



## TRANSPORT STATEMENT

*for*

Land at Filbert Close  
Hatfield, AL10 9ED

Grid Reference: 521692E, 206608N

*Prepared for*

Lambert Smith Hampton

*On behalf of*

Hertfordshire County Council

August 2019

Reference: ST2629/TN-1908

Revision: 0

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<i>Revision</i>	<i>Author</i>	<i>Checked by</i>	<i>Issue Date</i>
<i>0</i>	<i>DGS</i>	<i>SAY</i>	<i>22.08.19</i>

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## 1. Introduction

- 1.1.1. Stomor Ltd. has been commissioned by Lambert Smith Hampton, on behalf of Hertfordshire County Council (HCC), to prepare a Transport Statement (TS) for proposed residential development on the former Hazel Grove Primary School playing field site off Filbert Close in Hatfield.
- 1.1.2. The site is located to the south west of Hazel Grove and Filbert Close, in the south west of Hatfield. A site location plan is provided in **Appendix A**, Drawing 8230 70-006 (land edged red).
- 1.1.3. This TS is provided in support of an outline planning application for the site which is allocated in the emerging Welwyn Hatfield Borough Council Local Plan 2011-2031. The allocation assumes an indicative number of dwellings for the site of 37 units, and an illustrative layout has been prepared by Lambert Smith Hampton, showing 39 units. This report will investigate the access and sustainable transport demand for the development.
- 1.1.4. The main part of the site to the north east was the playing field used by the former Hazel Grove Primary School and is mainly open grassland. It has a gated access to Filbert Close on the north east boundary. To the south west, the remaining, smaller part of the site comprises dense mature woodland.
- 1.1.5. The illustrative site layout plan has been prepared by Lambert Smith Hampton to determine the potential capacity of the site with access via Filbert Close, which in turn connects to Hazel Grove to the north. The south end of Filbert Close abuts the site, and has clearly been designed to cater for future development on the site.
- 1.1.6. Liaison has been carried out with HCC Highways regarding the site access, with confirmation that this will be provided for all vehicles off Hazel Grove via Filbert Street. A secondary access for pedestrians and cyclists only is shown via Lane End to the north west.

## 2. Existing Conditions

### 2.1. The Site

2.1.1. The site is located in the south west corner of Hatfield approximately 2.2km south west of Hatfield Town Centre and 3km south of Hatfield commercial/industrial area. It is abutted by residential development on its north, north east and east sides. An area of mown grass and woodland abuts the site's south west boundary, which is open to the public and recreational in nature.

2.1.2. The whole site covers a gross area of approximately 0.923ha and is now considered by HCC to be surplus to requirements so is available for development.

2.1.3. Vehicular and pedestrian access to the site is available via Filbert Close, with existing access arrangements as follows:

- i. Adopted 5.5m wide blacktop access road between the northern site boundary and a tee junction on Filbert Close adjacent to property numbers 5/7 and 19. The access is currently gated at the site boundary. To the north of the tee junction, Filbert Close joins Hazel Grove at a further simple tee junction. Double yellow lines are in place around the bellmouth of this junction, and continue in both directions along part of the site frontage on the southern side.
- ii. Pedestrians are catered for via an adopted 2m wide footway abutting the road to the north west side, adjacent to the site. A further adopted 2.0m wide footway is provided to the south east side, running north to west, separated from the access road by a corridor of private car parking spaces.
- iii. A copy of the Highway plan is attached at **Appendix B**, which shows the network of adopted roads and footways which link the site to Hazel Grove to the north and identify the areas of land maintainable at public expense in the vicinity of the site, including the adopted highway in Lane End to the north west.
- iv. It should be noted that the coloured Highway plan shows Filbert Close and Lane End abutting the site boundary, so no land ownership issues are anticipated.
- v. No other existing accesses, either vehicular or pedestrian to serve the site are currently in place.
- vi. Filbert Close itself is subject to a 30mph speed limit and is generally free of other restrictions on vehicle movements, such as waiting or loading.

2.1.4. The site does not lie within, or near, a designated Air Quality Management Area (AQMA).

2.1.5. It is not anticipated that any future uses of the site would give rise to abnormal loads. However, during construction, restrictions on vehicle use will be strictly controlled as part of a Construction Management Plan, which will be approved in due course by the Highway Authority and Local Planning Authority in advance of the works.

## 2.2. Existing Highway Network

2.2.1. The site will be accessed off Filbert Close, via its existing junction on to Hazel Grove. It should be noted that the white line junction markings on the tee junction within the Filbert Close development are worn, and require replacement.

2.2.2. Hazel Grove is a Major Access Road, approximately 4.9m wide as it passes the Filbert Close junction. The road forms a crescent to the west of Bishops Rise. To the south, it connects to Bishops Rise via a 3-arm mini roundabout. To the north, it connects to Bishops Rise via a simple tee junction.

2.2.3. Lay by parking for residents/visitors is provided at staggered intervals on both sides along the length of Hazel Grove. Nominal layby widths are 2.0m. Footways are provided to both sides of the road, separated from the road channel by nominal 1.8m wide grass verges. In addition, there are accesses to private drives and the occasional garage along both sides of the carriageway beyond the grass verges.

2.2.4. Speed tables and speed cushions are also in place to provide traffic calming. Uncontrolled crossings incorporating speed tables and tactile paving are provided each side of Filbert Close. These are located opposite existing footway links to the north and south. A plan is attached in **Appendix C** which shows the position of the existing uncontrolled crossings, approximate location of the junction double yellow lines described above, and other adjacent features.

2.2.5. Parking was observed on the Hazel Grove carriageway itself, sometimes parking “half on/half off” the grass verges. Otherwise, no other major traffic restrictions are in place.

2.2.6. Bishops Rise is a 6.75m - 7.3m wide Local Distributor Road, which connects to the A1001 Southway at its southern end and the Cavendish Way/College Lane Roundabout at its north end.

2.2.7. The A1001 Southway connects to the A1(M) at its western end, and merges into the A1000 to the east, which carries on north to Potters Bar.

2.2.8. Lane End tee junction is located on Hazel Grove approximately 70m to the north west of the Hazel Grove/Filbert Close tee junction. This road is a nominal 2.5m wide, “country lane” in nature and runs south west past the site, linking to Roehyde Way. This road is lit from Hazel Grove, and south west along the north west site boundary to the western corner. At this location on Lane End, a small Welwyn Hatfield Council sign is present, which prohibits motorcycles, quad bikes or other unauthorised vehicles. Beyond this point, the road continues to Roehyde Way via a wooded area, which is not lit. The width of this section is about 2.0m, but it may be possible to widen this to 2.5m, possibly more. At Roehyde Way, Lane End meets a segregated foot/cycleway, which runs north-south along the east side of Roehyde Way. A more detailed description of this is included in subsequent paragraphs. At this location, a prohibition sign is present, which does not allow cyclists to ride in an easterly direction along Lane End towards the site. No such prohibition applies in the westerly direction.

## 2.3. Policy Appraisal

### National Policy

2.3.1. The National Planning Policy Framework (NPPF) was published by the Department for Communities and Local Government in July 2018. The NPPF primary objective is to promote the delivery of sustainable development, achieving a balance of economic, social and environmental objectives.

2.3.2. With specific regard to transport issues, the NPPF requires at paragraph 102 that ‘Transport issues should be considered from the earliest stages of plan-making and development proposals so that:

- a) *the potential impacts of development on transport networks can be addressed;*
- b) *opportunities from existing or proposed transport infrastructure, and changing transport technology and usage, are realised – for example in relation to the scale, location or density of development that can be accommodated;*
- c) *opportunities to promote walking, cycling and public transport use are identified and pursued;*



- d) *the environmental impacts of traffic and transport infrastructure can be identified, assessed and taken into account – including appropriate opportunities for avoiding and mitigating any adverse effects, and for net environmental gains; and*
- e) *patterns of movement, streets, parking and other transport considerations are integral to the design of schemes and contribute to making high quality places”.*

2.3.3. The following assessment identifies the potential impact of the proposed development in transport terms and considers how existing infrastructure can be used and how opportunities for promoting sustainable modes may be taken up.

#### Local Policy

2.3.4. The Welwyn Hatfield District Plan (2005) is the current adopted Local Plan and provides a framework for planning decisions in the Borough. This document sets out the transport policies for the area based upon the following Strategy and Objectives:

- a) *“To reduce the overall need to travel by integrating land uses with transport;*
- b) *To support the development of integrated transport policy;*
- c) *To reduce dependency on the car and encourage modes of travel which have less adverse environmental impact;*
- d) *To give priority to walking and cycling;*
- e) *To encourage effective traffic management and the improvement of road safety for all sectors of the community;*
- f) *To encourage greater use of passenger transport and improvements to services and facilities; and*
- g) *To facilitate the accessibility needs of all in a safe and sustainable manner.”*

2.3.5. Policy M1 sets out the policy relating to Integrating Transport and Land Use and states that development proposals;

*“will be permitted only in locations with accessibility to pedestrian and cycle routes and passenger transport services, .... and where the environment and infrastructure can accommodate the amount and type of transport movement*

*likely to be generated.” adding that “the Council will give priority to walking and more sustainable modes of travel.”*

- 2.3.6. Policies M5 and M6 set out the policies relating to promoting Pedestrian and Cycle Facilities with safe and direct routes linking to existing or proposed networks and facilities.
- 2.3.7. Policy M14 relates to Parking Standards for New Developments and requires provision in accordance with the existing Supplementary Planning Guidance. An Interim Policy for Car Parking and Garage Sizes, dated August 2014, identifies that Government guidance no longer required councils to set maximum car parking standards.
- 2.3.8. This Local Plan is currently in the process of being replaced by a new Local Plan covering the period 2011-2031. In the Council’s Housing Sites Selection – Background Paper 2016, Appendix A, the Hazel Grove site is identified as HS91. The site is described as being capable of accommodating approximately 37 housing units and could deliver affordable housing and make provision for lifetime homes. Overall, it is considered by the Council that the site should be considered for allocation alongside other Hatfield sites.
- 2.3.9. The Supplementary Planning Guidance, Parking Standards, applies a zonal approach to parking provision. The site is situated in Zone 4, identifying that car parking provision allowed would be 75-100% of the maximum demand-based standard.
- 2.3.10. Use Class C3, Residential identifies the following standards in Zone 4:-
- 1 bedroom dwelling - 1.25 spaces per dwelling
  - 2 bedroom dwelling - 1.5 spaces per dwelling
  - 3 bedroom dwelling - 2.25 spaces per dwelling
  - 4 bedroom dwelling - 3.0 spaces per dwelling
- 2.3.11. However, it should be noted that there is no specific parking standard. Accordingly, it is likely that a ‘bespoke’ provision would be considered for residential development at the site.
- 2.3.12. The relevant cycle parking standards in the same document are as follows:
- *1 long term space per unit if no garage or shed provided*

2.3.13. HCC (i.e. the Highway Authority) has recently adopted its fourth Local Transport Plan (LTP4). This LTP contains policy that is entirely relevant to considering both potential development options and how they should be accessed.

2.3.14. With regard to policy, LTP4 sets out a 'Transport User Hierarchy' as its Policy 1. It requires the '*greater and safer use of sustainable transport modes*' in HCC promoted schemes and strategies as well as development proposals where '*the hierarchy should apply to the planning and design of new developments, as recommended in Manual for Streets*'.

2.3.15. Policy 2 of LTP4 indicates that HCC will seek to "encourage the location of new development in areas served by, or with the potential to be served by, high quality passenger transport facilities so they can form a real alternative to the car and where services can be accessed by walking and cycling.

2.3.16. Drawing number ST-2629-07 'Local Facilities Plan' has been prepared to show the existing public transport provision available to the site. It also indicates approximate walking and cycling distances to facilities such as schools, employment, retail and recreation uses, via independent footpaths where practicable. This plan is attached in **Appendix D**.

## 2.4. Existing Public Transport Facilities

### **Bus Links**

2.4.1. The development site is reasonably well located in terms of public transport provision, with 6 no. bus stops located within 500m of the site centre as the crow flies.

2.4.2. Two of the above bus stops are located in Roehyde Way to the north west of the site and can be reached on foot via Lane End. The walking distances from the site centre are 400m (under 5-minute walk) to the northbound bus stop and 435m (just over 5-minute walk) to the southbound bus stop. Both bus stops are provided with bus shelters.

2.4.3. Four of the bus stops are located in Bishops Rise, two to the north and two to the south of the site. The walking distances from the site centre to the northern bus stops via Filbert Close and Robins Way are 480m (under 6-minute walk) to the northbound bus stop and 540m (6.5-minute walk) to the southbound bus stop. Both bus stops are provided with bus shelters and Kassel Kerbs. The two southern bus stops are located at a further walking distance than from the north ones.

2.4.4. Existing bus services are available in the vicinity of the site, as shown on the local bus services route plan, which is attached in **Appendix E**.

2.4.5. There are five existing bus services that pass the site in Roehyde Way. Services 602, 614/644 and 653 are the more frequent routes accessible on foot via Lane End. Set out below are details of the services.

- Bus Service UNO 602 runs between Welwyn Garden City Bridge Road and Watford High Street via Hatfield, St Albans London Colney, Shenley, Radlett, Aldenham and Bushey. It operates on a nominal 30-minute frequency Monday to Saturday and 1 hourly frequency on Sundays and provides a link to the railway stations in Hatfield, St Albans and Watford for onward journeys by Rail.
- Bus Services UNO 614/644 run between Hatfield Railway Station and Queensbury Underground Station via Borehamwood, Barnet, Mill Hill and Edgware. They operate at nominal intervals of between 15 and 30 minutes frequency Monday to Friday and 1 hour frequency on Saturday. No Sunday service is available.
- Bus Service UNO 653 runs between St Albans and Welwyn Garden City via St Albans and Hatfield. It operates on a nominal 20 minute frequency Monday to Friday and 1 hourly frequency on Saturday and Sunday.
- Routes 602, 614 and 653 also run through the bus stops in Bishops Rise, which are accessible on foot via Robins Way and Willow Way.

2.4.6. A further service, Service Centrebus 366 runs through the bus stops in Bishops Rise, linking Luton and South Hatfield via Harpenden, Batford, Wheathampstead, Lemsford and Welwyn Garden City. It operates at nominal intervals of between 1 hour frequency Monday to Saturday. No Sunday service is available.

2.4.7. Bus journey times on Service 602 from the nearest stop on Roehyde Way are:

- Hatfield Railway Station is about 9 - 10 minutes;
- Hatfield Town Centre is about 5 – 6 minutes
- The Galleria Shops is about 5 minutes
- St Albans Railway Station is about 20 minutes

2.4.8. Bus journey times on Service 366 from the nearest stop on Bishops Rise are:

- Hatfield Railway Station is about 11 minutes;
- Hatfield Town Centre is about 8 minutes

### **Rail Links**

2.4.9. Hatfield Railway Station is located approximately 2.58km (1.6 miles) north east of the centre of the site as the crow flies, on the north eastern edge of the town centre. On foot or cycle, this journey could be approximately 2.1 miles via largely on-road routes. Hatfield Station is served by Bus Services 602, 614/644, 653 and 366.

2.4.10. Welham Green Station is located approximately 2.12m (1.31 miles) south east of the centre of the site.

2.4.11. Hatfield and Welham Green Stations are on the Thameslink Great Northern line with direct links to London Kings Cross, St Pancras International, Cambridge and Kings Lynn. Changing at Hitchin or Stevenage also provides routes to Peterborough and the north via local or Inter City services.

2.4.12. Services to London Kings Cross run at least every 30 minutes, with services to Cambridge and Kings Lynn also running at half hourly intervals.

### **2.5. Existing Pedestrian and Cycle Links**

2.5.1. The site is well connected to a comprehensive existing footway network serving the residential areas around South Hatfield, including the University of Hertfordshire Campus directly to the north.

2.5.2. General footway links between Hazel Grove and Bishops Rise, and Lane End to Roehyde Way provide a direct link to the local bus routes.

2.5.3. There are no public rights of way across the site.

2.5.4. Footways connect to adjacent residential areas as well as the Hilltop Shopping Centre to the north east the of the site.

2.5.5. A range of shops and services are located at Hilltop Shopping Centre, including Martins Newsagents, Spicefields Restaurant, local one-stop convenience store, electrical store, dentist, pharmacy, butcher, grocer and hairdresser. There are also local community, open space and religious facilities in the vicinity.

- 2.5.6. Independent public footpath link number FP168 provides a pedestrian connection between Hazel Grove and Willow Way to the north east of the site, on the route to the Bishops Rise bus stops
- 2.5.7. Independent public footpath link number FP165 provides a pedestrian connection between Newstead and Willow Way to the north of the site, en-route to the facilities/shops at the Hilltop Shopping Centre.
- 2.5.8. As previously mentioned in this report, a high quality segregated foot/cycleway is in place at the eastern end of Lane End, running along the east side of Roehyde Way.
- 2.5.9. To the south, this facility comprises a 2.5m wide cycleway and 2.0m footway, the footway being separated at a higher level by a kerb with 100mm upstand. This link connects to a subway approximately 90m away, which runs under both Roehyde Way and the A1(M) motorway, continuing to the north, and south to Roestock.
- 2.5.10. To the north, the footway and cycleway are both 1.5m wide (total 3.0m), flush and separated by a white line. This link runs northward past the Roehyde Way bus stops as previously described in this report, continuing to the University of Hertfordshire Campus and Hatfield.
- 2.5.11. The University of Hertfordshire campus is located between 600m and 900m from the centre of the site. This can be easily accessed on foot via the existing network and by cycle along the local roads or via Lane End and the existing foot/cycleway along Roehyde Way.
- 2.5.12. The nearest primary school to the site is Dehavilland Primary School, approximately 850m north east of the site (just over 10-minute walk). Alternatively, Oak View Primary School and St Philip Howard Catholic Primary School are located approximately 1.6km north east of the site (19-minute walk, approximately).
- 2.5.13. The nearest secondary school from the site is Bishops Hatfield Girls School, located about 1.8km north east of the site. The Onslow St Audrey's Secondary School is slightly further afield, located about 2.2m to the south east. Both locations are within reasonable cycling distance.
- 2.5.14. As previously indicated, the Hilltop Shopping Centre is located about 400m north east the of the site as the crow flies (550m walking distance, 6.5-minute walk). These facilities can be easily accessed on foot or by cycle.

2.5.15. The Welham Green employment area, along with a Tesco Distribution Centre and Mitsubishi Electric Europe facility are located between 1km and 2km from the site. This should be easily accessible by cycle via the local residential road network and foot/cycleway link between the south end of Travellers Lane and Pooley's Lane. This link is shown on the facilities plan.

2.5.16. The nearest recreational area is located immediately to the south west of the site. This comprises mown grassed areas along with mature woodland, and children's play area. Roe Hill Community Centre is located about 1.3km to the north west of the site, which is within reasonable cycling distance. The Hatfield Leisure Centre is located off Travellers Lane, about 1.1km to the northeast, within easy cycling distance.

2.5.17. The town centre is located approximately 2.2km to the north east of the site as the crow flies. Whilst slightly further afield, this is well within cycling distance, being approximately 6.5-minutes cycle time based upon a cycle speed of 12.4mph.

2.5.18. There would appear to be no National Cycle Network (NCN) routes which pass close to the site.

## 2.6. Traffic Flows on Links and Junctions within the Study Area

2.6.1. Traffic counts were carried out by ATR on 18th October 2017 on Hazel Grove at its junction with Filbert Close. These counts were carried out on the basis that the main site access will be via Filbert Close.

2.6.2. The traffic count data has been analysed for the junction to determine the network peak hours. This identifies the 0745-0845 morning peak hour traffic is the busiest period. In the PM peak, the 1715-1815 peak is the busiest. The survey did not include a traditional school PM peak (i.e. 1530–1630) but experience suggests that this is not likely to be as busy as the 0745-0845 period on the wider network.

2.6.3. These counts have been used to act as the baseline for assessment of traffic flows in the vicinity of the site and likely impact of traffic generated by the proposed development. Summary Flow Diagrams for the AM and PM peaks hours are provided in **Appendix F** and more detailed traffic survey data is available on request.

2.6.4. The observed peak October 2017 two-way flows at the surveyed links are shown in Table 1.

	Hazel Grove NW (NW of Filbert Street)	Hazel Grove SE (SE of Filbert Street)	Filbert Close (south Hazel Grove)
07:45 – 08:45	64	77	29
17:15 – 18:15	66	63	29

Table 1: Observed traffic flows 18<sup>th</sup> October 2017

## 2.7. Personal Injury Accident Records

- 2.7.1. Personal Injury Accident (PIA) data for the area in the vicinity of the site has been obtained from HCC for the period 1st January 2014 – 31st December 2018. Details are provided in Appendix G.
- 2.7.2. Inspection of this data shows that there have been 4 Slight category Personal Injury accidents (PIA) in Hazel Grove during this period. None of these was in the close vicinity of Filbert Close.
- 2.7.3. The nearest PIA occurred on 24<sup>th</sup> April 2017 at 21.29 hours, approximately 53m south east of Filbert Close. A vehicle collided with a parked vehicle.
- 2.7.4. A further PIA occurred slightly further to the south east on 28<sup>th</sup> January 2018, approximately 83m from Filbert Close. This would appear to be a shunt type collision, with one car impacting the rear of the other.
- 2.7.5. Further west, a PIA occurred in the vicinity of Furzen Crescent on 18<sup>th</sup> October 2018 at 17.45 hours. This involved a young cyclist travelling from south to north colliding with a car travelling west to east.
- 2.7.6. A PIA also occurred on 16<sup>th</sup> June 2016 at 21.15 hours, approximately 160m north west of Filbert Close, at the junction with Newstead. A vehicle carried out a reversing manoeuvre, colliding with a parked vehicle and injuring its occupant.
- 2.7.7. There have been no recorded injury accidents involving pedestrians during this period.
- 2.7.8. Based upon the above data, the number and nature of accidents recorded in the vicinity of Filbert Close over the last five years does not appear to be abnormal. Notwithstanding, there has been 1 accident involving a cyclist in a five-year period.



- 2.7.9. The type and nature of proposed development on the site indicates that the Filbert Close junction would not require improvement to accommodate travel demand from that site.

### 3. Proposed Development

- 3.1.1. The proposed development area covers 0.923ha in the south west of Hatfield. A site location plan is provided in Appendix A, Drawing 8230 70-006 Rev - (land edged red).
- 3.1.2. The proposed Site Plan drawing number 8230 70-008 Rev P3 prepared by CPMG Architects is provided in **Appendix H**. This shows a development of 39 dwellings with associated parking, open space and landscaping.
- 3.1.3. A copy of Revision P2 of this plan and description of the proposed access features were forwarded to HCC Highway Authority (HA) on 5<sup>th</sup> August 2019.
- 3.1.4. In their response dated 6<sup>th</sup> August 2019, the HA confirmed that the proposed access arrangement as shown on the submitted plan were acceptable in principle, subject to some minor comments in relation to the internal housing arrangements. A copy of the correspondence is attached in **Appendix H**.
- 3.1.5. The following means of access appraisal and resulting Means of Access Plan were based upon the above drawing and correspondence.

#### 3.2. Means of Access Appraisal

- 3.2.1. Vehicular site access will be taken as a continuation of the adjacent Filbert Close development access road, the south end of which abuts the north site boundary.
- 3.2.2. A secondary access will be provided for pedestrians and cyclists only via Lane End which abuts the north west site boundary.
- 3.2.3. A Means of Access Plan, Drawing ST-2629-09, has been prepared to demonstrate access arrangements to serve 39 dwellings. A copy of this drawing is also provided in **Appendix H**, comprising the following features:-
- i. Extension to the south of the existing Access Road into the site from the existing 5.5m wide Filbert Close.
  - ii. This point of connection with Filbert Close is approximately 70m south of the tee junction with Hazel Grove.
  - iii. Refurbishment of the worn Give Way lines at the tee junction within the Filbert Close Development.

- iv. Vision splays of 2.4m x 43m are shown to the left and right of the existing Filbert Close/Hazel Grove access to the north. Site inspection has confirmed that these vision splays are easily achievable in both directions.
- v. 25m forward vision line along the south east side of the internal loop road.
- vi. 12m forward vision envelope around speed control bends to the south and north west.
- vii. A 2.0m wide foot/cycle link will be provided on the west side of the site to connect to the existing Lane End.

### 3.3. Anticipated Parking Requirements

- 3.3.1. The Welwyn Hatfield Borough Council (WHBC) Supplementary Planning Guidance (SPG) - Parking Standards has been reviewed. This standard indicates that the maximum car parking required would be 74 spaces for this development. Inspection of the preliminary housing mix shown on the CPMG plan 8230 70-008 Rev P2 indicates that the car parking currently proposed is 71 spaces, or 96% of the maximum.
- 3.3.2. In parking Zone 4, it is recommended that a target percentage should be between 75% and 100%. Therefore, the level of parking is considered to be acceptable on this development and accords with the SPG and emerging standards.
- 3.3.3. With regard to cycle parking, 1 long term space per unit will be incorporated per unit, if no shed or garage provided.

## 4. Appraising the Impact of the Proposed Development

### 4.1. Assessment Criteria

4.1.1. An illustrative layout for a development of up to 39 dwellings has been prepared by CPMG Architects. This includes associated car and cycle parking, landscape and open space with the main vehicular and pedestrian access off Filbert Close. A further pedestrian link is also provided linking Lane End to the west.

4.1.2. This appraisal is based on two key assessments as follows:

- The suitability of the vehicular site access to accommodate proposed development traffic; and
- The impact of the proposed development on the off-site junction of Filbert Close and Hazel Grove.

4.1.3. The site has formerly been used as playing fields associated with the Hazel Grove Primary School. As this use did not generate any traffic, for the purposes of assessment no comparison is made between potential existing and proposed traffic.

### 4.2. Base Year Traffic Flows

4.2.1. In order to bring the traffic data up to date for current year 2019, the traffic count information summarised in Section 2.5 has been 'growthed' using TEMPRO rates to a base year of 2019. The data used is Census Super Output Area E0200 4992, South Hatfield Temprow 7.2 NTM AF15, Urban Principal AM and PM Peaks as follows:-

Peak Hour	2017-2019
AM Peak (07:45 to 08:45)	1.0356
PM Peak (17:15 to 18:15)	1.0328

*Table 2: TEMPRO growth rates*

4.2.2. Applying these rates to the classified traffic data shown in Table 2 above, the 2019 baseline flows are shown in Table 3. Please note that as the site is in a large residential area, the growth rate may well be less than the TEMPRO results suggest. However, allowing for growth will ensure a robust assessment.

	Hazel Grove NW (NW of Filbert Street)	Hazel Grove SE (SE of Filbert Street)	Filbert Street (south Hazel Grove)
07:45 – 08:45	66	80	30
17:15 – 18:15	68	65	30

Table 3: Growthed traffic flows to 2019

4.2.3. Tables 2 and 3 set out above summarise 2019 base year traffic conditions on Hazel Dell adjacent to the site.

4.2.4. DMRB Advice Note TA 79/99 'Traffic Capacity of Urban Roads'<sup>1</sup> has been consulted, which gives an indication of hourly flow capacities for different road categories. Based upon Table 1 and extrapolation of Table 2 of this document for a road type UAP4 with unrestricted parking, local traffic and frontage activity, the two-way capacity of Hazel Grove is as follows:-

Flow Capacity	One-Way (60%)	One-Way (40%)	Total Flow
Hazel Grove Width 5.0	500	333	833

Table 4: Capacity of Hazel Grove (DMRB TA 79/99)

4.2.5. Comparing Table 3 and 4, this demonstrates that the current 2019 maximum hourly flows are well within the environmental capacity of the existing highway network links and that there is plenty of spare capacity.

#### 4.3. Assessment Periods and Assessment Years

4.3.1. The weekday peak periods on the highway network will be assessed as they are likely to be the most capacity constrained and have been identified from the traffic counts as: -

- 07:45 – 08:45 am
- 17:15 – 18:15 pm

<sup>1</sup> TA 79/99 'Traffic Capacity of Urban Roads' – Design Manual for Roads and Bridges (DMRB) Advice Note, February 1999.

- 4.3.2. The proposed development is anticipated to be fully occupied by 2024 so this assessment will consider the impact of the proposed development in that year.
- 4.3.3. Accordingly, base year 2017 traffic has been further growthed to 2024 to reflect the anticipated background increase in traffic, using Census Super Output Area E0200 4992, South Hatfield TEMPRO 7.2 NTM AF15, Urban Principal AM and PM Peaks.
- 4.3.4. The growth factors used are shown in Table 5.

Peak Hour	2017-2024
AM Peak (07:45 to 08:45)	1.1250
PM Peak (17:15 to 18:15)	1.1198

Table 5: TEMPRO growth factors.

- 4.3.5. Applying these factors to the classified traffic data shown in Table 5 above, the 2024 baseline flows in the below table as follows.

	Hazel Grove NW (NW of Filbert Street)	Hazel Grove SE (SE of Filbert Street)	Filbert Close (south Hazel Grove)
07:45 – 08:45	72	87	33
17:15 – 18:15	74	71	32

Table 6: Growthed traffic flows to 2024

- 4.3.6. The growth rates set out in Table 5 represent a significant amount of growth in just five years (i.e. over 12% in the AM peak and around 12% in the PM peak). This is understood to reflect the growth anticipated in this area of Hatfield. Accordingly, these rates are assumed to allow for 'committed development' in the area and are considered to be robust. It is noted that these growths 'without developments' are still well within the adjacent road capacities.

#### 4.4. Trip Generation - Proposed Residential Development

- 4.4.1. Reference has been made to the TRICS database under the land-use category 'Residential' and the sub-category 'houses privately owned' in order to specifically identify peak hour vehicle trips generated by the proposed development. The TRICS output is summarised in Table 7 and can be found in full in **Appendix I**.

Peak Period	Trip Rates (per dwelling)
-------------	---------------------------

	Inbound	Outbound	Two-Way
AM Peak (08:00 to 09:00)	0.162	0.398	0.560
PM Peak (17:00 to 18:00)	0.387	0.174	0.561

Table 7: Trip Rates per Dwelling (TRICS residential – houses privately owned)

- 4.4.2. Based on the vehicle trip rates summarised in Table 6, the proposed development of up to 39 dwellings would be expected to generate in the region of 22 vehicle movements during the AM peak hour and 22 vehicle movements during the PM peak hour.
- 4.4.3. In addition, the TRICS database identifies that an additional Taxi arrival and departure will occur in the AM peak (NB but no peak hour trips by larger goods or public service vehicles). Therefore, an additional inbound and outbound trip is added to the AM peak flows, equating to a total of 24 movements. Table 8 summarises the peak hour vehicle trip generation for the proposed development for all vehicles.

Peak Period	Trip Generation		
	Inbound	Outbound	Two-Way
AM Peak (07:45 to 08:45)	7	17	24
PM Peak (17:15 to 18:15)	15	7	22

Table 8: TRICS derived traffic generation for up to 39 dwellings

#### 4.5. Traffic Distribution

4.5.1. The 2017 observed traffic flows on Hazel Grove have been reviewed to consider whether base flows may represent the likely assignment of vehicle trips from the site access. Table 9 summarises the 2017 split of traffic on Hazel Grove.

	AM	PM
Westbound	36.5%	53.7%
Eastbound	63.5%	46.3%

Table 9: Observed 2017 traffic flow split, Hazel Grove

4.5.2. Vehicles may travel in either direction on Hazel Grove to access key destinations beyond. The main flow is from west to east in the AM peak and from the west in the PM peak.

4.5.3. We have applied the observed traffic flow split to the proposed development traffic set out in Table 9. Tables 10 and 11 summarise the assignment of development traffic on Hazel Grove.

	Arrive	Depart
Westbound	3	6
Eastbound	4	11
Total	7	17

Table 10: Predicted Development Traffic split, Hazel Grove AM Peak

	Arrive	Depart
Westbound	8	4
Eastbound	7	3
Total	15	7

Table 11: Predicted Development Traffic split, Hazel Grove PM Peak



4.5.4. It can be seen from the above that the development traffic flows are very light, and it is not considered necessary to assign them at any junctions further than the Hazel Grove/Filbert Close tee junction.

4.5.5. Applying the above development flows to the year 2024 growthed figures (no development), the following table including development traffic is produced:-

	Hazel Grove NW (NW of Filbert Street)	Hazel Grove SE (SE of Filbert Street)	Filbert Close (south Hazel Grove)
07:45 – 08:45	81	101	57
17:15 – 18:15	86	83	55

Table 12: Growthed traffic flows to 2024, plus development traffic

#### 4.6. Traffic Impact

4.6.1. As previously discussed, redevelopment of the site is expected to generate additional two-way flows of 22 and 24 vehicles during the AM and PM peak periods respectively.

4.6.2. On Hazel Grove this will increase total flows over and above the 2024 'growthed' flows from 87 vehicles to 101 vehicles (14 vehicles) in the AM peak, and from 74 vehicles to 86 vehicles (12 vehicles) in the PM peak. This equates to a 16% increase in the AM peak and a 16% increase in the PM peak respectively. Whilst this is a significant increase in percentage terms, further comparison with the link flow capacities in Table 12 below demonstrates that 'with development 2024 plus development' flows will still be well within the link capacity of Hazel Grove (as defined in the DMRB).

Flow Capacity	One-Way (60%)	One-Way (40%)	Total Flow
Hazel Grove Width 5.0m	500	333	833

Table 13: Capacity of Hazel Grove (DMRB TA 79/99)

4.6.3. In the light of the relatively low background traffic levels on Hazel Grove, and very low development generated traffic, we consider that the traffic impact resulting from this development will not represent a 'severe' impact as referred to in the NPPF. In addition, inspection of the traffic flows/turning movements at the Filbert Close/Hazel Grove junction does not require Junction9 analysis in this instance.

- 4.6.4. Due to the negligible effects on traffic flows during the AM and PM peak periods, no improvements to the local highway network are considered necessary to mitigate vehicular traffic impact.

#### 4.7. Access by Large Vehicles

- 4.7.1. It is expected that the significant majority of vehicles associated with the site would be private cars of typical dimensions. A refuse vehicle would collect from the site once every two weeks. The type of refuse vehicle currently in operation within the WHBC Council area is a Dennis Eagle, which has dimensions of 9.59m x 2.53m.
- 4.7.2. The looped internal access road has been designed to accommodate visits by waste and emergency vehicles. Both are likely to be the largest vehicles accessing the site, albeit infrequently by emergency vehicles.
- 4.7.3. Drawing ST-2629-10 demonstrates that a vehicle of this size can access the site and leave in either direction in forward gear without need for reversing manoeuvres. The internal site layout will be designed to accommodate the turning requirements of the 9.59m long waste vehicle. A copy of the swept path drawing is attached in **Appendix J**.
- 4.7.4. The construction phase of the proposed development will also require access by large vehicles, albeit over a relatively short, controlled timescale.
- 4.7.5. A suitable Construction Traffic Management Plan will be required in due course. This would need to be reviewed and approved in advance of the works by the Local Planning Authority and Highway Authority. The plan will include aspects such as construction vehicle routing, working hours, vehicle types/frequency, noise and other issues such as site wheel wash facilities, dust etc. These measures would ensure the impact of construction traffic is minimised.

#### 4.8. Sustainable Transport

- 4.8.1. As previously stated, the site is reasonably well located in terms of sustainable transport, with local facilities and bus stops located within easy walking and cycling distance.
- 4.8.2. Bus services in the vicinity of the site are at a reasonable frequency for this location and stops are reachable on foot. The proposed development is not large enough to justify new or diverted bus services but additional custom will support the viability of existing services.

- 4.8.3. The nearest retail outlets are located at the Hilltop shopping Centre, about 550m walking distance to the north east.
- 4.8.4. The Dehavilland Primary School is located about 850m to the north east of the site.
- 4.8.5. The nearest main employment area is adjacent to Welham Green, about 1km - 2km away to the south east. There is a good quality existing footway network in the vicinity that provides links to this area, particularly for cyclists.
- 4.8.6. In order to promote access to/from the site by sustainable modes of transport a secondary cycle/pedestrian access off Lane End will be provided for pedestrians and cyclists only. This will provide a traffic free entrance/exit to the site and promote access on foot/by cycle via the lightly trafficked Lane End. This should enable easy access to the existing foot/cycle link along Roehyde Way, which in turn serves the bus stops and University of Hertfordshire Campus.

## 5. Conclusions

- 5.1.1. Stomor Ltd. has been commissioned by Lambert Smith Hampton, on behalf of Hertfordshire County Council, to prepare a Transport Statement (TS) for the proposed residential development on the former Hazel Grove Primary School playing field site off Filbert Close in Hatfield.
- 5.1.2. The whole site is located to the south west of Hazel Grove and Filbert Close, in the south west of Hatfield.
- 5.1.3. This TS is provided in support of an outline planning application associated with the redevelopment of the site for 39 dwellings with associated access.
- 5.1.4. The main site access will be to Hazel Grove via the existing Filbert Close access. This route will comprise a 5.5m wide road, with 2.0m wide footways to both sides. Visibility splays of 2.4m x 43m are achievable in both directions from the Filbert Close access on to Hazel Grove.
- 5.1.5. Swept path analysis has been undertaken for the maximum sized refuse vehicle currently in operation within the Welwyn Hatfield Borough Council and this demonstrates that the site access can accommodate the largest vehicle likely to access the site.
- 5.1.6. A secondary access for pedestrians and cyclists only will be provided into Lane End in the form of a 2.0m wide shared use route.
- 5.1.7. The proposed parking provision will be in accordance with WHBC requirements and will be shown in more detail with a site layout that accompanies a future full Planning Application.
- 5.1.8. The development site is reasonably well located in terms of sustainable transport with access to bus stops and a range of services and facilities on foot and by bicycle via a comprehensive footway network and on and off-road cycle routes. Access to local half hourly bus services is also possible on foot which provide connections to key destinations in Hatfield and beyond.
- 5.1.9. The proposals are expected to result in a small increase in traffic during peak hours which will have a minimal impact on key junctions in the area. Traffic flows on Filbert Close and Hazel Grove are very low and the proposed increase will not change this significantly.

5.1.10. Minor improvements are proposed on Filbert Close as part of the Access Strategy for the site as follows:

5.1.11. At the tee junction within the Filbert Close development, the white lining has been worn away. This should be reinstated.

5.1.12. Worn white lining to be renewed at the speed tables in Hazel Grove to the uncontrolled crossings each side of the Filbert Close/Hazel Grove junction.

5.1.13. In addition, a financial contribution could be made towards other potential improvements close to the site being promoted by Hertfordshire County Council via Urban Transport Plan or other programmes, subject to any contribution being fair and reasonable in scale. These are as follows:

- Possible widening to Lane End where possible, to make it more attractive to pedestrians and cyclists.
- Removal of cyclist restrictions in the eastern direction along the west section of Lane End.

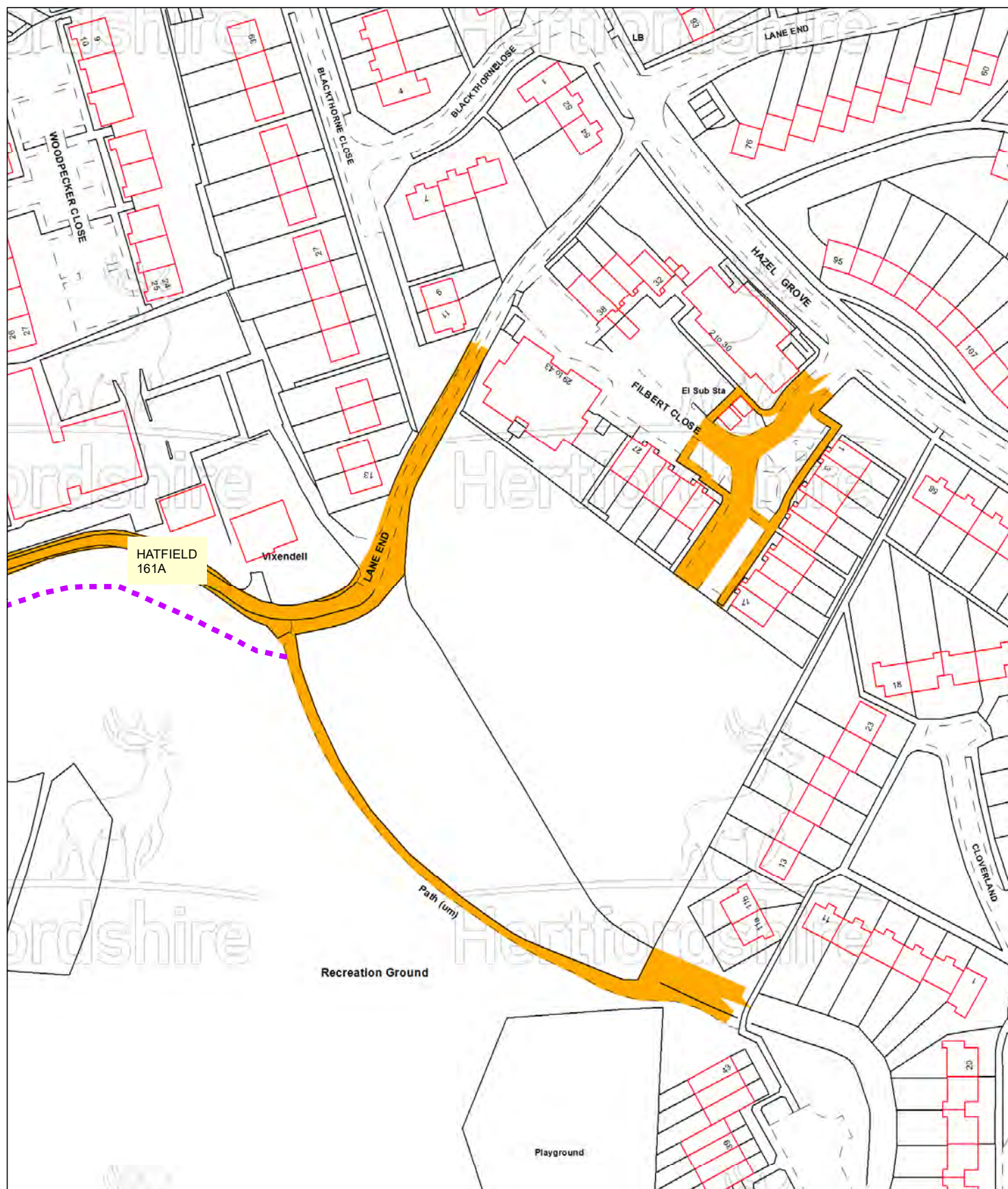
5.1.14. An Outline Construction Traffic Management Plan will be required in due course which sets out how the site might be accessed and managed during the construction phase.











# Former Hazel Grove School Playing Fields, Filbert Close, Hatfield

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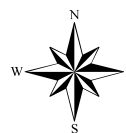
Produced by Highway  
Boundaries & Land Charges  
Hertfordshire County Council

Date: 15/08/2017

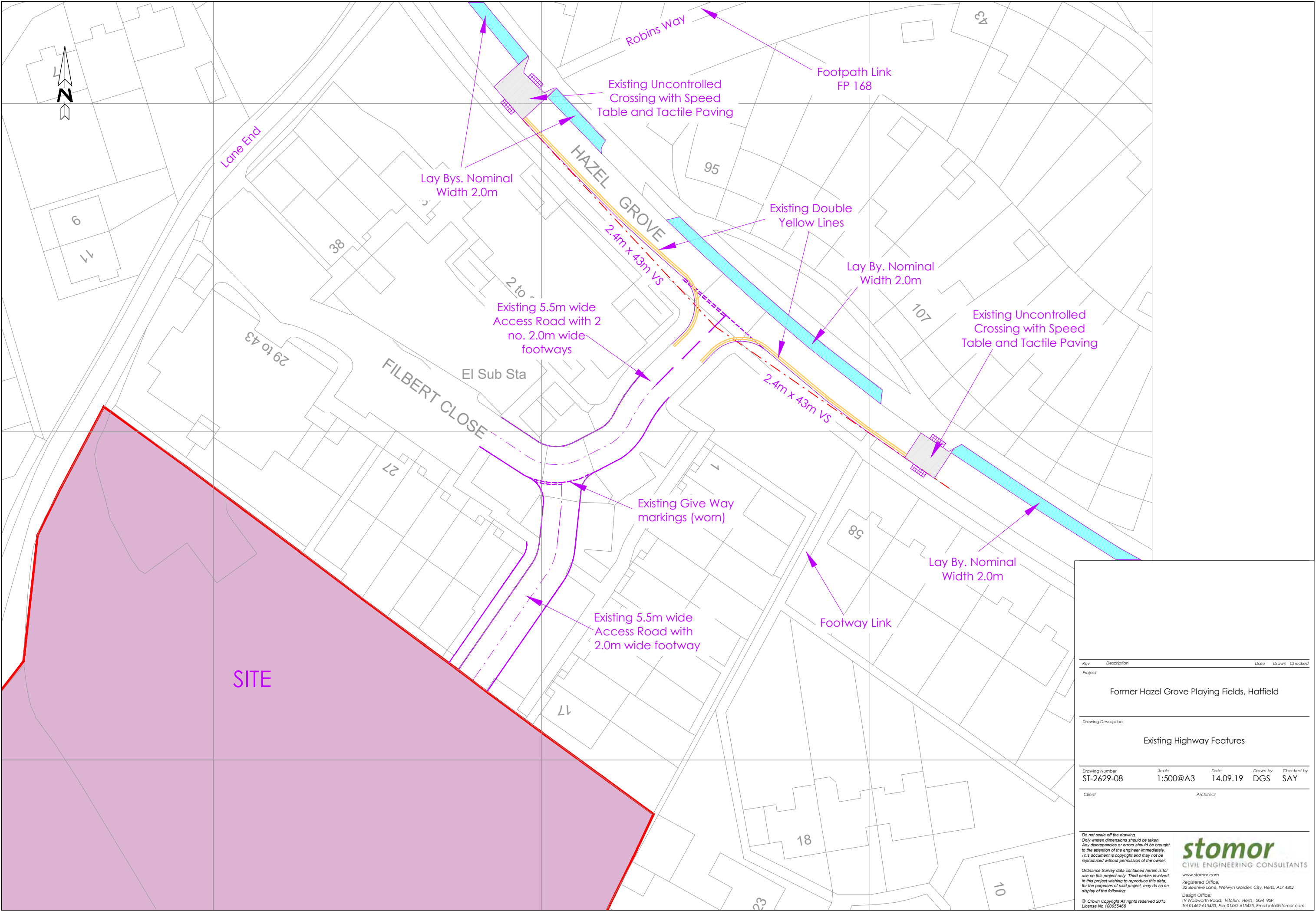
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Scale at A4  
**1:1,250**



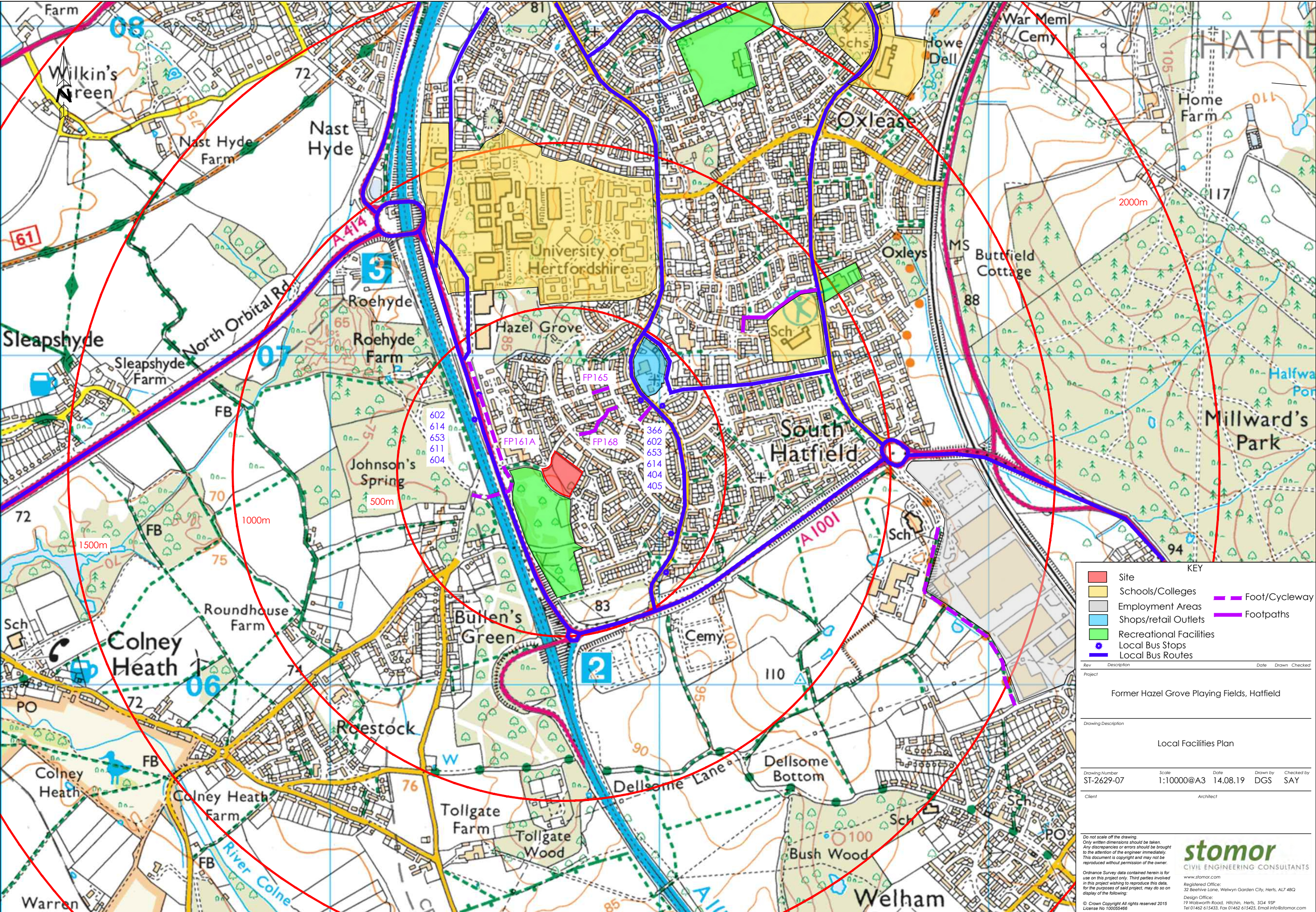




Rev	Description	Date	Drawn	Checked
Project				
Former Hazel Grove Playing Fields, Hatfield				
Drawing Description				
Existing Highway Features				
Drawing Number	Scale	Date	Drawn by	Checked by
ST-2629-08	1:500@A3	14.09.19	DGS	SAY
Client		Architect		







- KEY
- Site
  - Schools/Colleges
  - Employment Areas
  - Shops/retail Outlets
  - Recreational Facilities
  - Local Bus Stops
  - Local Bus Routes
  - Foot/Cycleway
  - Footpaths

Rev	Description	Date	Drawn	Checked
Project				
Former Hazel Grove Playing Fields, Hatfield				
Drawing Description				
Local Facilities Plan				
Drawing Number	Scale	Date	Drawn by	Checked by
ST-2629-07	1:10000@A3	14.08.19	DGS	SAY
Client	Architect			

Do not scale off the drawing.  
Only written dimensions should be taken.  
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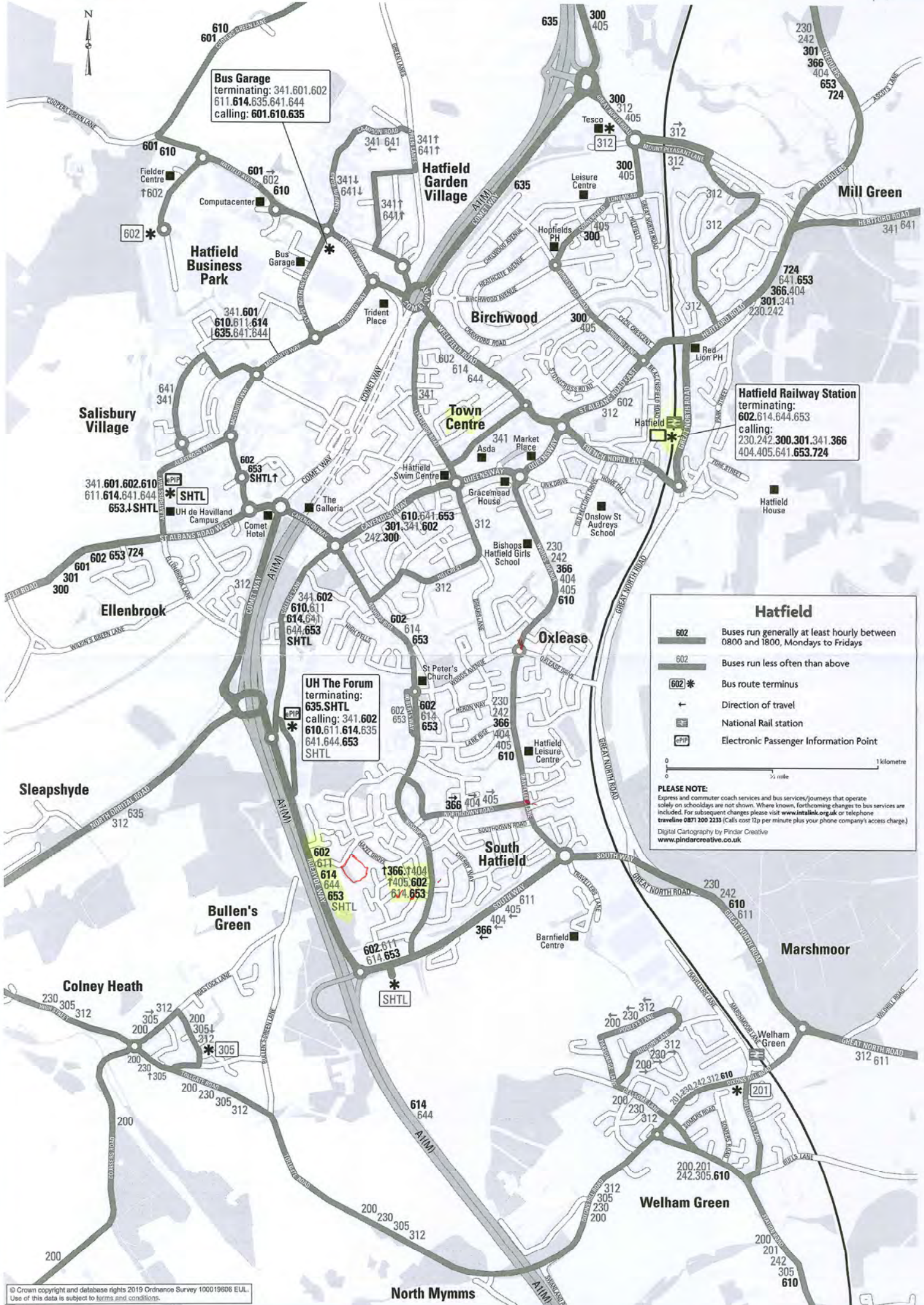
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Bus Garage  
terminating: 341.601.602  
611.614.635.641.644  
calling: 601.610.635

Hatfield Railway Station  
terminating:  
602.614.644.653  
calling:  
230.242.300.301.341.366  
404.405.641.653.724

UH The Forum  
terminating:  
635.SHTL  
calling: 341.602  
610.611.614.635  
641.644.653  
SHTL

### Hatfield

- 602** Buses run generally at least hourly between 0800 and 1800, Mondays to Fridays
- 602** Buses run less often than above
- 602\*** Bus route terminus
- Direction of travel
- NR** National Rail station
- ePIP** Electronic Passenger Information Point

0 1/2 mile 1 kilometre

**PLEASE NOTE:**  
Express and commuter coach services and bus services/journeys that operate solely on schooldays are not shown. Where known, forthcoming changes to bus services are included. For subsequent changes please visit [www.intalink.org.uk](http://www.intalink.org.uk) or telephone **travelling 0871 200 2233** (Calls cost 12p per minute plus your phone company's access charge.)  
Digital Cartography by Pindar Creative  
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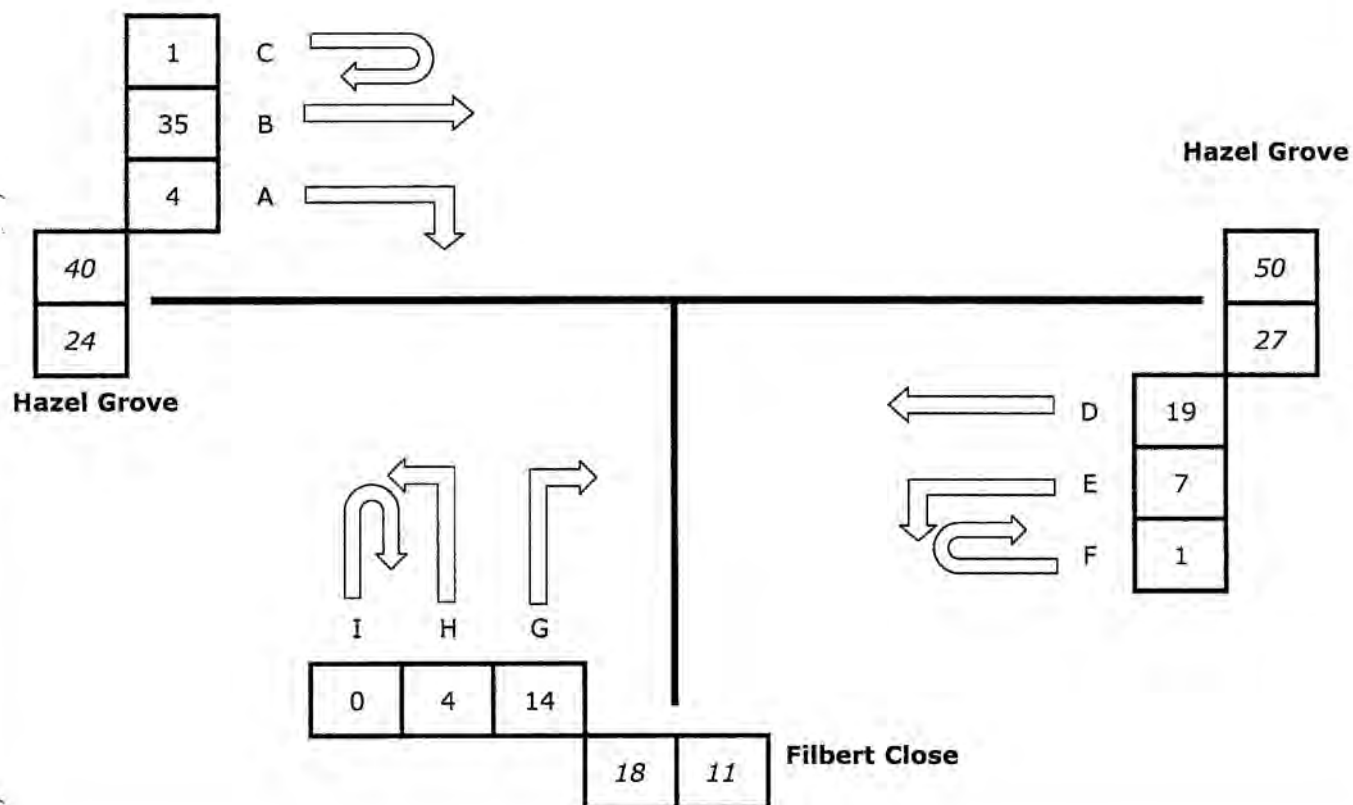




**Advanced Transport Research**  
**Hazel Grove/ Filbert Close**  
**Flow Diagram**

*Job Number & Name:* **15522 Hazel Grove PI**  
*Client:* **Stomor**  
*Date:* **Wednesday 18 Oct 2017**

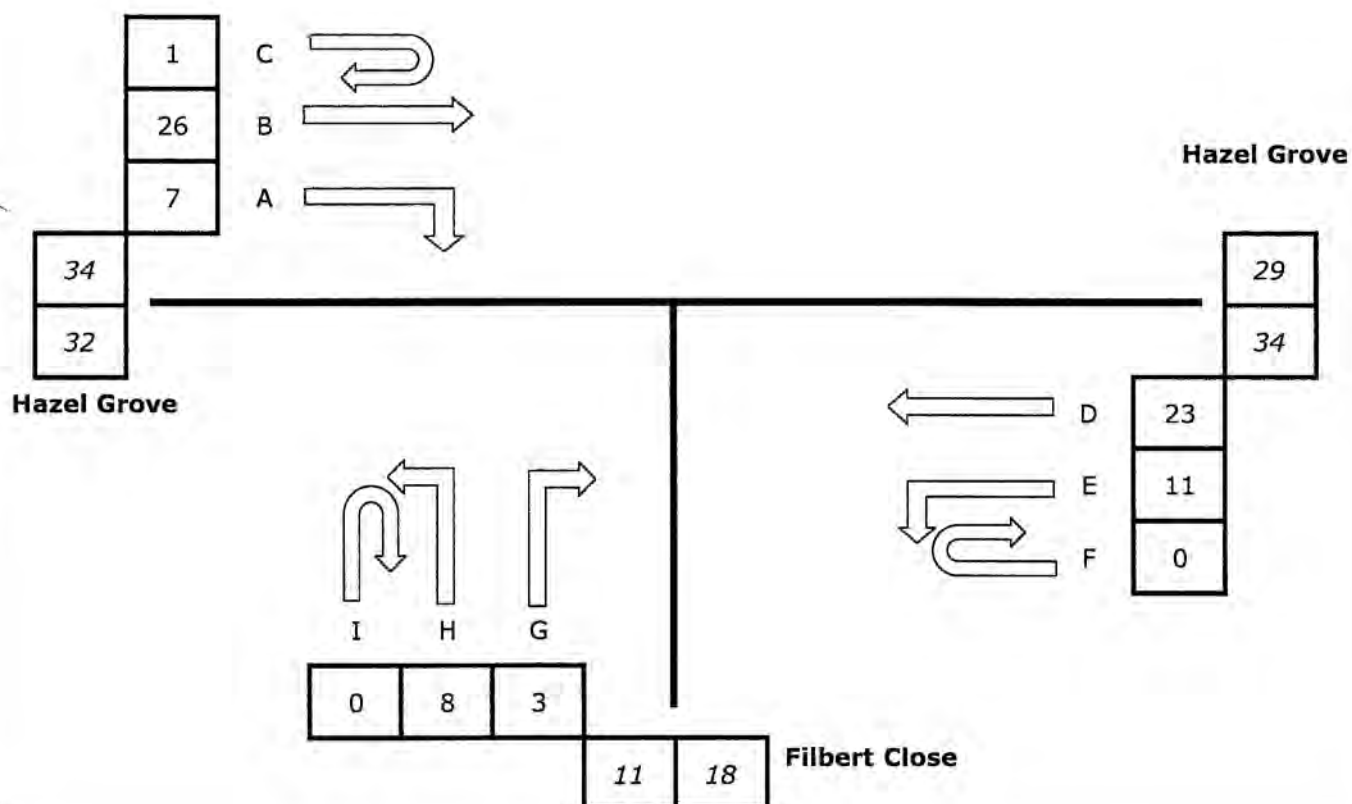
*Select Period* **0745 Hourly Total**



**Advanced Transport Research**  
**Hazel Grove/ Filbert Close**  
**Flow Diagram**

*Job Number & Name:* **15522 Hazel Grove Pl**  
*Client:* **Stomor**  
*Date:* **Wednesday 18 Oct 2017**

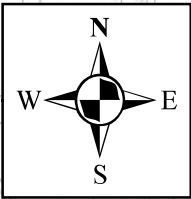
*Select Period* **1715 Hourly Total**







# Hazel Grove Hatfield



Legend

Accidents by Severity  
from 1 Jan 2014 to 31 Dec 2018

Fatal

Serious

Slight

Selection Boundary

File.	HC_77000017-03L 23808		
	Prepared	Checked	Approved
Initials	ACN	ACN	
Date	08/08/2019	08/08/2019	



**Full Non Confidential Accident Report**

Date Produced: 06-Aug-19

Set Name (if saved) : 23808

Set Total : 4

**Accident Details:**

Acc Ref:	2018-410339437	1st / 2nd Rd:	0U1362/ 0U279/1	Jun Detail:	T	Weather:	Fine	Num Cas:	1
Day of Week:	Thu	Parish:		Jun Control:	Giveway	Light:	Day	Num Peds:	0
Date:	18/10/2018 17:45:00	District:	WelHat	Spec Conditions:	None	Road Surface:	Dry	Num Vehicles:	2
Acc Severity:	Slight	Speed Limit:	30mph	C/way Hazard:	None	C/way Type:	Single	Ped Xing:	Npernox
U1326 Hazel Grove Hatfield Approx 20m West J/w U279 Furzen Crescent								On Site:	Yes
Easting:	521906	Northing:	206662						

**Casualty Details**

Acc Ref:	2018-410339437	Cas Class:	Driver	Car Passenger:	No	Cas Severity:	Slight	Ped Movement:	Notped
Veh Ref:	2	Cas Age:	10	PSV Passenger:	No	Road User Class:	Cyclists	Ped Location:	Notped
Cas Ref:	1	Cas Gender:	Male	Seat Belt:	Notapp	School Pupil:		Ped Work on Rd:	Notped

**Vehicle Details**

Acc Ref:	151644	Manoeuvre:	Ahead	Skidding:	None	Impact Point:	Front	Driver Breath Test:	Negati	Driver Age:	35
Veh Ref:	1	Location:	Carw	Object in Cway:	None	From:	W	Hit and Run:	Nothtrun		
Veh Type:	Car	Junction:	Approach	Object off Cway	None	To:	E	Driver Gender:	Male		
Foreign Veh:		Towing;	None	velcwy	No	J Purpose:	Other	Driver Severity:	None		
Acc Ref:		Manoeuvre:	Ahead	Skidding:	None	Impact Point:	Front	Driver Breath Test:	Notapp	Driver Age:	10
Veh Ref:	2	Location:	Carw	Object in Cway:	None	From:	S	Hit and Run:	Nothtrun		
Veh Type:	Bicycle	Junction:	Approach	Object off Cway	None	To:	N	Driver Gender:	Male		
Foreign Veh:		Towing;	None	velcwy	No	J Purpose:	Unknown	Driver Severity:	Slight		

### Accident Details:

<b>Acc Ref:</b>	2018-410265672	<b>1st / 2nd Rd:</b>	0U1362/ 0U560/1	<b>Jun Detail:</b>	T	<b>Weather:</b>	Fine	<b>Num Cas:</b>	1
<b>Day of Week:</b>	Tue	<b>Parish:</b>		<b>Jun Control:</b>	Giveway	<b>Light:</b>	Day	<b>Num Peds:</b>	0
<b>Date:</b>	30/01/2018 10:00:00	<b>District:</b>	WelHat	<b>Spec Conditions:</b>	None	<b>Road Surface:</b>	Dry	<b>Num Vehicles:</b>	2
<b>Acc Severity:</b>	Slight	<b>Speed Limit:</b>	30mph	<b>C/way Hazard:</b>	None	<b>C/way Type:</b>	Single	<b>Ped Xing:</b>	Npernox
U1362 Hazel Grove Hatfield O/s No 70 & Approx 20m Nw J/w U560 Redhall Drive								<b>On Site:</b>	No
<b>Eastings:</b>	521847	<b>Northing:</b>	206670						

### Casualty Details

<b>Acc Ref:</b>	2018-410265672	<b>Cas Class:</b>	Driver	<b>Car Passenger:</b>	No	<b>Cas Severity:</b>	Slight	<b>Ped Movement:</b>	Notped
<b>Veh Ref:</b>	2	<b>Cas Age:</b>	46	<b>PSV Passenger:</b>	No	<b>Road User Class:</b>	Other Vehicle Tynes	<b>Ped Location:</b>	Notped
<b>Cas Ref:</b>	2	<b>Cas Gender:</b>	Female	<b>Seat Belt:</b>	Notapp	<b>School Pupil:</b>		<b>Ped Work on Rd:</b>	Notped

### Vehicle Details

<b>Acc Ref:</b>	150370	<b>Manoeuvre:</b>	Reverse	<b>Skidding:</b>	None	<b>Impact Point:</b>	Back	<b>Driver Breath Test:</b>	Notcon	<b>Driver Age:</b>	76
<b>Veh Ref:</b>	1	<b>Location:</b>	Fway	<b>Object in Cway:</b>	None	<b>From:</b>	Sw	<b>Hit and Run:</b>	Hit&run		
<b>Veh Type:</b>	Car	<b>Junction:</b>	Emain	<b>Object off Cway</b>	None	<b>To:</b>	Ne	<b>Driver Gender:</b>	Male		
<b>Foreign Veh:</b>		<b>Towing;</b>	None	<b>velcwy</b>	No	<b>J Purpose:</b>	Other	<b>Driver Severity:</b>	None		
<b>Acc Ref:</b>		<b>Manoeuvre:</b>	Ahead	<b>Skidding:</b>	None	<b>Impact Point:</b>	Nearside	<b>Driver Breath Test:</b>	Notcon	<b>Driver Age:</b>	46
<b>Veh Ref:</b>	2	<b>Location:</b>	Fway	<b>Object in Cway:</b>	None	<b>From:</b>	Se	<b>Hit and Run:</b>	Nothtrun		
<b>Veh Type:</b>	Mobscoot	<b>Junction:</b>	Middle	<b>Object off Cway</b>	None	<b>To:</b>	Nw	<b>Driver Gender:</b>	Female		
<b>Foreign Veh:</b>		<b>Towing;</b>	None	<b>velcwy</b>	No	<b>J Purpose:</b>	Unknown	<b>Driver Severity:</b>	Slight		

***Accident Details:***

<b>Acc Ref:</b>	2017-410183433	<b>1st / 2nd Rd:</b>	0U1362/ NONE	<b>Jun Detail:</b>	Notjunct	<b>Weather:</b>	Fine	<b>Num Cas:</b>	1
<b>Day of Week:</b>	Fri	<b>Parish:</b>		<b>Jun Control:</b>	Notjunct	<b>Light:</b>	Darklit	<b>Num Peds:</b>	0
<b>Date:</b>	28/04/2017 21:29:00	<b>District:</b>	WelHat	<b>Spec Conditions:</b>	None	<b>Road Surface:</b>	Dry	<b>Num Vehicles:</b>	3
<b>Acc Severity:</b>	Slight	<b>Speed Limit:</b>	30mph	<b>C/way Hazard:</b>	None	<b>C/way Type:</b>	Single	<b>Ped Xing:</b>	Npernox
U1362 Hazel Grove Hatfield O/s No 115 & Approx 55m Nw J/w U560 Redhall Drive								<b>On Site:</b>	Yes
<b>Eastings:</b>	521823	<b>Northing:</b>	206690						

***Casualty Details***

<b>Acc Ref:</b>	2017-410183433	<b>Cas Class:</b>	Passenge	<b>Car Passenger:</b>	Frontsea	<b>Cas Severity:</b>	Slight	<b>Ped Movement:</b>	Notped
<b>Veh Ref:</b>	1	<b>Cas Age:</b>	42	<b>PSV Passenger:</b>	No	<b>Road User Class:</b>	Car Users	<b>Ped Location:</b>	Notped
<b>Cas Ref:</b>	1	<b>Cas Gender:</b>	Female	<b>Seat Belt:</b>	Unknown	<b>School Pupil:</b>		<b>Ped Work on Rd:</b>	Notped

***Vehicle Details***

<b>Acc Ref:</b>	148597	<b>Manoeuvre:</b>	Ahead	<b>Skidding:</b>	None	<b>Impact Point:</b>	Front	<b>Driver Breath Test:</b>	Notcon	<b>Driver Age:</b>	41
<b>Veh Ref:</b>	1	<b>Location:</b>	Carw	<b>Object in Cway:</b>	Parked	<b>From:</b>	Nw	<b>Hit and Run:</b>	Hit&run		
<b>Veh Type:</b>	Car	<b>Junction:</b>	Notjunct	<b>Object off Cway</b>	None	<b>To:</b>	Se	<b>Driver Gender:</b>	Female		
<b>Foreign Veh:</b>		<b>Towing;</b>	None	<b>velcwy</b>	No	<b>J Purpose:</b>	Other	<b>Driver Severity:</b>	None		
<b>Acc Ref:</b>		<b>Manoeuvre:</b>	Parked	<b>Skidding:</b>	None	<b>Impact Point:</b>	Nearside	<b>Driver Breath Test:</b>	Notcon	<b>Driver Age:</b>	
<b>Veh Ref:</b>	2	<b>Location:</b>	Carw	<b>Object in Cway:</b>	Parked	<b>From:</b>	P	<b>Hit and Run:</b>	Nothtrun		
<b>Veh Type:</b>	Car	<b>Junction:</b>	Notjunct	<b>Object off Cway</b>	None	<b>To:</b>	P	<b>Driver Gender:</b>	Unknown		
<b>Foreign Veh:</b>		<b>Towing;</b>	None	<b>velcwy</b>	No	<b>J Purpose:</b>	Unknown	<b>Driver Severity:</b>	None		

***Accident Details:***

<b>Acc Ref:</b>	2015-4100B0381	<b>1st / 2nd Rd:</b>	0U1362/ 0U496/1	<b>Jun Detail:</b>	T	<b>Weather:</b>	Fine	<b>Num Cas:</b>	1
<b>Day of Week:</b>	Tue	<b>Parish:</b>	Hatfield	<b>Jun Control:</b>	Giveway	<b>Light:</b>	Darklit	<b>Num Peds:</b>	0
<b>Date:</b>	16/06/2015 21:35:00	<b>District:</b>	WelHat	<b>Spec Conditions:</b>	None	<b>Road Surface:</b>	Dry	<b>Num Vehicles:</b>	2
<b>Acc Severity:</b>	Slight	<b>Speed Limit:</b>	30mph	<b>C/way Hazard:</b>	None	<b>C/way Type:</b>	Single	<b>Ped Xing:</b>	Npernox
U1362 Hazel Grove Hatfield J/w U496 Newstead								<b>On Site:</b>	Yes
<b>Eastings:</b>	521692	<b>Northing:</b>	206846						

***Casualty Details***

<b>Acc Ref:</b>	2015-4100B0381	<b>Cas Class:</b>	Passenge	<b>Car Passenger:</b>	Frontsea	<b>Cas Severity:</b>	Slight	<b>Ped Movement:</b>	Notped
<b>Veh Ref:</b>	2	<b>Cas Age:</b>	18	<b>PSV Passenger:</b>	No	<b>Road User Class:</b>	Car Users	<b>Ped Location:</b>	Notped
<b>Cas Ref:</b>	1	<b>Cas Gender:</b>	Female	<b>Seat Belt:</b>	Unknown	<b>School Pupil:</b>		<b>Ped Work on Rd:</b>	Notped

***Vehicle Details***

<b>Acc Ref:</b>	143579	<b>Manoeuvre:</b>	Reverse	<b>Skidding:</b>	None	<b>Impact Point:</b>	Back	<b>Driver Breath Test:</b>	Notreq	<b>Driver Age:</b>	19
<b>Veh Ref:</b>	1	<b>Location:</b>	Carw	<b>Object in Cway:</b>	Parked	<b>From:</b>	Nw	<b>Hit and Run:</b>	Hit&run		
<b>Veh Type:</b>	Car	<b>Junction:</b>	Exit	<b>Object off Cway</b>	None	<b>To:</b>	Se	<b>Driver Gender:</b>	Male		
<b>Foreign Veh:</b>		<b>Towing;</b>	None	<b>velcwy</b>	No	<b>J Purpose:</b>	Other	<b>Driver Severity:</b>	None		
<b>Acc Ref:</b>		<b>Manoeuvre:</b>	Parked	<b>Skidding:</b>	None	<b>Impact Point:</b>	Front	<b>Driver Breath Test:</b>	Notreq	<b>Driver Age:</b>	26
<b>Veh Ref:</b>	2	<b>Location:</b>	Carw	<b>Object in Cway:</b>	None	<b>From:</b>	P	<b>Hit and Run:</b>	Nothtrun		
<b>Veh Type:</b>	Car	<b>Junction:</b>	Exit	<b>Object off Cway</b>	None	<b>To:</b>	P	<b>Driver Gender:</b>	Male		
<b>Foreign Veh:</b>		<b>Towing;</b>	None	<b>velcwy</b>	No	<b>J Purpose:</b>	Other	<b>Driver Severity:</b>	None		











**schedule of accommodation**

unit type	gfa
1-bed flat	45 sq.m
2-bed flat	63 sq.m
2-bed house	67 sq.m
3-bed house	85 sq.m
4-bed house	120 sq.m

**total number of units: 39**

**mix ratio:**  
04x1-bed flats = 10%  
16x 2-bed flats = 41%  
06x2-bed house = 15%  
08x3-bed house = 21%  
05x4-bed house = 13%

**total number of parking spaces: 71**

**Key**

- Cat. A tree to be retained
- Cat. B tree to be removed
- Cat. B tree to be retained
- Proposed Tree
- Existing Service Water Pipe
- Existing Public Sewer Pipe
- Swale
- Retention Basin

apartment block , first floor plan  
1:500

rev	date	by	description	chkd

**cpmg** ARCHITECTURE INTERIOR DESIGN VISUALISATION

**CPMG Architects Ltd**  
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London 31 / 35 Kirby Street, London, EC1N 8TE tel: 0207 492 1805  
www.cpmg-architects.com enquiries@cpmg-architects.com

job title  
**Filbert Close  
Hatfield**

drawing title  
**Site Plan as Proposed**

drawing status  
**PLANNING SUBMISSION**

drawn by	date	chk'd by	scale
RL	17/08/2018	SM	1:250

job no.	drawing no.	revision	media
8230	70-008	P3	A1

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All dimensions to be checked on site.  
ISO 9001: 2015. Quality Management  
ISO 14001: 2015. Environmental Management  
PAS 1192-2: 2013. Building Information Modelling



## Duncan Stoten

---

**From:** Alan Oggelsby <Alan.Oggelsby@hertfordshire.gov.uk>  
**Sent:** 06 August 2019 09:56  
**To:** Duncan Stoten  
**Subject:** RE: Former Hazel Grove School Playing Fields, Filbert Close, Hatfield [Filed 19 Aug 2019 08:56]

Duncan,  
I confirm that the access arrangements shown on layout plan, drawing number 8230 70-008 Rev P2, are acceptable in principle.  
However, as before that the parking layout turning area for Plot 11 looks inadequate and the issue needs addressing.

Regards  
Alan.

---

**From:** Duncan Stoten <D.Stoten@stomor.com>  
**Sent:** 05 August 2019 16:41  
**To:** Alan Oggelsby <Alan.Oggelsby@hertfordshire.gov.uk>  
**Cc:** Nicola Morris <N.Morris@stomor.com>  
**Subject:** Former Hazel Grove School Playing Fields, Filbert Close, Hatfield

Dear Alan,

I refer to our previous email correspondence in October 2018, relating to the highway proposals for the above site. (Our email dated 8<sup>th</sup> October 2018 and your response dated 9<sup>th</sup> October 2018).

This correspondence included a CPMG Architects Ltd layout drawing number 8230 70-008 Rev P1, showing a residential development of 40 units.

Since this correspondence took place, our Clients have carried out further consultations with WHBC, which has resulted in housing layout amendments on the site.

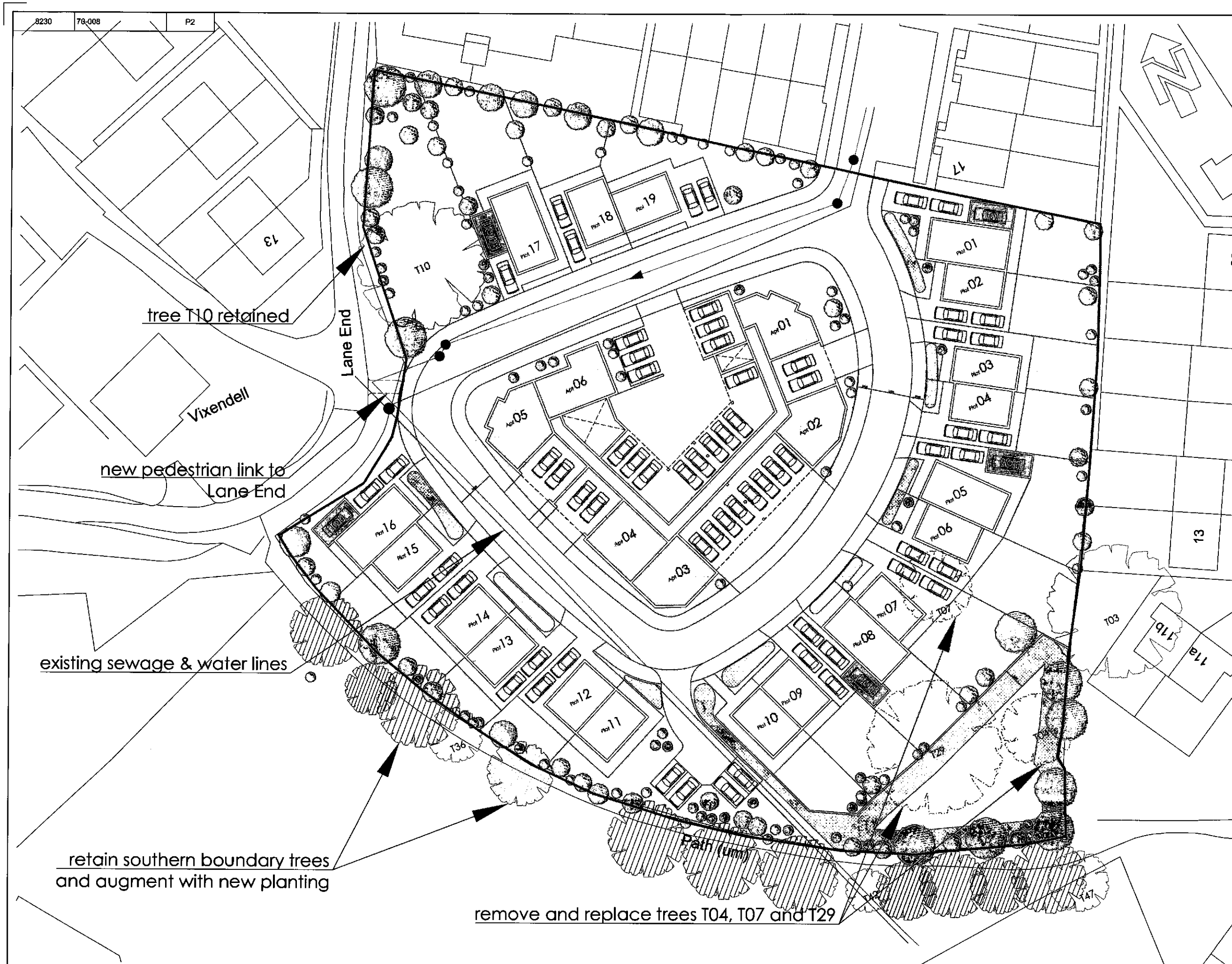
I confirm that we have been commissioned once again by Lambert Smith Hampton, on behalf of Hertfordshire County Council, to proceed with preparation of a Transport Statement associated with a new layout of 39 residential units. Please see attached the updated development illustrative layout plan, drawing number 8230 70-008 Rev P2. It can be seen that the internal road layout is similar to that previously proposed, which was agreed in principle.

The features are similar to those previously proposed as follows:-

- A single point of vehicular access from Filbert Close.
- A 5.5m wide access road with 2.0m wide footways on both sides.
- 2 no. speed control bends within the site, with 12.0m radius centre line.

The road layout has been designed to retain existing public sewers within the site, which would be extremely expensive to move or divert.

I would be grateful if you could confirm that the updated proposed access arrangements are acceptable in principle.



**schedule of accommodation**

unit type	gfa
1-bed flat	45 sq.m
2-bed flat	83 sq.m
2-bed house	67 sq.m
3-bed house	85 sq.m
4-bed house	120 sq.m

**total number of units: 39**

**mix ratio:**  
04x1-bed flats = 10%  
16x2-bed flats = 41%  
06x2-bed house = 15%  
06x3-bed house = 21%  
06x4-bed house = 13%

**total number of parking spaces: 71**

**Key**

- Cat. A tree to be retained
- Cat. B tree to be removed
- Cat. B tree to be retained
- Proposed Tree
- Existing Service Water Pipe
- Existing Public Sewer Pipe
- Scale
- Retention Basin

**apartment block, first floor plan**  
1:500

rev	date	by	description	chld

**cpmg** ARCHITECTURE INTERIOR DESIGN VISUALISATION

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www.cpmg-architects.com enquiries@cpmg-architects.com

**Job title**  
**Filbert Close  
Hatfield**

**drawing title**  
**Site Plan as Proposed  
Alternative Option**

**drawing status**  
**PRE-PLANNING**

drawn by	date	chk'd by	scale
RL	17/08/2018	SM	1:250

job no.	drawing no.	revision	media
8230	70-008	P2	A1

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ISO 9001:2015 Quality Management  
ISO 14001:2015 Environmental Management  
PAS 1192:2013 Building Information Modelling

Please give me a call if you wish to discuss or have any queries.

Best regards,

Duncan Stoten

Duncan Stoten BSc CEng MICE MCIHT

**Director**

[d.stoten@stomor.com](mailto:d.stoten@stomor.com)



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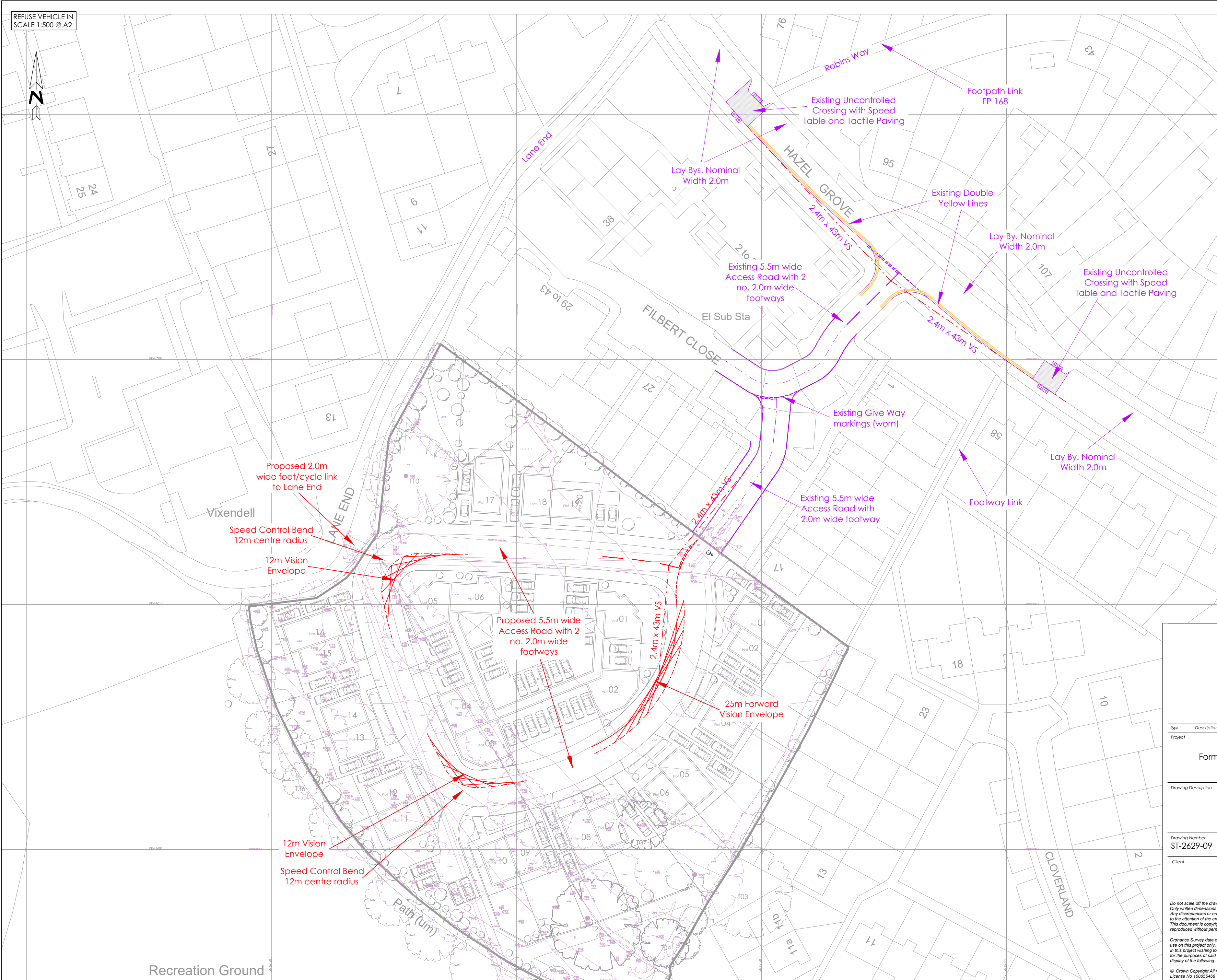
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Calculation Reference: AUDIT-700101-160811-0819

**TRIP RATE CALCULATION SELECTION PARAMETERS:**

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

**MULTI-MODAL VEHICLES**Selected regions and areas:

<b>02 SOUTH EAST</b>	
ES EAST SUSSEX	1 days
SC SURREY	1 days
<b>03 SOUTH WEST</b>	
DC DORSET	1 days
SM SOMERSET	1 days
WL WILTSHIRE	1 days
<b>06 WEST MIDLANDS</b>	
SH SHROPSHIRE	1 days
WM WEST MIDLANDS	1 days
WO WORCESTERSHIRE	1 days
<b>07 YORKSHIRE &amp; NORTH LINCOLNSHIRE</b>	
NY NORTH YORKSHIRE	2 days
<b>08 NORTH WEST</b>	
CH CHESHIRE	1 days
GM GREATER MANCHESTER	1 days
<b>09 NORTH</b>	
CB CUMBRIA	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: 23 to 99 (units: )  
 Range Selected by User: 20 to 100 (units: )

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/06 to 12/11/15

*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	2 days
Wednesday	2 days
Thursday	4 days
Friday	2 days

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

Selected survey types:

Manual count	14 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 14

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

*Selected Location Sub Categories:*

*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:

C1	1 days
C3	13 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:

1,001 to 5,000	2 days
5,001 to 10,000	4 days
10,001 to 15,000	3 days
15,001 to 20,000	2 days
20,001 to 25,000	2 days
25,001 to 50,000	1 days

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

#### Population within 5 miles:

5,001 to 25,000	1 days
25,001 to 50,000	2 days
50,001 to 75,000	1 days
75,001 to 100,000	4 days
100,001 to 125,000	3 days
250,001 to 500,000	2 days
500,001 or More	1 days

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

#### Car ownership within 5 miles:

0.6 to 1.0	2 days
1.1 to 1.5	12 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:

Yes	1 days
No	13 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

<b>1</b>	<b>CB-03-A-03</b>	<b>SEMI DETACHED</b>		<b>CUMBRIA</b>
	HAWKSHEAD AVENUE			
	WORKINGTON			
	Edge of Town			
	Residential Zone			
	Total Number of dwellings:	40		
	Survey date: THURSDAY	20/11/08		Survey Type: MANUAL
<b>2</b>	<b>CB-03-A-04</b>	<b>SEMI DETACHED</b>		<b>CUMBRIA</b>
	MOORCLOSE ROAD			
	SALTERBACK			
	WORKINGTON			
	Edge of Town			
	No Sub Category			
	Total Number of dwellings:	82		
	Survey date: FRIDAY	24/04/09		Survey Type: MANUAL
<b>3</b>	<b>CH-03-A-09</b>	<b>TERRACED HOUSES</b>		<b>CHESHIRE</b>
	GREYSTOKE ROAD			
	HURDSFIELD			
	MACCLESFIELD			
	Edge of Town			
	Residential Zone			
	Total Number of dwellings:	24		
	Survey date: MONDAY	24/11/14		Survey Type: MANUAL
<b>4</b>	<b>DC-03-A-08</b>	<b>BUNGALOWS</b>		<b>DORSET</b>
	HURSTDENE ROAD			
	CASTLE LANE WEST			
	BOURNEMOUTH			
	Edge of Town			
	Residential Zone			
	Total Number of dwellings:	28		
	Survey date: MONDAY	24/03/14		Survey Type: MANUAL
<b>5</b>	<b>ES-03-A-02</b>	<b>PRIVATE HOUSING</b>		<b>EAST SUSSEX</b>
	SOUTH COAST ROAD			
	PEACEHAVEN			
	Edge of Town			
	Residential Zone			
	Total Number of dwellings:	37		
	Survey date: FRIDAY	18/11/11		Survey Type: MANUAL
<b>6</b>	<b>GM-03-A-10</b>	<b>DETACHED/SEMI</b>		<b>GREATER MANCHESTER</b>
	BUTT HILL DRIVE			
	PRESTWICH			
	MANCHESTER			
	Edge of Town			
	Residential Zone			
	Total Number of dwellings:	29		
	Survey date: WEDNESDAY	12/10/11		Survey Type: MANUAL
<b>7</b>	<b>NY-03-A-10</b>	<b>HOUSES AND FLATS</b>		<b>NORTH YORKSHIRE</b>
	BOROUGHBRIDGE ROAD			
	RIPON			
	Edge of Town			
	No Sub Category			
	Total Number of dwellings:	71		
	Survey date: TUESDAY	17/09/13		Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

<b>8</b>	<b>NY-03-A-11</b>	<b>PRIVATE HOUSING</b>	<b>NORTH YORKSHIRE</b>
	HORSEFAIR		
	BOROUGHBRIDGE		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	23	
	Survey date: WEDNESDAY	18/09/13	Survey Type: MANUAL
<b>9</b>	<b>SC-03-A-04</b>	<b>DETACHED &amp; TERRACED</b>	<b>SURREY</b>
	HIGH ROAD		
	BYFLEET		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	71	
	Survey date: THURSDAY	23/01/14	Survey Type: MANUAL
<b>10</b>	<b>SH-03-A-05</b>	<b>SEMI-DETACHED/TERRACED</b>	<b>SHROPSHIRE</b>
	SANDCROFT		
	SUTTON HILL		
	TELFORD		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	54	
	Survey date: THURSDAY	24/10/13	Survey Type: MANUAL
<b>11</b>	<b>SM-03-A-01</b>	<b>DETACHED &amp; SEMI</b>	<b>SOMERSET</b>
	WEMBDON ROAD		
	NORTHFIELD		
	BRIDGWATER		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	33	
	Survey date: THURSDAY	24/09/15	Survey Type: MANUAL
<b>12</b>	<b>WL-03-A-01</b>	<b>SEMI D./TERRACED W. BASSETT</b>	<b>WILTSHIRE</b>
	MAPLE DRIVE		
	WOOTTON BASSETT		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	99	
	Survey date: MONDAY	02/10/06	Survey Type: MANUAL
<b>13</b>	<b>WM-03-A-03</b>	<b>MIXED HOUSING</b>	<b>WEST MIDLANDS</b>
	BASELEY WAY		
	ROWLEYS GREEN		
	COVENTRY		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	84	
	Survey date: MONDAY	24/09/07	Survey Type: MANUAL
<b>14</b>	<b>WO-03-A-02</b>	<b>SEMI DETACHED</b>	<b>WORCESTERSHIRE</b>
	MEADOWHILL ROAD		
	REDDITCH		
	Edge of Town		
	No Sub Category		
	Total Number of dwellings:	48	
	Survey date: TUESDAY	02/05/06	Survey Type: MANUAL

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

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

**MULTI-MODAL VEHICLES****Calculation factor: 1 DWELLS****BOLD print indicates peak (busiest) period**

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	14	52	0.082	14	52	0.290	14	52	0.372
08:00 - 09:00	14	52	0.162	<b>14</b>	<b>52</b>	<b>0.398</b>	14	52	0.560
09:00 - 10:00	14	52	0.167	14	52	0.232	14	52	0.399
10:00 - 11:00	14	52	0.136	14	52	0.154	14	52	0.290
11:00 - 12:00	14	52	0.195	14	52	0.189	14	52	0.384
12:00 - 13:00	14	52	0.194	14	52	0.162	14	52	0.356
13:00 - 14:00	14	52	0.169	14	52	0.183	14	52	0.352
14:00 - 15:00	14	52	0.191	14	52	0.192	14	52	0.383
15:00 - 16:00	14	52	0.264	14	52	0.198	14	52	0.462
16:00 - 17:00	14	52	0.315	14	52	0.173	14	52	0.488
17:00 - 18:00	<b>14</b>	<b>52</b>	<b>0.387</b>	14	52	0.174	<b>14</b>	<b>52</b>	<b>0.561</b>
18:00 - 19:00	14	52	0.257	14	52	0.159	14	52	0.416
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.519			2.504			5.023

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: 23 - 99 (units: )  
 Survey date range: 01/01/06 - 12/11/15  
 Number of weekdays (Monday-Friday): 14  
 Number of Saturdays: 0  
 Number of Sundays: 0  
 Surveys automatically removed from selection: 1  
 Surveys manually removed from selection: 0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are 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/A - HOUSES 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	14	52	0.006	14	52	0.007	14	52	0.013
08:00 - 09:00	<b>14</b>	<b>52</b>	<b>0.011</b>	<b>14</b>	<b>52</b>	<b>0.010</b>	<b>14</b>	<b>52</b>	<b>0.021</b>
09:00 - 10:00	14	52	0.007	14	52	0.010	14	52	0.017
10:00 - 11:00	14	52	0.003	14	52	0.003	14	52	0.006
11:00 - 12:00	14	52	0.006	14	52	0.004	14	52	0.010
12:00 - 13:00	14	52	0.006	14	52	0.004	14	52	0.010
13:00 - 14:00	14	52	0.003	14	52	0.004	14	52	0.007
14:00 - 15:00	14	52	0.007	14	52	0.006	14	52	0.013
15:00 - 16:00	14	52	0.008	14	52	0.008	14	52	0.016
16:00 - 17:00	14	52	0.008	14	52	0.004	14	52	0.012
17:00 - 18:00	14	52	0.003	14	52	0.001	14	52	0.004
18:00 - 19:00	14	52	0.004	14	52	0.006	14	52	0.010
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.072			0.067			0.139

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: 23 - 99 (units: )  
 Survey date range: 01/01/06 - 12/11/15  
 Number of weekdays (Monday-Friday): 14  
 Number of Saturdays: 0  
 Number of Sundays: 0  
 Surveys automatically removed from selection: 1  
 Surveys manually removed from selection: 0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are 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/A - HOUSES PRIVATELY OWNED

**MULTI-MODAL OGVS****Calculation factor: 1 DWELLS****BOLD print indicates peak (busiest) period**

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	14	52	0.001	14	52	0.001	14	52	0.002
08:00 - 09:00	14	52	0.001	14	52	0.001	14	52	0.002
09:00 - 10:00	<b>14</b>	<b>52</b>	<b>0.003</b>	<b>14</b>	<b>52</b>	<b>0.003</b>	<b>14</b>	<b>52</b>	<b>0.006</b>
10:00 - 11:00	14	52	0.003	14	52	0.003	14	52	0.006
11:00 - 12:00	14	52	0.001	14	52	0.001	14	52	0.002
12:00 - 13:00	14	52	0.003	14	52	0.003	14	52	0.006
13:00 - 14:00	14	52	0.001	14	52	0.000	14	52	0.001
14:00 - 15:00	14	52	0.000	14	52	0.001	14	52	0.001
15:00 - 16:00	14	52	0.001	14	52	0.001	14	52	0.002
16:00 - 17:00	14	52	0.000	14	52	0.001	14	52	0.001
17:00 - 18:00	14	52	0.001	14	52	0.000	14	52	0.001
18:00 - 19:00	14	52	0.000	14	52	0.000	14	52	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.015			0.015			0.030

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: 23 - 99 (units: )  
 Survey date range: 01/01/06 - 12/11/15  
 Number of weekdays (Monday-Friday): 14  
 Number of Saturdays: 0  
 Number of Sundays: 0  
 Surveys automatically removed from selection: 1  
 Surveys manually removed from selection: 0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are 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/A - HOUSES PRIVATELY OWNED

**MULTI-MODAL PSVS****Calculation factor: 1 DWELLS****BOLD print indicates peak (busiest) period**

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	14	52	0.000	14	52	0.000	14	52	0.000
08:00 - 09:00	14	52	0.000	14	52	0.000	14	52	0.000
09:00 - 10:00	14	52	0.000	14	52	0.000	14	52	0.000
10:00 - 11:00	14	52	0.000	14	52	0.000	14	52	0.000
11:00 - 12:00	<b>14</b>	<b>52</b>	<b>0.003</b>	<b>14</b>	<b>52</b>	<b>0.003</b>	<b>14</b>	<b>52</b>	<b>0.006</b>
12:00 - 13:00	14	52	0.000	14	52	0.000	14	52	0.000
13:00 - 14:00	14	52	0.000	14	52	0.000	14	52	0.000
14:00 - 15:00	14	52	0.000	14	52	0.000	14	52	0.000
15:00 - 16:00	14	52	0.000	14	52	0.000	14	52	0.000
16:00 - 17:00	14	52	0.000	14	52	0.000	14	52	0.000
17:00 - 18:00	14	52	0.000	14	52	0.000	14	52	0.000
18:00 - 19:00	14	52	0.000	14	52	0.000	14	52	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.003			0.003			0.006

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: 23 - 99 (units: )  
 Survey date range: 01/01/06 - 12/11/15  
 Number of weekdays (Monday-Friday): 14  
 Number of Saturdays: 0  
 Number of Sundays: 0  
 Surveys automatically removed from selection: 1  
 Surveys manually removed from selection: 0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are 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/A - HOUSES PRIVATELY OWNED

# **MULTI-MODAL CYCLISTS**

Calculation factor: **1 DWELLS**

**BOLD print indicates peak (busiest) period**

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	14	52	0.004	14	52	0.015	14	52	0.019
08:00 - 09:00	14	52	0.001	<b>14</b>	<b>52</b>	<b>0.021</b>	14	52	0.022
09:00 - 10:00	14	52	0.001	14	52	0.006	14	52	0.007
10:00 - 11:00	14	52	0.000	14	52	0.007	14	52	0.007
11:00 - 12:00	14	52	0.007	14	52	0.001	14	52	0.008
12:00 - 13:00	14	52	0.004	14	52	0.003	14	52	0.007
13:00 - 14:00	14	52	0.008	14	52	0.004	14	52	0.012
14:00 - 15:00	14	52	0.004	14	52	0.006	14	52	0.010
15:00 - 16:00	14	52	0.010	14	52	0.001	14	52	0.011
16:00 - 17:00	<b>14</b>	<b>52</b>	<b>0.018</b>	14	52	0.007	14	52	0.025
17:00 - 18:00	14	52	0.017	14	52	0.011	<b>14</b>	<b>52</b>	<b>0.028</b>
18:00 - 19:00	14	52	0.008	14	52	0.008	14	52	0.016
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.082			0.090			0.172

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: 23 - 99 (units: )  
 Survey date range: 01/01/06 - 12/11/15  
 Number of weekdays (Monday-Friday): 14  
 Number of Saturdays: 0  
 Number of Sundays: 0  
 Surveys automatically removed from selection: 1  
 Surveys manually removed from selection: 0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are 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/A - HOUSES PRIVATELY OWNED

# **MULTI-MODAL VEHICLE OCCUPANTS**

Calculation factor: **1 DWELLS**

**BOLD print indicates peak (busiest) period**

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	14	52	0.090	14	52	0.371	14	52	0.461
08:00 - 09:00	14	52	0.194	<b>14</b>	<b>52</b>	<b>0.609</b>	<b>14</b>	<b>52</b>	<b>0.803</b>
09:00 - 10:00	14	52	0.201	14	52	0.289	14	52	0.490
10:00 - 11:00	14	52	0.158	14	52	0.194	14	52	0.352
11:00 - 12:00	14	52	0.261	14	52	0.228	14	52	0.489
12:00 - 13:00	14	52	0.246	14	52	0.196	14	52	0.442
13:00 - 14:00	14	52	0.207	14	52	0.221	14	52	0.428
14:00 - 15:00	14	52	0.241	14	52	0.234	14	52	0.475
15:00 - 16:00	14	52	0.425	14	52	0.252	14	52	0.677
16:00 - 17:00	14	52	0.427	14	52	0.221	14	52	0.648
17:00 - 18:00	<b>14</b>	<b>52</b>	<b>0.531</b>	14	52	0.225	14	52	0.756
18:00 - 19:00	14	52	0.353	14	52	0.202	14	52	0.555
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			3.334			3.242			6.576

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: 23 - 99 (units: )  
 Survey date range: 01/01/06 - 12/11/15  
 Number of weekdays (Monday-Friday): 14  
 Number of Saturdays: 0  
 Number of Sundays: 0  
 Surveys automatically removed from selection: 1  
 Surveys manually removed from selection: 0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are 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/A - HOUSES PRIVATELY OWNED

**MULTI-MODAL PEDESTRIANS****Calculation factor: 1 DWELLS****BOLD print indicates peak (busiest) period**

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	14	52	0.014	14	52	0.044	14	52	0.058
08:00 - 09:00	14	52	0.047	<b>14</b>	<b>52</b>	<b>0.180</b>	<b>14</b>	<b>52</b>	<b>0.227</b>
09:00 - 10:00	14	52	0.040	14	52	0.069	14	52	0.109
10:00 - 11:00	14	52	0.035	14	52	0.051	14	52	0.086
11:00 - 12:00	14	52	0.057	14	52	0.054	14	52	0.111
12:00 - 13:00	14	52	0.035	14	52	0.032	14	52	0.067
13:00 - 14:00	14	52	0.051	14	52	0.035	14	52	0.086
14:00 - 15:00	14	52	0.051	14	52	0.048	14	52	0.099
15:00 - 16:00	<b>14</b>	<b>52</b>	<b>0.140</b>	14	52	0.087	14	52	0.227
16:00 - 17:00	14	52	0.076	14	52	0.057	14	52	0.133
17:00 - 18:00	14	52	0.079	14	52	0.041	14	52	0.120
18:00 - 19:00	14	52	0.072	14	52	0.048	14	52	0.120
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.697			0.746			1.443

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: 23 - 99 (units: )  
 Survey date range: 01/01/06 - 12/11/15  
 Number of weekdays (Monday-Friday): 14  
 Number of Saturdays: 0  
 Number of Sundays: 0  
 Surveys automatically removed from selection: 1  
 Surveys manually removed from selection: 0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are 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/A - HOUSES 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	14	52	0.000	14	<b>52</b>	<b>0.012</b>	14	<b>52</b>	<b>0.012</b>
08:00 - 09:00	14	52	0.003	14	52	0.001	14	52	0.004
09:00 - 10:00	14	52	0.000	14	52	0.003	14	52	0.003
10:00 - 11:00	14	52	0.000	14	52	0.006	14	52	0.006
11:00 - 12:00	<b>14</b>	<b>52</b>	<b>0.008</b>	14	52	0.001	14	52	0.009
12:00 - 13:00	14	52	0.003	14	52	0.001	14	52	0.004
13:00 - 14:00	14	52	0.000	14	52	0.001	14	52	0.001
14:00 - 15:00	14	52	0.001	14	52	0.001	14	52	0.002
15:00 - 16:00	14	52	0.004	14	52	0.001	14	52	0.005
16:00 - 17:00	14	52	0.006	14	52	0.003	14	52	0.009
17:00 - 18:00	14	52	0.003	14	52	0.001	14	52	0.004
18:00 - 19:00	14	52	0.006	14	52	0.000	14	52	0.006
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.034			0.031			0.065

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: 23 - 99 (units: )  
 Survey date range: 01/01/06 - 12/11/15  
 Number of weekdays (Monday-Friday): 14  
 Number of Saturdays: 0  
 Number of Sundays: 0  
 Surveys automatically removed from selection: 1  
 Surveys manually removed from selection: 0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are 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/A - HOUSES 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	14	52	0.000	14	52	0.000	14	52	0.000
08:00 - 09:00	14	52	0.000	<b>14</b>	<b>52</b>	<b>0.001</b>	<b>14</b>	<b>52</b>	<b>0.001</b>
09:00 - 10:00	14	52	0.000	14	52	0.001	14	52	0.001
10:00 - 11:00	14	52	0.000	14	52	0.000	14	52	0.000
11:00 - 12:00	14	52	0.000	14	52	0.000	14	52	0.000
12:00 - 13:00	14	52	0.000	14	52	0.001	14	52	0.001
13:00 - 14:00	14	52	0.000	14	52	0.000	14	52	0.000
14:00 - 15:00	14	52	0.000	14	52	0.000	14	52	0.000
15:00 - 16:00	14	52	0.000	14	52	0.000	14	52	0.000
16:00 - 17:00	14	52	0.000	14	52	0.000	14	52	0.000
17:00 - 18:00	<b>14</b>	<b>52</b>	<b>0.001</b>	14	52	0.000	14	52	0.001
18:00 - 19:00	14	52	0.001	14	52	0.000	14	52	0.001
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.002			0.003			0.005

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: 23 - 99 (units: )  
 Survey date range: 01/01/06 - 12/11/15  
 Number of weekdays (Monday-Friday): 14  
 Number of Saturdays: 0  
 Number of Sundays: 0  
 Surveys automatically removed from selection: 1  
 Surveys manually removed from selection: 0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are 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/A - HOUSES PRIVATELY OWNED

**MULTI-MODAL COACH 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	14	52	0.000	14	52	0.000	14	52	0.000
08:00 - 09:00	14	52	0.000	14	52	0.000	14	52	0.000
09:00 - 10:00	14	52	0.000	14	52	0.000	14	52	0.000
10:00 - 11:00	14	52	0.000	14	52	0.000	14	52	0.000
11:00 - 12:00	14	52	0.000	14	52	0.000	14	52	0.000
12:00 - 13:00	14	52	0.000	14	52	0.000	14	52	0.000
13:00 - 14:00	14	52	0.000	14	52	0.000	14	52	0.000
14:00 - 15:00	14	52	0.000	14	52	0.000	14	52	0.000
15:00 - 16:00	14	52	0.000	14	52	0.000	14	52	0.000
16:00 - 17:00	14	52	0.000	14	52	0.000	14	52	0.000
17:00 - 18:00	14	52	0.000	14	52	0.000	14	52	0.000
18:00 - 19:00	14	52	0.000	14	52	0.000	14	52	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.000			0.000			0.000

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: 23 - 99 (units: )  
 Survey date range: 01/01/06 - 12/11/15  
 Number of weekdays (Monday-Friday): 14  
 Number of Saturdays: 0  
 Number of Sundays: 0  
 Surveys automatically removed from selection: 1  
 Surveys manually removed from selection: 0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are 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/A - HOUSES 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	14	52	0.000	<b>14</b>	<b>52</b>	<b>0.012</b>	<b>14</b>	<b>52</b>	<b>0.012</b>
08:00 - 09:00	14	52	0.003	14	52	0.003	14	52	0.006
09:00 - 10:00	14	52	0.000	14	52	0.004	14	52	0.004
10:00 - 11:00	14	52	0.000	14	52	0.006	14	52	0.006
11:00 - 12:00	<b>14</b>	<b>52</b>	<b>0.008</b>	14	52	0.001	14	52	0.009
12:00 - 13:00	14	52	0.003	14	52	0.003	14	52	0.006
13:00 - 14:00	14	52	0.000	14	52	0.001	14	52	0.001
14:00 - 15:00	14	52	0.001	14	52	0.001	14	52	0.002
15:00 - 16:00	14	52	0.004	14	52	0.001	14	52	0.005
16:00 - 17:00	14	52	0.006	14	52	0.003	14	52	0.009
17:00 - 18:00	14	52	0.004	14	52	0.001	14	52	0.005
18:00 - 19:00	14	52	0.007	14	52	0.000	14	52	0.007
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.036			0.036			0.072

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: 23 - 99 (units: )  
 Survey date range: 01/01/06 - 12/11/15  
 Number of weekdays (Monday-Friday): 14  
 Number of Saturdays: 0  
 Number of Sundays: 0  
 Surveys automatically removed from selection: 1  
 Surveys manually removed from selection: 0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are 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/A - HOUSES PRIVATELY OWNED

**MULTI-MODAL TOTAL PEOPLE**Calculation factor: **1 DWELLS****BOLD print indicates peak (busiest) period**

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	14	52	0.108	14	52	0.443	14	52	0.551
08:00 - 09:00	14	52	0.245	<b>14</b>	<b>52</b>	<b>0.812</b>	<b>14</b>	<b>52</b>	<b>1.057</b>
09:00 - 10:00	14	52	0.242	14	52	0.368	14	52	0.610
10:00 - 11:00	14	52	0.192	14	52	0.257	14	52	0.449
11:00 - 12:00	14	52	0.333	14	52	0.285	14	52	0.618
12:00 - 13:00	14	52	0.288	14	52	0.234	14	52	0.522
13:00 - 14:00	14	52	0.267	14	52	0.261	14	52	0.528
14:00 - 15:00	14	52	0.297	14	52	0.289	14	52	0.586
15:00 - 16:00	14	52	0.578	14	52	0.342	14	52	0.920
16:00 - 17:00	14	52	0.527	14	52	0.288	14	52	0.815
17:00 - 18:00	<b>14</b>	<b>52</b>	<b>0.631</b>	14	52	0.279	14	52	0.910
18:00 - 19:00	14	52	0.440	14	52	0.259	14	52	0.699
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			4.148			4.117			8.265

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: 23 - 99 (units: )  
 Survey date range: 01/01/06 - 12/11/15  
 Number of weekdays (Monday-Friday): 14  
 Number of Saturdays: 0  
 Number of Sundays: 0  
 Surveys automatically removed from selection: 1  
 Surveys manually removed from selection: 0

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





