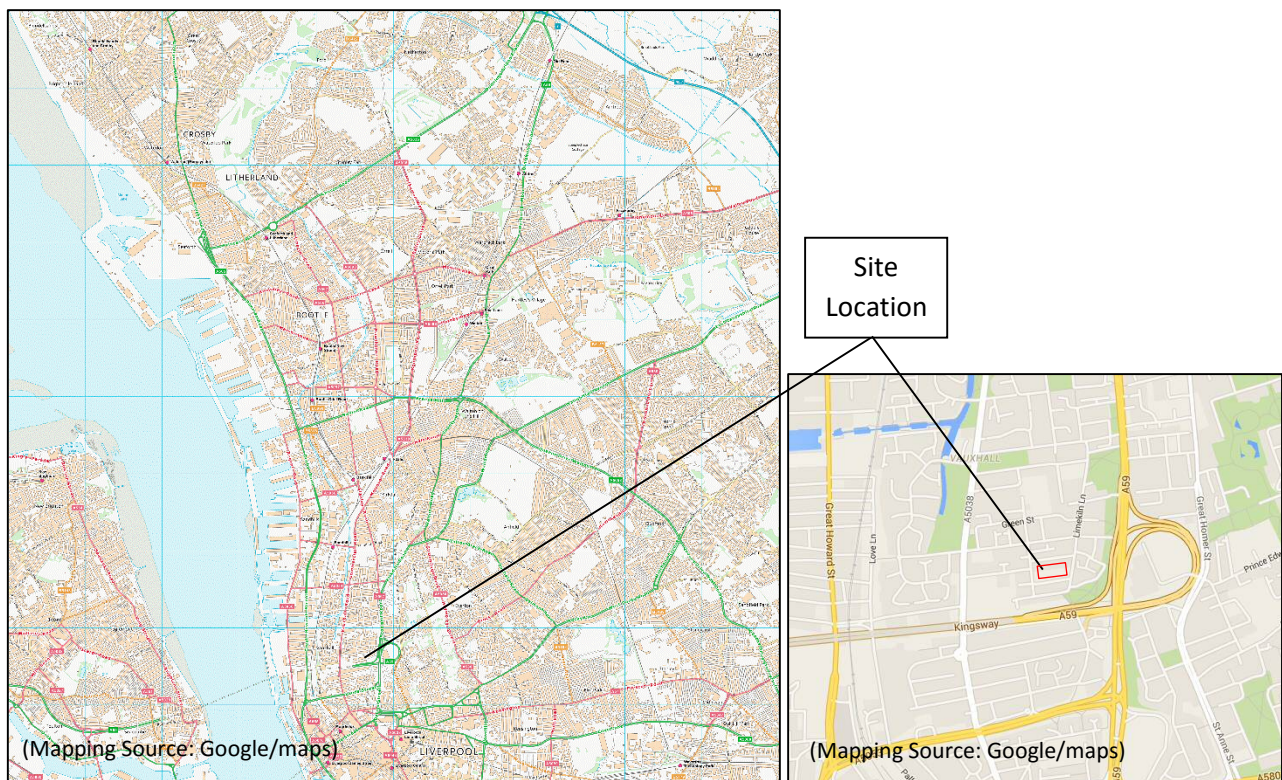
1 INTRODUCTION

1.1 Introduction

Vectio Consulting Limited has been appointed by the Eldonians to prepare a Transport Assessment to support a planning application for a proposed residential development on a site bound by Bond Street, Limekiln Lane, Bevington Street and Titchfield Street, in Liverpool. The site currently comprises of disused residential buildings and hardstanding.

The development proposals are to include 136 residential units, comprising of 45 one bedroom units, 85 two bedroom units and 6 three bedroom units. Access to the proposed development is to be served by two new driveways into forecourts on Limekiln Lane and Titchfield Street. Layby parking and driveway parking spaces are provided on all sides of the development. The site benefits from its city centre location and excellent sustainable accessibility.

The site location is illustrated in Figure 1.



This Transport Assessment has been based on the Department for Transport's (DfT), guidance document "Transport Evidence bases in plan making" dated 10th October 2014. However, where appropriate, guidance with the archived document Guidance on Transport Assessment (GTA) has been adopted along with advice provided by Liverpool City Council's Highway Development Control team.

1.2 Background and Scoping

This report assesses the transport impacts the proposed development will have on the adjacent public highway network, connectivity with its surroundings and assesses the development access arrangements.

The existing site comprises a row of period properties that have fallen into disrepair. These had been partitioned and were last used as apartments. Plate 1 provides a visual of the current condition of the units.



Plate 1: Photograph of the Former Use of the Site

As part of the development the former Grove building will be refurbished creating 45 apartments.

1.3 Scoping Discussions

Liverpool City Council is both the Local Planning Authority (LPA) and Local Highway Authority (LHA).

Discussions have been undertaken with Liverpool City Council Highway Authority to agree the scope and approach to be taken when preparing this report. Relevant correspondence is presented in Appendix A.

It is noted that the layout of the site has been developed by the applicant's architect in consultation with Liverpool City Council.

1.4 Report Structure

The remainder of this report is structured as follows:

- Section 2 presents details of the development proposals;
- Section 3 provides an overview of the planning and policy context within which this Transport Assessment is submitted;
- Section 4 presents details of the existing transport considerations that prevail in the area of the development site;
- Section 5 presents a highway network audit;
- Section 6 reviews the sustainable accessibility to the site for all road users;
- Section 7 discussed Travel forecasts associated with the proposed development and the estimated impacts;
- Section 8 discusses a parking assessment in terms of supply and demand;
- An assessment of historic accident data adjacent to the site is undertaken in Section 9;
- The proposed measures recommended to be implemented based upon the findings of this Transport Assessment are listed in section 10; and,
- The Summary and conclusions of the assessment are presented in Section 11.

2 DEVELOPMENT PROPOSALS

2.1 Site Location

The site currently comprises disused buildings and hardstanding set within approximately 0.80 hectares of land. The site is bound by Bond Street to the north, Titchfield Street to the west, Limekiln Lane to the east and Bevington Street to the south. The site is located approximately 2 miles north of Liverpool City Centre. The A59 dual carriageway is located to the south and east of the site providing access across Liverpool and the surrounding transport links.

2.2 Development Composition

The site includes 136 residential units, comprising of 45 one bedroom units, 85 two bedroom units and 6 three bedroom units.

The proposed development layout is presented in Appendix B whilst an extract is provided in Figure 2.



Figure 2: Proposed Development Layout

2.1 Proposed Site Access

Vehicular access penetrating into the site will be provided off Limekiln Lane to the east and Titchfield Street to the west. Pedestrian access will be via all surrounding streets although access will be gated with entry controlled by ID passes or similar. Parking facilities such a driveway or layby parking is proposed on all boundaries to the site. Each access is discussed in greater detail in the following subsections.

2.1.1 VEHICULAR ACCESS

Bond Street – Twenty-two parking spaces are proposed adjacent to the residential blocks on Bond Street in the form of driveway parking. The driveways will be formed by a vehicular crossover as the pedestrian footway will segregate them from Bond Street carriageway.

Limekiln Lane – Seven parking spaces are proposed to the northern end of the site in the form of driveway parking. Access to a gated courtyard is also proposed. This is to be formed by a kerbed formal junction arrangement with a 4.8 m wide internal carriageway width. The gates are to be set back from the edge of the Limekiln Lane carriageway to enable a vehicle to stand clear of the mainline carriageway whilst the gates open inwards. The courtyard is to comprise 8 parking spaces as illustrated in Figure 2. Swept path analysis has been undertaken to illustrate the safe operation of vehicles entering, turning and exiting the courtyard in a forward gear. The tracking drawings are presented in Appendix C.

Bevington Street – Chevron parking is proposed on the eastern and western frontages of the site on Bevington Street. There are 20 parking spaces proposed along Bevington Street. The orientation of the parking is such that vehicles will pass the spaces and reverse into them, allowing the vehicles to exiting in a forward gear with improved visibility in line with industry best practice.

Titchfield Street – Six parking spaces are proposed to the southern end of the site in the form of driveway parking. Access to a gated courtyard is also proposed. This is to be formed by a kerbed formal junction arrangement with a 4.8 m wide internal carriageway width. The gates are to be set back from the edge of the Titchfield Street carriageway to enable a vehicle to stand clear of the mainline carriageway whilst the gates open inwards. The courtyard is to comprise 12 parking spaces as illustrated in Figure 2. A further 4 layby parking spaces are to be provided along the northern frontage of Titchfield Street. Swept path analysis has been undertaken to illustrate the safe operation of vehicles entering, turning and exiting the courtyard in a forward gear. The tracking drawings are presented in Appendix C.

2.1.2 SERVICING ARRANGEMENTS

Access for refuse collection and service/delivery vehicles will be made from the roads fronting the development. The site is not located on a through route and as such this should not impact the safe operation of the adjacent road network.

2.1.3 PEDESTRIAN ACCESS

Pedestrian access to the site will be available via all four roads surrounding the site. Pedestrian access points into the site will be gated with security fob/code access for residents.

An audit of the surrounding Highway and likely desire lines has been undertaken to appraise the level of facilities / infrastructure currently available. This audit has allowed key desire lines to be identified and deficiencies in infrastructure to be highlighted associated with the proposed developments pedestrian desire lines. A copy of the audit is presented in Appendix D. This exercise has highlighted the need to provide the following off site pedestrian infrastructure to facilitate the proposed development.

- New uncontrolled crossing with tactile paving across:
 - O'Connell Road with its junction at Titchfield Street;
 - Gildarts Gardens with its junction at Titchfield Street
 - Bond Street with its junction at Titchfield Street;
 - On the corner of Summer Seat and Limekiln Lane;
 - Across all arms of the Titchfield Street / Burlington Street junction; and,
 - Across Limekiln Lane, south of Burlington Street.
- Realign existing tactile paving at the Bevington Street / Titchfield junction; and,

- Installation of two new bus shelters on Burlington Street.

2.1.4 CYCLE ACCESS

As part of the proposed development a new Citybike hub is proposed on the south western corner of the site on Titchfield Street and Bevington Street. This is proposed to house in the order of 10 bicycles and will be accessed from the existing road network. Cycle access will also be provided via all main pedestrian access points with direct links to internal cycle storage areas. The routes for cyclists entering the site along with locations for cycle parking are indicative illustrated in Figure 3.

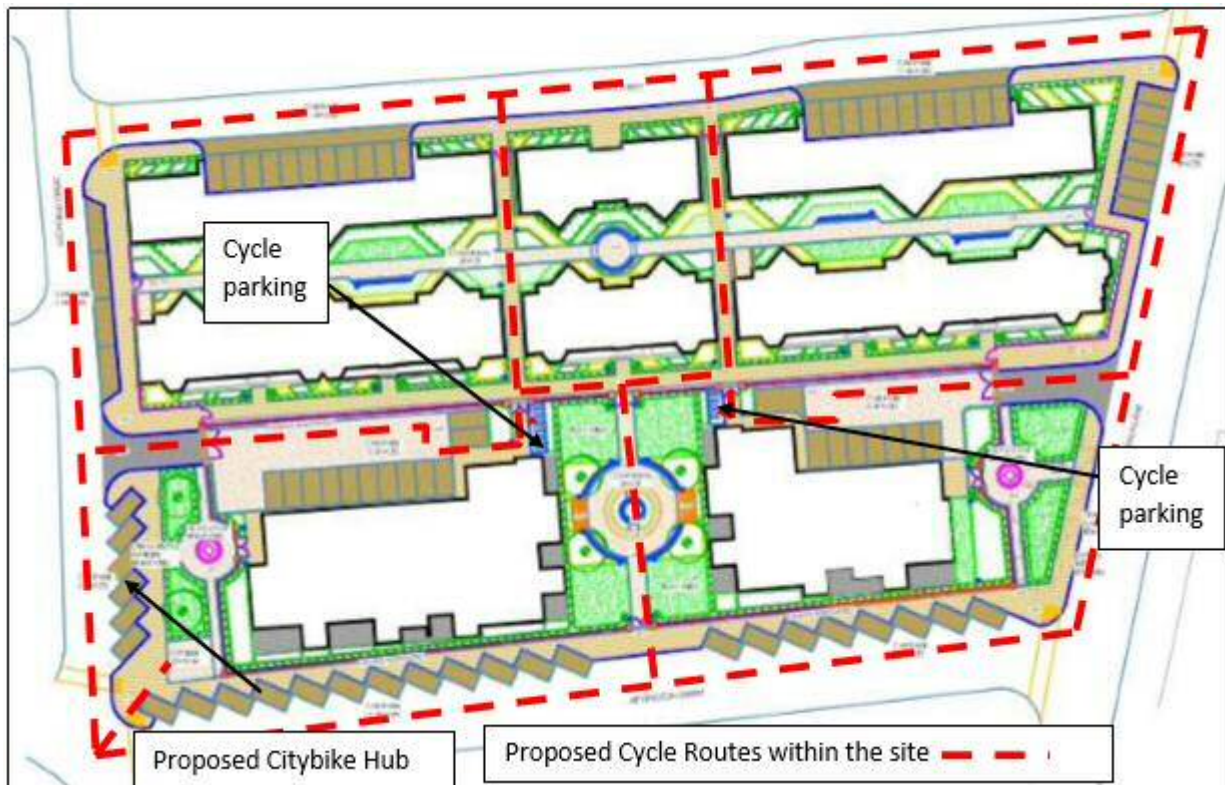


Figure 3: Cycle Access Routes and Storage Locations

2.2 Preliminary Construction Traffic Management Plan

The estimated transport impacts during the site construction stages are relatively unknown at this time. Given this, a construction plan to cover the build out period for the site has not been developed.

It is recommended that a suitable construction traffic management plan is in place prior to site construction and agreed with the LHA. This plan will be required in order to minimise traffic travelling through the existing area and limiting the effective operation of the public highway network. It is considered that a suitable planning condition could be prepared to support a planning permission to ensure this is implemented.

3 PLANNING AND POLICY CONTEXT

3.1 Planning Policy Context

3.1.1 NATIONAL POLICY – NATIONAL POLICY FRAMEWORK (MARCH 2013)

The National Planning Policy Framework (NPPF) replaced PPG13 in March 2012 and covers the current national policy for promoting sustainable transport. Within this document, it is stated that *“developments should be located and designed where practical to:*

- accommodate the efficient delivery of goods and supplies;
- give priority to pedestrian and cycle movements, and have access to high quality public transport facilities;
- create safe and secure layouts which minimise conflicts between traffic and cyclists or pedestrians, avoiding street clutter and where appropriate establishing home zones;
- incorporate facilities for charging plug-in and other ultra-low emission vehicles; and,
- consider the needs of people with disabilities by all modes of transport.”

NPPF also states that *“Planning policies should aim for a balance of land uses within their area so that people can be encouraged to minimise journey lengths for employment, shopping, leisure, education and other activities.”*

The preparation of a Transport Assessment in support of a proposed development is also identified as a key document in encouraging the use of more sustainable modes of transport. Developments should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe.

On larger scale developments, NPPF recommends that planning policies should promote a mix of uses to provide opportunities for day to day activities to be carried out on foot, e.g. local shops and employment.

While the NPPF is the current policy document, it is recognised that there are some gaps in the guidance provided. In such cases, the information contained within PPG13 is used as a sound basis for assessment.

3.1.2 DFT “TRANSPORT EVIDENCE BASES IN PLAN MAKING” DATED 10TH OCTOBER 2014

In October 2014, the former DfT’s Guidance document: “Guidance on Transport Assessments” was archived and new guidance provided. Paragraph 32 of the National Planning Policy Framework sets out that all developments that generate significant amounts of transport movement should be supported by a Transport Assessment.

The new guidance considers that Local Planning Authorities must make a judgement as to whether a development proposal would generate significant amounts of movement on a case by case basis.

In determining whether a Transport Assessment will be needed for a proposed development Local Planning Authorities consider the following listed overleaf:

- Local Plan Policies;
- the scale of the proposed development;
- existing intensity of transport use and the availability of public transport;
- proximity to nearby environmental designations or sensitive areas;
- impact on other priorities/ strategies; and,
- the cumulative impacts of multiple developments within a particular area;

To ensure the proposed approach adopted by this assessment aligned with this guidance, a scoping report was prepared and submitted to Liverpool City Council, acting as Local Highway Authority, to confirm the intended approach. Comments were received from the LHA on the 20th November 2015. The associated scoping correspondence is presented in Appendix A.

3.1.3 DFT GUIDANCE ON TRANSPORT ASSESSMENTS (ARCHIVED)

The Department for Transport document “Guidance on Transport Assessments”, published in March 2007, expanded on the scope of the guidance available at that time to include the assessment of the potential implications of development proposals on the entire transport system. This includes the public transport system (buses, rail, and trams), the Strategic Road Network (SRN), local highways and footways.

The guidance dictates that the following considerations will be relevant to this Transport Assessment:

3.1.3.1 Encouraging environmental sustainability

- **Reducing the need to travel, especially by car** – reducing the need for travel, reducing the length of trips and promoting multi-purpose or linked trips by promoting more sustainable patterns of development and more sustainable communities that reduce the physical separation of key land uses;
- **Tackling the environmental impact of travel** – by improving sustainable transport choices, and by making it safer and easier for people to access jobs, shopping and leisure facilities and services by public transport, walking and cycling;
- **The accessibility of the location** – the extent to which a site is, or is capable of becoming, accessible by non-car modes, particularly for large developments that involve major generators of travel demand;
- **Other measures which may assist in influencing travel behaviour (ITB)** – achieving reductions in car usage (particularly single occupancy vehicles), by measures such as car sharing/pooling, high occupancy vehicle (HOV) lanes and parking control.

3.1.3.2 Managing the existing network

- **Making best possible use of existing transport infrastructure** – for instance by low-cost improvements to the local public transport network and using advanced signal control systems, public transport priority measures (bus lanes), or other forms of Intelligent Transport Systems (ITS) to improve operations on the network;
- **Managing access to the highway network** – taking steps to maximise the extent to which the development can be made to “fit” within available capacity by managing access from developments onto the highway network;

3.1.3.3 Mitigating residual impacts

- **Through demand management** – using traffic control measures across a wide network to regulate flows;
- **Through improvements to the local public transport network, and walking and cycling facilities** – for example by extending bus routes and increasing bus frequencies and designing sites to facilitate walking and cycling;
- **Through minor physical improvements to existing roads** – it may be possible in some circumstances, to improve the capacity of existing roads by relatively minor physical adjustments such as improving the geometry of junctions etc. within the existing highway boundary;
- **Through provision of new or expanded roads** – it is considered good transport planning practice to demonstrate that the other opportunities have been fully explored before considering the provision of additional road space, such as new roads and major junction upgrades.

3.1.4 MERSEYSIDE LOCAL TRAVEL PLAN 3 (LTP3) 2011 - 2026

The Merseyside current Local Travel Plan (LTP3) 2011-2026 outlines the transport related policies covering the 15-year period. It is likely that the detailed planning of this development will fall within this plan period and therefore makes reference to the current local policy documents.

The vision of the Merseyside LTP3 is:

“A city region committed to a low carbon future, which has a transport network and mobility culture that positively contributes to a thriving economy and the health and wellbeing of its citizens and where sustainable travel is the option of choice”.

To achieve this the LTP3 has identified 6 goals:

- Help create the right conditions for sustainable economic growth by supporting the priorities of the Liverpool City Region, the Local Enterprise Partnership and the Local Strategic Partnerships.
- Provide and promote a clean, low emission transport system which is resilient to changes to climate and oil availability.
- Ensure the transport system promotes and enables improved health and wellbeing and road safety.
- Ensure equality of travel opportunity for all, through a transport system that allows people to connect easily with employment, education, healthcare, other essential services and leisure and recreational opportunities.
- Ensure the transport network supports the economic success of the city region by the efficient movement of people and goods.
- Maintain our assets to a high standard.

4 EXISTING TRANSPORT CONDITIONS

4.1 Introduction

This section provides an appraisal of the existing site conditions including:

- Existing site information – describing the current physical infrastructure and characteristics of the site and its surroundings;
- Baseline transport data – background transport data and current transport infrastructure details.

Section 6 provides an audit of the existing non-motorised user routes and infrastructure within a 300m radius of the proposed site development measured from the centre of the site.

4.2 Existing Site Information

The site is located to the north of Liverpool City centre and south of Vauxhall centre. The location of the site in conjunction to the highway network is presented in Figure 4.



Figure 4: Highway Network & Adjacent Highway Ownership

4.3 Road Network

More detail of the surrounding highway network is discussed in Section 5 of this report, where a network infrastructure audit is presented.

4.4 Public Transport

4.4.1 BUSES

The prime operators of buses in the area are Arriva Bus, Cumfy Bus and Huyton Travel, serving the local area with services between Anfield, Moss Side, Belmont Road, Princes Park, Liverpool and Thornton, and other surrounding suburbs.

The position of existing bus stops adjacent to the site are shown in Figure 5. It can be seen that the site is well served by buses along Vauxhall Road and Burlington Street. The Chartered Institution of Highways and Transportation's (CIHT) "Planning for Public Transport in Developments" states that "*new developments should be located so that the public transport trips involve a walking distance of less than 400 m from the nearest bus stop*".

The walking distance from the centre of the residential development to the bus stops on the Vauxhall Road is approximately 300 m and on Burlington Street 230 m. Therefore, access to the bus stops are considered to be within this guidance target.

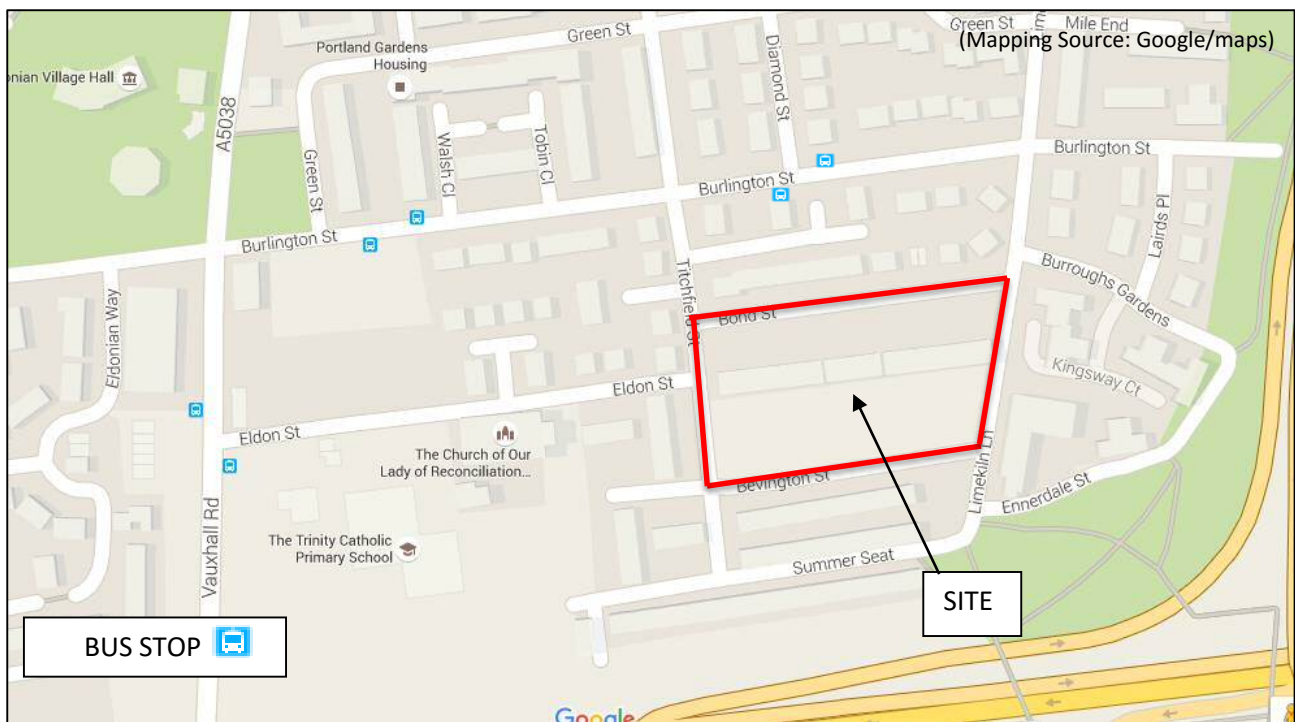


Figure 5: Existing Bus Stop Locations

Referring to existing timetable and route information, the services that could potentially serve the proposed development site are detailed in Table 1.

Table 1: Summary of Existing Bus Services

| Service Number | Route | Areas served | Frequency (Mon-Sun, daytime) | Operator |
|----------------|---|---|---|---------------|
| 101 | Princes Parade – Royal Liverpool Hospital | Princes Parade, Barmouth Way, Burlington Street, Queen Square Bus Station, Great Homer Street, Breck Road, Royal Liverpool Hospital | Approx every 30 mins | Cumfy Bus |
| 30 | Maghull - Liverpool - Dingle | Maghull Ashworth Hospital, Maghull Merseyrail Station, Liverpool Road South, Old Roan Interchange, Magdalene Square, Aintree Merseyrail Station, Warbreck Moor, Country Road, Boundary Street, Queen Square Bus Station, Liverpool ONE Bus Station, Dingle Ullet Road | Varies approx every 60 mins Monday – Saturday evenings only and every 60 Sunday's and Bank Holidays | Huyton Travel |
| 30A | Maghull - Liverpool - Dingle | Maghull Ashworth Hospital, Dodds Lane, Liverpool Road South, Aintree Merseyrail Station, Warbreck Moor, Country Road, Boundary Street, Queen Square Bus Station, Liverpool ONE Bus Station, Dingle Ullet Road | Varies approx every 60 mins Monday – Saturday evenings only and every 60 Sunday's and Bank Holidays | Huyton Travel |
| 54 | Thornton to Liverpool via Crosby and Bootle | Liverpool Victoria Street, Liverpool Sir Thomas Street, Kirkdale Commercial Road, Bootle Knowsley Road, Seaforth Durham Road, Great Crosby Village Hall, Chesterfield Road, Thornton Lydlate Lane | Approx every 30 mins | Arriva Bus |

Based on the bus route information identified, it is considered that the existing bus services are very good.

4.4.2 RAIL

The closest railway station to the site is Moorfields station, which lies some 1.5 km to the south of the site. The station is operated by Merseyrail and has services to West Kirby, Kirkby, Chester, Southport, Ormskirk, New Brighton and Ellesmere Port.

The nearest major railway station is Liverpool Lime Street station located 2.23 km (20 minutes' walk) to the south in Liverpool City Centre. The station has services provided by East Midlands Trains, Northern, London Midland, TransPennine Express and Virgin Trains providing services throughout UK.

These stations are considered to be accessible by residents of the site and therefore rail services are a likely mode of transport.

5 HIGHWAY NETWORK AUDIT

5.1 Scope

A local highway network audit was carried out on Friday 22nd January 2016. The purpose of the audit was to assess the suitability of the existing route infrastructure / facilities available for use by non-motorised road users and also to appraise the parking facilities within a 300 m radius of the proposed development.

The extent of the audit is presented in Figure 6, approximately formed by the blue line boundary.

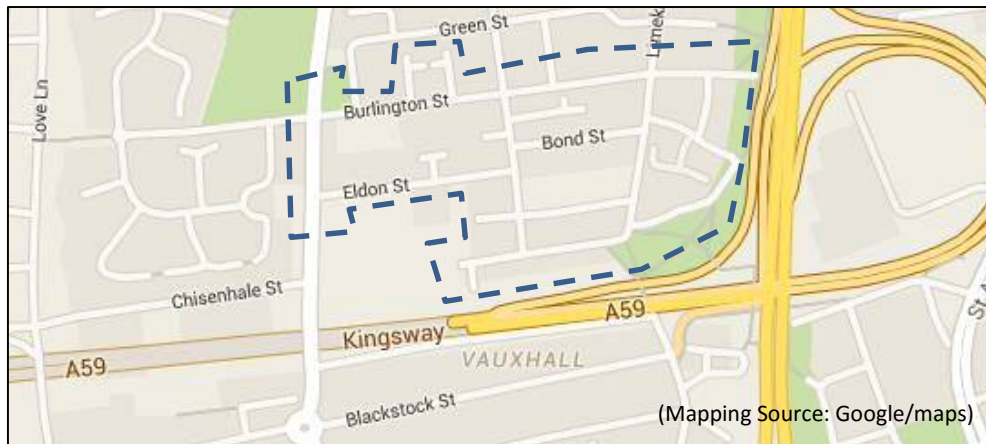


Figure 6: Highway Audit Extent

The full audit findings are presented in Appendix D.

6 SUSTAINABLE ACCESSIBILITY – VULNERABLE ROAD USERS

This section undertakes a review of sustainable accessibility to the proposed site, including current infrastructure, a MASA assessment in line with Liverpool City Councils SPD and highlights measures to be put in place to benefit vulnerable road users.

6.1 MASA Assessment

As discussed with Liverpool City Councils Highway Development Control team, a review of Liverpool Councils Supplementary Planning Document “Ensuring a Choice of Travel” has been undertaken.

This SPG includes a questionnaire that is required to be completed by applicants to identify the level of accessibility and facilities that serve potential developments and highlights areas / infrastructure that will need to be provided / enhanced.

A summary of the MASA results is provided in Table 2 whilst the fully completed questionnaire is presented in Appendix E.

Table 2: MASA Assessment Summary

| Access Mode | Minimum Score required | Score Achieved | Comments |
|----------------------------|------------------------|----------------|---|
| Access on Foot | 4 | 4 | <p>The site is located within approximately 500 m of the Great Homer Street District Area to the north east of the site.</p> <p>The location of the site is already in an established residential area with education, retail, leisure and health services / facilities nearby.</p> <p>As part of the development it is proposed to install new pedestrian crossings across at:</p> <ul style="list-style-type: none"> ○ O’Connell Road with its junction at Titchfield Street; ○ Gildarts Gardens with its junction at Titchfield Street ○ Bond Street with its junction at Titchfield Street; ○ On the corner of Summer Seat and Limekiln Lane; ○ Across all arms of the Titchfield Street / Burlington Street junction; and, ○ Across Limekiln Lane, south of Burlington Street. <p>In addition, the realignment of the existing tactile paving at the Bevington Street / Titchfield junction is proposed.</p> |
| Access by Bicycle | 5 | 5 | As part of the development scheme a new Citybike Hub is proposed to benefit both the new residents and the existing residents living in the surrounding streets. |
| Access by Public Transport | 5 | 5 | The upgraded pedestrian facilities will provide a direct link to the adjacent bus stops on Vauxhall Road and Burlington Street. In addition, it is proposed to install two new bus shelters on Burlington Street to enhance the current facilities. |
| Vehicle Access & Parking | 1 | 3 | Formal vehicle parking has been provided to accommodate 70 vehicles. 6% of these will be allocated for disabled use. An audit of the local area has identified sufficient available capacity for on street parking within 400 m of the site to ensure an overall provision of 136 spaces are easily available. |

The results of the MASA assessment indicate that the site achieves or surpasses the minimum score once all proposed measures detailed in this report are implemented.

6.2 Measures to Create a Better Environment for Pedestrians

The Chartered Institution of Highways and Transportation (CIHT) in their document 'Guidelines for Providing for Journeys on Foot, 2000' state that "walking accounts for over a quarter of all journeys and four fifths of journeys less than one mile". It is generally considered that people are prepared to walk up to 2km (1.24 miles) to and from work, given suitable walking routes and facilities.

When assessing the accessibility of a site for pedestrians, and the proximity of local facilities, an average walking speed of 1.4 m/s can be assumed, which equates to approximately 400 metres in 5 minutes, or 3 mph. This document also contains a table of suggested walking distances for different purposes. Table 3 recreates this table.

Table 3: Extract from IHT 'Guidelines for Providing for Journeys on Foot, 2000'

| | Town Centre (m) | Commuting School (m) | Elsewhere (m) |
|-------------------|-----------------|----------------------|---------------|
| Desirable | 200 | 500 | 400 |
| Acceptable | 400 | 1000 | 800 |
| Maximum | 800 | 2000 | 1200 |

The 800 metre and 2km walking distances shown in Table 4 demonstrate that there is a plethora of key facilities within an acceptable walking distance of the site. Figure 7 illustrates the 400 m and 2km walking distances, measured from the centre of the site.



Figure 7: Walking Isochrone

Based on the isochrones detailed in Figure 7, it can be seen that the following key features lie within 2km (crow flies) of the site: These facilities, and their distance from the site, are listed in Table 4.

Table 4: Walking Distances to Local Facilities

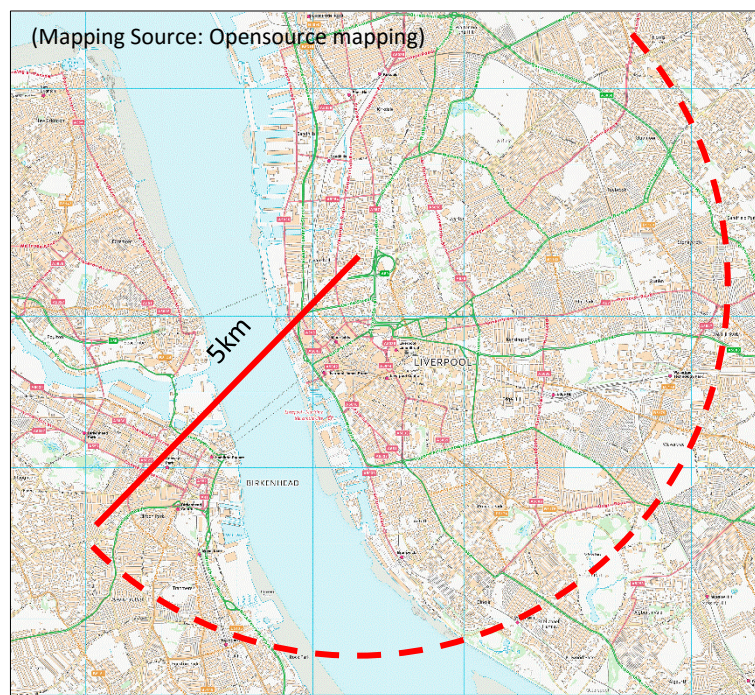
| Destination | Distance (metres) | Time (minutes) |
|--|-------------------|----------------|
| Bus Stop (Vauxhall Road) | 300 | 3.6 |
| Bus Stop (Burlington Street) | 230 | 2.7 |
| Vauxhall Health Centre | 215 | 2.6 |
| Kingsway Pharmacy | 137 | 1.6 |
| Spar local convenience store | 737 | 8.8 |
| Moorfields Station | 1002 | 11.9 |
| Liverpool Lime Street Station | 1250 | 14.9 |
| James Parsons Building Liverpool John Moores | 700 | 8.3 |
| St John's Shopping Centre | 1250 | 14.9 |
| Saint Johns Church | 812 | 9.7 |

People need encouragement and incentives to make journeys on foot, in the form of suitable routes. Walking routes should feel safe, have good surfacing and be direct.

The topography of the area will be conducive to walking journeys. It will however be important to provide pedestrian facilities that maximise local trips as far as possible to allow residents to make informed route choices.

6.3 Measures to Create a Better Environment for Cyclists

It is generally considered that a distance of 5km (3 miles) represents a reasonable cycling distance to and from work, while 8km (5 miles) is a maximum realistic range for cycle trips. Figure 8 illustrates cycling isochrones (crow-flies) taken as distances from the centre of the site.

**Figure 8: Cycling Isochrone**

- Liverpool Central Station;
- Liverpool Lime Street Station;
- Royal Liverpool University Hospital;
- Liverpool Cathedral;
- Wavertree Botanic Gardens;
- Newsham Park;
- Rupert Lane Recreation Ground;
- Stanley Park; and,
- Anfield Cemetery.

An extract from the Sustrans website is presented in Figure 9 which illustrates Liverpool's cycling routes.



As with walking, the topography of the local area should prove conducive to cycle journeys. It will still be important to provide cycle facilities that capture this opportunity as far as possible. As part of the development it is proposed to install a new Citybike hub on the south eastern corner of the site on Titchfield Street, which is located on one of the local cycle routes.

7 IMPACT ASSESSMENT

The purpose of this section is to gain an appreciation of the vehicular and non-motorised user trips that are likely to be generated by the proposed development and estimate the likely impact these trips will create. This has been used to inform the proposals in providing enhanced facilities adjacent to the site.

7.1 Vehicle Traffic Impact

7.1.1 VEHICLE TRIP GENERATIONS

Multi modal trip generations have been estimated using the TRICS database based on the following criteria:

- C3 Residential – Flats Privately Owned;
- Sites only in England;
- Number of units – 25 to 154;
- 85th percentile weekday trip rates;
- Locations: Edge of Town Centre & Suburban Area;
- Period between 2007 and 2014; and,
- 17 data sets obtained.

The full TRICS reports are presented in Appendix F, whilst the adopted trip generations are summarised in Table 5.

Table 5: Vehicle Trip Generations (Based on 136 Residential Flats)

| Land Use | Period | Arr | Dept | Total | Period | Arr | Dept | Total |
|--|------------|-------|-------|-------|------------|-------|-------|-------|
| C3 Residential Flats, Trip Rates (85 th Percentile) | AM Peak | 0.047 | 0.341 | 0.388 | PM Peak | 0.341 | 0.091 | 0.432 |
| C3 Residential Flats, Trip Generations | | 6 | 46 | 53 | | 46 | 12 | 59 |

To confirm the robustness of the 85th percentile rates, as discussed in the TRICS good practice guide, a mean/median cross testing exercise has been undertaken. This exercise has identified a variance of 1.4% during the AM peak hour and 2.9% during the PM peak hour and as such the trip rates are considered not to have significant “weighting” factor that affect the data’s basic level of robustness, and therefore are suitable for the calculations within this report.

The trip generation calculations estimate that 53 two way trips will be generated during the AM peak hour and 59 during the PM peak hour. It is highlighted that these are 85th percentile trip rates and therefore represent a worst case higher level of trips.

7.1.2 VEHICLE TRIP DISTRIBUTION

To distribute the development traffic on the highway network a simple gravity model has been prepared adopting a population over travel time squared function associated with the surrounding wards within Liverpool. Google Maps and analytics have been adopted to gain peak hour travel time information whilst census 2011 data has been used to obtain ward populations. A copy of the gravity model is presented in Appendix G whilst the distribution diagrams are presented in Appendix H.

7.1.3 VEHICLE TRIP ASSIGNMENT

Based on the trip generations calculated in Section 7.1.1 and traffic distribution estimates detailed in Section 7.1.2, development traffic has been assigned on the highway network. The peak hour assignment diagrams are presented in Appendix I.

7.1.4 VEHICLE IMPACT ASSESSMENT

An assessment has been undertaken to determine the level of traffic impact the proposed development has been estimated to create on the surrounding road network associated with the following junctions:

- Burlington Street / B5038;
- Eldon Street / B5038;
- Burlington Street / Titchfield Street;
- Burlington Street / Limekiln Lane; and,
- Limekiln Lane / Silvester Street.

During scoping discussions with Liverpool City Councils Highway Department, it was confirmed that a material traffic impact at any one junction would be classified as an increase in development vehicle trips in excess of 30 two way trips. Specifically, this was to focus on the Eldon Street and the Burlington Street junctions with the B5038.

Based on the trip assignment estimates undertaken in Section 7.1.3, the increase in trips at each of these junction has been calculated. The results of this exercise are presented in Table 6.

Table 6: Traffic Impact Assessment

| Junction | Total AM peak Two Way Flow (vehicles) | Total PM peak Two Way Flow (vehicles) |
|---------------------------------------|---------------------------------------|---------------------------------------|
| Burlington Street / B5038 | 8 | 9 |
| Eldon Street / B5038 | 20 | 21 |
| Burlington Street / Titchfield Street | 8 | 9 |
| Burlington Street / Limekiln Lane | 25 | 28 |
| Limekiln Lane / Silvester Street | 25 | 28 |

The result in Table 6 indicate that no junctions will be materially impacted by the proposed development.

It is appreciated that traffic traveling to the north along Limekiln Lane is close to the 30 two-way vehicle trip threshold. It is also noted that the assessment does not take account of the existing units that occupied the site and as such the net impact of the proposed development would be less than detailed in Table 6.

7.2 Person Trip Generations

Multi modal person trip generations that the site would generate have been estimated based on 'Average' trip generation rates from the TRICS database. Based on a site comprising 136 flats, trip generations associated with all movements, public transport, walking and cycling have been estimated. These estimates are presented in Table 7.

Table 7: Multi Modal Trip Generation Estimates (Proposed Development)

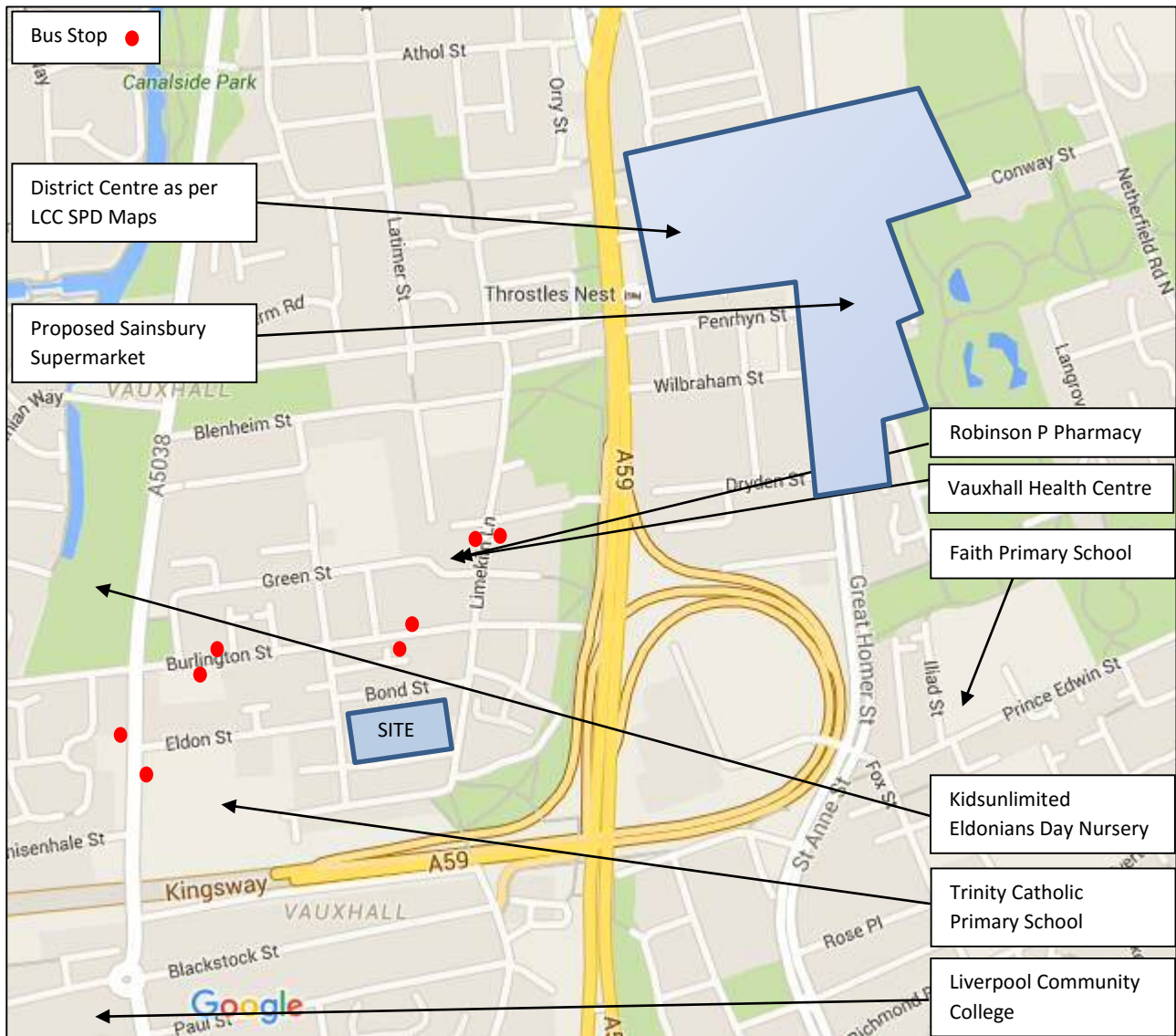
| Period | Arrival Trips | | | | Departure Trips | | | | Total Trips | | | |
|--------------|---------------|------------------|------------|----------|-----------------|------------------|------------|----------|-------------|------------------|------------|-----------|
| | Person | Public Transport | Pedestrian | Cyclist | Person | Public Transport | Pedestrian | Cyclist | Person | Public Transport | Pedestrian | Cyclist |
| 0500-0600 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0600-0700 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0700-0800 | 8 | 0 | 2 | 0 | 38 | 5 | 8 | 1 | 46 | 5 | 10 | 1 |
| 0800-0900 | 15 | 0 | 3 | 0 | 65 | 8 | 12 | 1 | 80 | 9 | 15 | 1 |
| 0900-1000 | 16 | 0 | 4 | 1 | 28 | 2 | 8 | 1 | 44 | 2 | 12 | 1 |
| 1000-1100 | 23 | 0 | 6 | 0 | 27 | 1 | 6 | 1 | 50 | 1 | 12 | 1 |
| 1100-1200 | 21 | 0 | 6 | 1 | 26 | 1 | 8 | 1 | 47 | 1 | 13 | 1 |
| 1200-1300 | 27 | 1 | 8 | 1 | 28 | 1 | 9 | 1 | 55 | 1 | 17 | 1 |
| 1300-1400 | 26 | 1 | 6 | 1 | 27 | 1 | 5 | 1 | 52 | 2 | 12 | 2 |
| 1400-1500 | 22 | 1 | 5 | 1 | 28 | 0 | 7 | 1 | 51 | 1 | 12 | 1 |
| 1500-1600 | 36 | 2 | 9 | 1 | 23 | 0 | 6 | 1 | 59 | 2 | 15 | 2 |
| 1600-1700 | 39 | 4 | 12 | 1 | 24 | 1 | 7 | 1 | 63 | 4 | 18 | 2 |
| 1700-1800 | 58 | 4 | 13 | 1 | 29 | 0 | 7 | 0 | 87 | 4 | 20 | 1 |
| 1800-1900 | 44 | 3 | 9 | 1 | 26 | 0 | 6 | 0 | 69 | 3 | 15 | 1 |
| 1900-2000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2000-2100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2100-2200 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 336 | 16 | 83 | 8 | 368 | 20 | 89 | 9 | 703 | 36 | 172 | 16 |

The TRICS data provides an indication of walking, cycling and public transport trips throughout the day estimating:

There will be in the order of 172 walking, 16 cycling and 36 public transport trips per weekday. Peak hourly generations for pedestrian movements will be between 8am to 9am and 3pm to 7pm (max 87 peak hour trips); between 1pm and 5pm for cyclists (max 2 peak hour trips); and between 8am to 9am and 4pm to 6pm for public transport users (max 9 peak hour trips).

7.3 Trip Desire Lines

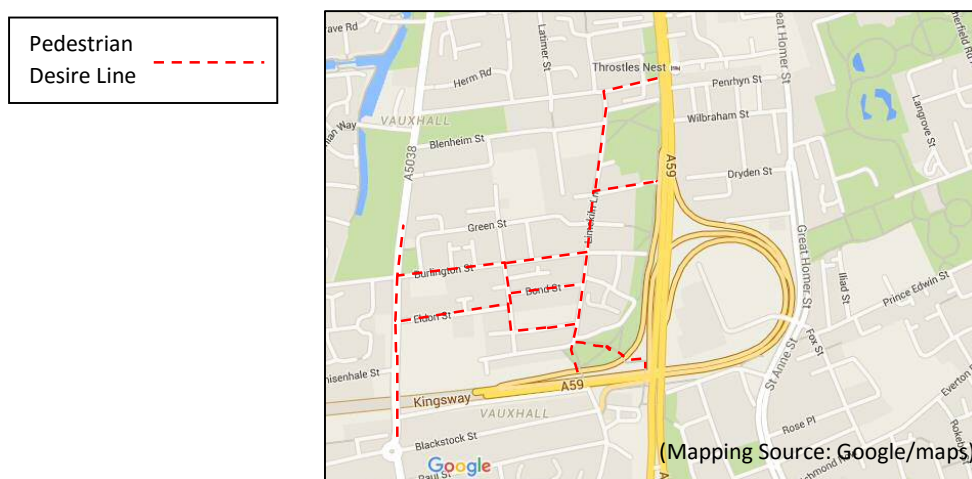
During a site visit undertaken on Friday 22nd January 2016 a visual review of the general footfall adjacent to the site was observed. This review included the extent of highway defined in Section 5 of this report. It is expected that the main destinations associated with occupants of the proposed development will be toward the bus stops on Burlington Street, the local district centre to the north east along Limekiln Lane and bus stops and local facilities on the A5038 Vauxhall Road. The location of these site, in proximity of the proposed development, are illustrated in Figure 10.



(Mapping Source: Google/maps)

Figure 10: Location of Facilities in Proximity to the Proposed Development

The observed footfall desire lines, and the proposals associated with the findings of this report, have focussed on the routes illustrated in Figure 11.



(Mapping Source: Google/maps)

Figure 11: Anticipated Pedestrian Desire Lines

7.4 Pedestrian Impact and Improvement Measures

The trip generation estimates, detailed in Table 7, provide an indication of the level of pedestrian movements during weekdays. This assessment estimated that there would be an approximate peak of 172 two way pedestrian movements per day. The highway audit undertaken discussed in Section 5 highlighted the infrastructure available on the desire line routes.

In determining the suitability of the desire lines routes, and where suitable infrastructure was available, the audit was reviewed and deficiencies in infrastructure requiring mitigation to accommodate the proposed development were identified and recommended for improvement.

These routes and deficiencies are listed in Table 8.

Table 8: Pedestrian Route Deficiencies and Recommended Measures

| Junction / Link | Estimated peak footfall (indicative - per weekday) | Deficiency | Measure |
|--|---|---|--|
| O'Connell Road / Titchfield Street Junction | 23 | Lack of uncontrolled crossing and tactile paving across minor arm | Install new uncontrolled crossing with tactile paving across minor arm |
| Gildarts Gardens / Titchfield Street Junction | 23 | Lack of uncontrolled crossing and tactile paving across minor arm | Install new uncontrolled crossing with tactile paving across minor arm |
| Bond Street / Titchfield Street Junction | 23 | Lack of uncontrolled crossing and tactile paving across minor arm | Install new uncontrolled crossing with tactile paving across minor arm |
| Titchfield Street / Burlington Street Junction | 43 | Lack of uncontrolled crossing and tactile paving at the junction | Install new uncontrolled crossing with tactile paving across minor arm |
| Bevington Street / Titchfield Street Junction | 23 | Poor alignment of tactile paving | Realign uncontrolled crossing and tactile paving |
| Burlington Street / Walsh Close Junction | 0 | Lack of uncontrolled crossing and tactile paving across minor arm | Not applicable, not in development pedestrian desire line |
| Burlington Street / Tobin Close Junction | 0 | Lack of uncontrolled crossing and tactile paving across minor arm | Not applicable, not in development pedestrian desire line |
| Burlington Street / Diamond Street Junction | 0 | Lack of uncontrolled crossing and tactile paving across minor arm | Not applicable, not in development pedestrian desire line |

The location of the proposed infrastructure is presented on a plan in Appendix J.

8 PARKING ASSESSMENT

This section considers the parking demand for various modes of transport associated with the proposed development along with identifying off site provision where applicable.

8.1 Vehicular Parking Demand

The required level of parking supply has been based on Liverpool City Council's document "Ensuring a Choice of Travel SPD". This document advises that for out of town development, parking provision of one space per unit should be made. The proposed masterplan for the site includes 79 parking spaces formed by internal courtyards, driveways and laybys.

Given that the site comprises 136 units, the SPD guidance recommends a minimum of 136 spaces. Therefore, the current onsite provision falls short by 57 spaces.

An assessment of available on carriageway parking within a 300 m zone of the development has been undertaken to determine whether this level of parking could be facilitated on the surrounding streets. A plan showing the results of the assessment is provided in Figure 12 whereby parking availability is shown by a green line.

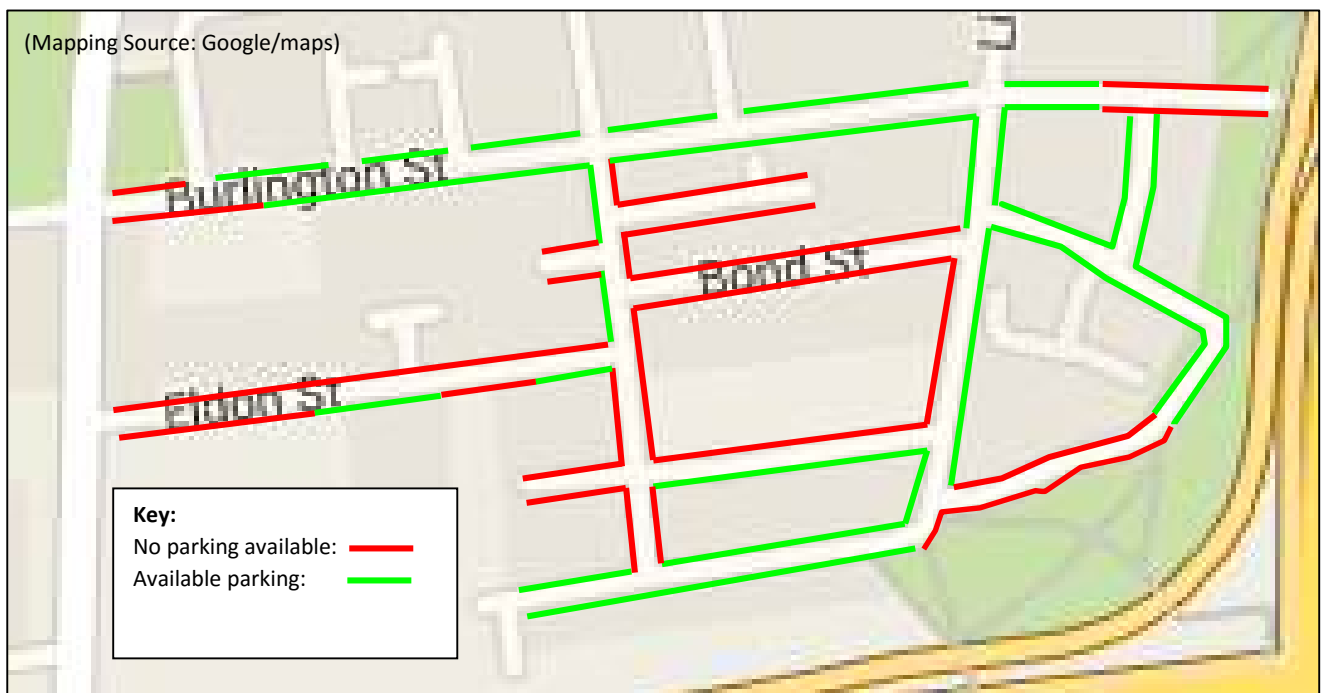


Figure 12: Existing Parking Demand Audit Findings

Of the area audited, it was found that approximately 10% of the available on street parking was occupied by either vehicles or infrastructure such as bus stops. Areas marked in red were either restricted by the location of multiple driveways or where the road carriageway would not be wide enough to allow vehicles to park on both sides of the road.

The length of available parking, shown in green in Figure 12, has been calculated to be approximately 1,500 m. Assuming a length of 6.5 m being required per car, this would provide sufficient parking provision for 230 cars parking within 300 m of the proposed development, with an observed availability of approximately 200 spaces.

Given the shortfall of 57 parking spaces, this spare on street capacity is considered to sufficiently facilitate the expected parking demand of the development.

It is therefore considered that there is sufficient parking both on site and within the surrounding streets to serve the proposed development.

Given the developments location, close to the local district centre, health facilities and schools, it is possible to attract an increase in modes other than the private car, as such measures have been recommended within this report to upgrade pedestrian route infrastructure and enhance cycle facilities to maximise the use of these alternative modes.

8.2 Cycle Parking

A review of Liverpool City Councils SPD has been undertaken to identify the recommended level of cycle parking that the proposed development should provide. This document recommends that 1 secure space should be provided for every 1 flat, plus 1 visitor cycle stand per 10 units.

Discussions have been held with the LPA and agreement met in so far as all ground floor units (32no.) can store cycles within them. In addition, as a Citybike hub to house 10 cycles is proposed then the cycle parking ration could be reduced. Therefore, it has been proposed to provide 1 space per two units and 10% for visitors equating to 75 spaces.

Considering the estimated cycling trip identified in section 7.2 of this report, whereby the weekday cycle trip estimate was found to be 16 movements (based on an average trip rate associated with similar development throughout the county from the TRICS database), this level of provision would seem appropriate.

The locations and provision of cycle parking will be as follows:

- Ground floor apartments: 32no.;
- External secure sheltered parking 43no. across 2 locations; and,
- 10 new Citybikes.

It is considered that by installing a Citybike hub, this will provide more encouragement for the occupants to take up cycling as a form of transport along with providing the flexibility of choice.

To ensure residents consider the use of the Citybike facilities, it is recommended that a taster session for each unit be funded by the developer.

8.3 Refuse Collection and Delivery Vehicles

8.3.1 REFUSE COLLECTION

Refuse collection will be made via the streets surrounding the development. All refuse will be collected on a weekly basis.

As part of the development proposals it is recommended that a servicing management plan, associated with the development, is created and maintained to ensure that possible impacts are managed and do not become detrimental to the safety of other highway users.

An outline of measures that would be included in such a plan are detailed below:

- Collections will be arranged and prioritised for efficiency and to avoid duplication with other goods deliveries. This will be ultimately coordinated by the building management;
- Waste generation calculations will be undertaken in accordance with BS 5906;2005;
- Appropriate signage will be installed in bin areas. This will ensure refuse management and recycling is promoted at source;
- Capacity for recycling provision of at least 50% of the total waste will be provided for where possible;

- Residents will be informed of the waste and recycling strategy on moving into the residence via an information pack;
- The refuse and recycling facilities will encourage residents to dispose of their refuse responsibly and to recycle as much of their household waste as possible; and,
- Site management staff will review any assistance that may be needed for disabled occupants. Capacity will be made for contingent events such as snow or strike by collection companies.

8.3.2 DELIVERY VEHICLES

Delivery vehicles are expected to park within the adjacent streets to service the development.

9 ACCIDENT ANALYSIS

9.1 Personal Injury Accident Data Analysis

The most recent 3-year accident data was requested from Liverpool City Council, the extent of which being illustrated in the blue line area shown in Figure 13.



Figure 13: Extent of Accident Data and Collision Assessment

Over a period between 2013 and 2015, 2 slight and 1 serious accidents were recorded. No accidents were recorded on the local roads surrounding the site, with all 3 being recorded on Vauxhall Road. None of the accidents were recorded as fatal. None of the accidents occurred within the immediate vicinity of the site.

Of all accidents that occurred within the assessment area, none involved cyclists, pedestrians, children or motorcyclists.

A breakdown of the total number of PIA's within the area is shown in Tables 9 and 10.

Table 9: Total Number of Accidents and Casualties

| Year | Total | | Pedal Cycle | | Pedestrians | | Motor Vehicle | |
|---------------|-----------|------------|-------------|------------|-------------|------------|---------------|------------|
| | Accidents | Casualties | Accidents | Casualties | Accidents | Casualties | Accidents | Casualties |
| 2013 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2014 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2015 | 3 | 6 | 0 | 0 | 0 | 0 | 3 | 6 |
| Totals | 3 | 6 | 0 | 0 | 0 | 0 | 3 | 6 |

Table 10: Casualty Severity

| Year | Fatal | Serious | Slight | Total |
|---------------|----------|----------|----------|----------|
| 2013 | 0 | 0 | 0 | 0 |
| 2014 | 0 | 0 | 0 | 0 |
| 2015 | 0 | 1 | 2 | 3 |
| Totals | 0 | 1 | 2 | 3 |

By undertaking a more detailed review of the accident data, the first incident involved a right turning vehicle into Burlington Street which conflicted with a vehicle travelling in a westbound direction on Vauxhall Road. The second involved a vehicle turning left out of Burlington Street conflicting with a vehicle travelling in a westbound direction on Vauxhall Road. Whilst the third involved a vehicle turning right out of Burlington Street conflicting with a vehicle travelling in an eastbound direction along Vauxhall Road.

As such, no patterns in the types of accidents are apparent and therefore based on the accident records appraised, no patterns have been identified that are expected to exacerbate the existing accident history in the local area.

10 PROPOSED MEASURES

This Transport Assessment has undertaken a review of the proposed development and appraised the likely impacts that it will create. In appraising these impacts, various on and off site measures have been identified to be implemented to provide a safe environment for existing and proposed highway users.

The proposed measures are listed in the following two sub sections:

10.1 On – Site Measures

- Provision of secure sheltered cycle parking at 2 locations across the site;
- Provision of taster Citybike voucher for all units;
- Installation of a Citybike hub on the south western corner of the site;
- Provision of level access on all entrances in line with the Equality Act (Formerly DDA Act), where possible; and,
- Provision of a refuse collection & servicing management plan.

10.2 Off – Site Measures

- New pedestrian crossing with dropped kerbs and tactile paving across O’Connell Road with its junction at Titchfield Street;
- New pedestrian crossing with dropped kerbs and tactile paving across Gildarts Gardens with its junction at Titchfield Street;
- New pedestrian crossing with dropped kerbs and tactile paving across Bond Street with its junction at Titchfield Street;
- New pedestrian crossing with dropped kerbs and tactile paving on the corner of Summer Seat and Limekiln Lane;
- New pedestrian crossing with dropped kerbs and tactile paving across all arms of the Titchfield Street / Burlington Street junction;
- New pedestrian crossing with dropped kerbs and tactile paving across Limekiln Lane, south of Burlington Street.
- Realignment of the existing pedestrian crossings at the Bevington Street / Titchfield Street junction; and,
- Installation of two new bus shelters on Burlington Street.

11 SUMMARY AND CONCLUSIONS

Vectio Consulting Limited has been appointed by the Eldonians to prepare a Transport Assessment to support a planning application for a proposed residential development on a site bound by Bond Street, Limekiln Lane, Bevington Street and Titchfield Street, in Liverpool. The site currently comprises of disused residential buildings and hardstanding.

The development proposals are to include 136 residential units, comprising of 45 one bedroom units, 85 two bedroom units and 6 three bedroom units. Access to the proposed development is to be served by two new driveways into forecourts on Limekiln Lane and Titchfield Street. Layby parking other forms of parking space are provided on all sides of the development other than Bond Street. The site benefits from its city centre location and excellent sustainable accessibility.

11.1 Summary

This report has been prepared in consultation with the Liverpool City Council acting as Highway Authority and in line the new guidance provided in Paragraph 32 of the National Planning Policy Framework which sets out that all developments that generate significant amounts of transport movement should be supported by a Transport Assessment.

This report has appraised key transport aspects and the findings are summarised as follows:

The development proposals have been discussed in context with the local environment. Measures to accommodate all modes of access have been developed. Servicing vehicles have been discussed along with the need to provide a Construction Stage Traffic Management prior to construction.

A review of relevant planning policy has been undertaken, planning policy has been adopted and conformed to where relevant.

The existing transport conditions have been audited and discussed within the assessment. Excellent pedestrian infrastructure and good public transport provision were identified.

To the north of the development on Burlington Street it is proposed to contribute toward the installation of two new bus shelters at both eastbound and west bound bus stops to encourage the use of the existing bus service.

Traffic impacts have been appraised relating to vehicular trip generations. These have been estimated to be minimal and as such are not expected to create either a material or detrimental impact on the adjacent highway network, when considering the former residential use of the site.

Travel forecasts have been estimated, specifically relating to person trips and the likely increase in pedestrian movements and their respective impact on the adjacent infrastructure. Improvements have been proposed to upgrade / provide pedestrian crossing facilities in the local area.

A review of cycle demand and parking provision has been undertaken. This assessment considered that a supply of 43 secure sheltered cycle parking spaces within the site is sufficient to facilitate the occupants of the development, an additional 32 spaces will be made available within ground floor flats. This report does however recommend the provision of a new Citybike hub, including 10 new bicycles, located on the corner of Titchfield Street / Bevington Street to serve both the new and existing residents surrounding the site.

Car parking demand has been appraised. The assessment has identified that a combination of on-site parking and on street parking will be sufficient to facilitate the parking demand of the proposed development.

An appraisal of road traffic accident data has been undertaken. The assessment has not identified any trends that are likely to be detrimentally impacted by the operations of the proposed development.

11.2 Conclusions

It is the view of this Transport Assessment that, in transportation and highway safety terms, there are no overriding issues that would prevent the granting of planning permission based on the recommendations within this report being implemented.

Appendix A: Scoping Correspondence



Matt Cleggett

From: Taylor, Mike <Mike.Taylor@liverpool.gov.uk>
Sent: 21 January 2016 11:55
To: Matt Cleggett
Subject: RE: Advice regarding a new application - Eldon Grove, Liverpool

Matt,

Thank you for your email.

I am in agreement with your approach to the TA for the most part but would add the following:

The TRICS assessment should be based on 85th percentile trip rates. I'm not sure what you mean by weighting the trip generations – there should be enough data for residential sites to get favourable comparison sites even if you have to extend the default date range.

I would expect 139 units to generate more than 30 two-way vehicle movements in the peak hour and capacity assessments are likely. The network of roads only really allows for access/egress at two locations Eldon Street and Burlington Street and one or both of these are likely to require assessment. That being said I feel it is unlikely that any capacity improvements are likely to be required but I would want to see evidence that the signals at Burlington Street and the priority junction at Eldon Street are appropriate for increased movement.

Accident analysis should be based on the latest STATS19 data rather than on the use of Crashmap. The contact for accident details is:

Jayne Black (Team Leader) Highways & Transportation
Liverpool City Council, Municipal Buildings, Dale Street, Liverpool. L2 2DH
0151 233 0274
jayne.black@liverpool.gov.uk

In terms of the parking for the site our standard is 1 space per unit but I have some concerns over the proposed layout. Car parking provision should be an integral part of the overall design of a scheme and be usable, safe and secure – in-curtilage parking is preferred. The use of the on-street parking bays proposed raises a number of issues: domination of the streetscene, obstruction of visibility at accesses and junctions, issues of car maintenance/cleaning being carried out on the highway, future maintenance due to the damage leaking vehicle fluids can cause to road surfaces, manoeuvring issues, encroachment on to footways, access to dwellings from the carriageway for servicing/deliveries etc., security of vehicles etc.

I'm sure that our planners would like to take a view on the parking layout and it may be worthwhile your client arranging for a pre-application meeting.

I'm fine with the approach for the TP; a residential travel plan will be a standard condition.

Let me know if you need any further information.

Regards

Mike

Mike Taylor | Principal Engineer

Liverpool City Council | Municipal Buildings | Dale Street | Liverpool | L2 2DH

T: 0151 233 0321 | E: mike.taylor@liverpool.gov.uk



From: Matt Cleggett [mailto:matt@vectio.co.uk]

Sent: 18 January 2016 21:46

To: Dingwall, Andy; Taylor, Mike

Subject: Advice regarding a new application - Eldon Grove, Liverpool

Good evening Andy / Mike,

I hope you both are well.

I'm currently preparing a Transport reports to support a planning application associated with a new development located in the parcel of land bound by Bond street, Limekiln Lane, Titchfield Street and Bevington Street, in Liverpool.

I've attached a location plan and indicative ground floor layout for information.

The site is to comprise in the order of 139 residential units with a mix of 1, 2 and 3 bed units. Parking will be provided by adjacent on street parking, some private gated courtyards, driveways and laybys.

As per usual, I am working under a tight deadline with my client looking to submit a planning application before the end of the month (January 2016).

As such I would appreciate your input regarding my proposed methodology to be adopted in the Transport Assessment and Interim Travel Plan as below:

Transport Assessment

Prepare a Transport Assessment including:

- Discuss local and national Planning Policy;
- Outline the existing site conditions including the site scale, surroundings, local highway network, existing accesses, pedestrian routes, potential restrictions etc. (by means of undertaking an audit of highway infrastructure of the local area);
- Provide a summary of the local amenities and facilities that are currently available to potential residents and visitors, and comment on their accessibility to the site. Existing cycle and pedestrian links will be assessed, along with locations of bus stops and existing bus services to encourage sustainable travel;
- Undertake a MASA assessment;
- Provide a detailed description of the site proposals including composition, scale, main features, points of access and travel characteristics;
- Review servicing requirements and access for refuse vehicles and discuss the intended operation;
- Estimate the trip generation of the existing site based on TRICS survey information obtained from the TRICS database.

- Develop the trip generation of the proposed development based on TRICS survey information obtained from the TRICS database, including modal share information, weight these generations using local 2011 Census information;
- Highlight the net person traffic impact the proposed development is likely to create upon the local highway network and identify impacts;
- It is not considered that junction impact assessments or the procurement of traffic surveys as the development is likely to generate in the order of 30-40 two way vehicular trips during either the AM or PM peak hour. Given the network of roads leaving the site this volume of traffic would dissipate quickly. This will be discussed in the report.
- Highlight desire lines and propose associated infrastructure such as pedestrian crossings where relevant, detailing them on a drawing. This will be undertaken by means of a pedestrian infrastructure audit;
- Discuss construction impacts associated with transport and highlight how these may be managed;
- Obtain and review personal injury accident data for the previous 3-year period and appraise to ensure the proposed residential development will not exacerbate any existing highway safety issues. Should issues be identified, put forward measures to mitigate such issues;
- Review the local parking standards for all modes of transport and highlight the requirement for such parking considering the proposed development layout;
- Prepare tracking drawings to illustrate the viability of the parking areas; and,
- Culminate the above into a Transport Assessment to seek to demonstrate to the LHA that the proposed residential development will not detrimentally impact the adjacent highway network.

Interim Travel Plan

Preparation of an Interim Travel Plan including:

- Discussion regarding the existing adjacent highway infrastructure;
- Discussion regarding the development proposals;
- Review local and national Planning Policy;
- Review existing and proposed parking provision adjacent to the site along with sustainable modes of transport provision;
- Discuss the principles of a Travel Plan;
- Discuss the administration of the Travel Plan including the Co-ordinator and plans aims;
- Develop SMART targets for modal share and other objectives;
- Set out proposed promotional, awareness, and physical improvement measures associated with all modes of transport;
- Discuss car share schemes and the take up of the City Bike scheme;
- Discuss the promotion and marketing of the Travel Plan;
- Set out how the Travel Plan will be managed, monitored and maintained, including the personnel required to do this;
- Prepare a high level finance plan; and,
- Prepare an Action Plan including key dates and responsibilities.

Your thoughts regarding the above would be gratefully appreciated.

Thanks again for your support in advance,

Kind regards

Matt

Matt Cleggett | Director | BEng FCILT MCIHT TechIOSH

Tel: +44 7496 813 913, Email: info@vectio.co.uk, Web: www.vectio.co.uk



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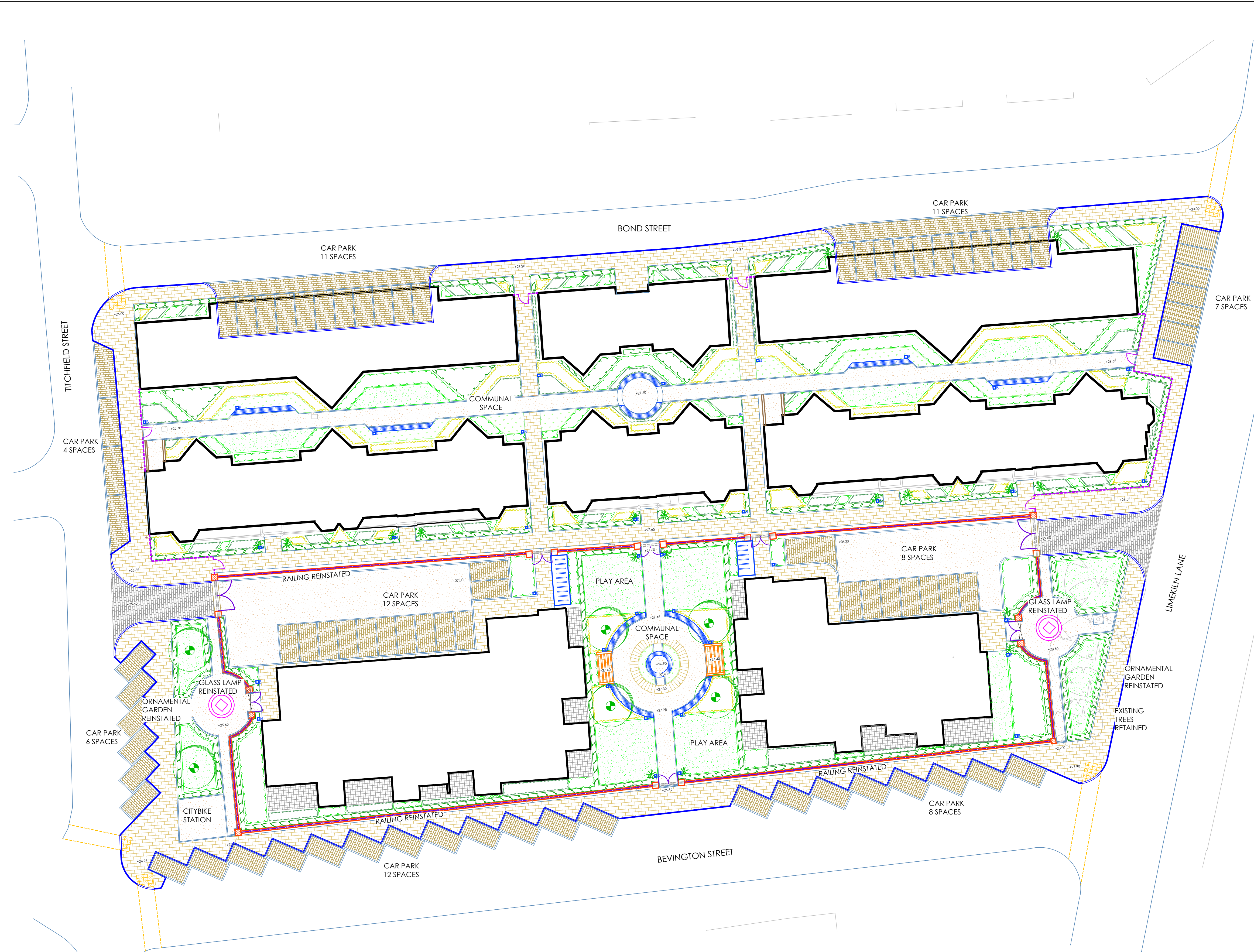
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Appendix B: Masterplan





KEY

Hard Landscape

- Standard PCC kerb
150 x 255 x 915 mm
100 mm nominal upstand
- Standard PCC drop kerb
150 x 255 x 915 mm
6 mm nominal upstand
- Vehicular granite setts type 1
100 x 200 x 80 mm
Colour: silver grey
- Vehicular granite setts type 2
100 x 200 x 80 mm
Colour: yellow/beige
- Granite paving flags
450x RL x 50 mm
Colour: yellow/beige
- Concrete paving Flags
400x 400 x 50 mm
colour: silver grey
- Granite blister tactile paving
400 x 400 x 50 mm
colour: Yellow/Beige
- Granite setts paving trim
100 x 200 x 80 mm
colour: Silver Grey
- Resin bound gravel
- Clay brick retaining wall

Furniture and Fencing

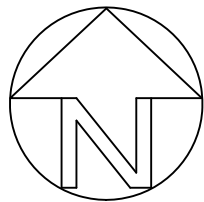
- Existing listed wall and piers to be retained and repaired, gaps in wall to be infilled
- Existing listed wall and piers to be carefully dismantled, bricks to be re-used
- Proposed new piers to the existing listed wall
Detail to match historic design
- Listed railing to be reinstated
detail to match historic design
- Proposed 1.8m high vertical bar fence
pedestrian gates to match
Colour: black
- Existing listed lamp posts to be retained and refurbished
- Concrete seating with timber top
600 x 600 x RL
Aggregate finish
- Proposed timber shelter
2000 x 3600 x 2500 mm
- Tiber Cycle shelter
- LED illuminated bollard
Galvanised steel
1200 mm high

Soft Landscape

- Existing trees to be retained
- Proposed Heavy standard tree planting
- Proposed large shrub specimen planting
- Proposed ornamental hedgerow planting
- Proposed ornamental shrub planting
- proposed ornamental grass planting
- Proposed groundcover mix planting
- Proposed floral mix planting
- Proposed grass turf

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Notes:-



| | | | | |
|------|----------|-------------|-------|-------|
| P01 | 29/01/16 | Planning | MS | MT |
| REV. | DATE | DESCRIPTION | DRAWN | CHK'D |



21 Swan Street Manchester M4 5JJ
T: 0161 312 3131 W: urbangreen-space.co.uk

Client: Eldonian

Project: Eldon Grove

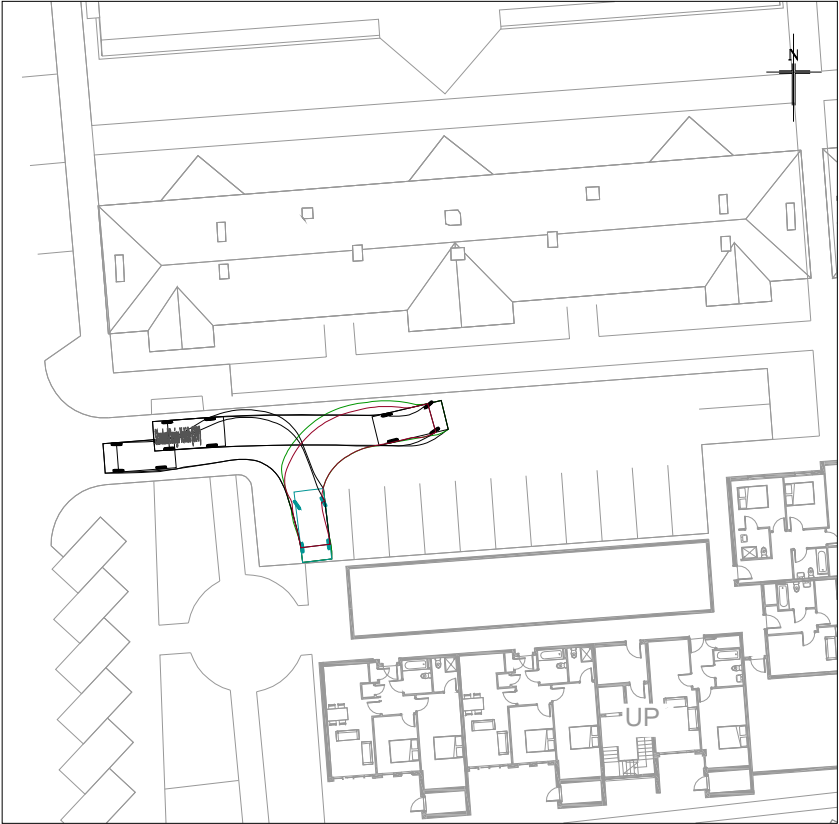
Title: Landscape General Arrangement

| | | | |
|------------------------------|-------|-----------------------|----------------------|
| Status: PLANNING | | | |
| Project: | 11124 | Drawn: MS | Checked: MT |
| Scale @ A1: | 1:250 | Date: 29/01/16 | Approved: MK |
| Drawing No: 11124_L01 | | | Revision: P01 |

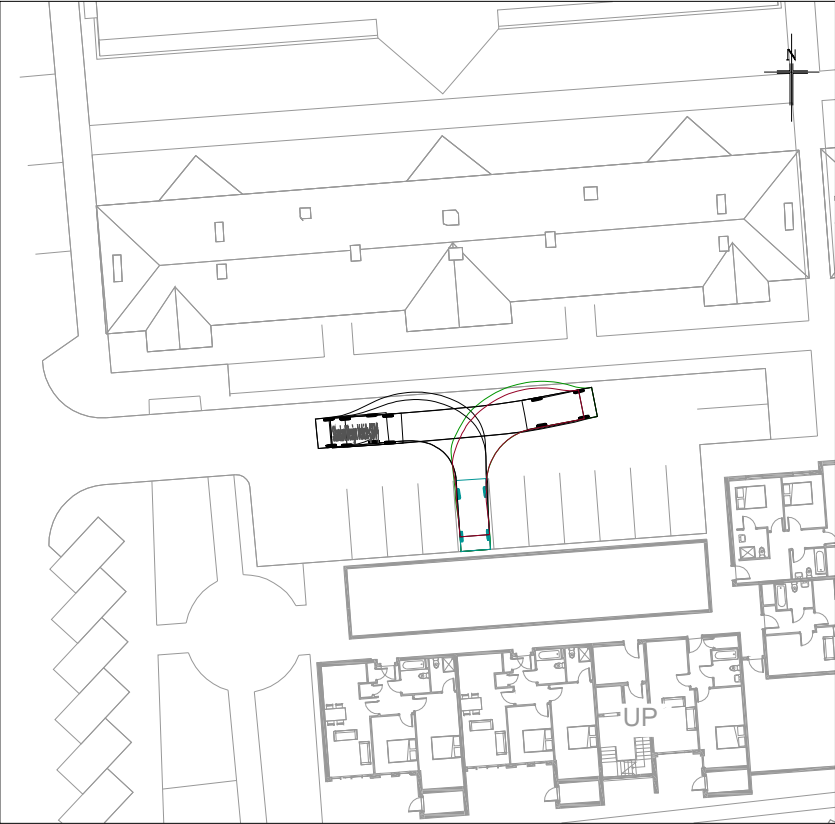
Appendix C: Swept Path Analysis



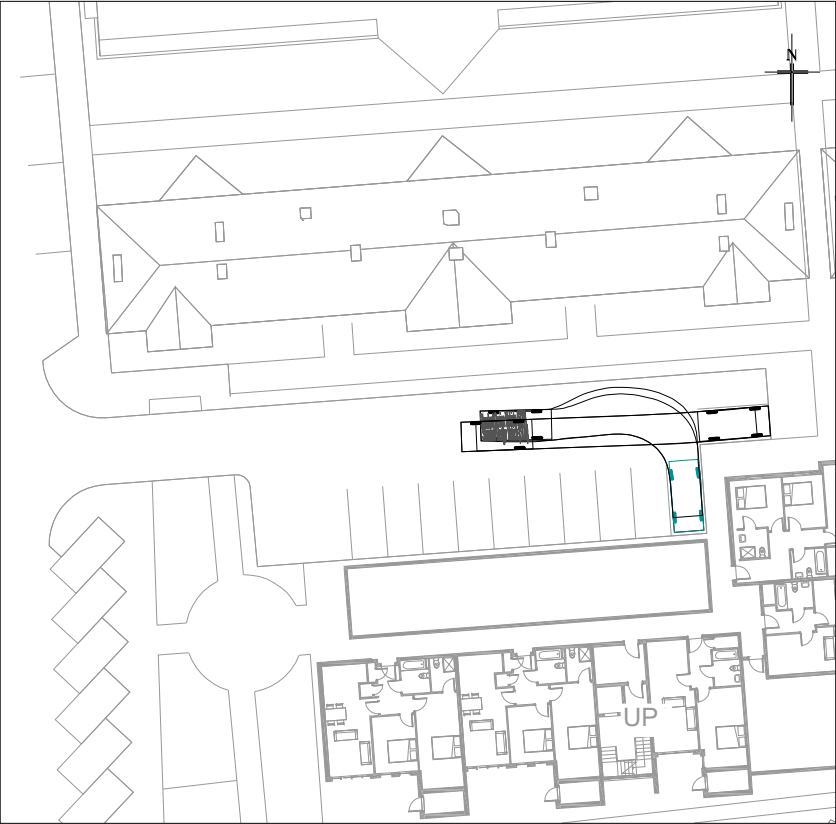
Titchfield Street Courtyard - turning head movement



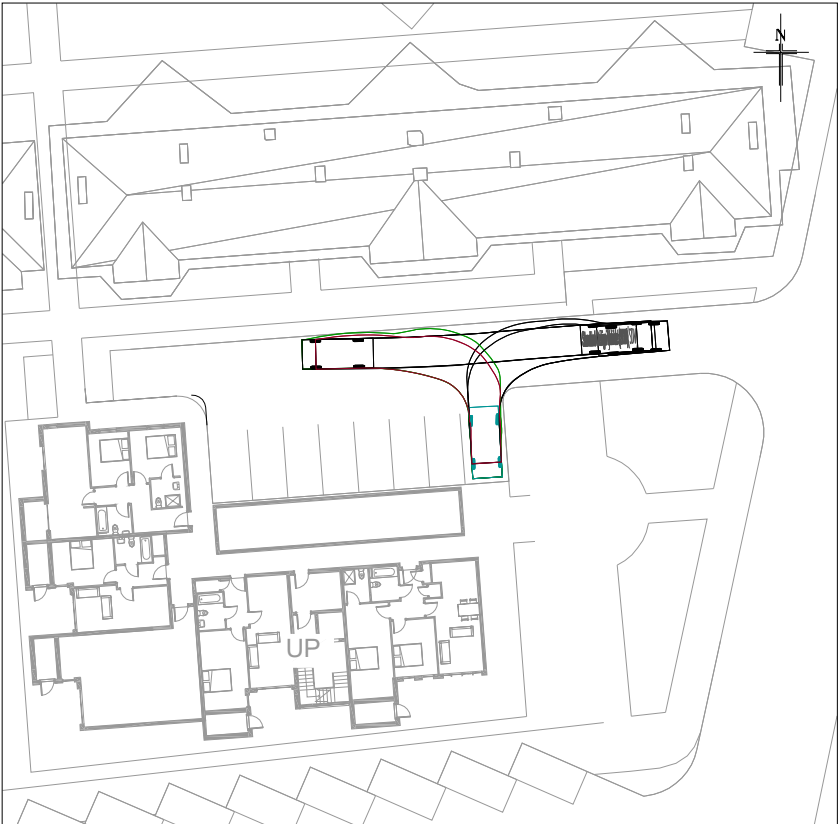
Titchfield Street Courtyard - parking space movement 1



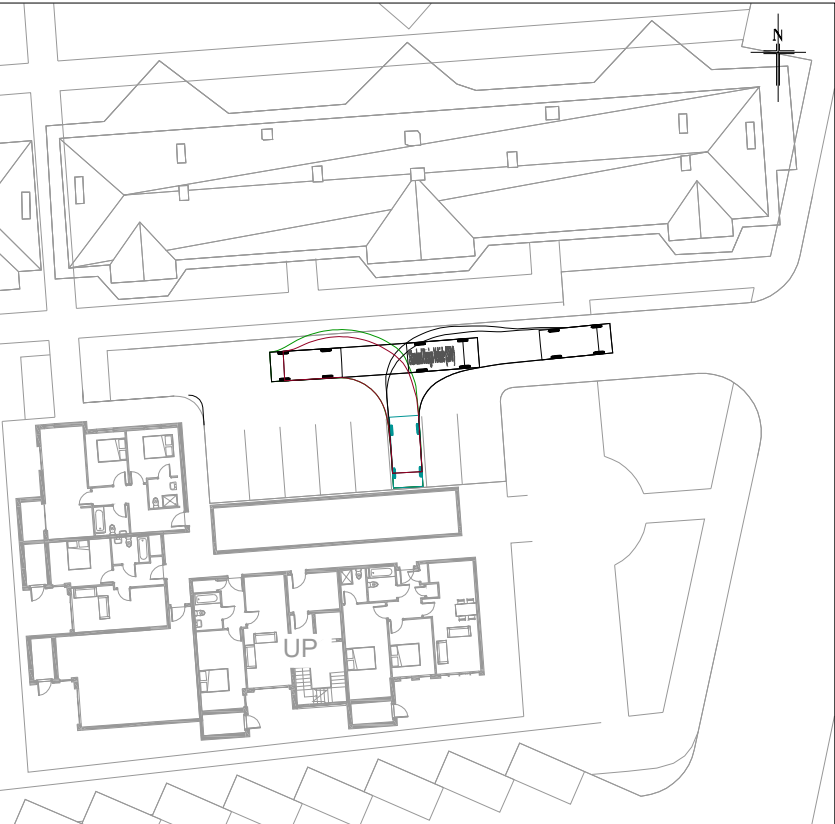
Titchfield Street Courtyard - parking space movement 1



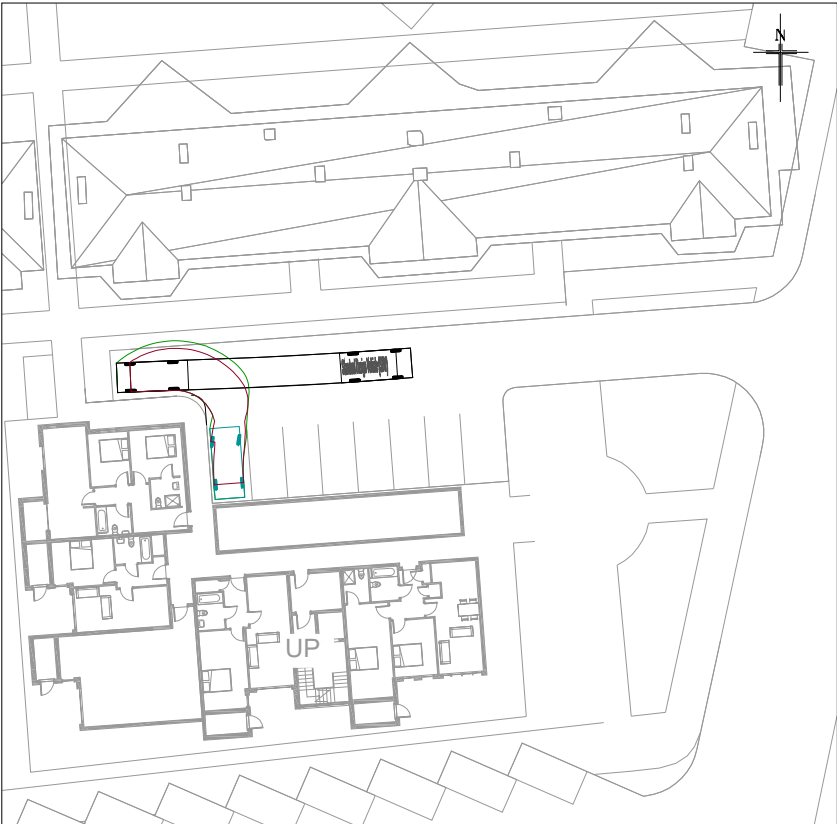
Limekiln Lane Courtyard - parking space movement 1



Limekiln Lane Courtyard - parking space movement 2




Limekiln Lane Courtyard - turning head movement



| Revision | Amendment | Approved | Revision Date |
|----------|-----------|----------|---------------|
| - | - | - | - |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

VEHICLE PROFILE



Standard Design Vehicle (SDV)

Overall Length* 4.800m

Overall Width 2.050m

Overall Body Height 2.050m

Max Body Ground Clearance 0.100m

Track Width 2.050m

Lock to Lock Time 4.00s

Wall to Wall Turning Radius 6.000m

DESIGN VEHICLE

 **Vectio Consulting**
TRANSPORT PLANNING

| | | | |
|-------|----------|----------|--------------|
| Drawn | Designed | Approved | Drawing Date |
| MC | MC | LC | 29JAN15 |

Project No.

VC0037

Scale

1:200@A1

Project

ELDON GROVE
RESIDENTIAL DEVELOPMENT

Sheet

PROPOSED SWEEP PATH ANALYSIS
INTERNAL PARKING AREAS

Project No.

VC0037 DS1

Sheet No.

1

Revision

-

Appendix D: Highway Infrastructure Audit



VC0037 – ELDON GROVE INFRASTRUCTURE AUDIT

STREET / ROAD NAME: Limekiln Lane

DESCRIPTION: Limekiln Lane is an 8.6 m wide single carriageway road. Along Limekiln Lane there is a 20 mph speed limit, there are footways along either side of the road and the area is street lit.

General Observation

Limekiln Lane forms a 'T' junction with Silvester Street to the north and turns into Summer Seat to the south.

Pedestrian Infrastructure / Facilities

Footways are provided on both sides of Limekiln Lane and are in relatively good condition. Tactile paving has been provided across all junction minor arms along the length of Limekiln Lane within the study area.

Parking Facilities

There are no parking restrictions along the length of Limekiln Lane with the exception of outside the Vauxhall Health Centre where there is both on carriageway disabled and ambulance marked parking spaces.

Bus Facilities

There were 2 bus stops observed along Limekiln Lane, these are located just north of the Vauxhall Health Centre.

TROs

There are no significant TRO's.

STREET / ROAD NAME: Burlington Street

DESCRIPTION: Burlington Street is a 7.3 m wide single carriageway road. Along Burlington Street there is a 20 mph speed limit, there are footways along either side of the road and the area is street lit.

General Observation

Burlington Street terminates to the east with no vehicular connection to the A59. To the west there is a signalised junction with Vauxhall Road (A5038).

Pedestrian Infrastructure / Facilities

Footways are provided on both sides of Burlington Street and are in relatively good condition. There is a lack of tactile paving at the crossings with Walsh Close, Tobin Close and Diamond Street. There are some uncontrolled crossings at Titchfield Street but none have tactile paving.

Parking Facilities

There are no parking restrictions along the length of Burlington Street other than at the western end where double yellow lines are present on both sides of the road.

Bus Facilities

There were 4 bus stops observed along the length of Burlington Street. The two bus stops to the west between Walsh Close and Tolbin Street provide bus shelters with timetables and seating, the 2 bus stops beside Diamond Street do not have shelters or seating.

TROs

There are no significant TRO's.

STREET / ROAD NAME: Titchfield Street

DESCRIPTION: Titchfield Street has a varying carriageway width of between 4.6 m and 5.6 m and is a single carriageway road. Along Titchfield Street there is a 20 mph speed limit, there are footways along either side of the road and the area is street lit.

General Observation

No significant observations were noted.

Pedestrian Infrastructure / Facilities

Footways are provided on both sides of Titchfield Street and are in relatively good condition. There is a lack of tactile paving present at crossings with O'Connell Road, Gildarts Gardens, Eldon Street and Bond Street. There are some uncontrolled crossings at the crossroad with Burlington Street but none have tactile paving. The tactile paving across Titchfield Street at its junction with Bevington Street does not align.

Parking Facilities

There are no parking restrictions along the length of Titchfield Street.

Bus Facilities

No bus infrastructure / facilities were observed along Titchfield Street within the audit area.

TROs

There are no significant TRO's.

STREET / ROAD NAME: O'Connell Road

DESCRIPTION: O'Connell Road is a 4.8 m wide single carriageway road. Along the length of O'Connell Road there is a 20 mph speed limit, there are footways along either side of the road and the area is street lit.

General Observation

O'Connell Road is a cul-de-sac.

Pedestrian Infrastructure / Facilities

Footways are provided on both sides of O'Connell Road and are in relatively good condition. There is a lack of tactile paving at the junction with Titchfield Street.

Parking Facilities

There are no parking restrictions along the length of O'Connell Road.

Bus Facilities

No bus infrastructure / facilities were observed along O'Connell Road within the audit area.

TROs

There are no significant TRO's.

STREET / ROAD NAME: Gildarts Gardens

DESCRIPTION: Gildarts Gardens is a 4.8 m wide single carriageway cul-de-sac. Along the length of Gildarts Gardens there is a 20 mph speed limit and the area is street lit.

General Observation

Gildarts Gardens is a cul-de-sac and has a shared use carriageway.

Pedestrian Infrastructure / Facilities

Gildarts Gardens is a shared use carriageway, there is a lack of tactile paving with the crossing with Titchfield Street.

Parking Facilities

There are no parking restrictions along the length of Gildarts Gardens.

Bus Facilities

No bus infrastructure / facilities were observed along Gildarts Gardens.

TROs

There are no significant TRO's.

STREET / ROAD NAME: Bond Street

DESCRIPTION: Bond Street has a varying carriageway width from between 5.5 m to 7.3 m and is a single carriageway road. Along the length of Bond Street there is a 20 mph speed limit, there are footways along either side of the road and the area is street lit.

General Observation

The properties backing on to the northern side off the carriageway have vehicular access to the rear of the properties.

Pedestrian Infrastructure / Facilities

Footways are provided on both sides of Bond Street and are in relatively good condition. There is a lack of tactile paving at its junction with Titchfield Street.

Parking Facilities

There are no parking restrictions along the length of Bond Street.

Bus Facilities

No bus infrastructure / facilities were observed along Bond Street.

TROs

There are no significant TRO's.

STREET / ROAD NAME: Burroughs Gardens

DESCRIPTION: Burroughs Gardens is a 5.8 m wide single carriageway road. Along the length of Burroughs Gardens there is a 20 mph speed limit, there are footways along either side of the road and the area is street lit.

General Observation

Burrough Gardens is a no through road and as such does not provide vehicular access to the A59

Pedestrian Infrastructure / Facilities

Footways are provided on both sides of Boroughs Gardens and are in relatively good condition and tactile paving is present. These link pedestrians to the A59.

Parking Facilities

There are no parking restrictions along the length of Burroughs Gardens. There is a parking layby at the eastern end of Burroughs Gardens just before it joins with Ennerdale Street. The layby is on the eastern kerb line.

Bus Facilities

No bus infrastructure / facilities were observed along Burroughs Gardens.

TROs

There are no significant TRO's.

STREET / ROAD NAME: Lardis Place

DESCRIPTION: Lardis Place is a 6.0 m wide single carriageway road. Along the length of Lardis Place there is a 20 mph speed limit, there are footways along either side of the road and the area is street lit.

General Observation

No significant observations were noted.

Pedestrian Infrastructure / Facilities

Footways are provided on both sides of Lardis Place and are in relatively good condition.

Parking Facilities

There are no parking restrictions along the length of Lardis Place.

Bus Facilities

No bus infrastructure / facilities were observed along Lardis Place.

TROs

There are no significant TRO's.

STREET / ROAD NAME: Kingsway Court

DESCRIPTION: This is a private road and therefore no audit was undertaken.

STREET / ROAD NAME: Bevington Street

DESCRIPTION: Bevington Street is a 9.1 m wide single carriageway road. Along the length of Bevington Street there is a 20 mph speed limit, there are footways along either side of the road and the area is street lit.

General Observation

None.

Pedestrian Infrastructure / Facilities

Footways are provided on both sides of Bevington Street and are in relatively good condition with tactile paving.

Parking Facilities

There are no parking restrictions along the length of Bevington Street.

Bus Facilities

No bus infrastructure / facilities were observed along Bevington Street.

TROs

There are no significant TRO's.

STREET / ROAD NAME: Summer Seat

DESCRIPTION: Summer Seat is a 5.5 m wide single carriageway road. Along the length of Summer Seat there is a 20 mph speed limit, there are footways along either side of the road and the area is street lit.

General Observation

No significant observations were noted.

Pedestrian Infrastructure / Facilities

Footways are provided on both sides of Summer Seat and are in relatively good condition.

Parking Facilities

There are no parking restrictions along the length of Summer Seat.

Bus Facilities

No bus infrastructure / facilities were observed along Summer Seat.

TROs

There are no significant TRO's.

STREET / ROAD NAME: Eldon Street

DESCRIPTION: Eldon Streets is a single carriageway with a varying width of between 4.8 m and 5.7 m. Along the length of Eldon Street there is a 20 mph speed limit, there are footways along either side of the road and the area is street lit.

General Observation

There is a clearway for the first 80 m length (approx.) of Eldon Street from the junction with Vauxhall Road (A5038). Beyond this point the carriageway widens to 5.7 m.

Pedestrian Infrastructure / Facilities

Footways are provided on both sides of Eldon Street and are in relatively good condition. There is a lack of tactile paving at the side road with Clement Gardens and with Titchfield Street.

Parking Facilities

The first 80 from the junction with Vauxhall Road is a clearway, after this point there are no parking restrictions on Eldon Street.

Bus Facilities

No bus infrastructure / facilities were observed along Eldon Street.

TROs

There are no significant TRO's.

STREET / ROAD NAME: Clement Gardens

DESCRIPTION: Clement Gardens is a 5.0 m wide single carriageway cul-de-sac. Along the length of Clement Gardens there is a 20 mph speed limit and the area is street lit.

General Observation

Clement Gardens is a cul-de-sac and has a shared use carriageway.

Pedestrian Infrastructure / Facilities

Clement Gardens is a shared use carriageway, there is a lack of tactile paving with the crossing with Eldon Street.

Parking Facilities

There are no parking restrictions along the length of Clement Gardens.

Bus Facilities

No bus infrastructure / facilities were observed along Clement Gardens.

TROs

There are no significant TRO's.

STREET / ROAD NAME: Vauxhall Road (A5038)

DESCRIPTION: Vauxhall Road is a principle road running in a north – south direction. It has a general carriageway width of 11.9 m with splitter islands, crossing points and right turn ghost islands along its length. Along the length of Vauxhall Road there is a 30 mph speed limit, there are footways along either side of the road and the area is street lit.

General Observation

There are mandatory on-road cycle routes within the audit area. The main junctions are protected by double yellow line parking restrictions.

Pedestrian Infrastructure / Facilities

Footways are provided on both sides of Vauxhall Road and are in relatively good condition. There are controlled crossings with tactile paving within the audit area.

Parking Facilities

There were no parking facilities observed along this road, other than layby parking for 4 vehicles on the eastern carriageway between Eldon Street and Burlington Street, serving four adjacent properties.

Bus Facilities

There were 2 bus stops observed within the audit area. Both of which provided bus shelters and seating.

TROs

There is a mix of single and double yellow lined TRO's and also a mandatory cycle lane within the audit area.

Appendix E: MASA Form



3 Minimum Accessibility Standard Assessment

| | | | | |
|---|---|---|--|--------------|
| Address: | | Eldon Grove, Liverpool | | |
| Completed By: | | Vectio Consulting Limited | | |
| Access Diagram | | | | |
| Has a diagram been submitted which shows how people move to and through the development and how this links to the surrounding roads, footpaths and sight lines? (This can be included within the Design and Access Statement, see Section 2.25.) If a diagram has not been submitted your application may not be processed. | | | | (Yes) / No |
| Access on Foot | | | Points | Score |
| Safety | Is there safe pedestrian access to and within the site, and for pedestrians passing the site (2m minimum width footpath on both sides of the road)? If no your application must address safe pedestrian access. | | | (Yes) / No |
| Location | <u>Housing Development:</u> Is the development within 500m of a district or local centre (see Accessibility Map 1 in Appendix F) <u>Other development:</u> Is the density of existing local housing (i.e. within 800m) more than 50 houses per hectare (see Accessibility Map 4 in Appendix F) | Yes | (2) | 2 |
| | | No | 0 | |
| Internal Layout | Does 'circulation' and access inside the sites reflect direct, safe and easy to use pedestrian routes for all; with priority given to pedestrians when they have to cross roads or cycle routes? | Yes | (1) | 1 |
| | | No | 0 | |
| External Layout | Are there barriers between site and local facilities or housing which restrict pedestrian access? (see Merseyside Code of Practice on Access and Mobility) e.g. <ul style="list-style-type: none"> No dropped kerbs at crossings or on desire lines; Steep gradients; A lack of a formal crossing where there is heavy traffic; Security concerns, e.g. lack of lighting. | There are barriers | -2 | 1 |
| | | There are no barriers | (1) | |
| | | <div style="border: 1px solid black; padding: 5px;"> Enhancements to pedestrian infrastructure is proposed as part of the scheme, to reduce these barriers </div> | | 1 |
| Other | The development links to identified recreational walking network (see Accessibility Map 1). If no, please provide reasons why not. | | | (Yes) / No |
| | | | Total (B) | |
| Summary | Box A: Minimum Standard (from Table 3.1) | 4 | Comments or action needed to correct any shortfall <div style="border: 1px solid black; padding: 10px;"> To provide enhanced pedestrian facilities the following is proposed in conjunction with the development: <ul style="list-style-type: none"> New uncontrolled crossing with tactile paving across: <ul style="list-style-type: none"> O'Connell Road with its junction at Titchfield Street; Gildarts Gardens with its junction at Titchfield Street; </div> | |
| | Box B: Actual Score | 4 | | |

| | | | <ul style="list-style-type: none">○ Bond Street with its junction at Titchfield Street;○ On the corner of Summer Seat and Limekiln Lane;○ Across all arms of the Titchfield Street / Burlington Street junction; and,○ Across Limekiln Lane, south of Burlington Street. <ul style="list-style-type: none">● Realign existing tactile paving at the Bevington Street / Titchfield junction | |
|-----------------|--|-----|---|------------|
| Access by Cycle | | | Points | Score |
| Safety | Are there safety issues for cyclists either turning into or out of the site or a road junctions within 400m of the site (e.g. dangerous right turns for cyclists due to the level of traffic)? If yes, you must address safety issues in your application. | | | Yes / (No) |
| Cycle Parking | Does the development meet cycle parking standards, in a secure location with natural surveillance, or where appropriate contribute to communal cycle parking facilities? If no, you must address cycle parking standards and cycle parking facilities. | | | (Yes) / No |
| Location | <u>Housing Development:</u> Is the development within 1 mile of a district or local centre (see Accessibility Map 1) <u>Other Development:</u> Is the density of local housing (e.g. within 1 mile) more than 50 houses per hectare (see Accessibility Map 4 in Appendix F) | Yes | (2) | 2 |
| | | No | 0 | |
| Internal layout | Does 'circulation' and access inside the site reflect direct and safe cycle routes; with priority given to cyclists where they meet motor vehicles? | Yes | (1) | 1 |
| | | No | 0 | |
| External Access | The development is within 400m of an existing or proposed cycle route (see Accessibility Map 1 in Appendix F) and / or proposes to create a link to a cycle route, or develop a route? | | (1) | 1 |
| | The development is not within 400m of an existing or proposed cycle route (see Accessibility Map 1 in Appendix F) | | -1 | |
| Other | Development includes shower facilities and lockers for cyclists | Yes | (1) | 1 |
| | | No | 0 | |
| | | | Total (B) | 5 |
| Summary | Box A: Minimum Standard (From Table 3.1) | 5 | Comments or action needed to correct any shortfall To provide enhanced cycling facilities it is proposed to install a new Citybike Hub on | |

3 Minimum Accessibility Standard Assessment

| | | | | |
|---|--|-----------------------|--|--------------|
| | Box B: Actual Score | 5 | the corner of Titchfield Street and Bevington Street as part of the development. | |
| | | | | |
| Access by Public Transport | | | Points | Score |
| Location and access to public transport | Is the site within a 200m safe and convenient walking distance of a bus stop, and/or within 400m of a rail station? (See Accessibility Map 2 in Appendix F). | Yes | 2 | 2 |
| | | No | 0 | |
| | Are there barriers on direct and safe pedestrian routes to bus stops or rail stations i.e. • A lack of dropped kerbs; • Pavements less than 2m wide; • A lack of formal crossings where there is heavy traffic; or • Bus access kerbs. | There are barriers | 0 | 1 |
| | | There are no barriers | 1 | |
| Frequency | High (four or more bus services or trains an hour) | | 2 | 2 |
| | Medium (two or three bus services or trains an hour) | | 1 | |
| | Low (less than two bus services or trains an hour) | | 0 | |
| Other | The proposal contributes to bus priority measures serving the site | | 1 | 0 |
| | The proposal contributes to bus stops, bus interchange or bus or rail stations in the vicinity and/or provides bus stops or bus interchange in the site | | 1 | 0 |
| | The proposal contributes to an existing or new bus service | | 1 | 0 |
| | | | Total (B): | |

| | | | |
|---------|---|---|---|
| Summary | Box A: Minimum Standard (from Table 3.1) | 5 | Comments or action needed to correct any shortfall <div>The upgraded pedestrian facilities will provide a direct link to the adjacent bus stops on Vauxhall Road and Burlington Street. In addition, it is proposed to install two new bus shelters on Burlington Street to enhance the current facilities.</div> |
| | Box B: Total Score | 5 | |

| Vehicle Access and Parking | | Points | Score |
|--------------------------------|--|--------|-----------------|
| Vehicle access and circulation | Is there safe access to and from the road? If no, you must address safety issues. | | Yes / No |
| | Can the site be adequately serviced? If no, you must address service issues. | | Yes / No |
| | Is the safety and convenience of other users (pedestrians, cyclists and public transport) affected by the proposal? If yes, you must address safety issues. | | Yes / No |
| | Has access for the emergency services been provided? If no, you must provide emergency service provision. | | Yes / No |
| | For development which generates significant freight movements, is the site easily accessed from the road or rail freight route networks (i.e. minimising the impact of traffic on local roads and neighbourhoods) (see Accessibility Map 3 in Appendix F)? If no, please provide an explanation. | | Yes / No N/A |
| Parking | The off-street parking provided is more than advised in Section 4 for that development type. If yes, parking provision must be reassessed. | | Yes / No |

| | | | |
|------------|---|----------------|---|
| | The off-street parking provided is as advised in Section 4 for that development type | 1 | <input checked="" type="radio"/> Yes / No |
| | The off-street parking provided is less than 75% of the amount advised in Section 4 for that development type (or shares parking provision with another development) | 2 | <input checked="" type="radio"/> Yes / No |
| | For development in controlled parking zones: | | N/A |
| | • Is it a car free development? | 1 | |
| | • Supports the control or removal of on-street parking spaces (inc provision of disabled spaces), or contributes to other identified measures in the local parking strategy (including car clubs) | 1 | |
| Total (B): | | | |
| Summary | Box A: Minimum Standard (From Table 3.1) Total Score | 1 3 | <p>Comments or action needed to correct any shortfall. If conditions are appropriate for the reduced level of parking (see section 4), but this has not been provided, please explain why.</p> <div> <p>Formal vehicle parking has been provided to accommodate 70 spaces 6% of these will be allocated for disabled use. An audit of the local area has identified sufficient available capacity for on street parking within 400 m of the site to ensure an overall provision of 136 spaces is available.</p> </div> |

Appendix F: TRICS Reports



TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
 Category : C - FLATS PRIVATELY OWNED

MULTI-MODAL VEHICLESSelected regions and areas:

| | | |
|-------------------------|----------------|--------|
| 02 SOUTH EAST | | |
| EX | ESSEX | 1 days |
| HF | HERTFORDSHIRE | 1 days |
| SC | SURREY | 2 days |
| 03 SOUTH WEST | | |
| BR | BRISTOL CITY | 1 days |
| DC | DORSET | 1 days |
| 04 EAST ANGLIA | | |
| CA | CAMBRIDGESHIRE | 1 days |
| NF | NORFOLK | 1 days |
| SF | SUFFOLK | 2 days |
| 06 WEST MIDLANDS | | |
| ST | STAFFORDSHIRE | 1 days |
| WM | WEST MIDLANDS | 1 days |
| 08 NORTH WEST | | |
| CH | CHESHIRE | 1 days |
| 09 NORTH | | |
| CB | CUMBRIA | 1 days |
| TV | TEES VALLEY | 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: Number of dwellings
 Actual Range: 27 to 140 (units:)
 Range Selected by User: 25 to 154 (units:)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/07 to 18/12/14

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 | 4 days |
| Tuesday | 3 days |
| Wednesday | 5 days |
| Thursday | 2 days |
| Friday | 2 days |

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

Selected survey types:

| | |
|-----------------------|---------|
| Manual count | 16 days |
| Directional ATC Count | 0 days |

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

Selected Locations:

| | |
|------------------------------------|---|
| Edge of Town Centre | 7 |
| Suburban Area (PPS6 Out of Centre) | 9 |

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

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

16 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

4 days

15,001 to 20,000

2 days

20,001 to 25,000

4 days

25,001 to 50,000

6 days

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

Population within 5 miles:

25,001 to 50,000

1 days

50,001 to 75,000

4 days

125,001 to 250,000

5 days

250,001 to 500,000

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

1 days

1.1 to 1.5

15 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

16 days

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

LIST OF SITES relevant to selection parameters

| | | | |
|----------|------------------------------------|------------------------------|-----------------------|
| 1 | BR-03-C-01 | FLATS & TERRACED | BRISTOL CITY |
| | CLARENCE ROAD | | |
| | BRISTOL | | |
| | Suburban Area (PPS6 Out of Centre) | | |
| | Residential Zone | | |
| | Total Number of dwellings: | 102 | |
| | Survey date: MONDAY | 09/11/09 | Survey Type: MANUAL |
| 2 | CA-03-C-02 | BLOCK OF FLATS | CAMBRIDGESHIRE |
| | WESTFIELD ROAD | | |
| | NETHERTON | | |
| | PETERBOROUGH | | |
| | Suburban Area (PPS6 Out of Centre) | | |
| | No Sub Category | | |
| | Total Number of dwellings: | 44 | |
| | Survey date: TUESDAY | 18/10/11 | Survey Type: MANUAL |
| 3 | CB-03-C-03 | FLATS & BUNGALOWS | CUMBRIA |
| | LOUND STREET | | |
| | KENDAL | | |
| | Suburban Area (PPS6 Out of Centre) | | |
| | Residential Zone | | |
| | Total Number of dwellings: | 33 | |
| | Survey date: MONDAY | 09/06/14 | Survey Type: MANUAL |
| 4 | CH-03-C-01 | BLOCKS OF FLATS | CHESHIRE |
| | NEW CRANE STREET | | |
| | CHESTER | | |
| | Edge of Town Centre | | |
| | Residential Zone | | |
| | Total Number of dwellings: | 60 | |
| | Survey date: FRIDAY | 17/10/08 | Survey Type: MANUAL |
| 5 | DC-03-C-01 | BLOCKS OF FLATS | DORSET |
| | ABBOTSBURY ROAD | | |
| | WEYMOUTH | | |
| | Edge of Town Centre | | |
| | Residential Zone | | |
| | Total Number of dwellings: | 27 | |
| | Survey date: TUESDAY | 08/07/08 | Survey Type: MANUAL |
| 6 | EX-03-C-02 | BLOCK OF FLATS | ESSEX |
| | WESTCLIFF PARADE | | |
| | WESTCLIFF | | |
| | SOUTHEND-ON-SEA | | |
| | Edge of Town Centre | | |
| | Residential Zone | | |
| | Total Number of dwellings: | 94 | |
| | Survey date: TUESDAY | 22/10/13 | Survey Type: MANUAL |
| 7 | HF-03-C-02 | FLATS | HERTFORDSHIRE |
| | BRIDGE ROAD EAST | | |
| | WELWYN GARDEN CITY | | |
| | Suburban Area (PPS6 Out of Centre) | | |
| | No Sub Category | | |
| | Total Number of dwellings: | 86 | |
| | Survey date: WEDNESDAY | 16/07/08 | Survey Type: MANUAL |

LIST OF SITES relevant to selection parameters (Cont.)

| | | | |
|-----------|------------------------------------|--------------------------|----------------------|
| 8 | NF-03-C-01 | BLOCKS OF FLATS | NORFOLK |
| | PAGE STAIR LANE | | |
| | KING'S LYNN | | |
| | Edge of Town Centre | | |
| | Built-Up Zone | | |
| | Total Number of dwellings: | 51 | |
| | Survey date: THURSDAY | 11/12/14 | Survey Type: MANUAL |
| 9 | SC-03-C-01 | FLATS | SURREY |
| | HEATHCOTE ROAD | | |
| | CAMBERLEY | | |
| | Edge of Town Centre | | |
| | Residential Zone | | |
| | Total Number of dwellings: | 140 | |
| | Survey date: MONDAY | 21/07/08 | Survey Type: MANUAL |
| 10 | SC-03-C-02 | FLATS | SURREY |
| | CONSTITUTION HILL | | |
| | WOKING | | |
| | Suburban Area (PPS6 Out of Centre) | | |
| | Built-Up Zone | | |
| | Total Number of dwellings: | 36 | |
| | Survey date: WEDNESDAY | 23/07/08 | Survey Type: MANUAL |
| 11 | SF-03-C-01 | BLOCKS OF FLATS | SUFFOLK |
| | STATION HILL | | |
| | BURY ST EDMUNDS | | |
| | Edge of Town Centre | | |
| | Built-Up Zone | | |
| | Total Number of dwellings: | 85 | |
| | Survey date: THURSDAY | 18/12/14 | Survey Type: MANUAL |
| 12 | SF-03-C-03 | BLOCKS OF FLATS | SUFFOLK |
| | TOLLGATE LANE | | |
| | BURY ST EDMUNDS | | |
| | Suburban Area (PPS6 Out of Centre) | | |
| | Residential Zone | | |
| | Total Number of dwellings: | 30 | |
| | Survey date: WEDNESDAY | 03/12/14 | Survey Type: MANUAL |
| 13 | ST-03-C-01 | BLOCKS OF FLATS | STAFFORDSHIRE |
| | ETRURIA COURT | | |
| | HUMBERT ROAD | | |
| | STOKE-ON-TRENT | | |
| | Suburban Area (PPS6 Out of Centre) | | |
| | No Sub Category | | |
| | Total Number of dwellings: | 33 | |
| | Survey date: WEDNESDAY | 26/11/08 | Survey Type: MANUAL |
| 14 | TV-03-C-01 | APARTMENTS BLOCKS | TEES VALLEY |
| | OXFORD ROAD | | |
| | LINTHORPE | | |
| | MIDDLESBROUGH | | |
| | Suburban Area (PPS6 Out of Centre) | | |
| | Residential Zone | | |
| | Total Number of dwellings: | 85 | |
| | Survey date: MONDAY | 06/10/08 | Survey Type: MANUAL |

LIST OF SITES relevant to selection parameters (Cont.)

| | | | |
|-----------|------------------------------------|--------------|----------------------|
| 15 | TV-03-C-02 | FLATS | TEES VALLEY |
| | ACKLAM ROAD | | |
| | LINTHORPE | | |
| | MIDDLESBROUGH | | |
| | Suburban Area (PPS6 Out of Centre) | | |
| | Residential Zone | | |
| | Total Number of dwellings: | 85 | |
| | Survey date: WEDNESDAY | 29/06/11 | Survey Type: MANUAL |
| 16 | WM-03-C-03 | FLATS | WEST MIDLANDS |
| | LODE LANE | | |
| | SOLIHULL | | |
| | Edge of Town Centre | | |
| | No Sub Category | | |
| | Total Number of dwellings: | 60 | |
| | Survey date: FRIDAY | 21/09/07 | Survey Type: MANUAL |

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

RANK ORDER for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED

MULTI-MODAL VEHICLES

Ranking Type: TOTALS Time Range: 08:00-09:00
WARNING: Using 85th and 15th percentile highlighted trip rates in data sets of under 20 surveys is not recommended by TRICS and may be misleading.

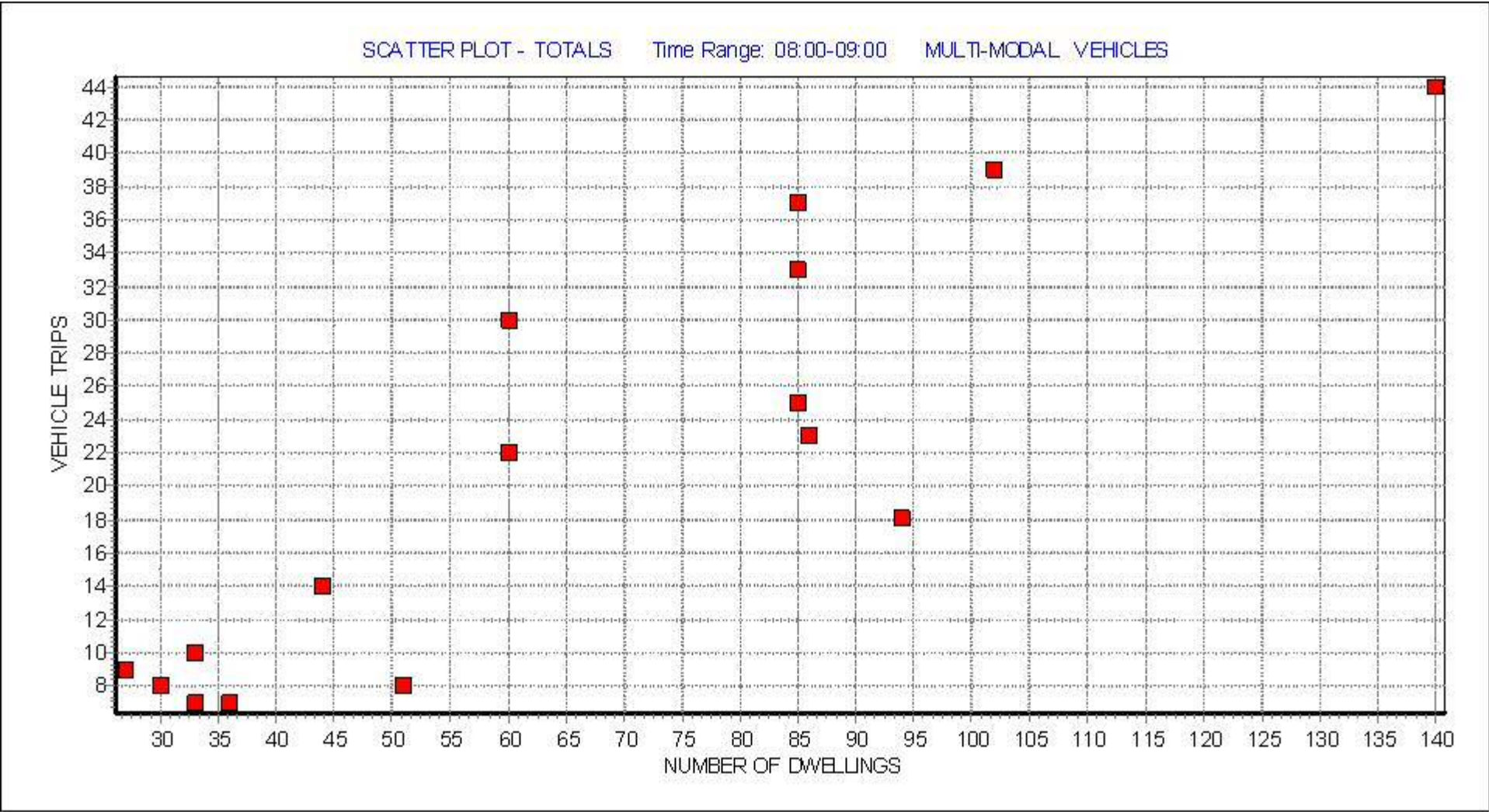
15th Percentile = No. 14 SC-03-C-02 Tot: 0.195
85th Percentile = No. 3 TV-03-C-02 Tot: 0.388

| Median Values | | Mean Values | |
|---------------|-------|-------------|-------|
| Arrivals: | 0.043 | Arrivals: | 0.072 |
| Departures: | 0.265 | Departures: | 0.236 |
| Totals: | 0.308 | Totals: | 0.308 |

| Rank | Site-Ref | Description | Town/City | Area | DWELLS | Day | Date | Trip Rate (Sorted by Totals) | | | Park Spaces Per Dwelling |
|------|------------|----------------|--------------------|----------------|--------|-----|----------|------------------------------|------------|--------|-----------------------------|
| | | | | | | | | Arrivals | Departures | Totals | |
| 1 | WM-03-C-03 | FLATS | SOLIHULL | WEST MIDLANDS | 60 | Fri | 21/09/07 | 0.050 | 0.450 | 0.500 | 1.50 |
| 2 | TV-03-C-01 | APARTMENTS BLO | MIDDLESBROUGH | TEES VALLEY | 85 | Mon | 06/10/08 | 0.129 | 0.306 | 0.435 | 1.13 |
| 3 | TV-03-C-02 | FLATS | MIDDLESBROUGH | TEES VALLEY | 85 | Wed | 29/06/11 | 0.047 | 0.341 | 0.388 | 1.24 |
| 4 | BR-03-C-01 | FLATS & TERRAC | BRISTOL | BRISTOL CITY | 102 | Mon | 09/11/09 | 0.098 | 0.284 | 0.382 | 1.37 |
| 5 | CH-03-C-01 | BLOCKS OF FLAT | CHESTER | CHESHIRE | 60 | Fri | 17/10/08 | 0.100 | 0.267 | 0.367 | 0.95 |
| 6 | DC-03-C-01 | BLOCKS OF FLAT | WEYMOUTH | DORSET | 27 | Tue | 08/07/08 | 0.148 | 0.185 | 0.333 | 1.11 |
| 7 | CA-03-C-02 | BLOCK OF FLATS | PETERBOROUGH | CAMBRIDGESHIRE | 44 | Tue | 18/10/11 | 0.000 | 0.318 | 0.318 | 1.00 |
| 8 | SC-03-C-01 | FLATS | CAMBERLEY | SURREY | 140 | Mon | 21/07/08 | 0.057 | 0.257 | 0.314 | 1.00 |
| 9 | ST-03-C-01 | BLOCKS OF FLAT | STOKE-ON-TRENT | STAFFORDSHIRE | 33 | Wed | 26/11/08 | 0.030 | 0.273 | 0.303 | 1.09 |
| 10 | SF-03-C-01 | BLOCKS OF FLAT | BURY ST EDMUNDS | SUFFOLK | 85 | Thu | 18/12/14 | 0.047 | 0.247 | 0.294 | 1.20 |
| 11 | HF-03-C-02 | FLATS | WELWYN GARDEN CITY | HERTFORDSHIRE | 86 | Wed | 16/07/08 | 0.070 | 0.198 | 0.268 | 1.27 |
| 12 | SF-03-C-03 | BLOCKS OF FLAT | BURY ST EDMUNDS | SUFFOLK | 30 | Wed | 03/12/14 | 0.067 | 0.200 | 0.267 | 1.33 |
| 13 | CB-03-C-03 | FLATS & BUNGAL | KENDAL | CUMBRIA | 33 | Mon | 09/06/14 | 0.091 | 0.121 | 0.212 | 0.52 |
| 14 | SC-03-C-02 | FLATS | WOKING | SURREY | 36 | Wed | 23/07/08 | 0.056 | 0.139 | 0.195 | 1.00 |
| 15 | EX-03-C-02 | BLOCK OF FLATS | SOUTHEND-ON-SEA | ESSEX | 94 | Tue | 22/10/13 | 0.096 | 0.096 | 0.192 | 1.01 |
| 16 | NF-03-C-01 | BLOCKS OF FLAT | KING'S LYNN | NORFOLK | 51 | Thu | 11/12/14 | 0.059 | 0.098 | 0.157 | 0.88 |

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

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



This graph is a visual representation of the correlation between the selected trip rate calculation parameter and the rank order trip rates generated by each individual survey day in the selected set. The range of the trip rate parameter is shown along the x axis, with the level of trips shown on the y axis. The selected time range used to create the rank order list from which the graph is derived is displayed at the top of the graph (unless the peak period irrespective of time range has been selected). A line of best fit is sometimes displayed in the graph, should it be selected for inclusion by the user.

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
 Category : C - FLATS PRIVATELY OWNED

MULTI-MODAL VEHICLESSelected regions and areas:

| | | |
|-----------|----------------------|--------|
| 02 | SOUTH EAST | |
| | EX ESSEX | 1 days |
| | HF HERTFORDSHIRE | 1 days |
| | SC SURREY | 2 days |
| 03 | SOUTH WEST | |
| | BR BRISTOL CITY | 1 days |
| | DC DORSET | 1 days |
| 04 | EAST ANGLIA | |
| | CA CAMBRIDGESHIRE | 1 days |
| | NF NORFOLK | 1 days |
| | SF SUFFOLK | 2 days |
| 06 | WEST MIDLANDS | |
| | ST STAFFORDSHIRE | 1 days |
| | WM WEST MIDLANDS | 1 days |
| 08 | NORTH WEST | |
| | CH CHESHIRE | 1 days |
| 09 | NORTH | |
| | CB CUMBRIA | 1 days |
| | TV TEES VALLEY | 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: Number of dwellings
 Actual Range: 27 to 140 (units:)
 Range Selected by User: 25 to 154 (units:)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/07 to 18/12/14

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 | 4 days |
| Tuesday | 3 days |
| Wednesday | 5 days |
| Thursday | 2 days |
| Friday | 2 days |

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

Selected survey types:

| | |
|-----------------------|---------|
| Manual count | 16 days |
| Directional ATC Count | 0 days |

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

Selected Locations:

| | |
|------------------------------------|---|
| Edge of Town Centre | 7 |
| Suburban Area (PPS6 Out of Centre) | 9 |

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

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

16 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

4 days

15,001 to 20,000

2 days

20,001 to 25,000

4 days

25,001 to 50,000

6 days

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

Population within 5 miles:

25,001 to 50,000

1 days

50,001 to 75,000

4 days

125,001 to 250,000

5 days

250,001 to 500,000

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

1 days

1.1 to 1.5

15 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

16 days

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

LIST OF SITES relevant to selection parameters

| | | | |
|----------|------------------------------------|------------------------------|-----------------------|
| 1 | BR-03-C-01 | FLATS & TERRACED | BRISTOL CITY |
| | CLARENCE ROAD | | |
| | BRISTOL | | |
| | Suburban Area (PPS6 Out of Centre) | | |
| | Residential Zone | | |
| | Total Number of dwellings: | 102 | |
| | Survey date: MONDAY | 09/11/09 | Survey Type: MANUAL |
| 2 | CA-03-C-02 | BLOCK OF FLATS | CAMBRIDGESHIRE |
| | WESTFIELD ROAD | | |
| | NETHERTON | | |
| | PETERBOROUGH | | |
| | Suburban Area (PPS6 Out of Centre) | | |
| | No Sub Category | | |
| | Total Number of dwellings: | 44 | |
| | Survey date: TUESDAY | 18/10/11 | Survey Type: MANUAL |
| 3 | CB-03-C-03 | FLATS & BUNGALOWS | CUMBRIA |
| | LOUND STREET | | |
| | KENDAL | | |
| | Suburban Area (PPS6 Out of Centre) | | |
| | Residential Zone | | |
| | Total Number of dwellings: | 33 | |
| | Survey date: MONDAY | 09/06/14 | Survey Type: MANUAL |
| 4 | CH-03-C-01 | BLOCKS OF FLATS | CHESHIRE |
| | NEW CRANE STREET | | |
| | CHESTER | | |
| | Edge of Town Centre | | |
| | Residential Zone | | |
| | Total Number of dwellings: | 60 | |
| | Survey date: FRIDAY | 17/10/08 | Survey Type: MANUAL |
| 5 | DC-03-C-01 | BLOCKS OF FLATS | DORSET |
| | ABBOTSBURY ROAD | | |
| | WEYMOUTH | | |
| | Edge of Town Centre | | |
| | Residential Zone | | |
| | Total Number of dwellings: | 27 | |
| | Survey date: TUESDAY | 08/07/08 | Survey Type: MANUAL |
| 6 | EX-03-C-02 | BLOCK OF FLATS | ESSEX |
| | WESTCLIFF PARADE | | |
| | WESTCLIFF | | |
| | SOUTHEND-ON-SEA | | |
| | Edge of Town Centre | | |
| | Residential Zone | | |
| | Total Number of dwellings: | 94 | |
| | Survey date: TUESDAY | 22/10/13 | Survey Type: MANUAL |
| 7 | HF-03-C-02 | FLATS | HERTFORDSHIRE |
| | BRIDGE ROAD EAST | | |
| | WELWYN GARDEN CITY | | |
| | Suburban Area (PPS6 Out of Centre) | | |
| | No Sub Category | | |
| | Total Number of dwellings: | 86 | |
| | Survey date: WEDNESDAY | 16/07/08 | Survey Type: MANUAL |

LIST OF SITES relevant to selection parameters (Cont.)

| | | | |
|-----------|------------------------------------|--------------------------|----------------------|
| 8 | NF-03-C-01 | BLOCKS OF FLATS | NORFOLK |
| | PAGE STAIR LANE | | |
| | KING'S LYNN | | |
| | Edge of Town Centre | | |
| | Built-Up Zone | | |
| | Total Number of dwellings: | 51 | |
| | Survey date: THURSDAY | 11/12/14 | Survey Type: MANUAL |
| 9 | SC-03-C-01 | FLATS | SURREY |
| | HEATHCOTE ROAD | | |
| | CAMBERLEY | | |
| | Edge of Town Centre | | |
| | Residential Zone | | |
| | Total Number of dwellings: | 140 | |
| | Survey date: MONDAY | 21/07/08 | Survey Type: MANUAL |
| 10 | SC-03-C-02 | FLATS | SURREY |
| | CONSTITUTION HILL | | |
| | WOKING | | |
| | Suburban Area (PPS6 Out of Centre) | | |
| | Built-Up Zone | | |
| | Total Number of dwellings: | 36 | |
| | Survey date: WEDNESDAY | 23/07/08 | Survey Type: MANUAL |
| 11 | SF-03-C-01 | BLOCKS OF FLATS | SUFFOLK |
| | STATION HILL | | |
| | BURY ST EDMUNDS | | |
| | Edge of Town Centre | | |
| | Built-Up Zone | | |
| | Total Number of dwellings: | 85 | |
| | Survey date: THURSDAY | 18/12/14 | Survey Type: MANUAL |
| 12 | SF-03-C-03 | BLOCKS OF FLATS | SUFFOLK |
| | TOLLGATE LANE | | |
| | BURY ST EDMUNDS | | |
| | Suburban Area (PPS6 Out of Centre) | | |
| | Residential Zone | | |
| | Total Number of dwellings: | 30 | |
| | Survey date: WEDNESDAY | 03/12/14 | Survey Type: MANUAL |
| 13 | ST-03-C-01 | BLOCKS OF FLATS | STAFFORDSHIRE |
| | ETRURIA COURT | | |
| | HUMBERT ROAD | | |
| | STOKE-ON-TRENT | | |
| | Suburban Area (PPS6 Out of Centre) | | |
| | No Sub Category | | |
| | Total Number of dwellings: | 33 | |
| | Survey date: WEDNESDAY | 26/11/08 | Survey Type: MANUAL |
| 14 | TV-03-C-01 | APARTMENTS BLOCKS | TEES VALLEY |
| | OXFORD ROAD | | |
| | LINTHORPE | | |
| | MIDDLESBROUGH | | |
| | Suburban Area (PPS6 Out of Centre) | | |
| | Residential Zone | | |
| | Total Number of dwellings: | 85 | |
| | Survey date: MONDAY | 06/10/08 | Survey Type: MANUAL |

LIST OF SITES relevant to selection parameters (Cont.)

| | | | |
|-----------|------------------------------------|--------------|----------------------|
| 15 | TV-03-C-02 | FLATS | TEES VALLEY |
| | ACKLAM ROAD | | |
| | LINTHORPE | | |
| | MIDDLESBROUGH | | |
| | Suburban Area (PPS6 Out of Centre) | | |
| | Residential Zone | | |
| | Total Number of dwellings: | 85 | |
| | Survey date: WEDNESDAY | 29/06/11 | Survey Type: MANUAL |
| 16 | WM-03-C-03 | FLATS | WEST MIDLANDS |
| | LODE LANE | | |
| | SOLIHULL | | |
| | Edge of Town Centre | | |
| | No Sub Category | | |
| | Total Number of dwellings: | 60 | |
| | Survey date: FRIDAY | 21/09/07 | Survey Type: MANUAL |

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

RANK ORDER for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED

MULTI-MODAL VEHICLES

Ranking Type: TOTALS Time Range: 17:00-18:00
WARNING: Using 85th and 15th percentile highlighted trip rates in data sets of under 20 surveys is not recommended by TRICS and may be misleading.

15th Percentile = No. 14 SC-03-C-02 Tot: 0.195
85th Percentile = No. 3 CA-03-C-02 Tot: 0.432

| Median Values | | Mean Values | |
|---------------|-------|-------------|-------|
| Arrivals: | 0.211 | Arrivals: | 0.229 |
| Departures: | 0.141 | Departures: | 0.114 |
| Totals: | 0.352 | Totals: | 0.342 |

| Rank | Site-Ref | Description | Town/City | Area | DWELLS | Day | Date | Trip Rate (Sorted by Totals) | | | Park Spaces Per Dwelling |
|------|------------|----------------|--------------------|----------------|--------|-----|----------|------------------------------|------------|--------|-----------------------------|
| | | | | | | | | Arrivals | Departures | Totals | |
| 1 | TV-03-C-01 | APARTMENTS BLO | MIDDLESBROUGH | TEES VALLEY | 85 | Mon | 06/10/08 | 0.424 | 0.212 | 0.636 | 1.13 |
| 2 | TV-03-C-02 | FLATS | MIDDLESBROUGH | TEES VALLEY | 85 | Wed | 29/06/11 | 0.329 | 0.176 | 0.505 | 1.24 |
| 3 | CA-03-C-02 | BLOCK OF FLATS | PETERBOROUGH | CAMBRIDGESHIRE | 44 | Tue | 18/10/11 | 0.341 | 0.091 | 0.432 | 1.00 |
| 4 | BR-03-C-01 | FLATS & TERRAC | BRISTOL | BRISTOL CITY | 102 | Mon | 09/11/09 | 0.275 | 0.127 | 0.402 | 1.37 |
| 5 | WM-03-C-03 | FLATS | SOLIHULL | WEST MIDLANDS | 60 | Fri | 21/09/07 | 0.267 | 0.117 | 0.384 | 1.50 |
| 6 | CH-03-C-01 | BLOCKS OF FLAT | CHESTER | CHESHIRE | 60 | Fri | 17/10/08 | 0.217 | 0.167 | 0.384 | 0.95 |
| 7 | CB-03-C-03 | FLATS & BUNGAL | KENDAL | CUMBRIA | 33 | Mon | 09/06/14 | 0.212 | 0.152 | 0.364 | 0.52 |
| 8 | SF-03-C-01 | BLOCKS OF FLAT | BURY ST EDMUNDS | SUFFOLK | 85 | Thu | 18/12/14 | 0.247 | 0.106 | 0.353 | 1.20 |
| 9 | NF-03-C-01 | BLOCKS OF FLAT | KING'S LYNN | NORFOLK | 51 | Thu | 11/12/14 | 0.176 | 0.176 | 0.352 | 0.88 |
| 10 | SC-03-C-01 | FLATS | CAMBERLEY | SURREY | 140 | Mon | 21/07/08 | 0.229 | 0.093 | 0.322 | 1.00 |
| 11 | SF-03-C-03 | BLOCKS OF FLAT | BURY ST EDMUNDS | SUFFOLK | 30 | Wed | 03/12/14 | 0.233 | 0.067 | 0.300 | 1.33 |
| 12 | ST-03-C-01 | BLOCKS OF FLAT | STOKE-ON-TRENT | STAFFORDSHIRE | 33 | Wed | 26/11/08 | 0.212 | 0.030 | 0.242 | 1.09 |
| 13 | HF-03-C-02 | FLATS | WELWYN GARDEN CITY | HERTFORDSHIRE | 86 | Wed | 16/07/08 | 0.140 | 0.093 | 0.233 | 1.27 |
| 14 | SC-03-C-02 | FLATS | WOKING | SURREY | 36 | Wed | 23/07/08 | 0.139 | 0.056 | 0.195 | 1.00 |
| 15 | EX-03-C-02 | BLOCK OF FLATS | SOUTHEND-ON-SEA | ESSEX | 94 | Tue | 22/10/13 | 0.106 | 0.085 | 0.191 | 1.01 |
| 16 | DC-03-C-01 | BLOCKS OF FLAT | WEYMOUTH | DORSET | 27 | Tue | 08/07/08 | 0.111 | 0.074 | 0.185 | 1.11 |

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

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



This graph is a visual representation of the correlation between the selected trip rate calculation parameter and the rank order trip rates generated by each individual survey day in the selected set. The range of the trip rate parameter is shown along the x axis, with the level of trips shown on the y axis. The selected time range used to create the rank order list from which the graph is derived is displayed at the top of the graph (unless the peak period irrespective of time range has been selected). A line of best fit is sometimes displayed in the graph, should it be selected for inclusion by the user.

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
 Category : C - FLATS PRIVATELY OWNED

MULTI-MODAL VEHICLESSelected regions and areas:

| | | |
|-------------------------|----------------|--------|
| 02 SOUTH EAST | | |
| EX | ESSEX | 1 days |
| HF | HERTFORDSHIRE | 1 days |
| SC | SURREY | 2 days |
| 03 SOUTH WEST | | |
| BR | BRISTOL CITY | 1 days |
| DC | DORSET | 1 days |
| 04 EAST ANGLIA | | |
| CA | CAMBRIDGESHIRE | 1 days |
| NF | NORFOLK | 1 days |
| SF | SUFFOLK | 2 days |
| 06 WEST MIDLANDS | | |
| ST | STAFFORDSHIRE | 1 days |
| WM | WEST MIDLANDS | 1 days |
| 08 NORTH WEST | | |
| CH | CHESHIRE | 1 days |
| 09 NORTH | | |
| CB | CUMBRIA | 1 days |
| TV | TEES VALLEY | 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: Number of dwellings
 Actual Range: 27 to 140 (units:)
 Range Selected by User: 25 to 154 (units:)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/07 to 18/12/14

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 | 4 days |
| Tuesday | 3 days |
| Wednesday | 5 days |
| Thursday | 2 days |
| Friday | 2 days |

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

Selected survey types:

| | |
|-----------------------|---------|
| Manual count | 16 days |
| Directional ATC Count | 0 days |

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

Selected Locations:

| | |
|------------------------------------|---|
| Edge of Town Centre | 7 |
| Suburban Area (PPS6 Out of Centre) | 9 |

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

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

16 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

4 days

15,001 to 20,000

2 days

20,001 to 25,000

4 days

25,001 to 50,000

6 days

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

Population within 5 miles:

25,001 to 50,000

1 days

50,001 to 75,000

4 days

125,001 to 250,000

5 days

250,001 to 500,000

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

1 days

1.1 to 1.5

15 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

16 days

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

LIST OF SITES relevant to selection parameters

| | | | |
|----------|------------------------------------|------------------------------|-----------------------|
| 1 | BR-03-C-01 | FLATS & TERRACED | BRISTOL CITY |
| | CLARENCE ROAD | | |
| | BRISTOL | | |
| | Suburban Area (PPS6 Out of Centre) | | |
| | Residential Zone | | |
| | Total Number of dwellings: | 102 | |
| | Survey date: MONDAY | 09/11/09 | Survey Type: MANUAL |
| 2 | CA-03-C-02 | BLOCK OF FLATS | CAMBRIDGESHIRE |
| | WESTFIELD ROAD | | |
| | NETHERTON | | |
| | PETERBOROUGH | | |
| | Suburban Area (PPS6 Out of Centre) | | |
| | No Sub Category | | |
| | Total Number of dwellings: | 44 | |
| | Survey date: TUESDAY | 18/10/11 | Survey Type: MANUAL |
| 3 | CB-03-C-03 | FLATS & BUNGALOWS | CUMBRIA |
| | LOUND STREET | | |
| | KENDAL | | |
| | Suburban Area (PPS6 Out of Centre) | | |
| | Residential Zone | | |
| | Total Number of dwellings: | 33 | |
| | Survey date: MONDAY | 09/06/14 | Survey Type: MANUAL |
| 4 | CH-03-C-01 | BLOCKS OF FLATS | CHESHIRE |
| | NEW CRANE STREET | | |
| | CHESTER | | |
| | Edge of Town Centre | | |
| | Residential Zone | | |
| | Total Number of dwellings: | 60 | |
| | Survey date: FRIDAY | 17/10/08 | Survey Type: MANUAL |
| 5 | DC-03-C-01 | BLOCKS OF FLATS | DORSET |
| | ABBOTSBURY ROAD | | |
| | WEYMOUTH | | |
| | Edge of Town Centre | | |
| | Residential Zone | | |
| | Total Number of dwellings: | 27 | |
| | Survey date: TUESDAY | 08/07/08 | Survey Type: MANUAL |
| 6 | EX-03-C-02 | BLOCK OF FLATS | ESSEX |
| | WESTCLIFF PARADE | | |
| | WESTCLIFF | | |
| | SOUTHEND-ON-SEA | | |
| | Edge of Town Centre | | |
| | Residential Zone | | |
| | Total Number of dwellings: | 94 | |
| | Survey date: TUESDAY | 22/10/13 | Survey Type: MANUAL |
| 7 | HF-03-C-02 | FLATS | HERTFORDSHIRE |
| | BRIDGE ROAD EAST | | |
| | WELWYN GARDEN CITY | | |
| | Suburban Area (PPS6 Out of Centre) | | |
| | No Sub Category | | |
| | Total Number of dwellings: | 86 | |
| | Survey date: WEDNESDAY | 16/07/08 | Survey Type: MANUAL |

LIST OF SITES relevant to selection parameters (Cont.)

| | | | |
|-----------|------------------------------------|--------------------------|----------------------|
| 8 | NF-03-C-01 | BLOCKS OF FLATS | NORFOLK |
| | PAGE STAIR LANE | | |
| | KING'S LYNN | | |
| | Edge of Town Centre | | |
| | Built-Up Zone | | |
| | Total Number of dwellings: | 51 | |
| | Survey date: THURSDAY | 11/12/14 | Survey Type: MANUAL |
| 9 | SC-03-C-01 | FLATS | SURREY |
| | HEATHCOTE ROAD | | |
| | CAMBERLEY | | |
| | Edge of Town Centre | | |
| | Residential Zone | | |
| | Total Number of dwellings: | 140 | |
| | Survey date: MONDAY | 21/07/08 | Survey Type: MANUAL |
| 10 | SC-03-C-02 | FLATS | SURREY |
| | CONSTITUTION HILL | | |
| | WOKING | | |
| | Suburban Area (PPS6 Out of Centre) | | |
| | Built-Up Zone | | |
| | Total Number of dwellings: | 36 | |
| | Survey date: WEDNESDAY | 23/07/08 | Survey Type: MANUAL |
| 11 | SF-03-C-01 | BLOCKS OF FLATS | SUFFOLK |
| | STATION HILL | | |
| | BURY ST EDMUNDS | | |
| | Edge of Town Centre | | |
| | Built-Up Zone | | |
| | Total Number of dwellings: | 85 | |
| | Survey date: THURSDAY | 18/12/14 | Survey Type: MANUAL |
| 12 | SF-03-C-03 | BLOCKS OF FLATS | SUFFOLK |
| | TOLLGATE LANE | | |
| | BURY ST EDMUNDS | | |
| | Suburban Area (PPS6 Out of Centre) | | |
| | Residential Zone | | |
| | Total Number of dwellings: | 30 | |
| | Survey date: WEDNESDAY | 03/12/14 | Survey Type: MANUAL |
| 13 | ST-03-C-01 | BLOCKS OF FLATS | STAFFORDSHIRE |
| | ETRURIA COURT | | |
| | HUMBERT ROAD | | |
| | STOKE-ON-TRENT | | |
| | Suburban Area (PPS6 Out of Centre) | | |
| | No Sub Category | | |
| | Total Number of dwellings: | 33 | |
| | Survey date: WEDNESDAY | 26/11/08 | Survey Type: MANUAL |
| 14 | TV-03-C-01 | APARTMENTS BLOCKS | TEES VALLEY |
| | OXFORD ROAD | | |
| | LINTHORPE | | |
| | MIDDLESBROUGH | | |
| | Suburban Area (PPS6 Out of Centre) | | |
| | Residential Zone | | |
| | Total Number of dwellings: | 85 | |
| | Survey date: MONDAY | 06/10/08 | Survey Type: MANUAL |

LIST OF SITES relevant to selection parameters (Cont.)

| | | | |
|-----------|------------------------------------|--------------|----------------------|
| 15 | TV-03-C-02 | FLATS | TEES VALLEY |
| | ACKLAM ROAD | | |
| | LINTHORPE | | |
| | MIDDLESBROUGH | | |
| | Suburban Area (PPS6 Out of Centre) | | |
| | Residential Zone | | |
| | Total Number of dwellings: | 85 | |
| | Survey date: WEDNESDAY | 29/06/11 | Survey Type: MANUAL |
| 16 | WM-03-C-03 | FLATS | WEST MIDLANDS |
| | LODE LANE | | |
| | SOLIHULL | | |
| | Edge of Town Centre | | |
| | No Sub Category | | |
| | Total Number of dwellings: | 60 | |
| | Survey date: FRIDAY | 21/09/07 | Survey Type: MANUAL |

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

RANK ORDER for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED

MULTI-MODAL VEHICLES

Ranking Type: **TOTALS** Time Range: 17:00-18:00
 WARNING: Using 85th and 15th percentile highlighted trip rates in data sets of under
 20 surveys is not recommended by TRICS and may be misleading.
 15th Percentile = No. **14** SC-03-C-02 Tot: 0.195
 85th Percentile = No. **3** CA-03-C-02 Tot: 0.432

| | |
|----------------------|--------------------|
| <u>Median Values</u> | <u>Mean Values</u> |
| Arrivals: 0.211 | Arrivals: 0.229 |
| Departures: 0.141 | Departures: 0.114 |
| Totals: 0.352 | Totals: 0.342 |

| Rank | Site-Ref | Description | Town/City | Area | DWELLS | Day | Date | Trip Rate (Sorted by Totals) | | | Park Spaces Per Dwelling |
|-----------|-------------------|-----------------------|---------------------|-----------------------|-----------|------------|-----------------|------------------------------|--------------|--------------|-----------------------------|
| | | | | | | | | Arrivals | Departures | Totals | |
| 1 | TV-03-C-01 | APARTMENTS BLO | MIDDLESBROUGH | TEES VALLEY | 85 | Mon | 06/10/08 | 0.424 | 0.212 | 0.636 | 1.13 |
| 2 | TV-03-C-02 | FLATS | MIDDLESBROUGH | TEES VALLEY | 85 | Wed | 29/06/11 | 0.329 | 0.176 | 0.505 | 1.24 |
| 3 | CA-03-C-02 | BLOCK OF FLATS | PETERBOROUGH | CAMBRIDGESHIRE | 44 | Tue | 18/10/11 | 0.341 | 0.091 | 0.432 | 1.00 |
| 4 | BR-03-C-01 | FLATS & TERRAC | BRISTOL | BRISTOL CITY | 102 | Mon | 09/11/09 | 0.275 | 0.127 | 0.402 | 1.37 |
| 5 | WM-03-C-03 | FLATS | SOLIHULL | WEST MIDLANDS | 60 | Fri | 21/09/07 | 0.267 | 0.117 | 0.384 | 1.50 |
| 6 | CH-03-C-01 | BLOCKS OF FLAT | CHESTER | CHESHIRE | 60 | Fri | 17/10/08 | 0.217 | 0.167 | 0.384 | 0.95 |
| 7 | CB-03-C-03 | FLATS & BUNGAL | KENDAL | CUMBRIA | 33 | Mon | 09/06/14 | 0.212 | 0.152 | 0.364 | 0.52 |
| 8 | SF-03-C-01 | BLOCKS OF FLAT | BURY ST EDMUNDS | SUFFOLK | 85 | Thu | 18/12/14 | 0.247 | 0.106 | 0.353 | 1.20 |
| 9 | NF-03-C-01 | BLOCKS OF FLAT | KING'S LYNN | NORFOLK | 51 | Thu | 11/12/14 | 0.176 | 0.176 | 0.352 | 0.88 |
| 10 | SC-03-C-01 | FLATS | CAMBERLEY | SURREY | 140 | Mon | 21/07/08 | 0.229 | 0.093 | 0.322 | 1.00 |
| 11 | SF-03-C-03 | BLOCKS OF FLAT | BURY ST EDMUNDS | SUFFOLK | 30 | Wed | 03/12/14 | 0.233 | 0.067 | 0.300 | 1.33 |
| 12 | ST-03-C-01 | BLOCKS OF FLAT | STOKE-ON-TRENT | STAFFORDSHIRE | 33 | Wed | 26/11/08 | 0.212 | 0.030 | 0.242 | 1.09 |
| 13 | HF-03-C-02 | FLATS | WELWYN GARDEN CITY | HERTFORDSHIRE | 86 | Wed | 16/07/08 | 0.140 | 0.093 | 0.233 | 1.27 |
| 14 | SC-03-C-02 | FLATS | WOKING | SURREY | 36 | Wed | 23/07/08 | 0.139 | 0.056 | 0.195 | 1.00 |
| 15 | EX-03-C-02 | BLOCK OF FLATS | SOUTHEND-ON-SEA | ESSEX | 94 | Tue | 22/10/13 | 0.106 | 0.085 | 0.191 | 1.01 |
| 16 | DC-03-C-01 | BLOCKS OF FLAT | WEYMOUTH | DORSET | 27 | Tue | 08/07/08 | 0.111 | 0.074 | 0.185 | 1.11 |

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

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



This graph is a visual representation of the correlation between the selected trip rate calculation parameter and the rank order trip rates generated by each individual survey day in the selected set. The range of the trip rate parameter is shown along the x axis, with the level of trips shown on the y axis. The selected time range used to create the rank order list from which the graph is derived is displayed at the top of the graph (unless the peak period irrespective of time range has been selected). A line of best fit is sometimes displayed in the graph, should it be selected for inclusion by the user.

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED

MULTI-MODAL 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 | 16 | 66 | 0.037 | 16 | 66 | 0.143 | 16 | 66 | 0.180 |
| 08:00 - 09:00 | 16 | 66 | 0.072 | 16 | 66 | 0.245 | 16 | 66 | 0.317 |
| 09:00 - 10:00 | 16 | 66 | 0.072 | 16 | 66 | 0.097 | 16 | 66 | 0.169 |
| 10:00 - 11:00 | 16 | 66 | 0.092 | 16 | 66 | 0.103 | 16 | 66 | 0.195 |
| 11:00 - 12:00 | 16 | 66 | 0.085 | 16 | 66 | 0.088 | 16 | 66 | 0.173 |
| 12:00 - 13:00 | 16 | 66 | 0.099 | 16 | 66 | 0.098 | 16 | 66 | 0.197 |
| 13:00 - 14:00 | 16 | 66 | 0.104 | 16 | 66 | 0.112 | 16 | 66 | 0.216 |
| 14:00 - 15:00 | 16 | 66 | 0.103 | 16 | 66 | 0.109 | 16 | 66 | 0.212 |
| 15:00 - 16:00 | 16 | 66 | 0.114 | 16 | 66 | 0.086 | 16 | 66 | 0.200 |
| 16:00 - 17:00 | 16 | 66 | 0.127 | 16 | 66 | 0.095 | 16 | 66 | 0.222 |
| 17:00 - 18:00 | 16 | 66 | 0.237 | 16 | 66 | 0.120 | 16 | 66 | 0.357 |
| 18:00 - 19:00 | 16 | 66 | 0.177 | 16 | 66 | 0.107 | 16 | 66 | 0.284 |
| 19:00 - 20:00 | | | | | | | | | |
| 20:00 - 21:00 | | | | | | | | | |
| 21:00 - 22:00 | | | | | | | | | |
| 22:00 - 23:00 | | | | | | | | | |
| 23:00 - 24:00 | | | | | | | | | |
| Total Rates: | 1.319 | | | 1.403 | | | 2.722 | | |

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: | 27 - 140 (units:) |
| Survey date range: | 01/01/07 - 18/12/14 |
| Number of weekdays (Monday-Friday): | 16 |
| Number of Saturdays: | 0 |
| Number of Sundays: | 0 |
| Surveys manually removed from selection: | 1 |

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

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED

MULTI-MODAL TAXIS**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 | 16 | 66 | 0.003 | 16 | 66 | 0.003 | 16 | 66 | 0.006 |
| 08:00 - 09:00 | 16 | 66 | 0.003 | 16 | 66 | 0.003 | 16 | 66 | 0.006 |
| 09:00 - 10:00 | 16 | 66 | 0.002 | 16 | 66 | 0.002 | 16 | 66 | 0.004 |
| 10:00 - 11:00 | 16 | 66 | 0.001 | 16 | 66 | 0.001 | 16 | 66 | 0.002 |
| 11:00 - 12:00 | 16 | 66 | 0.002 | 16 | 66 | 0.002 | 16 | 66 | 0.004 |
| 12:00 - 13:00 | 16 | 66 | 0.002 | 16 | 66 | 0.002 | 16 | 66 | 0.004 |
| 13:00 - 14:00 | 16 | 66 | 0.002 | 16 | 66 | 0.002 | 16 | 66 | 0.004 |
| 14:00 - 15:00 | 16 | 66 | 0.005 | 16 | 66 | 0.004 | 16 | 66 | 0.009 |
| 15:00 - 16:00 | 16 | 66 | 0.001 | 16 | 66 | 0.002 | 16 | 66 | 0.003 |
| 16:00 - 17:00 | 16 | 66 | 0.001 | 16 | 66 | 0.002 | 16 | 66 | 0.003 |
| 17:00 - 18:00 | 16 | 66 | 0.004 | 16 | 66 | 0.004 | 16 | 66 | 0.008 |
| 18:00 - 19:00 | 16 | 66 | 0.004 | 16 | 66 | 0.003 | 16 | 66 | 0.007 |
| 19:00 - 20:00 | | | | | | | | | |
| 20:00 - 21:00 | | | | | | | | | |
| 21:00 - 22:00 | | | | | | | | | |
| 22:00 - 23:00 | | | | | | | | | |
| 23:00 - 24:00 | | | | | | | | | |
| Total Rates: | | | 0.030 | | | 0.030 | | | 0.060 |

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: | 27 - 140 (units:) |
| Survey date date range: | 01/01/07 - 18/12/14 |
| Number of weekdays (Monday-Friday): | 16 |
| Number of Saturdays: | 0 |
| Number of Sundays: | 0 |
| Surveys manually removed from selection: | 1 |

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

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS 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 | 16 | 66 | 0.000 | 16 | 66 | 0.001 | 16 | 66 | 0.001 |
| 08:00 - 09:00 | 16 | 66 | 0.002 | 16 | 66 | 0.002 | 16 | 66 | 0.004 |
| 09:00 - 10:00 | 16 | 66 | 0.000 | 16 | 66 | 0.000 | 16 | 66 | 0.000 |
| 10:00 - 11:00 | 16 | 66 | 0.002 | 16 | 66 | 0.002 | 16 | 66 | 0.004 |
| 11:00 - 12:00 | 16 | 66 | 0.004 | 16 | 66 | 0.003 | 16 | 66 | 0.007 |
| 12:00 - 13:00 | 16 | 66 | 0.003 | 16 | 66 | 0.004 | 16 | 66 | 0.007 |
| 13:00 - 14:00 | 16 | 66 | 0.002 | 16 | 66 | 0.002 | 16 | 66 | 0.004 |
| 14:00 - 15:00 | 16 | 66 | 0.003 | 16 | 66 | 0.001 | 16 | 66 | 0.004 |
| 15:00 - 16:00 | 16 | 66 | 0.001 | 16 | 66 | 0.002 | 16 | 66 | 0.003 |
| 16:00 - 17:00 | 16 | 66 | 0.002 | 16 | 66 | 0.002 | 16 | 66 | 0.004 |
| 17:00 - 18:00 | 16 | 66 | 0.000 | 16 | 66 | 0.000 | 16 | 66 | 0.000 |
| 18:00 - 19:00 | 16 | 66 | 0.001 | 16 | 66 | 0.000 | 16 | 66 | 0.001 |
| 19:00 - 20:00 | | | | | | | | | |
| 20:00 - 21:00 | | | | | | | | | |
| 21:00 - 22:00 | | | | | | | | | |
| 22:00 - 23:00 | | | | | | | | | |
| 23:00 - 24:00 | | | | | | | | | |
| Total Rates: | | | 0.020 | | | 0.019 | | | 0.039 |

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: | 27 - 140 (units:) |
| Survey date date range: | 01/01/07 - 18/12/14 |
| Number of weekdays (Monday-Friday): | 16 |
| Number of Saturdays: | 0 |
| Number of Sundays: | 0 |
| Surveys manually removed from selection: | 1 |

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

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS 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 | 16 | 66 | 0.000 | 16 | 66 | 0.000 | 16 | 66 | 0.000 |
| 08:00 - 09:00 | 16 | 66 | 0.000 | 16 | 66 | 0.000 | 16 | 66 | 0.000 |
| 09:00 - 10:00 | 16 | 66 | 0.000 | 16 | 66 | 0.000 | 16 | 66 | 0.000 |
| 10:00 - 11:00 | 16 | 66 | 0.000 | 16 | 66 | 0.000 | 16 | 66 | 0.000 |
| 11:00 - 12:00 | 16 | 66 | 0.000 | 16 | 66 | 0.000 | 16 | 66 | 0.000 |
| 12:00 - 13:00 | 16 | 66 | 0.000 | 16 | 66 | 0.000 | 16 | 66 | 0.000 |
| 13:00 - 14:00 | 16 | 66 | 0.000 | 16 | 66 | 0.000 | 16 | 66 | 0.000 |
| 14:00 - 15:00 | 16 | 66 | 0.000 | 16 | 66 | 0.000 | 16 | 66 | 0.000 |
| 15:00 - 16:00 | 16 | 66 | 0.000 | 16 | 66 | 0.000 | 16 | 66 | 0.000 |
| 16:00 - 17:00 | 16 | 66 | 0.000 | 16 | 66 | 0.000 | 16 | 66 | 0.000 |
| 17:00 - 18:00 | 16 | 66 | 0.001 | 16 | 66 | 0.001 | 16 | 66 | 0.002 |
| 18:00 - 19:00 | 16 | 66 | 0.000 | 16 | 66 | 0.000 | 16 | 66 | 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: 27 - 140 (units:)
 Survey date date range: 01/01/07 - 18/12/14
 Number of weekdays (Monday-Friday): 16
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys manually removed from selection: 1

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

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS 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 | 16 | 66 | 0.003 | 16 | 66 | 0.007 | 16 | 66 | 0.010 |
| 08:00 - 09:00 | 16 | 66 | 0.002 | 16 | 66 | 0.007 | 16 | 66 | 0.009 |
| 09:00 - 10:00 | 16 | 66 | 0.004 | 16 | 66 | 0.005 | 16 | 66 | 0.009 |
| 10:00 - 11:00 | 16 | 66 | 0.003 | 16 | 66 | 0.006 | 16 | 66 | 0.009 |
| 11:00 - 12:00 | 16 | 66 | 0.004 | 16 | 66 | 0.006 | 16 | 66 | 0.010 |
| 12:00 - 13:00 | 16 | 66 | 0.004 | 16 | 66 | 0.005 | 16 | 66 | 0.009 |
| 13:00 - 14:00 | 16 | 66 | 0.005 | 16 | 66 | 0.007 | 16 | 66 | 0.012 |
| 14:00 - 15:00 | 16 | 66 | 0.004 | 16 | 66 | 0.006 | 16 | 66 | 0.010 |
| 15:00 - 16:00 | 16 | 66 | 0.008 | 16 | 66 | 0.005 | 16 | 66 | 0.013 |
| 16:00 - 17:00 | 16 | 66 | 0.008 | 16 | 66 | 0.006 | 16 | 66 | 0.014 |
| 17:00 - 18:00 | 16 | 66 | 0.005 | 16 | 66 | 0.003 | 16 | 66 | 0.008 |
| 18:00 - 19:00 | 16 | 66 | 0.007 | 16 | 66 | 0.000 | 16 | 66 | 0.007 |
| 19:00 - 20:00 | | | | | | | | | |
| 20:00 - 21:00 | | | | | | | | | |
| 21:00 - 22:00 | | | | | | | | | |
| 22:00 - 23:00 | | | | | | | | | |
| 23:00 - 24:00 | | | | | | | | | |
| Total Rates: | | | 0.057 | | | 0.063 | | | 0.120 |

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: | 27 - 140 (units:) |
| Survey date date range: | 01/01/07 - 18/12/14 |
| Number of weekdays (Monday-Friday): | 16 |
| Number of Saturdays: | 0 |
| Number of Sundays: | 0 |
| Surveys manually removed from selection: | 1 |

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

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS 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 | 16 | 66 | 0.044 | 16 | 66 | 0.173 | 16 | 66 | 0.217 |
| 08:00 - 09:00 | 16 | 66 | 0.081 | 16 | 66 | 0.321 | 16 | 66 | 0.402 |
| 09:00 - 10:00 | 16 | 66 | 0.086 | 16 | 66 | 0.127 | 16 | 66 | 0.213 |
| 10:00 - 11:00 | 16 | 66 | 0.125 | 16 | 66 | 0.138 | 16 | 66 | 0.263 |
| 11:00 - 12:00 | 16 | 66 | 0.110 | 16 | 66 | 0.121 | 16 | 66 | 0.231 |
| 12:00 - 13:00 | 16 | 66 | 0.129 | 16 | 66 | 0.131 | 16 | 66 | 0.260 |
| 13:00 - 14:00 | 16 | 66 | 0.135 | 16 | 66 | 0.144 | 16 | 66 | 0.279 |
| 14:00 - 15:00 | 16 | 66 | 0.116 | 16 | 66 | 0.151 | 16 | 66 | 0.267 |
| 15:00 - 16:00 | 16 | 66 | 0.181 | 16 | 66 | 0.121 | 16 | 66 | 0.302 |
| 16:00 - 17:00 | 16 | 66 | 0.169 | 16 | 66 | 0.119 | 16 | 66 | 0.288 |
| 17:00 - 18:00 | 16 | 66 | 0.292 | 16 | 66 | 0.160 | 16 | 66 | 0.452 |
| 18:00 - 19:00 | 16 | 66 | 0.223 | 16 | 66 | 0.147 | 16 | 66 | 0.370 |
| 19:00 - 20:00 | | | | | | | | | |
| 20:00 - 21:00 | | | | | | | | | |
| 21:00 - 22:00 | | | | | | | | | |
| 22:00 - 23:00 | | | | | | | | | |
| 23:00 - 24:00 | | | | | | | | | |
| Total Rates: | | | 1.691 | | | 1.853 | | | 3.544 |

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: | 27 - 140 (units:) |
| Survey date range: | 01/01/07 - 18/12/14 |
| Number of weekdays (Monday-Friday): | 16 |
| Number of Saturdays: | 0 |
| Number of Sundays: | 0 |
| Surveys manually removed from selection: | 1 |

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

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS 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 | 16 | 66 | 0.014 | 16 | 66 | 0.061 | 16 | 66 | 0.075 |
| 08:00 - 09:00 | 16 | 66 | 0.024 | 16 | 66 | 0.088 | 16 | 66 | 0.112 |
| 09:00 - 10:00 | 16 | 66 | 0.027 | 16 | 66 | 0.060 | 16 | 66 | 0.087 |
| 10:00 - 11:00 | 16 | 66 | 0.043 | 16 | 66 | 0.047 | 16 | 66 | 0.090 |
| 11:00 - 12:00 | 16 | 66 | 0.041 | 16 | 66 | 0.058 | 16 | 66 | 0.099 |
| 12:00 - 13:00 | 16 | 66 | 0.058 | 16 | 66 | 0.068 | 16 | 66 | 0.126 |
| 13:00 - 14:00 | 16 | 66 | 0.047 | 16 | 66 | 0.038 | 16 | 66 | 0.085 |
| 14:00 - 15:00 | 16 | 66 | 0.040 | 16 | 66 | 0.049 | 16 | 66 | 0.089 |
| 15:00 - 16:00 | 16 | 66 | 0.066 | 16 | 66 | 0.042 | 16 | 66 | 0.108 |
| 16:00 - 17:00 | 16 | 66 | 0.085 | 16 | 66 | 0.049 | 16 | 66 | 0.134 |
| 17:00 - 18:00 | 16 | 66 | 0.098 | 16 | 66 | 0.050 | 16 | 66 | 0.148 |
| 18:00 - 19:00 | 16 | 66 | 0.068 | 16 | 66 | 0.042 | 16 | 66 | 0.110 |
| 19:00 - 20:00 | | | | | | | | | |
| 20:00 - 21:00 | | | | | | | | | |
| 21:00 - 22:00 | | | | | | | | | |
| 22:00 - 23:00 | | | | | | | | | |
| 23:00 - 24:00 | | | | | | | | | |
| Total Rates: | | | 0.611 | | | 0.652 | | | 1.263 |

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: | 27 - 140 (units:) |
| Survey date range: | 01/01/07 - 18/12/14 |
| Number of weekdays (Monday-Friday): | 16 |
| Number of Saturdays: | 0 |
| Number of Sundays: | 0 |
| Surveys manually removed from selection: | 1 |

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

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED

MULTI-MODAL BUS/TRAM PASSENGERS**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 | 16 | 66 | 0.001 | 16 | 66 | 0.016 | 16 | 66 | 0.017 |
| 08:00 - 09:00 | 16 | 66 | 0.001 | 16 | 66 | 0.029 | 16 | 66 | 0.030 |
| 09:00 - 10:00 | 16 | 66 | 0.001 | 16 | 66 | 0.006 | 16 | 66 | 0.007 |
| 10:00 - 11:00 | 16 | 66 | 0.000 | 16 | 66 | 0.004 | 16 | 66 | 0.004 |
| 11:00 - 12:00 | 16 | 66 | 0.001 | 16 | 66 | 0.002 | 16 | 66 | 0.003 |
| 12:00 - 13:00 | 16 | 66 | 0.004 | 16 | 66 | 0.003 | 16 | 66 | 0.007 |
| 13:00 - 14:00 | 16 | 66 | 0.003 | 16 | 66 | 0.003 | 16 | 66 | 0.006 |
| 14:00 - 15:00 | 16 | 66 | 0.005 | 16 | 66 | 0.001 | 16 | 66 | 0.006 |
| 15:00 - 16:00 | 16 | 66 | 0.009 | 16 | 66 | 0.002 | 16 | 66 | 0.011 |
| 16:00 - 17:00 | 16 | 66 | 0.018 | 16 | 66 | 0.003 | 16 | 66 | 0.021 |
| 17:00 - 18:00 | 16 | 66 | 0.017 | 16 | 66 | 0.000 | 16 | 66 | 0.017 |
| 18:00 - 19:00 | 16 | 66 | 0.005 | 16 | 66 | 0.001 | 16 | 66 | 0.006 |
| 19:00 - 20:00 | | | | | | | | | |
| 20:00 - 21:00 | | | | | | | | | |
| 21:00 - 22:00 | | | | | | | | | |
| 22:00 - 23:00 | | | | | | | | | |
| 23:00 - 24:00 | | | | | | | | | |
| Total Rates: | | | 0.065 | | | 0.070 | | | 0.135 |

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: $\text{COUNT} / \text{TRP} * \text{FACT}$. Trip rates are then rounded to 3 decimal places.

Parameter summary

| | |
|--|---------------------|
| Trip rate parameter range selected: | 27 - 140 (units:) |
| Survey date date range: | 01/01/07 - 18/12/14 |
| Number of weekdays (Monday-Friday): | 16 |
| Number of Saturdays: | 0 |
| Number of Sundays: | 0 |
| Surveys manually removed from selection: | 1 |

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

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED

MULTI-MODAL TOTAL RAIL PASSENGERS**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 | 16 | 66 | 0.000 | 16 | 66 | 0.021 | 16 | 66 | 0.021 |
| 08:00 - 09:00 | 16 | 66 | 0.002 | 16 | 66 | 0.031 | 16 | 66 | 0.033 |
| 09:00 - 10:00 | 16 | 66 | 0.000 | 16 | 66 | 0.007 | 16 | 66 | 0.007 |
| 10:00 - 11:00 | 16 | 66 | 0.002 | 16 | 66 | 0.005 | 16 | 66 | 0.007 |
| 11:00 - 12:00 | 16 | 66 | 0.000 | 16 | 66 | 0.002 | 16 | 66 | 0.002 |
| 12:00 - 13:00 | 16 | 66 | 0.002 | 16 | 66 | 0.001 | 16 | 66 | 0.003 |
| 13:00 - 14:00 | 16 | 66 | 0.001 | 16 | 66 | 0.005 | 16 | 66 | 0.006 |
| 14:00 - 15:00 | 16 | 66 | 0.000 | 16 | 66 | 0.001 | 16 | 66 | 0.001 |
| 15:00 - 16:00 | 16 | 66 | 0.004 | 16 | 66 | 0.000 | 16 | 66 | 0.004 |
| 16:00 - 17:00 | 16 | 66 | 0.009 | 16 | 66 | 0.001 | 16 | 66 | 0.010 |
| 17:00 - 18:00 | 16 | 66 | 0.010 | 16 | 66 | 0.000 | 16 | 66 | 0.010 |
| 18:00 - 19:00 | 16 | 66 | 0.018 | 16 | 66 | 0.001 | 16 | 66 | 0.019 |
| 19:00 - 20:00 | | | | | | | | | |
| 20:00 - 21:00 | | | | | | | | | |
| 21:00 - 22:00 | | | | | | | | | |
| 22:00 - 23:00 | | | | | | | | | |
| 23:00 - 24:00 | | | | | | | | | |
| Total Rates: | | | 0.048 | | | 0.075 | | | 0.123 |

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: | 27 - 140 (units:) |
| Survey date date range: | 01/01/07 - 18/12/14 |
| Number of weekdays (Monday-Friday): | 16 |
| Number of Saturdays: | 0 |
| Number of Sundays: | 0 |
| Surveys manually removed from selection: | 1 |

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

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED

MULTI-MODAL PUBLIC TRANSPORT USERS**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 | 16 | 66 | 0.001 | 16 | 66 | 0.037 | 16 | 66 | 0.038 |
| 08:00 - 09:00 | 16 | 66 | 0.003 | 16 | 66 | 0.060 | 16 | 66 | 0.063 |
| 09:00 - 10:00 | 16 | 66 | 0.001 | 16 | 66 | 0.012 | 16 | 66 | 0.013 |
| 10:00 - 11:00 | 16 | 66 | 0.002 | 16 | 66 | 0.009 | 16 | 66 | 0.011 |
| 11:00 - 12:00 | 16 | 66 | 0.001 | 16 | 66 | 0.004 | 16 | 66 | 0.005 |
| 12:00 - 13:00 | 16 | 66 | 0.006 | 16 | 66 | 0.004 | 16 | 66 | 0.010 |
| 13:00 - 14:00 | 16 | 66 | 0.004 | 16 | 66 | 0.008 | 16 | 66 | 0.012 |
| 14:00 - 15:00 | 16 | 66 | 0.005 | 16 | 66 | 0.002 | 16 | 66 | 0.007 |
| 15:00 - 16:00 | 16 | 66 | 0.012 | 16 | 66 | 0.002 | 16 | 66 | 0.014 |
| 16:00 - 17:00 | 16 | 66 | 0.027 | 16 | 66 | 0.004 | 16 | 66 | 0.031 |
| 17:00 - 18:00 | 16 | 66 | 0.030 | 16 | 66 | 0.001 | 16 | 66 | 0.031 |
| 18:00 - 19:00 | 16 | 66 | 0.023 | 16 | 66 | 0.002 | 16 | 66 | 0.025 |
| 19:00 - 20:00 | | | | | | | | | |
| 20:00 - 21:00 | | | | | | | | | |
| 21:00 - 22:00 | | | | | | | | | |
| 22:00 - 23:00 | | | | | | | | | |
| 23:00 - 24:00 | | | | | | | | | |
| Total Rates: | | | 0.115 | | | 0.145 | | | 0.260 |

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: | 27 - 140 (units:) |
| Survey date range: | 01/01/07 - 18/12/14 |
| Number of weekdays (Monday-Friday): | 16 |
| Number of Saturdays: | 0 |
| Number of Sundays: | 0 |
| Surveys manually removed from selection: | 1 |

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

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS 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 | 16 | 66 | 0.062 | 16 | 66 | 0.278 | 16 | 66 | 0.340 |
| 08:00 - 09:00 | 16 | 66 | 0.109 | 16 | 66 | 0.476 | 16 | 66 | 0.585 |
| 09:00 - 10:00 | 16 | 66 | 0.117 | 16 | 66 | 0.204 | 16 | 66 | 0.321 |
| 10:00 - 11:00 | 16 | 66 | 0.172 | 16 | 66 | 0.199 | 16 | 66 | 0.371 |
| 11:00 - 12:00 | 16 | 66 | 0.156 | 16 | 66 | 0.188 | 16 | 66 | 0.344 |
| 12:00 - 13:00 | 16 | 66 | 0.197 | 16 | 66 | 0.207 | 16 | 66 | 0.404 |
| 13:00 - 14:00 | 16 | 66 | 0.190 | 16 | 66 | 0.196 | 16 | 66 | 0.386 |
| 14:00 - 15:00 | 16 | 66 | 0.165 | 16 | 66 | 0.207 | 16 | 66 | 0.372 |
| 15:00 - 16:00 | 16 | 66 | 0.266 | 16 | 66 | 0.169 | 16 | 66 | 0.435 |
| 16:00 - 17:00 | 16 | 66 | 0.288 | 16 | 66 | 0.177 | 16 | 66 | 0.465 |
| 17:00 - 18:00 | 16 | 66 | 0.425 | 16 | 66 | 0.214 | 16 | 66 | 0.639 |
| 18:00 - 19:00 | 16 | 66 | 0.320 | 16 | 66 | 0.190 | 16 | 66 | 0.510 |
| 19:00 - 20:00 | | | | | | | | | |
| 20:00 - 21:00 | | | | | | | | | |
| 21:00 - 22:00 | | | | | | | | | |
| 22:00 - 23:00 | | | | | | | | | |
| 23:00 - 24:00 | | | | | | | | | |
| Total Rates: | | | 2.467 | | | 2.705 | | | 5.172 |

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: | 27 - 140 (units:) |
| Survey date range: | 01/01/07 - 18/12/14 |
| Number of weekdays (Monday-Friday): | 16 |
| Number of Saturdays: | 0 |
| Number of Sundays: | 0 |
| Surveys manually removed from selection: | 1 |

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

Appendix G: Gravity Model



GRAVITY MODEL

| Ward | Population | Route | Travel Time (minutes) | | | | P/T ² | | | | Distribution | | | |
|--------------------------|------------|---|-----------------------|-------|-------|-------|------------------|----------|----------|----------|--------------|-------|-------|-------|
| | | | AM | | PM | | AM | | PM | | AM | | PM | |
| | | | Arr | Dept | Arr | Dept | Arr | Dept | Arr | Dept | Arr | Dept | Arr | Dept |
| Allerton and Hunts Cross | 14,665 | Titchfield Street, Eldon Street, A5038 South | 31.00 | 31.00 | 28.50 | 32.00 | 15.3 | 15.3 | 18.1 | 14.3 | 0.8% | 0.9% | 1.0% | 0.8% |
| Anfield | 14,124 | Limekiln Lane (north) | 10.00 | 10.00 | 10.00 | 10.00 | 141.2 | 141.2 | 141.2 | 141.2 | 7.9% | 7.9% | 7.7% | 8.1% |
| Belle Vale | 14,959 | Titchfield Street, Eldon Street, A5038 South | 37.00 | 29.00 | 31.00 | 31.00 | 10.9 | 17.8 | 15.6 | 15.6 | 0.6% | 1.0% | 0.8% | 0.9% |
| Central | 22,853 | Titchfield Street, Eldon Street, A5038 South | 11.50 | 14.00 | 12.00 | 11.50 | 172.8 | 116.6 | 158.7 | 172.8 | 9.6% | 6.5% | 8.6% | 10.0% |
| Childwall | 13,851 | Titchfield Street, Eldon Street, A5038 South | 33.00 | 28.00 | 30.00 | 24.00 | 12.7 | 17.7 | 15.4 | 24.0 | 0.7% | 1.0% | 0.8% | 1.4% |
| Church | 13,970 | Titchfield Street, Eldon Street, A5038 South | 33.50 | 27.50 | 31.00 | 30.00 | 12.4 | 18.5 | 14.5 | 15.5 | 0.7% | 1.0% | 0.8% | 0.9% |
| Clubmoor | 15,108 | Limekiln Lane (north) | 16.00 | 15.00 | 16.00 | 16.00 | 59.0 | 67.1 | 59.0 | 59.0 | 3.3% | 3.8% | 3.2% | 3.4% |
| County | 13,985 | Titchfield Street, Burlington Street, A5039 North | 12.00 | 13.00 | 12.00 | 15.00 | 97.1 | 82.8 | 97.1 | 62.2 | 5.4% | 4.6% | 5.3% | 3.6% |
| Cressington | 14,704 | Titchfield Street, Eldon Street, A5038 South | 28.50 | 32.00 | 27.50 | 27.50 | 18.1 | 14.4 | 19.4 | 19.4 | 1.0% | 0.8% | 1.1% | 1.1% |
| Croxeth | 14,405 | Limekiln Lane (north) | 23.00 | 21.00 | 21.00 | 23.00 | 27.2 | 32.7 | 32.7 | 27.2 | 1.5% | 1.8% | 1.8% | 1.6% |
| Everton | 15,010 | Limekiln Lane (north) | 8.50 | 10.50 | 8.50 | 10.50 | 207.8 | 136.1 | 207.8 | 136.1 | 11.6% | 7.6% | 11.3% | 7.9% |
| Fazakerley | 16,498 | Titchfield Street, Burlington Street, A5039 North | 22.00 | 20.00 | 21.00 | 23.00 | 34.1 | 41.2 | 37.4 | 31.2 | 1.9% | 2.3% | 2.0% | 1.8% |
| Greenbank | 16,645 | Titchfield Street, Burlington Street, A5039 North | 14.00 | 17.00 | 16.00 | 14.00 | 84.9 | 57.6 | 65.0 | 84.9 | 4.7% | 3.2% | 3.5% | 4.9% |
| Kensington and Fairfield | 15,931 | Titchfield Street, Eldon Street, A5038 South | 16.00 | 14.00 | 16.00 | 14.00 | 62.2 | 81.3 | 62.2 | 81.3 | 3.5% | 4.5% | 3.4% | 4.7% |
| Kirkdale | 16,136 | Limekiln Lane (north) | 7.00 | 7.00 | 7.00 | 7.00 | 329.3 | 329.3 | 329.3 | 329.3 | 18.3% | 18.4% | 17.9% | 19.0% |
| Knotty Ash | 13,133 | Titchfield Street, Eldon Street, A5038 South | 32.50 | 24.00 | 30.00 | 24.00 | 12.4 | 22.8 | 14.6 | 22.8 | 0.7% | 1.3% | 0.8% | 1.3% |
| Mossley Hill | 13,145 | Titchfield Street, Eldon Street, A5038 South | 27.50 | 24.00 | 28.50 | 26.00 | 17.4 | 22.8 | 16.2 | 19.4 | 1.0% | 1.3% | 0.9% | 1.1% |
| Norris Green | 15,462 | Limekiln Lane (north) | 19.00 | 20.00 | 18.00 | 20.00 | 42.8 | 38.7 | 47.7 | 38.7 | 2.4% | 2.2% | 2.6% | 2.2% |
| Old Swan | 16,342 | Titchfield Street, Eldon Street, A5038 South | 26.50 | 19.00 | 22.00 | 23.00 | 23.3 | 45.3 | 33.8 | 30.9 | 1.3% | 2.5% | 1.8% | 1.8% |
| Picton | 17,579 | Titchfield Street, Eldon Street, A5038 South | 23.00 | 19.00 | 21.00 | 22.00 | 33.2 | 48.7 | 39.9 | 36.3 | 1.8% | 2.7% | 2.2% | 2.1% |
| Princes Park | 17,894 | Titchfield Street, Eldon Street, A5038 South | 17.00 | 17.00 | 17.00 | 17.00 | 61.9 | 61.9 | 61.9 | 61.9 | 3.4% | 3.5% | 3.4% | 3.6% |
| Riverside | 19,152 | Titchfield Street, Eldon Street, A5038 South | 15.00 | 13.00 | 15.00 | 14.00 | 85.1 | 113.3 | 85.1 | 97.7 | 4.7% | 6.3% | 4.6% | 5.6% |
| St Michael's | 12,808 | Titchfield Street, Eldon Street, A5038 South | 21.00 | 23.00 | 21.00 | 23.00 | 29.0 | 24.2 | 29.0 | 24.2 | 1.6% | 1.4% | 1.6% | 1.4% |
| Speke-Garston | 20,520 | Titchfield Street, Eldon Street, A5038 South | 36.50 | 36.50 | 36.50 | 36.50 | 15.4 | 15.4 | 15.4 | 15.4 | 0.9% | 0.9% | 0.8% | 0.9% |
| Tuebrook and Stoneycroft | 16,672 | Limekiln Lane (north) | 20.00 | 16.00 | 18.00 | 19.00 | 41.7 | 65.1 | 51.5 | 46.2 | 2.3% | 3.6% | 2.8% | 2.7% |
| Warbreck | 16,478 | Titchfield Street, Burlington Street, A5039 North | 18.00 | 16.00 | 16.00 | 20.00 | 50.9 | 64.4 | 64.4 | 41.2 | 2.8% | 3.6% | 3.5% | 2.4% |
| Wavertree | 14,854 | Titchfield Street, Eldon Street, A5038 South | 19.00 | 21.00 | 21.00 | 22.00 | 41.1 | 33.7 | 33.7 | 30.7 | 2.3% | 1.9% | 1.8% | 1.8% |
| West Derby | 14,286 | Limekiln Lane (north) | 22.00 | 21.00 | 20.00 | 23.00 | 29.5 | 32.4 | 35.7 | 27.0 | 1.6% | 1.8% | 1.9% | 1.6% |
| Woolton | 12,965 | Titchfield Street, Eldon Street, A5038 South | 38.00 | 32.00 | 34.50 | 34.50 | 9.0 | 12.7 | 10.9 | 10.9 | 0.5% | 0.7% | 0.6% | 0.6% |
| Yew Tree | 16,646 | Titchfield Street, Burlington Street, A5039 North | 28.50 | 29.50 | 27.50 | 32.00 | 20.5 | 19.1 | 22.0 | 16.3 | 1.1% | 1.1% | 1.2% | 0.9% |
| | | | | | | | 1798.465 | 1789.973 | 1835.180 | 1733.766 | 100% | 100% | 100% | 100% |

AM - arrivals = arrive by 9am
AM - departures = arrive by 9am
PM - arrivals = leave by 17:00
PM - departures = leave by 17:00

Average values have been adopted.
(Journey time data taken from Google Analytics)
(Route data taken from Google Analytics)

SUMMARY

| Route | Distribution | | | |
|---|--------------|--------|--------|--------|
| | AM | | PM | |
| | Arr | Dept | Arr | Dept |
| Titchfield Street, Burlington Street, A5039 North | 16.0% | 14.8% | 15.6% | 13.6% |
| Limekiln Lane (north) | 48.9% | 47.1% | 49.3% | 46.4% |
| Titchfield Street, Eldon Street, A5038 South | 35.2% | 38.1% | 35.1% | 40.0% |
| | | | | |
| | 100.0% | 100.0% | 100.0% | 100.0% |

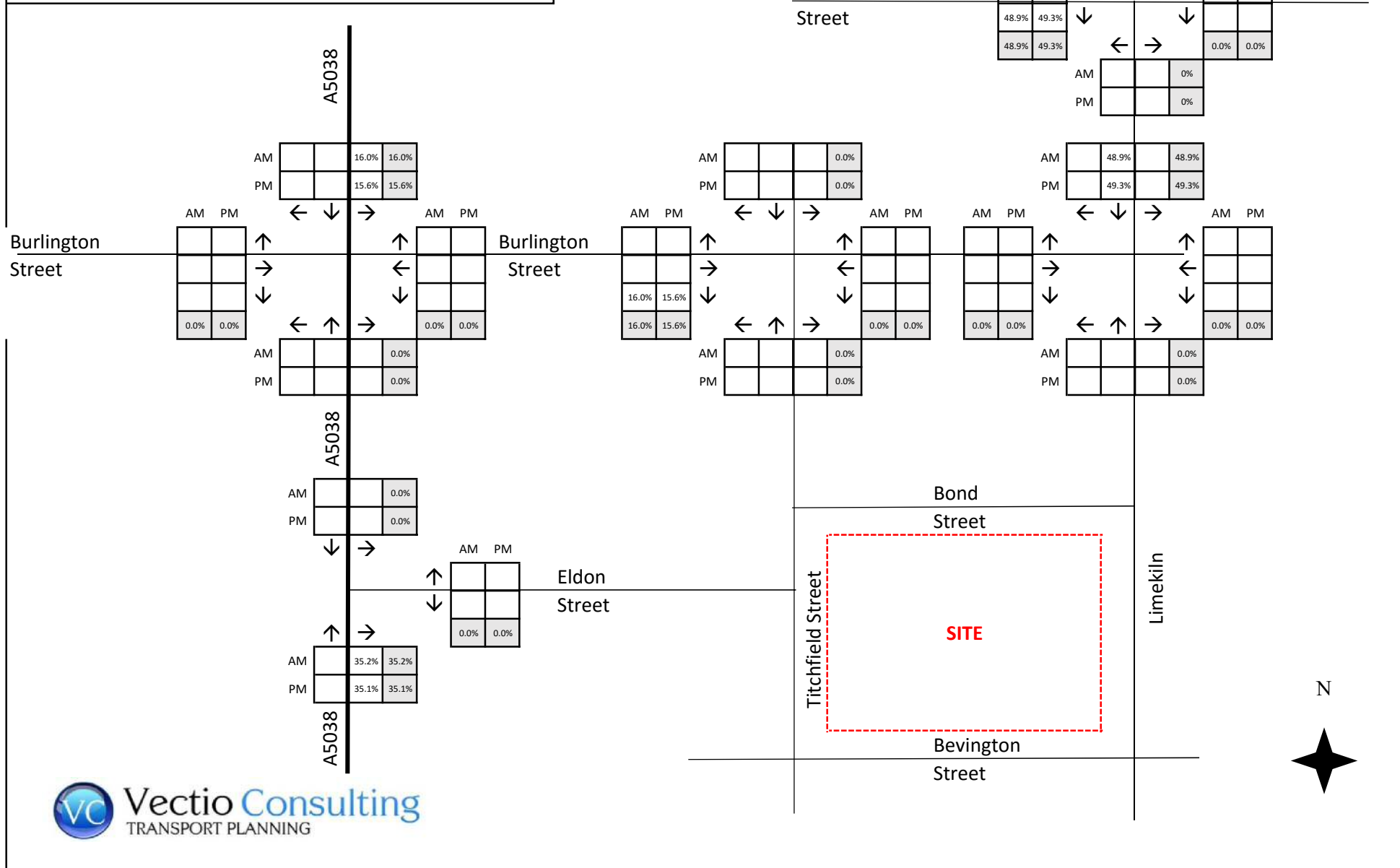
Appendix H: Distribution Diagram



TRIP DISTRIBUTION DEPARTURES



PROPOSED DEVELOPMENT
TRIP DISTRIBUTION ARRIVALS



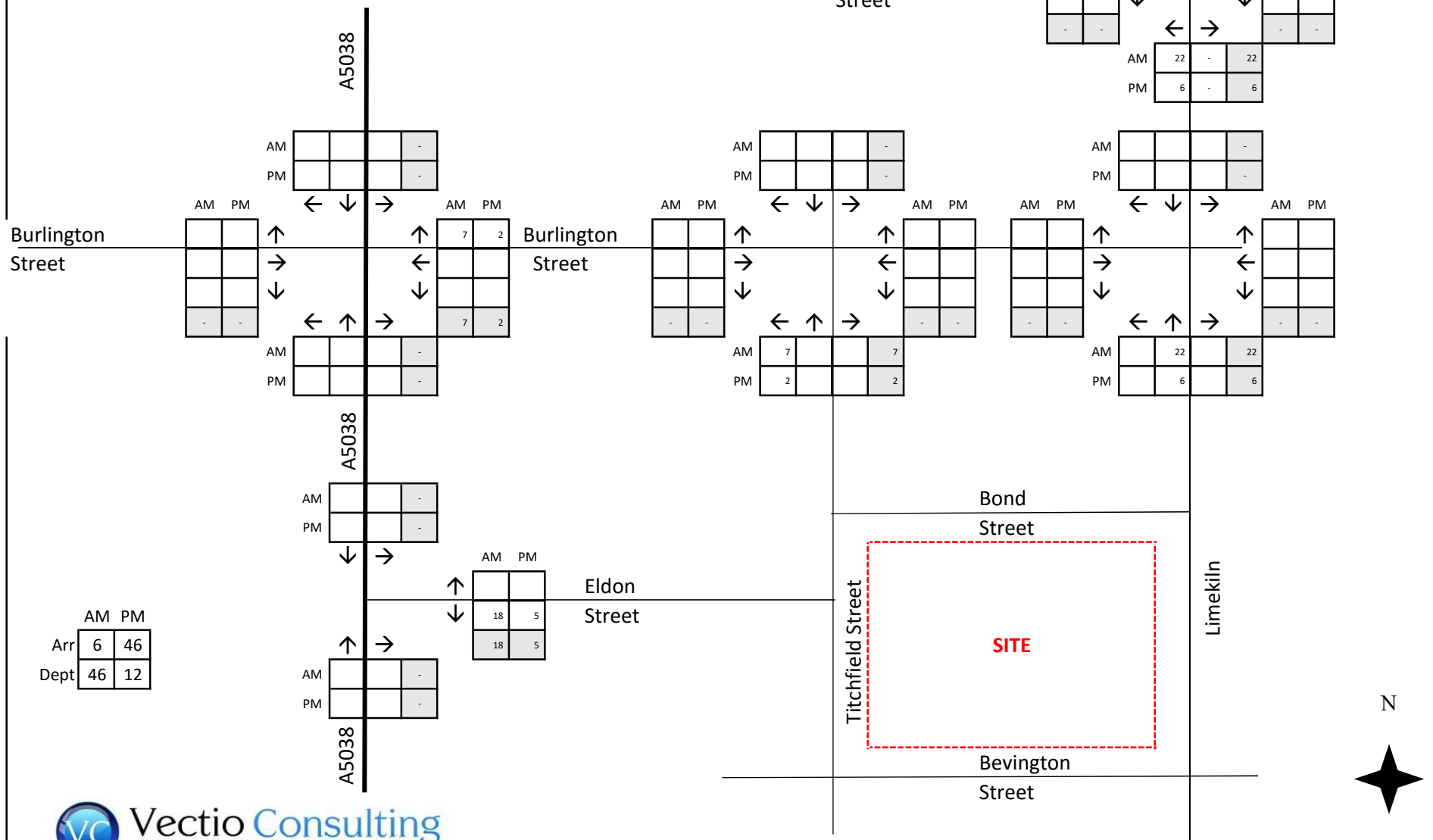
Appendix I: Assignment Diagram



PROPOSED DEVELOPMENT

TRIP ASSIGNMENT

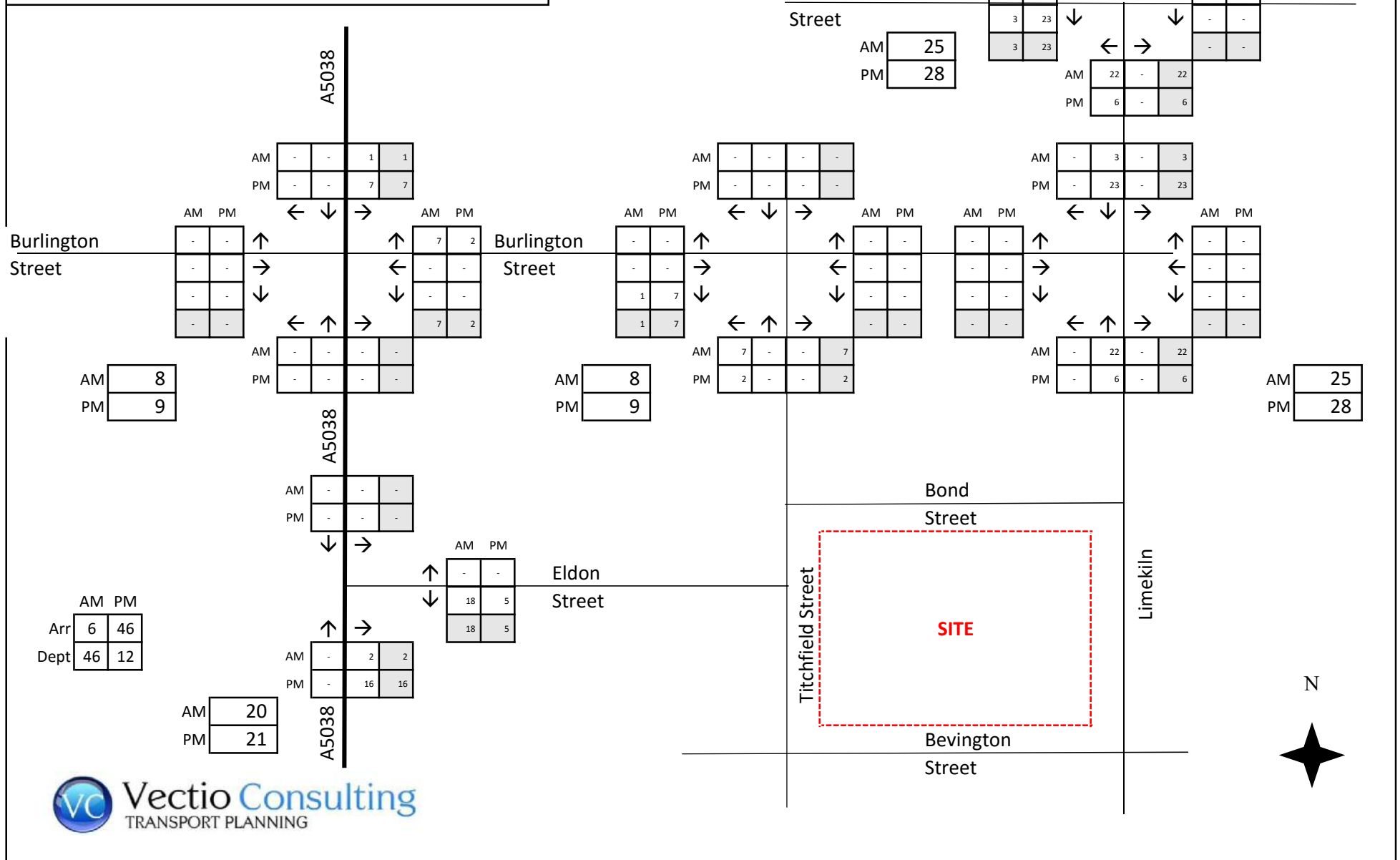
DEPARTURES



| TRIP ASSIGNMENT | ARRIVALS |
|-----------------|----------|
|-----------------|----------|



| TRIP ASSIGNMENT | TOTALS |
|-----------------|--------|
|-----------------|--------|



Appendix J: Improvement Measure Locations



VC0037 – ELDON GROVE

LOCATION OF PROPOSED IMPROVEMENT MEASURES

INSTALL UNCONTROLLED CROSSING WITH TACTILE PAVING BETWEEN NORTHERN AND SOUTHERN KERB LINE OF BURLINGTON STREET



INSTALL UNCONTROLLED CROSSING WITH TACTILE PAVING ACROSS O'CONNELL ROAD WITH ITS JUNCTION AT TITCHFIELD STREET



INSTALL UNCONTROLLED CROSSING WITH TACTILE PAVING ACROSS GILDARTS GARDENS WITH ITS JUNCTION AT TITCHFIELD STREET



INSTALL UNCONTROLLED CROSSING WITH TACTILE PAVING ACROSS BOND STREET WITH ITS JUNCTION AT TITCHFIELD STREET



REALIGN EXISTING TACTILE PAVING AT THE BEVINGTON STREET / TITCHFIELD JUNCTION



INSTALL NEW CITY BIKE HUB ON THE CORNER OF BEVINGTON STREET AND TITCHFIELD STREET



INSTALL UNCONTROLLED CROSSING WITH TACTILE PAVING ON THE CORNER OF SUMMER SEAT AND LIMEKILN LANE



INSTALL TWO NEW BUS SHELTERS ON BURLINGTON STREET



INSTALL UNCONTROLLED CROSSING WITH TACTILE PAVING ACROSS LIMEKILN LANE, SOUTH OF BURLINGTON STREET



INSTALL UNCONTROLLED CROSSING WITH TACTILE PAVING ACROSS ALL ARMS OF THE TITCHFIELD STREET / BURLINGTON STREET JUNCTION

