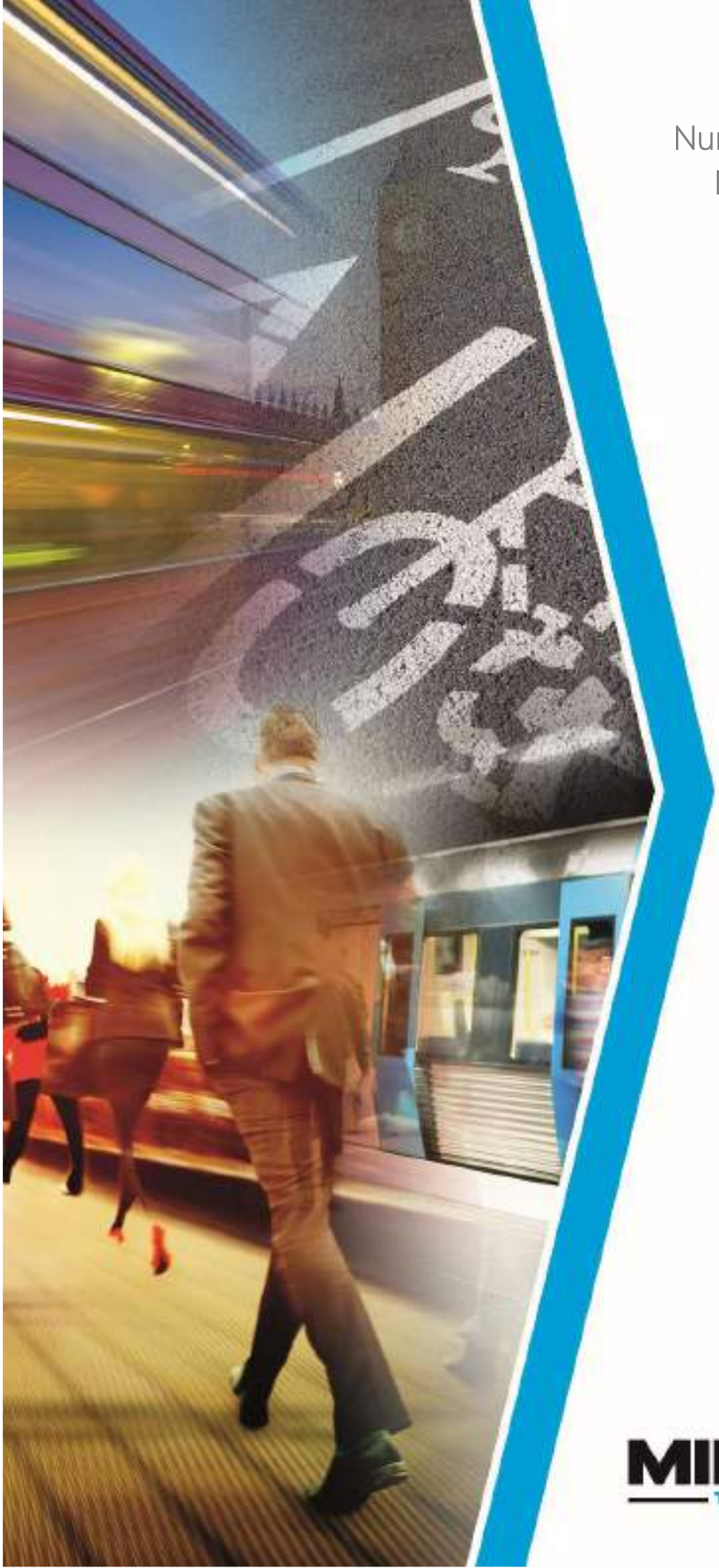

Land at Burston Nurseries, Chiswell Green, Hertfordshire, AL2 2DS

Strategic Movement & Access Strategy

Prepared on behalf of

[redacted]

March 2021

MILESTONE TRANSPORT PLANNING

Land at Burston Nurseries, Chiswell Green, Hertfordshire, AL2 2DS

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-	04/03/2021	Strategic Movement & Access Strategy (1st Draft)	O. Hennessy	T. Wares	T. Wares
-	08/03/2021	Strategic Movement & Access Strategy (Final)	O. Hennessy	T. Wares	T. Wares

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1. Introduction

Scope of Movement and Access Strategy

1.1 Milestone Transport Planning (MTP) have been instructed by Mr Emerton, Ms Bond and Mr Cowen ('*the promoters*') to prepare a Strategic Movement & Access Strategy (SMAS) in support of a representation for a call for sites submission to St Albans City & District Council (SACDC) for an emerging mixed-use development on land at Burston Nurseries in Chiswell Green, Hertfordshire.

1.2 The promoted site (herein referred to as '*the site*') comprises a parcel of land encompassing circa 20 hectares of land located to the south of the A405 North Orbital Road, south of Chiswell Green, and approximately 800-metres west and 2.1-kilometres north of How Wood and Bricket Wood village centres, respectively.

1.3 The emerging mixed-use development (herein referred to as the promoted scheme) comprises the retention of an approved 150-bed hotel (Use Class C1), an extension of the existing retail floorspace (Gross Internal Area of 3,488 sq.m) of Burston Garden Centre, a 60-bed care home / adult social care facility (Use Class C2), 165 residential units of mixed type, tenure and size (Use Class C2 and C3), and a community business, workspace and tech hub (Use Class E), together with associated access, refuse / cycle storage, car parking, soft landscaping, open space and enhancements to the existing Public Right of Way (PRoW) network.

1.4 The purpose of this report is to examine from a transport planning and highways perspective, the key opportunities, and constraints of the emerging scheme with regards to the promotion of sustainable travel patterns and behaviour in context with the Local Highways Authority, Hertfordshire County Council's (HCC's) latest Local Transport Plan (4th Edition). Most notably, Policy 1 of the LTP 4 places significant emphasis for scheme promoters to consider a revised hierarchy of users when developing a built environment for encouraging greater and safe use if sustainable transport modes,

1.5 Consequently, the SMAS and emerging masterplan has been developed to reflect HCC's hierarchal approach and includes:

- Opportunities to reduce travel demand and the need to travel;
- Vulnerable road user needs (such as pedestrians and cyclists);
- Passenger transport user needs;
- Powered two-wheeler (mopeds and motorbikes) user needs; and
- Other motor vehicle user needs.

1.6 In addition, the SMAS assesses: -

- The site's location in context with the local area and highway network, most notably its accessibility by non-car modes and potential for future households and visitors to adopt sustainable travel patterns and behaviour for various journey purposes. Most notably, this will examine connectivity with the existing cycle and Public Rights of Way (PRoW) network.
- The baseline operational and safety characteristics of the local highway network, through examining historic traffic flow data, and personal injury accident data from the '*Crashmap*' website.

- A design for achieving safe and convenient access to the proposed scheme in accordance with national, regional, and local planning best practice guidance, most notably in respect of geometric design and visibility splay requirements.
- The proposed parking, delivery / servicing arrangements in light of national and local planning policy best practice guidance.
- The multi-modal trip generating potential of the emerging scheme in context with other approved and current '*live*' planning applications, to assess the cumulative impact on the local highway and transport networks over the course of a typical weekday including the AM (08:00 – 09:00) and PM (17:00 – 18:00) peak hour periods.

1.7 The preparation of this report has been informed by various local, regional, and national design guidance including the Department for Transport's (DfT's) '*Manual for Streets 1*' (MfS1) and '*Manual for Streets 2 Wider Application of the Principles*' (MfS2) publications, Hertfordshire County Council's (HCC's) '*Local Transport Plan 4*' and the '*Roads in Hertfordshire: Highway Design Guide*'.

Planning Context

1.8 Over the past 7-years, the promoted site and adjoining parcels of land have been the subject of a number of planning applications. These are summarised in turn below.

Site Access Improvement Scheme at Burston Rose and Garden Centre

1.9 A planning application (Reference 5/2014/3049) for an improvement scheme that comprised the reconfiguration of the existing access to the Burston Rose and Garden Centre was approved by SACDC on 3rd July 2015. This consent was subject to the imposition of a Grampian style condition that required no works to commence on-site until the Traffic Regulation Order (TRO) for a suitable speed limit had been secured by the Local Highways Authority, HCC.

1.10 The improvement scheme comprised a new signal control for the garden centre catering for '*left-in*', '*left-out*' and '*right-in*' movements to / from the A405 North Orbital Road. The design also included a circa 110-metre deceleration lane to accommodate vehicular traffic accessing the Burston Rose and Garden Centre from the east and signal-control access from Albany Mews onto the A405 North Orbital Road.

1.11 With regards to pedestrian accessibility, the improvement scheme incorporated signal-control crossing facilities, tactile paving and guard railed '*sheep pens*', thereby providing a direct walking route to amenities available and accessible on-foot in Chiswell Green via the existing bridleway (St Stephen 003A). A plan showing the approved signalised junction (Drawing No. 101 Rev B), prepared by Transport Planning Associates (TPA) is attached at Appendix 1 of this report.

1.12 The justification for the improvement scheme was on the basis that the design of the existing priority junction, which allows '*left-in*', '*left-out*' and '*right-in*' manoeuvres to / from the A405 North Orbital Road was inherently unsafe as reflected by the cluster of personal injury accidents recorded along this section of the local highway network. The enhancement scheme also included a proposal to reduce the speed limit from 70-mph to 50-mph.

1.13 However, HCC Highways were unsure on whether the imposition of a lower speed limit covering a relatively short section of the A405 North Orbital Road would be acceptable without extending and / or including other measures. Consequently, HCC's Highways Officer recommended that the change in speed limit would be subject to a wider design process and a Traffic Regulation Order (TRO), hence the Grampian style condition.

Hotel Scheme at Copsewood

1.14 A planning application (Reference: 5/2015/0722) for a 150-bed 4-star hotel with associated function centre and parking for 170 cars, realignment of roundabout and retention of bungalow at Copsewood was granted planning permission by SACDC in August 2016. The hotel also included a gym and swimming pool which would be open to the public. The development was supported by a Transport Assessment and detailed drawings produced by MTP showing the amendments to The Noke Roundabout. A copy of this drawing is attached at Appendix 2.

1.15 The consented vehicular access involved the construction of a new arm to the southern side of the A405 Noke Roundabout and consists of a short length of dual carriageway providing two 3.5m lanes in both directions. The dual carriageway extends approximately 30m to an internal 4-arm roundabout. The access has a shared foot / cycleway measuring 2.5-metres in with on both side of the carriageway. The highway improvement works to The Noke Roundabout included:

- Enlargement of the central island to create additional circulatory carriageway and provide improved horizontal deflection on the A405 north-east approach;
- Minor modifications to all major approaches to incorporate improved anti-skid surfacing, street lighting, carriageway marking and road signage; and
- Widened footway / cycleway links across each of approach arms, incorporating improved signage and tactile paving.

1.16 As part of the application, a dedicated shuttle bus service, named the Hilton Hopper, was agreed with HCC Highways Officer, providing a free, dedicated shuttle bus service for guests, delegates and staff between the hotel campus and key destinations in St Albans. During the daytime hours, the service would provide a tourist type service for guesting calling at St Albans Abbey rail station, the Cathedral / Abbey, the Verulamium Museum and St Peter's Street. Between 06:30 – 10:00 and 16:00 – 23:00, the service would be aimed towards commuters.

Castle Oak Care and Assisted Living Village

1.17 A 3.8-hectare site located to the north and north-west of Burston Manor (a Grade II listed building), east of Burston Nurseries and west of a bridleway (St Stephen 003) has been the subject of several planning applications for development proposals comprising a care home and assisted living bungalows / apartments over the past 3-years.

1.18 A planning application (Reference: 5/2018/1324) for a development proposal involving the demolition of all existing structures and redevelopment of the site to provide a new retirement community comprising a 62-bed care home, 122 assisted living bungalows and apartments, a community clubhouse together with associated access and alterations to pedestrian / bridleway, landscaping, amenity space and car parking was refused by SACDC in March 2019 due to reasons relating to Green Belt matters and the relationship with existing buildings on an adjacent site.

1.19 As detailed in Section 4 of the submitted Transport Assessment, prepared by Peter Evans Partnership (PEP) in May 2018, vehicular access was proposed via the consented signal-control scheme for Burston Rose and Garden Centre. This would adjoin to an internal access road and mini-roundabout junction facilitating access to the private road serving the residential and business units at Burston Manor Farm, Burston Rose and Garden Centre and proposed Care and Assisted Living facility.

1.20 In addition, a 3.0-metre wide pedestrian route was proposed from the site's access to the existing bridleway (St Stephen 003) along the eastern boundary. Further to this, a new section of bridleway was proposed along the south of the site and Burston Rose and Garden Centre, to provide a new link to the existing footpath (St Stephen 018) connecting the southern side of the A405 North Orbital Road to Lye Lane.

1.21 More recently, a planning application (Reference: 5/2020/3022) for a reduced quantum of development, comprising 80 assisted living apartments with community facilities and 44 bungalows has been submitted to SACDC. A Transport Assessment Addendum (TAA) prepared by PEP in July 2019 was submitted in support of the application.

1.22 As outlined in Section 1 of the TAA, the design of the signal-control junction was subject to pre-planning application discussions with HCC's Highways Development, Design and Safety Officers. The agreed technical matters arising from this discussion included: -

- *"The design speed is 60-mph based on a speed survey undertaken on the south-westbound carriageway of the A405 North Orbital Road.*
- *A Departures from Standard in in terms of forward visibility to the traffic signal junction and the existing 400m radius of the road would be acceptable to the Highway Authority based on the agreed 60mph design speed with mitigation proposals put forward.*
- *A Traffic Regulation Order (TRO) application to reduce the speed limit on the A405 from National (70mph) to 60mph would be submitted and funded by the developer.*
- *The traffic signal junction proposals would not be reliant upon the success of the TRO because the 60mph design speed is already achieved.*
- *Mitigation proposals:*
    - *Superelevation change on 400m radius bend from 7% to 2.5% to allow 215m (60mph design speed) forward visibility to be achieved to the signal stop line and traffic signals from a driver eye height of 1.05m to object height of 1.05m*
    - *Back of predicted vehicle queue visibility would be achieved from driver position height of 1.25m to object height of 1.05m over top of existing safety barrier (VRS). Higher eye height accepted by HCC because existing queuing on the A405 has not given rise to safety issues.*

- *Double height traffic signal poles would be provided. - Carriageway white lines provided at 300mm offset rather than 500mm.*
- *Traffic signal junction ahead warning signs in advance of the signals. - High PSV (68+) on the resurfaced area of carriageway.*
- *60mph speed limit scheme proposed between Noke roundabout to south west and Tippendell Lane roundabout to the north with 60mph repeater signs. Limit reverts to National speed limit at either end of the scheme subject to HCC confirmation as part of any wider strategy on speed limits; and*
- *Stage 1 RSA identified 4 problems and HCC accepted PEP's suggested actions in Response Report.*

- *Other general changes that were requested to the signalised junction layout included: -*
  - *Maintenance layby added on left turn into site;*
  - *Controlled crossing on Albany Mews replaced by uncontrolled crossing with tactile paving and 'Look left'/'Look right' road markings;*
  - *Extent of proposed highway adoption on the site access road shown;*
  - *Above ground detector on site access signals with potential for Stop line loop."*

1.23 A plan showing the agreed layout of the signalised junction is attached at Appendix 3 of this report.

1.24 Figure 1 shows the promoted site in context with approved and recently submitted planning applications.

Figure 1 Planning Context Plan

Report Structure

1.25 The remainder of this report is structured as follows:

- Section 2 provides a description of the promoted site in context with the local area and evaluates its accessibility by a variety of modes, to establish the potential for future end-users to adopt sustainable travel patterns and behaviour for various journey purposes.
- Section 3 sets out the baseline conditions with regards to the operational and safety characteristics of the local highway network based on historic traffic flow data and personal injury accident data.
- Section 4 describes the proposed movement and access strategy for an emerging scheme including consideration of the site's access design, parking, and delivery / servicing arrangements in light of national, regional, and local planning best practice guidance.
- Section 5 presents the multi-modal trip generating of the emerging scheme in context with other approved and recently submitted planning applications to assess the cumulative impact on the local highway and transport networks during the weekday AM and PM peak hour periods in a future year scenario.
- Section 6 presents a summary of the main conclusions and recommendations, clearly demonstrating that the emerging scheme adheres to the hierarchy of user needs, as specified in Policy 1 of HCC's LTP 4 publication.

2. Baseline Conditions

Site Location and Context

2.1 The site comprises a parcel of land encompassing circa 20 hectares of land located off the southern side of the A405 North Orbital Road, located to the west of How Wood and to the south-east of Chiswell Green village centres.

2.2 The site boundaries are formed by the A405 North Orbital Road to the north; a Bridleway, How Wood and Burston Manor and The Limes to the east; residential dwellings fronting Spielplatz to the south-east; and Lye Lane to the south-west. The site in context with the local area and highway network is shown in Figure 2.

Figure 2 Site Location Plan

Accessibility by Foot & Cycle

2.3 In the vicinity of the site's frontage with the A405 North Orbital Road, a good quality, lit shared foot / cycleway extends along the southern side of the carriageway from the priority junction with Burston Rose and Garden Centre to The Noke Roundabout junction.

2.4 The footway continues in a south-westbound direction and adjoins to an uncontrolled crossing, south of the '*left-in*' / '*left-out*' junction with Lye Lane and an uncontrolled crossing at the grade separated 4-arm roundabout junction (21A) of the A405 North Orbital Road / M25. This connects to a footpath (St Stephen 029) that heads in a south-easterly direction towards the predominately residential area of Bricket Wood.

2.5 Immediately adjacent to the private driveway access of Copsewood, the shared foot / cycleway connects via the presence of an uncontrolled crossing to a short section running alongside the western boundary of the Shell petrol station, off the northern side of the A405 North Orbital Road. This adjoins to wide, lit, and good quality footways located off either side of Watford Road, providing direct and continuous walking routes to the nearest bus stops (adjacent and opposite Long Fallow) and other amenities in Chiswell Green.

2.6 To the east of the priority junction of Burston Rose and Garden Centre, a footway is provided set-back from the edge of the carriageway of the A405 North Orbital Road, which continues in a north-easterly direction to connect with Mayflower Road, Orchard Drive, Melita, and Bridleway (St Stephen 003). The north-eastern end of Melita adjoins to a ramped foot / cycle bridge over the A405 North Orbital Road, near to the 4-arm junction with Tippendell Lane.

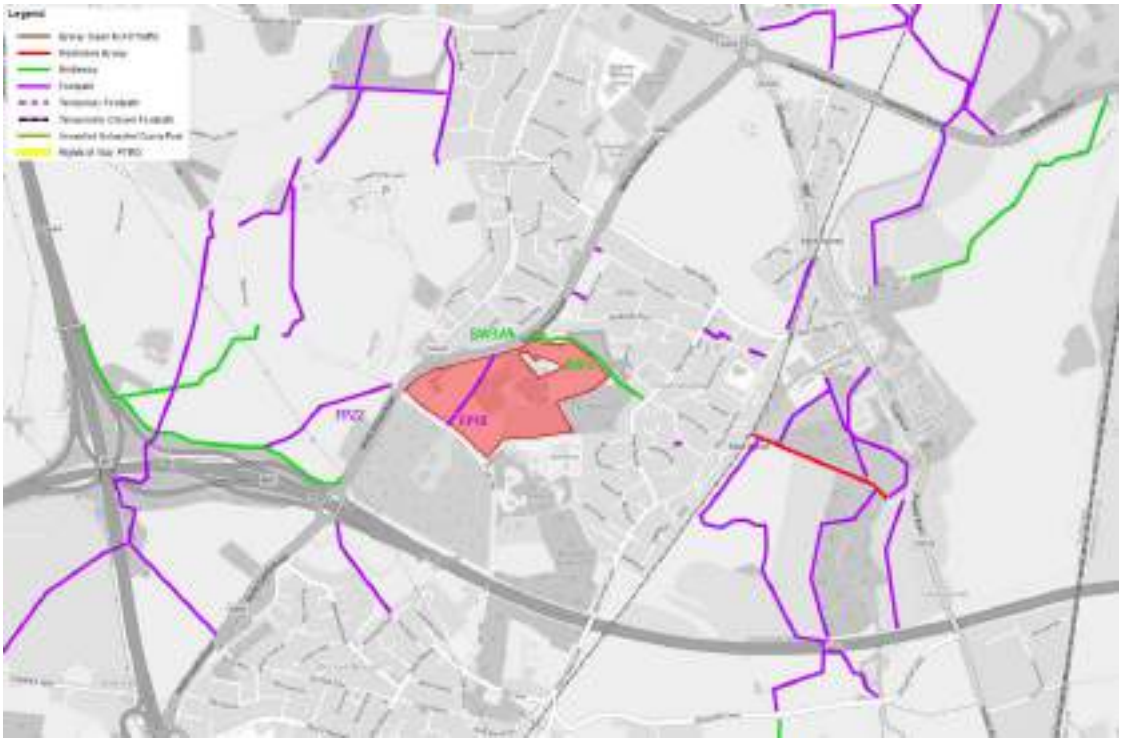
2.7 In addition, an uncontrolled staggered pedestrian crossing point is present circa 270-metres north-east of the adopted footway at Mayflower Road. This connects Orchard Drive to Driftwood Avenue via footpath (St Stephen 077), thereby providing a direct link between the predominately residential areas of Chiswell Green and How Wood.

2.8 Figure 3 demonstrates the main walking routes to key local destinations, including How Wood, Chiswell Green and Bricket Wood.

Figure 3 Local Walking Routes Plan

2.9 In addition to the formal provision of footways, the promoted site, as shown in Figure 4 benefits from being within proximity to the PRoW network. Most notably, a footpath (St Stephen 018) bisects the site in a south-west to north-east direction, connecting Lye Lane to the A405 North Orbital Road.

Figure 4 PRoW Network Plan



2.10 As shown in Figure 5, the footpath is unlit, unmetalled and contains stepped access at the north-eastern end.

Figure 5 View of Footpath (St Stephen 018).

2.11 In addition, a bridleway (St Stephen 003) extends from the A405 North Orbital Road (east of Burston Nurseries) to Burston Drive in How Wood. BW3A is an extension of BW3 to the north of the A405 North Orbital Road which connects with Manor Drive / Willow Way. The section of the bridleway between the A405 North Orbital Road and Birchwood Bungalow comprises of compacted gravel, with the remainder composed of a bound surface material. Other than the provision of a single lighting column adjacent to Birchwood Bungalow, the bridleway is unlit.

2.12 In relation to cycling, and as mentioned previously, the site benefits from being accessible to shared foot / cycleway along the southern side of the A405 North Orbital Road. A cycle / footbridge with ramp access is present adjacent to the 4-arm roundabout junction of the A405 North Orbital Road / Tippendell Lane.

2.13 National Cycle Network (NCN) Route 6 is accessible from the site's existing access within a circa 750-metre cycle (equating to a 3-minute cycle) in How Wood village centre. NCN Route 6 is a dedicated cycle route that on a local level connects Chiswell Green to several local and regional destination points including St Albans and Watford via on and off-road sections, as shown in Figure 6.

2.14 As shown on the St Albans Cycle Map, attached at Appendix 4 of this report, within the vicinity of the site, How Wood, Penn Road and Orchard Drive form quieter routes, as recommended by cyclists, providing connections to Chiswell Green and St Albans.

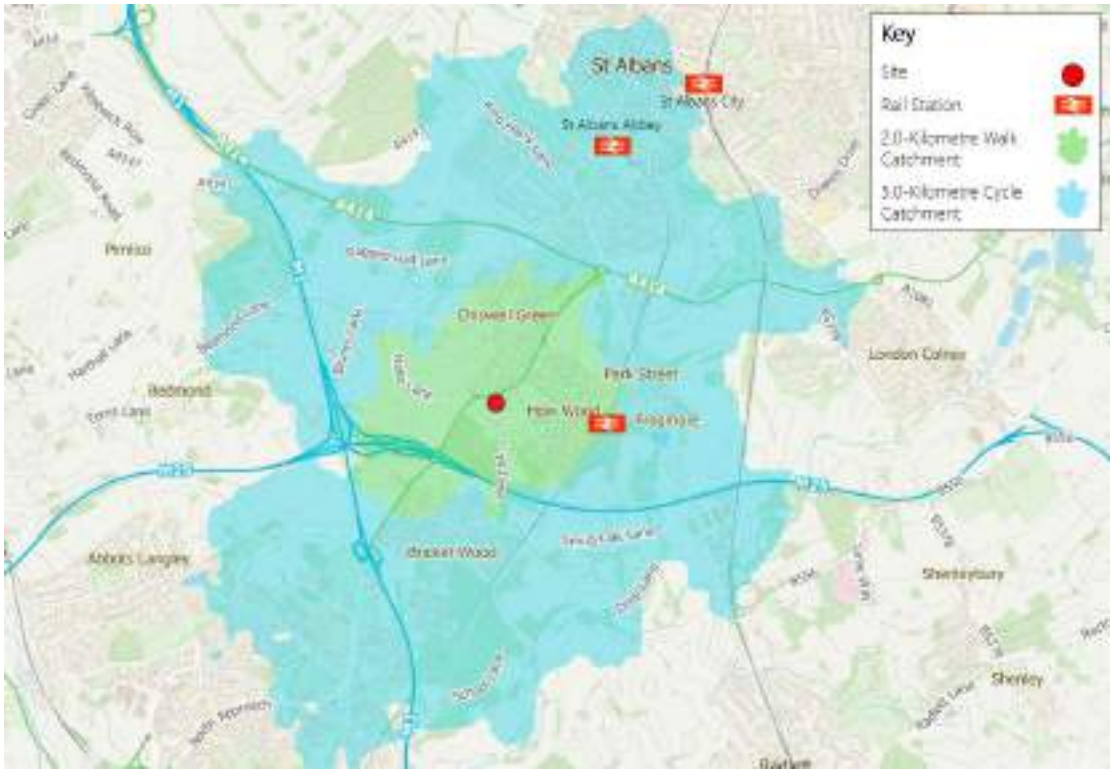
Figure 6 Cycle Route Plan

2.15 The Chartered Institute of Highways and Transportation's (CIHT's) publication '*Providing for Journeys on Foot*' (2000) states the average length of a walk journey is 1.0-kilometre. It further suggests a preferred maximum walking distance of 2.0-kilometres for commuting / school journeys and 1.2-kilometres for other journey destinations.

2.16 Other national planning guidance / best practice publications have previously recommended a maximum distance of 5.0-kilometres for reasonably fit individuals to cycle to / from workplace destinations.

2.17 As shown in Figure 7, How Wood and Chiswell Green centres are accessible on-foot, within the preferred maximum distance of 2.0-kilometres from the site, including How Wood rail station. In addition, St Albans town centre and St Albans Abbey rail station are accessible by cycle within the maximum recommended cycle distance of 5.0-kilometres, thereby offering significant potential for future end-users access a wide range of amenities.

Figure 7 Walk and Cycle Catchment Plan



Public Transport Accessibility

Bus Services

2.18 The nearest bus stops to the promoted site are located along the B4630 Watford Road (opposite and adjacent to Long Fallow) circa 240-metres north-east of the site's consented roundabout access (equating to a 3-minute walk or 1-minute cycle). This stop is served by route number 321, which operates on a frequency of 4 buses per hour between Watford and Luton. The stop benefits from the provision of a flagpole and timetable information.

2.19 Additional bus services are accessible within How Wood village centre. Bus service 361 provides an hourly service between St Albans and Bricket Wood. In addition, bus service 632 provides an hourly service between Hitchin Station and Hatfield.

Rail

2.20 How Wood rail station is operated by London Northwestern Railway and is located approximately 1.2-kilometres south-east of the promoted site's existing access (i.e. a 15-minute walk or 6-minute cycle journey time).

2.21 The station is situated on the Abbey Line between Watford and St Albans Abbey. Trains typically operate on a frequency of every 45-minutes, however, due to the current COVID-19 pandemic, a bus replacement service is operating. The journey time to St Albans Abbey is 10 minutes and 28 minutes to Watford Junction. Bricket Wood station is also situated along the Abbey Line, one stop closer to Watford, and is located circa 2.3-kilometres south-west of the promoted site's proposed access (i.e. a 24-minute walk or 7-minute cycle).

2.22 Watford Junction rail station provides numerous opportunities for interchange with other mainline rail and London Overground (LO) services operating to a wide range of local and regional destinations including London Euston, Northampton, Edinburgh, Clapham Junction and Milton Keynes operating on a frequent service.

2.23 It is noteworthy that there are proposals to reopen a passing loop at Bricket Wood; run trains which bypass certain stations; conversion of the line to light rail operation; and conversion of the line to a guided busway. The installation of a passing loop and / or conversion of the '*Abbey Line*' to a guided busway would enable higher service frequencies to be provided and increase the attractiveness of this mode to future households and other end-users.

Accessibility to Local Amenities

2.24 As shown in Table 2.1, the promoted site, as a consequence of its location, benefits from being within the recommended maximum walk and cycle distances of a range of local amenities available in Chiswell Green and How Wood, which are likely to cater for the everyday needs of future end-users. The distances shown in Table 2.1 are measured from the consented roundabout access.

Table 2.1 Summary of Local Amenities

Type of Amenity	Destination	Distance	Walk Journey Time	Cycle Journey Time
Convenience	Little Waitrose	110 metres	2 minutes	1 minute
	Watford Road Post Office	1.0 kilometre	13 minutes	4 minutes
	Co-op	1.0 kilometre	12 minutes	6 minutes
Faith	Park Street Baptist Church	1.4 kilometres	17 minutes	5 minutes
	Greenwood United Reformed Church	1.6 kilometres	22 minutes	7 minutes

Healthcare	How Wood Pharmacy	1.0 kilometre	12 minutes	6 minutes
	Park Street Surgery	1.2 kilometres	15 minutes	6 minutes
	UK Dental Specialists	1.2 kilometres	14 minutes	4 minutes
	Midway Surgery	1.8 kilometres	23 minutes	8 minutes
	Globe Pharmacy, Chiswell Green	1.1 kilometres	14 minutes	5 minutes
Leisure and Fitness	Burston Garden Centre	0 metres	0 minutes	0 minutes
	Greenwood Park	1.0 kilometre	12 minutes	5 minutes
	Bricket Wood Social Club	1.8 kilometres	23 minutes	8 minutes
	Westminster Lodge Leisure Centre	3.6 kilometres	-	13 minutes
	Verulamium Park	4.1 kilometres	-	14 minutes
Education	How Wood Primary School & Nursery	1.3 kilometres	16 minutes	6 minutes
	Park Street Primary School	2.0 kilometres	24 minutes	8 minutes
	Killigrew Primary & Nursery School	2.0 kilometres	24 minutes	8 minutes
	St Michael's High School	3.1 kilometres	-	11 minutes
	St Columba's College	3.0 kilometres	-	11 minutes
	The Marlborough Science Academy	3.2 kilometres	-	13 minutes
	Parmiter's School Secondary	4.3 kilometres	-	13 minutes
Employment	Horseshoe Business Park	2.2 kilometres	-	7 minutes
	Abbey View Retail Park	3.8 kilometres	-	14 minutes

Opportunities and Constraints

2.25 Drawing No. 21066 / 001 (attached) summarises a number of opportunities and constraints from a transport planning and highways perspective.

Summary

2.26 The review of the baseline conditions reveals:

- The site is located within an established area, and as a consequence benefits from being accessible on-foot, by cycle and public transport to a range of amenities and services available in Chiswell Green, How Wood, Bricket Wood as well as St Albans and Watford further afield via existing infrastructure and PRoW network.
- Consequently, future households and end-users of the commercial retail and office aspects of the promoted scheme would be afforded numerous opportunities to adopt long-term sustainable travel patterns and behaviour for various journey purposes to and from the mixed-use development.

3. Baseline Highway Conditions

Existing Access Arrangements

3.1 The site is served by multiple points of access. The main access takes the form of a priority '*left-in*' and '*left-out*' arrangement with a designated right-turn lane to Burston Nurseries and Garden Centre, located off the southern side of the A405 North Orbital Road. This existing access has a consent for a signalised junction to be constructed in place of the priority junction.

3.2 A secondary minor access is provided off the southern side of The Noke Roundabout, which takes the form of a gated narrow vehicular access serving the single cottage on site. This existing access also has a consent for a new arrangement of the roundabout to formalise the fifth southern arm to the roundabout.

Local Highway Network

3.3 The A405 North Orbital Road is a strategic, regional route and defined as a Primary Road within the SACDC Local Plan. The A405 North Orbital Road passes around the northern and western boundaries of the site and is a dual two-lane carriageway, with each carriageway measuring circa 7.0-metres in width and is subject to the national speed limit. The carriageway is provided with street lighting and is divided by a wide grassed central reservation.

3.4 The A405 North Orbital Road forms a roundabout junction with the B4630 Watford Road, adjacent to the site's north-western boundary, known as The Noke Roundabout. The roundabout also provides access to The Noke Thistle Hotel on its north-western side and dropped kerb access to the site. The Noke roundabout is oval-shaped and the circulatory carriageway is provided with sufficient width to accommodate two lanes past each approach arm. The A405 North Orbital Road is provided with two lanes on both approaches to and exit from the roundabout. The B4360 Watford Road is provided with a flared single lane approach and both of the accesses to The Noke Thistle Hotel and the development site are single lane approaches.

3.5 The roundabout is subject to a committed improvement scheme associated with a new hotel development to the south (planning reference 5/2015/0722), known as '*Copsewood*'. This approved application alters the arrangement of the roundabout to allow a fifth arm to the south, which is intended to provide the main vehicular access to the new hotel development.

3.6 To the north-east of the site, the A405 North Orbital Road connects with the A414 at the Park Street Roundabout, which in turn links to the M1 to the west and to the A1 (M) to the east. To the south-west, the A405 North Orbital Road meets the M25 at Junction 21A at a large, grade separated roundabout providing access to the M25 in both directions, as well as the A405 to the south, which allows connections to the M1, via Junction 6. It is understood that the M25 Junction 21A is subject to an improvement scheme, promoted by Highways England. However, no firm details of what this scheme consists of are available at present.

3.7 Approximately 17-metres south-west of The Noke Roundabout, the A405 North Orbital Road forms a restricted movement, left-in / left-out give-way controlled priority junction with Lye Lane. Lye Lane is a narrow single carriageway road, circa 4.0-metres in width, and is subject to a 30-mph speed limit. It extends eastwards from the A405 North Orbital Road and then southwards, over the M25 motorway to provide access to the northern end of Bricket Wood and Smug Oak. There is limited frontage development along Lye Lane and there is currently no provision for footways or street lighting on either side of the carriageway in the vicinity of the site.

3.8 The B4630 Watford Road is defined as a Secondary Distributor Road within the SACDC Local Plain and it extends northwards from The Noke Roundabout, leading through Chiswell Green to link up with St Albans City Centre via the A5183 Stephens Hill / Holywell Hill. In the vicinity of The Noke Roundabout, the B4630 Watford Road is a wide single carriageway road of between 7.3 and 8.5 metres in width. Footways of approximately 2.0-metres in width and street lighting is provided on both sides of the carriageway. The B4630 is also a bus route.

Highway Safety

3.9 To establish the road safety record in the immediate vicinity of the promoted site, Personal Injury Accident (PIA) data has been assessed using data from the '*Crashmap*' website (www.crashmap.co.uk). PIAs are classified as '*slight*', '*serious*' and '*fatal*' depending on the severity of the injuries sustained.

3.10 As shown in Figure 9, a total of 12 incidents were recorded on the local highway network within the vicinity of the site including 3 classified as '*serious*' and the remaining 9 as '*slight*'. There were no '*fatal*' incidents. Of the recorded PIAs, 1 of the incidents resulted in a slight injury to a cyclist.

3.11 A plan showing the location and severity of the recorded PIAs in context with the site is shown in Figure 8. It is evident that there are noticeable clusters of PIAs at The Noke Roundabout and give-way priority junctions of the North Orbital Road and existing access to Burston Nursery and Garden Centre. The development proposals to improve these junctions will improve safety and operation of the junction and therefore the existing trend with regards to severity and number of PIAs is unlikely to be exacerbated.

Figure 8 PIA Plan

3.13 In order to gain a detailed understanding of the likely causation factors for each of the recorded PIAs, data (latest 5-year period) will be sought from HCC to inform the baseline conditions section of a Transport Assessment that would be prepared on behalf of the promoters in support of a future planning application.

Baseline Traffic Data

3.14 Following the government's lockdown restrictions in response to the COVID 19 pandemic, and the increase in homeworking and corresponding effect on the volume of traffic observed on the local highway network, it has not been possible to accurately gather traffic flow data.

3.15 Consequently, in order to develop a baseline traffic scenario for The Noke Roundabout, the traffic flows and turning proportions within the approved Copsewood Transport Assessment have been used. The TA used traffic counts from 2009, which were factored-up to a future year of 2020. This data formed the basis of the analysis for the mixed-use development proposals.

3.16 In order to develop a baseline traffic scenario for the junction with Burston Nurseries, the traffic flows and turning proportions within the Burston Nurseries Application (Reference: 5/2020/3022) have been used. The Transport Assessment used traffic counts from 2018 and the turning proportions have been applied to the 2020 data taken from the Copsewood Transport Assessment.

3.17 To calculate the 2021 base year network flows from the 2020 future year scenario shown in the Copsewood Transport Assessment, the below TEMPro Growth factors have been applied to the flows:

- 2020 – 2021 AM Peak: 1.0138
- 2020 – 2021 PM Peak: 1.0135

3.18 Given the amount of time (circa 12 and 3 years) that has elapsed since the baseline traffic surveys were gathered, and in the event of the promoter intending to submit a planning application for an emerging development proposal, it is likely that the Highways Officer's at HCC would request the promoter to gather refreshed data, as part of a TA, prepared in support of a future planning application.

3.19 Baseline traffic surveys will need to be undertaken during a neutral time period (post COVID 19 pandemic) to ensure typical patterns and behaviour are captured.

Baseline Junction Capacity Assessments

3.20 In order to establish the current performance of key local junctions during the AM and PM peak hour periods, the 2021 base flows have been modelled using Junctions 9 ARCADY and LINSIG software.

3.21 Both ARCADY and LINSIG assess the current operational capacity of a junction in terms of the 'Ratio of Flow to Capacity' (RFC), the anticipated mean maximum queue lengths that are likely to be generated and the length of delays car drivers may experience. It is noted that when an entry arm of a junction possesses an RFC value greater than 0.85 (i.e. 1), queuing will occur, leading to an increase in average delays. Under these circumstances, the junction is considered to be operating at / over-capacity. However, an RFC value less than 0.85 is generally considered to be indicative of a junction operating well within its theoretical capacity.

3.22 The junction capacity models have been calibrated against the observed queue surveys, with the model mean max queue within the limits observed during the baseline traffic surveys.

The Noke Roundabout

3.23 Table 3.1 demonstrates that the consented Noke roundabout junction, as stated in the Copsewood Transport Assessment, currently operates above capacity during the AM peak due to the lack of opportunity for vehicles exiting the Mercure Hotel access arm of the roundabout. The junction operates within capacity in the PM peak period.

Table 3.1 The Noke Roundabout – 2021 Base

Arm	AM Peak Hour (08:00 – 09:00)			PM Peak Hour (17:00 – 18:00)		
	RFC	Queue (Veh)	Delay (S)	RFC	Queue (Veh)	Delay (S)
A405 North Orbital Road north-east	0.90	7.9	18.65	0.77	3.3	7.99
Site Access	0.00	0.0	0.00	0.00	0.0	0.00
A405 North Orbital Road south-west	1.13	159.1	230.71	0.87	6.3	12.35
Mercure Hotel Access	*	47.0	*	0.51	0.9	146.16
Watford Road	0.95	12.4	51.44	0.73	2.7	13.50
JUNCTION DELAY (S)	*			11.73		

* Numbers excessively high

Burston Garden Centre Access

3.24 Table 3.2 demonstrates that the consented signalised Burston Nurseries access operates well within capacity during the AM and PM peak hour periods, with a total PRC of 17.8% and 27.0%, equating to a delay of 3 vehicles in both the AM and PM peak hour periods.

Table 3.2 Burston Nurseries Access – 2021 Base

Arm	AM Peak (08:00 – 09:00)		PM Peak (17:00 – 18:00)	
	PRC (%)	Delay (pcuHr)	PRC (%)	Delay (pcuHr)
A405 East Left Ahead	76.4%	1.6	70.9%	1.3
A405 East Ahead	1.9%	0.0	1.8%	0.0
A405 West Ahead	0.0%	0.0	0.0%	0.0
A405 West Right Ahead	0.0%: 1.9%	0.0	21.6%	0.6
Burston Garden Access Left	6.6%	0.1	5.9%	0.1
Slip Lane Ahead	0.0%	0.0	0.0%	0.0
ALL LANES	17.8%	3.23	27.0%	3.18

Summary

- A review of PIA data (latest 5-year period) reveals that there are noticeable clusters of PIAs at The Noke Roundabout and the existing access to Burston Nurseries. As part of the consented hotel and upgrade to Burston Nurseries, substantial improvements are proposed, which will enhance the safety for vulnerable road users utilising the existing foot / cycleway infrastructure and PRoW network. The promoted scheme will provide opportunities to further enhance the local walking and cycling environment, and as a consequence the number of recorded PIAs is likely to be decreased.
- The results of the ARCADY model of The Noke Roundabout reveals that the junction operates above capacity in the AM peak period and within capacity in the PM peak period.
- The results of the LINSIG model of the Burston Nurseries access reveals that the junction operates well within capacity during the AM and PM peak hour periods.

4. Movement and Access Strategy

4.1 This section of the report presents the proposed access and movement strategy for the promoted scheme in line with national, regional, and local planning best practice guidance.

4.2 As previously stated, the promoted scheme comprises the retention of an approved 150-bed hotel (Use Class C1), an extension of the existing retail floorspace (Gross Internal Area of 3,488 sq.m) of Burston Garden Centre, a 60-bed care home / adult social care facility (Use Class C2), 165 residential units of mixed type, tenure and size (Use Class C3), and a community business, workspace and tech hub (Use Class E), together with associated access, refuse / cycle storage, car parking, soft landscaping, open space and enhancements to the existing Public Right of Way (PRoW) network. An indicative masterplan sketch produced by Wakelin Associates Architects is attached at Appendix 6.

4.3 The movement and access strategy together with the emerging masterplan has been informed by the hierarchy of user needs, as outlined in HCC's LTP 4, and includes:

- Opportunities to reduce travel demand and the need to travel;
- Vulnerable road user needs (such as pedestrians and cyclists);
- Passenger transport user needs;
- Powered two-wheeler (mopeds and motorbikes) user needs; and
- Other motor vehicle user needs.

4.4 The inclusion of a workspace and tech hub together with an enhanced retail offer at the Burston Rose and Garden centre and leisure facilities within the approved hotel,as part of the promoted scheme will attract future households and other end-users and as such will reduce the need to travel to / from other local destinations. This aspect of the promoted scheme will minimise the impact on the local highway and transport networks during the weekday AM and PM peak periods.

Proposed Access Arrangements

4.5 There are two points of access to the promoted site, which include the consented amendments to The Noke Roundabout and the approved signalised junction off the southern side of the A405 North Orbital Road.

Access 1 – Consented Vehicular Access off The Noke Roundabout

4.6 Access 1 involves the consented alterations to The Noke Roundabout, as proposed in the '*Copsewood*' application. The access involves the construction of a new arm to the southern side of The Noke Roundabout as indicated on Drawing 100-01 Rev K, attached at Appendix 2. The new vehicular access will comply fully with DMRB standards and consist of a short length of dual carriageway providing two 3.5m lanes in both directions. The dual carriageway extends approximately 30m to an internal 4-arm roundabout.

4.7 The new vehicular access will be provided with shared footway/cycleway facilities of circa 2.5 metres in width on both sides of the carriageway to provide direct access to the development from existing infrastructure along the A405.

4.8 The existing dropped kerb access to the site from the A405 Noke Roundabout would be permanently closed up as part of the revised access arrangements.

4.9 In association with the provision of the new vehicular access onto the A405 Noke Roundabout, highway improvement works would be undertaken to the roundabout itself. These highway works include:

- An enlargement of the existing central island to create additional circulatory carriageway and provide improved horizontal deflection on the A405 (north-east) approach;
- Minor modifications to all major approaches to incorporate improved anti-skid surfacing, street lighting, carriageway markings and road signage; and
- Widened footway / cycleway links across each of the approach arms incorporating improved signage and tactile warning paving for the visually impaired.

Access 2 – Existing Vehicular Access off the A405 North Orbital Road

4.10 The second point of access to the promoted site would utilise the signal control junction with Burston Nurseries off the southern side of the A405 North Orbital Road. As previously mentioned in Section 1, an updated version of the signal-control junction has been agreed as part of the most recent Castle Oak Retirement Village Scheme (Reference: 5/2020/2033), which involved a number of amendments to the consented access. The updated junction drawing is attached at Appendix 2. Following discussions with the landowners, this updated access will form part of the promoted scheme.

4.11 The permitted scheme consists of a signal-controlled arrangement of the existing junction that includes retention of a right turn lane on the A405 North Orbital Road for arrivals from the west to the site access. Traffic to the garden centre approaching the site access from the east would be provided with a deceleration lane some 110m long.

4.12 The existing westbound and eastbound channels on the A405 would be provided with new signal heads, with the speed limit along the A405 reduced to 60-mph. The egress from Albany Mews to the north of the A405 would also be provided with its own dedicated signal phase for eastbound traffic joining the A405.

4.13 The approved junction arrangement also includes new signal-controlled Toucan crossing facilities and a footway along the west side of the garden centre access linking with the internal pedestrian route to the building. The crossing facilities would provide a pedestrian link between the bridleways on each side of the A405.

Internal Layout

4.14 In line with best practice design guidance, the internal main spine road would have a carriageway width of 6.5-metres narrowing to 5.5-metres for roads off of the spine road and would connect with The Noke Roundabout and with the Burston Nurseries access off the A405 North Orbital Road.

4.15 In addition, two-way segregated cycleways, measuring 4.0-metres in width, and footways with a minimum width of 2.0-metres would be provided on both sides of the main spine road to promote safe and convenient access to each residential unit.

Proposed Pedestrian Enhancement

4.16 To cater for the main pedestrian and cycle desire lines (i.e. north-west to south-east), it is proposed that the existing Public Right of Way (i.e. St Stephen 018) is upgraded to a sustainable transport corridor measuring circa 10.0-metres in width and comprising of a two-way segregated cycleway (4.0-metres), footway (2.0-metres) and wildlife / hedgerow / amenity space (2.0-metres) on either side. Where the PRoW will intersect with the internal road network, raised tables will be installed to prioritise the needs of vulnerable road users.

4.17 This would connect to new foot / cycle infrastructure along either side of the main spine road extending from the primary and secondary accesses, north-eastern side of Lye Lane, and southern boundary of the Castleoak care and assisted living site, thereby forming a convenient, direct, and safe walking and cycling route, which connects the mixed-use development to the nearby local centres of Chiswell Green and How Wood to the north and south-east.

4.18 To enhance connectivity to Chiswell Green, the consented signalised junction for Burston Nurseries will enhance pedestrian and cyclist safety when crossing the A405 North Orbital Road and will increase the attractiveness of this route.

Proposed Parking Arrangements

Commercial Office

4.19 Guidance on commercial office car parking standards is provided in the '*Revised Parking Policies and Standards*' which requires 1 car parking space per 30 sq.m. Gross Floor Area (GFA) for B1 business. SACDC Detailed Local Plan Draft for Consultation states the same standards.

4.20 Regarding cycle parking, 1 long term space per 500 sq.m. GFA plus 1 long term space per 10 full-time staff is required for B1 developments.

Care Home / Adult Social Care Facility

4.21 Guidance on car parking standards for care homes within the SACDC Detailed Local Plan Draft for Consultation require a 1 space per 5 bedspaces for residents and 1 space per 2 staff not living at the care home.

4.22 Regarding cycle parking, 1 short-term space is to be provided per 20 beds and 1 long-term space per 10 staff on duty at any one time.

Garden Centre

4.23 The existing garden centre has a total of 135 car parking spaces, including 5 disabled bays. Currently demand does not exceed capacity and therefore the number of parking spaces will be increased in line with the existing provision.

Residential

4.24 Guidance on car parking standards for residential development proposals is detailed in SACDC's Local Plan Review 1994 ("*saved*" policies), '*Revised Parking Policies and Standards*' (January 2002) and the emerging Local Plan (DLP) 2020-2036 Publication Draft (2018) documents.

4.25 Policy 40 of the current adopted Local Plan together with the SACDC Detailed Local Plan Draft for Consultation specifies the following maximum standards for residential development proposals:

- 1-bedroom dwellings (including studios): 1.5 spaces (either 1.5 unallocated, or 1 allocated and 0.5 unallocated).
- 2-bedroom dwellings: either 2 spaces (either 2 unallocated or 1 allocated and 1 unallocated) or 2.5 spaces (2 allocated and 0.5 unallocated).
- 3-bedroom dwellings: 2 allocated and 0.5 unallocated.
- 4 or more-bedroom dwellings: 3 allocated and 0.5 unallocated spaces.

4.26 The '*Revised Parking Policies and Standards*' document presents a zonal approach for the implementation of maximum parking standards. For residential development proposals situated in Zone 1 (which includes the site), the guidance states that while applicants are required to meet the above-mentioned standards, the Council may accept schemes slightly below the standards.

4.27 Regarding cycle parking, the standards specified in the SACDC Detailed Local Plan Draft for Consultation require 1 long-term cycle space per residential unit in the form of garages / sheds for houses and communal covered stores for apartments. In addition, 1 short-term space per 3 units plus 1 long-term space per 5 units would be required.

4.28 The above-mentioned car and cycle parking standards will be applied to the emerging development. To ensure compliance with adopted cycle parking standards, it is envisaged that the emerging masterplan for a development proposal would provide sufficient space for the storage of cycles within the curtilage of each residential unit, in the form of garages / garden sheds for each of the houses. For flats / apartments and the commercial uses, dedicated sheltered cycle stores will be provided to accommodate the cycle parking space requirement.

4.29 To determine the existing car ownership of households in the local area, 2011 Census data on '*car or van availability*' for St Albans 020 Middle Layer Super Output Areas (MSOA), in which the site is located, have been extracted from the Nomis website and averaged. The car ownership is presented in Table 4.1, while a copy of the 2011 Census output is attached as Appendix 7 of this report.

Table 4.1 2011 Car Ownership Data (St Albans 020 MSOA)

Cars	Number of cars	%
All categories: Car or Van availability	3,080	100%
No cars or vans in household	243	8%
1 car or van in household	1,113	36%
2 cars or vans in household	1,242	40%
3 cars or vans in household	313	10%
4 or more cars or vans in household	169	5%

4.30 Analysis of the 2011 Census car ownership data reveals that the average number of cars per household is 1.7. Based on the reasonable assumption that future residents would adopt similar levels of car ownership, a development of 165 units would require a total of 281 car parking spaces would be required to satisfy potential demand.

4.31 However, as part of a Transport Assessment prepared in support of a future planning application, the precise number of parking spaces will be established once details of the proposed masterplan / accommodation schedule have been fixed.

Proposed Delivery and Servicing Arrangements

4.32 In line with national, regional, and local planning policy best practice, the proposed masterplan would be designed to facilitate on-site servicing including waste refuse and household collections.

4.33 Detailed analysis will be undertaken once the masterplan layout has been fixed, however the access options off The Noke Roundabout and the A405 North Orbital Road Lane have been designed to ensure a large refuse vehicle can access and egress the site in a safe and convenient manner.

Proposed Sustainable Transport Measures

4.34 In order to provide a more frequent and attractive service, there are aspirations to combine the minibus services associated with the consented hotel scheme and proposed Castle Oak retirement village to serve key local destinations from a centralised location / hub within the promoted site. Combining these services would provide a more frequent service and increase the viability of the service.

5. Multi-Modal Trip Generation

5.1 This section of the report presents the methodology for assessing the multi-modal trip generating potential of the mixed-use development proposals and associated impact on the surrounding local highway and transport networks during the AM (08:00 – 09:00) and PM (17:00 – 18:00) peak hour periods.

Existing Operation

5.2 Currently, the site includes Burston Garden Centre which has a GIA of 7,525 sq.m and has a total of 122 car parking spaces in the main car park and an additional 13 spaces provided between the garden centre access and the Burston Manor Farm access.

5.3 As part of the Burston Nurseries planning application, traffic surveys were undertaken at the Burston Garden Centre / A405 junction in 2018 to identify the peak hour traffic movements associated with the Burston Garden Centre. These have been reproduced below for the weekday AM and PM peak, as well as the identified Saturday peak hour.

5.4 Table 5.1 reveals that the existing Garden Centre generates 25 and 57 two-way vehicular movements during the weekday AM (08:00 – 09:00) and PM (17:00 – 18:00) peak hour periods, respectively. In addition, the Saturday peak hour of 12:00 – 13:00 generated a total of 205 two-way vehicular movements.

Table 5.1 Vehicular Trip Generation (Existing Garden Centre – 7,525 sq.m.)

Time Period	Total Vehicular Movements		
	Arrivals	Departures	Total
AM Peak (08:00 – 09:00)	23	2	25
PM Peak (17:00 – 18:00)	21	36	57
Saturday (12:00 – 13:00)	107	98	205

Consented Operation

5.5 As the development proposals involve the erection of the consented hotel development, known as Copsewood (Planning Reference: 5/2015/0722), the trip generation undertaken as part of the Transport Assessment submitted have been reproduced below.

5.6 Table 5.2 reveals that the consented hotel development would have the potential to generate in the region of 786 two-way vehicular movements over the course of a typical weekday, including 76 and 71 during the AM (08:00 – 09:00) and PM (17:00 – 18:00) peak hour periods, respectively.

Table 5.2 Vehicular Trip Rates / Generation (Hotel – 150-Beds)

Time Period	Trip Rates (Per Bed)			Total Vehicular Movements		
	Arrivals	Departures	Total	Arrivals	Departures	Total
AM Peak (08:00 – 09:00)	0.216	0.235	0.451	32	44	76
PM Peak (17:00 – 18:00)	0.189	0.176	0.365	40	31	71
Daily (07:00 – 19:00)	2.498	2.534	5.032	390	396	786

Proposed Operation

Increased Garden Centre

5.7 The development proposals involve an additional 3,488 sq.m. of retail to the garden centre, which signifies a 46% increase in the floor area. Therefore, to calculate the proposed garden centre operation, the percentage increase has been applied to the surveyed traffic flows presented in Table 5.1.

5.8 As shown in Table 5.3, the proposed increased garden centre would have the potential to generate a total of 37 and 84 two-way vehicular movements in the weekday AM and PM peak period, respectively. In the peak hour on a Saturday, the proposed garden centre would have the potential to generate a total of 300 two-way vehicular trips.

Table 5.3 Vehicular Trip Generation (Proposed Garden Centre – 11,013 sq.m.)

Time Period	Total Vehicular Movements		
	Arrivals	Departures	Total
AM Peak (08:00 – 09:00)	34	3	37
PM Peak (17:00 – 18:00)	31	53	84
Saturday (12:00 – 13:00)	157	143	300

Residential

5.9 An initial assessment has been undertaken to determine the potential weekday daily and peak hourly person trip generation arising from the proposed residential aspect of the mixed-use development. The TRICS database (Version 7.7.4) was interrogated to identify sites with similar characteristics in regards to location, accessibility to public transport services and on-site parking provision, under the land use category *'03 Residential – K – Mixed Private Houses (Flats and Houses)'* for the purposes of establishing the anticipated person / multi-modal trip generation of the development proposals.

5.10 The following search parameters were applied to further ensure compliance with TRICS:

- Selected Geographical Regions and Area – Whole of England, excluding Greater London.
- Number of Dwellings – 15 to 618 dwellings.
- Selected Survey Days – Weekdays only.
- Selected Date Range – 01/01/12 to 19/11/19.
- Selected Locations – Edge of Town and Suburban Area.

5.11 A summary of the total person trip rates and corresponding movements throughout a typical weekday (07:00 – 19:00) as well as during the AM (08:00 – 09:00) and PM (17:00 – 18:00) peak hour periods for the proposed 165-unit residential development is presented in Table 5.4, while a copy of the TRICS output is attached at Appendix 8 of this report.

5.12 Table 5.4 reveals that the development proposals would have the potential to generate in the region of 1,112 two-way person trips over the course of a typical weekday including 133 and 122 during the AM and PM peak hour periods, respectively.

Table 5.4 Person Trip Rates / Generation – Mixed Private Housing (165-Units)

Time Period	Trip Rates (Per Unit)			Total Person Movements		
	Arrivals	Departures	Total	Arrivals	Departures	Total
AM Peak (08:00 – 09:00)	0.177	0.628	0.805	29	104	133
PM Peak (17:00 – 18:00)	0.524	0.215	0.739	86	35	122
Daily (07:00 – 19:00)	3.303	3.439	6.742	545	567	1112

5.13 To determine the likely multi-modal trip generating potential of the development proposals, the total person movements for the residential use have been cross referenced with '*Method of Travel to Work*' data from the 2011 Census for the St Albans 020 MSOA. This is shown in Table 5.5 and is included at Appendix 9 of this report.

Table 5.5 2011 Census Method of Travel to Work Modal Split (St Albans 020 MSOA)

Mode	Percentage	Mode	Percentage
Car Driver	75%	Pedestrians	5%
Car Passenger	4%	Cyclists	1%
Public Transport Users	13%	Other	2%

5.14 Table 5.5 reveals that circa 75% of households living within the area surrounding the site are dependent on travelling by private car for journeys to and from work. Approximately 13% regularly travel by public transport services. An additional 6% travel by the '*active*' modes of walking and cycling.

5.15 The multi-modal person trip rates and corresponding person movements, which are likely to be generated by the residential development over the course of a typical weekday, as well as during the AM and PM peak hour periods, are presented in Tables 5.6 and 5.7.

5.16 As shown in Table 5.6, the residential development proposals would have the potential to generate circa 1,112 two-way person movements over the course of a typical weekday, including 839 by private car, 141 by public transport and 63 by the '*active*' modes of walking and cycling.

Table 5.6 Daily (07:00 – 19:00) Person Trip Generation – Mixed Private Housing (165-Units)

Mode	Arrivals		Departures		Total	
	Trip Rate	No. Trips	Trip Rate	No. Trips	Trip Rate	No. Trips
Car Driver	2.490	411	2.592	428	5.082	839
Car Passenger	0.130	21	0.136	22	0.266	44
Public Transport Users	0.420	69	0.437	72	0.857	141
Pedestrians	0.158	26	0.165	27	0.324	53
Cyclists	0.031	5	0.032	5	0.064	10
Other	0.074	12	0.077	13	0.150	25
TOTAL	3.303	545	3.439	567	6.742	1112

5.17 As shown in Table 5.7, it is anticipated that the development proposals would have the potential to generate in the order of 133 and 122 two-way person movements during both weekday AM (08:00 – 09:00) and PM (17:00 – 18:00) peak hour periods, respectively. Of these, 100 and 92 would be undertaken by private car, 17 and 15 by public transport and 7 by the '*active*' modes of walking and cycling.

Table 5.7 AM & PM Peak Hour Trip Generation – Mixed Private Housing (165-Units)

Mode	AM Peak (08:00 – 09:00)				PM Peak (17:00 – 18:00)			
	Arrivals		Departures		Arrivals		Departures	
	Trip Rate	No. Trips	Trip Rate	No. Trips	Trip Rate	No. Trips	Trip Rate	No. Trips
Car Driver	0.133	22	0.473	78	0.395	65	0.162	27
Car Passenger	0.007	1	0.025	4	0.021	3	0.008	1
Public Transport	0.022	4	0.080	13	0.067	11	0.027	5
Pedestrians	0.008	1	0.030	5	0.025	4	0.010	2
Cyclists	0.002	0	0.006	1	0.005	1	0.002	0
Other	0.004	1	0.014	2	0.012	2	0.005	1
TOTAL	0.177	29	0.628	104	0.524	86	0.215	35

Commercial Office

5.18 An initial assessment has been undertaken to determine the potential weekday daily and peak hourly person trip generation arising from the proposed commercial aspect of the mixed-use development. The TRICS database (Version 7.7.4) was interrogated to identify sites with similar characteristics in regards to location, accessibility to public transport services and on-site parking provision, under the land use category *'02 Employment – B – Business Park'* for the purposes of establishing the anticipated person / multi-modal trip generation of the development proposals.

5.19 A summary of the total person trip rates and corresponding movements throughout a typical weekday (07:00 – 19:00) as well as during the AM (08:00 – 09:00) and PM (17:00 – 18:00) peak hour periods for the proposed commercial development is presented in Table 5.8, while a copy of the TRICS output is attached at Appendix 10 of this report.

5.20 Table 5.8 reveals that the commercial development proposals would have the potential to generate in the region of 757 two-way person trips over the course of a typical weekday including 74 and 65 in the AM and PM peak hour periods, respectively.

Table 5.8 Person Trip Rates / Generation – Business Park (3,038-GFA)

Time Period	Trip Rates (Per 100 sq.m.)			Total Person Movements		
	Arrivals	Departures	Total	Arrivals	Departures	Total
AM Peak (08:00 – 09:00)	1.839	0.593	2.432	56	18	74
PM Peak (17:00 – 18:00)	0.645	1.506	2.151	20	46	65
Daily (07:00 – 19:00)	12.318	12.616	24.934	374	383	757

5.21 To determine the likely multi-modal trip generating potential of the development proposals, the total person movements for the commercial use have been cross referenced with '*Method of Travel to Work (Workplace Population)*'' data from the 2011 Census for the St Albans 020 MSOA. This is shown in Table 5.9 and is included at Appendix 11 of this report.

Table 5.9 2011 Census Method of Travel to Work Modal Split (Workplace Population) (St Albans 020 MSOA)

Mode	Percentage	Mode	Percentage
Car Driver	78%	Pedestrians	6%
Car Passenger	5%	Cyclists	2%
Public Transport Users	7%	Other	2%

5.22 Table 5.9 reveals that circa 78% of employees working within the area surrounding the site are dependent on travelling by private car for journeys to and from work. Approximately 7% regularly travel by public transport services. An additional 8% travel by the '*active*' modes of walking and cycling.

5.23 The multi-modal person trip rates and corresponding person movements, which are likely to be generated by the commercial aspect of the development over the course of a typical weekday, as well as during the AM and PM peak hour periods, are presented in Tables 5.10 and 5.11.

5.24 As shown in Table 5.10, the commercial development proposals would have the potential to generate circa 757 two-way person movements over the course of a typical weekday, including 593 by private car, 51 by public transport and 62 by the '*active*' modes of walking and cycling.

Table 5.10 Daily (07:00 – 19:00) Person Trip Generation – Business Park (3,038-GFA)

Mode	Arrivals		Departures		Total	
	Trip Rate	No. Trips	Trip Rate	No. Trips	Trip Rate	No. Trips
Car Driver	9.644	293	9.878	300	19.522	593
Car Passenger	0.601	18	0.616	19	1.217	37
Public Transport Users	0.826	25	0.846	26	1.672	51
Pedestrians	0.753	23	0.771	23	1.524	46
Cyclists	0.259	8	0.265	8	0.524	16
Other	0.235	7	0.240	7	0.475	14
TOTAL	12.318	374	12.616	383	24.934	757

5.25 As shown in Table 5.11, it is anticipated that the development proposals would have the potential to generate in the order of 74 and 65 two-way person movements during both weekday AM (08:00 – 09:00) and PM (17:00 – 18:00) peak hour periods, respectively. Of these, 58 and 51 would be undertaken by private car, 5 and 4 by public transport and 7 and 5 by the '*active*' modes of walking and cycling.

Table 5.11 AM & PM Peak Hour Trip Generation – Business Park (3,038-GFA)

Mode	AM Peak (08:00 – 09:00)				PM Peak (17:00 – 18:00)			
	Arrivals		Departures		Arrivals		Departures	
	Trip Rate	No. Trips	Trip Rate	No. Trips	Trip Rate	No. Trips	Trip Rate	No. Trips
Car Driver	1.440	44	0.464	14	0.505	15	1.179	36
Car Passenger	0.090	3	0.029	1	0.031	1	0.074	2
Public Transport	0.123	4	0.040	1	0.043	1	0.101	3
Pedestrians	0.112	3	0.036	1	0.039	1	0.092	3
Cyclists	0.039	1	0.012	0	0.014	0	0.032	1
Other	0.035	1	0.011	0	0.012	0	0.029	1
TOTAL	1.839	56	0.593	18	0.645	20	1.506	46

Care Home

5.26 An initial assessment has been undertaken to determine the potential weekday daily and peak hourly person trip generation arising from the proposed care home aspect of the mixed-use development. The TRICS database was interrogated to identify sites with similar characteristics in regards to location, accessibility to public transport services and on-site parking provision, under the land use category *'05 Health – F – Care Home (Elderly Residential)'* for the purposes of establishing the anticipated person / multi-modal trip generation of the development proposals.

5.27 A summary of the total person trip rates and corresponding movements throughout a typical weekday (07:00 – 19:00) as well as during the AM (08:00 – 09:00) and PM (17:00 – 18:00) peak hour periods for the proposed care home aspect of the development is presented in Table 5.12, while a copy of the TRICS output is attached at Appendix 12 of this report.

5.28 Table 5.12 reveals that the care home development proposals would have the potential to generate in the region of 204 two-way person trips over the course of a typical weekday including 15 and 14 during the AM and PM peak hour periods, respectively.

Table 5.12 Person Trip Rates / Generation – Care Home (60-beds)

Time Period	Trip Rates (Per 100 sq.m.)			Total Person Movements		
	Arrivals	Departures	Total	Arrivals	Departures	Total
AM Peak (08:00 – 09:00)	0.145	0.099	0.244	9	6	15
PM Peak (17:00 – 18:00)	0.099	0.132	0.231	6	8	14
Daily (07:00 – 19:00)	1.644	1.750	3.394	99	105	204

5.29 The multi-modal person trip rates and corresponding person movements, which are likely to be generated by the care home aspect of the development over the course of a typical weekday, as well as during the AM and PM peak hour periods, are presented in Tables 5.13 and 5.14.

5.30 As shown in Table 5.13, the care home development proposals would have the potential to generate circa 204 two-way person movements over the course of a typical weekday, including 117 by private car, 19 by public transport and 42 by the '*active*' modes of walking and cycling.

Table 5.13 Daily (07:00 – 19:00) Person Trip Generation – Care Home (60-beds)

Mode	Arrivals		Departures		Total	
	Trip Rate	No. Trips	Trip Rate	No. Trips	Trip Rate	No. Trips
Car Driver	0.947	57	0.999	60	1.946	117
Car Passenger	0.199	12	0.239	14	0.438	26
Public Transport Users	0.168	10	0.151	9	0.319	19
Pedestrians	0.311	19	0.335	20	0.646	39
Cyclists	0.028	2	0.028	2	0.056	3
TOTAL	1.644	99	1.750	105	3.394	204

5.31 As shown in Table 5.14, it is anticipated that the development proposals would have the potential to generate in the order of 15 and 14 two-way person movements during both weekday AM (08:00 – 09:00) and PM (17:00 – 18:00) peak hour periods, respectively. Of these, 8 and 9 would be undertaken by private car, 3 and 1 by public transport and 2 and 1 by the '*active*' modes of walking and cycling.

Table 5.14 AM & PM Peak Hour Trip Generation – Care Home (60-beds)

Mode	AM Peak (08:00 – 09:00)				PM Peak (17:00 – 18:00)			
	Arrivals		Departures		Arrivals		Departures	
	Trip Rate	No. Trips	Trip Rate	No. Trips	Trip Rate	No. Trips	Trip Rate	No. Trips
Car Driver	0.059	4	0.066	4	0.072	0	0.079	5
Car Passenger	0.027	2	0.006	0	0.007	0	0.020	1
Public Transport	0.039	2	0.007	0	0.007	0	0.013	1
Pedestrians	0.020	1	0.020	1	0.007	0	0.013	1
Cyclists	0.000	0	0.000	0	0.007	0	0.007	0
TOTAL	0.145	9	0.099	6	0.099	6	0.132	8

Combined

5.32 To gain an understanding of the trip generating potential of the total mixed-use development, the proposed operation and consented hotel operation have been combined. As shown in Table 5.15, the mixed-use development proposals would have the potential to generate in the region of 2,335 two-way vehicular trips over the course of a typical weekday, including 279 and 307 during the AM (08:00 – 09:00) and PM (17:00 – 18:00) peak hour periods, respectively.

Table 5.15 Combined Mixed-use Development Daily Vehicle Trips

Time Period	Arrivals	Departures	Total
AM Peak (08:00 – 09:00)	136	143	279
PM Peak (17:00 – 18:00)	155	152	307
Daily (07:00 – 19:00)	1151	1184	2335

Net Impact

5.33 To gain an understanding of the potential impact of the mixed-use development proposals, a net impact assessment has been undertaken comparing the existing site operation and consented development to the proposed mixed-use development. As shown in Table 5.16, the mixed-use development proposals, would have the potential to generate an additional 254 and 250 vehicular movements during the AM and PM peak hour periods, respectively in comparison to the existing garden centre on site. In addition, the mixed-use development proposals would have the potential to generate an additional 178 and 179 movements during the AM and PM peak hour periods, respectively in comparison to the existing and consented development on site.

Table 5.16 Vehicular Trip Net Impact

Scenario	AM Peak (08:00 – 09:00)			PM Peak (17:00 – 18:00)		
	Arrivals	Departures	Total	Arrivals	Departures	Total
Existing Site Operation	23	2	25	21	36	57
Consented Hotel Development	32	44	76	40	31	71
Proposed Development	136	143	279	155	152	307
Net Impact (Existing)	113	141	254	134	116	250
Net Impact (Existing + Consented)	81	97	178	94	85	179

Distribution

Hotel

5.34 As demonstrated in the consented Copsewood TA, the hotel trip generation was distributed onto the local highway network utilising the recorded turning proportions of vehicular movements into and out of the Noke Thistle Hotel. Table 5.17 reproduces the AM and PM peak period turning distributions for the Noke Thistle hotel derived from the traffic surveys undertaken in 2009.

Table 5.17 Hotel Trip Distribution

Time Period	Arrivals			Departures		
	A405 South-West	A405 North East	Watford Road	A405 South-West	A405 North East	Watford Road
08:00 – 09:00	61%	33%	6%	25%	25%	50%
17:00 – 18:00	64%	32%	4%	43%	31%	26%

Residential

5.35 In order to inform the distribution of the vehicular traffic movements of the proposed residential aspect of the development onto the local highway network, origin / destination data, specifically '*Location of usual residence and place of work by method of travel to work*' for MSOA St Albans 020 was extracted from the 2011 Census.

5.36 Table 5.18 summarises the geographical extent / range of destinations (i.e. 50 trips or more) in which households living in St Albans 020 MSOA regularly travel for journeys to work. The full output and analysis is attached at Appendix 13.

Table 5.18 Residents Car Driver Travel to Work Destinations

Local Authority	Count	%
St Albans	590	27%
London	476	22%
Watford	237	11%
Hertsmere	199	9%
Welwyn Hatfield	127	6%
South East	115	5%
Three Rivers	102	5%
Dacorum	96	4%
Luton	61	3%

5.37 Based on analysis of journey to work origin and destination data (car driver-only) from the 2011 Census, the development traffic flows have been distributed on the local highway network as follows: -

- The Noke Roundabout
  - 61% of departures from the proposed development would turn left out of the site's access travelling south-west on the A405 North Orbital Road.
  - 31% of departures would turn right out of the site's access travelling north-east on the A405 North Orbital Road.
  - 8% of departures would travel right out of the site's access to Watford Road.
  - Arrivals to the site would be using the same turning proportions.

Commercial Office and Employees

5.38 In order to inform the distribution of the vehicular traffic movements of the proposed commercial aspect of the development onto the local highway network, origin / destination data, specifically '*Location of usual residence and place of work by method of travel to work*' for MSOA St Albans 020 was extracted from the 2011 Census.

5.39 Table 5.19 summarises the geographical extent / range of destinations (i.e. 50 trips or more) in which employees working in St Albans 020 MSOA regularly travel from for journeys to work. The full output and analysis is attached at Appendix 14.

Table 5.19 Employees Car Driver Travel to Work Home Destinations

Local Authority	Count	%
St Albans	470	28%
Watford	247	15%
Dacorum	163	10%
Three Rivers	160	9%
London	143	8%
South East	125	7%
Hertsmere	78	5%
Central Bedfordshire	58	3%
Luton	54	3%
Welwyn Hatfield	52	3%

5.40 Based on analysis of journey to work origin and destination data (car driver-only) from the 2011 Census, the development traffic flows have been distributed on the local highway network as follows: -

- The Noke Roundabout
  - 60% of arrivals to the proposed development would turn right into the site's access from the A405 South West.
  - 34% of arrivals would turn left into the site's access from the A405 North East.
  - 6% of arrivals would travel to the site from Watford Road.
  - Departures from the site would be using the same turning proportions.

Care Home and Garden Centre

5.41 The distribution of the vehicular traffic movements of the proposed care home and garden centre have been distributed on the local highway network based on the 2009 survey turning proportions at The Noke Roundabout.

5.42 To provide a robust and '*worst*' case assessment, all of the vehicular trips associated with the care home would utilise the new access off The Noke Roundabout. In regards to the garden centre, vehicles have been distributed using the existing access, except for right turns into the site, who would utilise The Noke Roundabout and internal road network.

Preliminary Analysis of Development-Related Traffic

5.43 In order to assess the impact of the proposed development, a future year assessment has been undertaken using Junctions 9 modelling software, to examine the performance of The Noke Roundabout and the priority give-way junction between the A405 North Orbital Road and Burston Nurseries access.

5.44 The 2021 baseline traffic data has been factored up to 2026 (i.e. 5-years post development) to represent the future operation of the proposed development using TEMPRO. The TEMPro growth rates used are:

- 2021 – 2026 AM Peak: 1.0518
- 2021 – 2026 PM Peak: 1.0530

5.45 The AM and PM peak hour traffic flows from the 2021 baseline, together with the distribution of the development traffic and future traffic is presented in Flow Diagrams 1 to 12, attached at Appendix 15 of this report.

5.46 Tables 5.20 and 5.21 provide a summary of the Junctions 9 outputs (i.e. RFCs and Mean Maximum Queue Lengths) for the '*2026 Base*' and '*2026 Base + Development*' scenarios on the operation of The Noke roundabout junction and the existing access for Burston Nurseries during the weekday AM and PM peak hour periods.

5.47 As shown in Table 5.20, The Noke Roundabout would continue to operate above capacity in the future year scenarios with and without development during both the AM and PM peak hour periods.

Table 5.20 The Noke Roundabout – 2026 and 2026 + Development

Arm	AM		PM	
	RFC	Queue (veh)	RFC	Queue (veh)
		2026		
A405 North Orbital Road north-east	0.96	14.9	0.82	4.5
Site Access (No development)	0.00	0.0	0.00	0.0
A405 North Orbital Road south-west	1.20	230.1	0.92	9.9
Mercure Hotel Access	**	55.1	2.87	7.4
Watford Road	1.00	21.8	0.80	3.8
JUNCTION DELAY (S)	**		30.33	
		2026 + Development		
A405 North Orbital Road north-east	0.99	26.1	0.91	9.3
Site Access	0.37	0.6	.19	0.2
A405 North Orbital Road south-west	1.26	316.8	0.98	23.1
Mercure Hotel Access	**	55.4	**	12.9
Watford Road	1.05	35.3	0.88	6.3
JUNCTION DELAY (S)	**		39.20	

** Excessively high figures

5.48 Table 5.21 demonstrates that with the additional loading of development related traffic in the '2026 + Development' scenario, the associated impact of the development proposals would, at worse, incur a 6.1% reduction in practical reserve capacity (PRC) and a maximum increase in queueing of 2 PCU's during the PM peak hour periods.

Table 5.21 Burston Nurseries Access – 2026 and 2026 + Development

Arm	AM Peak (08:00 – 09:00)		PM Peak (17:00 – 18:00)	
	PRC (%)	Delay (pcuHr)	PRC (%)	Delay (pcuHr)
		2026		
A405 East Left Ahead	80.3%	2.1	74.7%	1.6
A405 East Ahead	2.1%	0.0	1.9%	0.0
A405 West Ahead	0.0%	0.0	0.0%	0.0
A405 West Right Ahead	1.9%	0.0	22.5%	0.6
Burston Garden Access Left	7.2%	0.2	5.9%	0.1
Slip Lane Ahead	0.0%	0.0	0.0%	0.0
ALL LANES	12.0%	3.99	20.5%	3.70
		2026 + Development		
A405 East Left Ahead	82.5%	2.4	79.2%	2.3
A405 East Ahead	4.0%	0.1	3.5%	0.1
A405 West Ahead	3.0%	0.0	0.0%	0.0
A405 West Right Ahead	6.1%	0.2	56.8%	1.9
Burston Garden Access Left	19.0%	0.4	19.0%	0.4
Slip Lane Ahead	0.0%	0.0	0.0%	0.0
ALL LANES	9.1%	4.98	13.7^	6.52

6. Conclusions and Recommendations

Summary

6.1 This SMAS has been prepared by MTP on behalf of Mr Emerton, Ms Bond, and Mr Cowen to accompany a representation for a call for sites submission to SACDC for an emerging mixed-use development on land at Burston Nurseries in Chiswell Green, Hertfordshire.

6.2 The emerging mixed-use development proposal that comprises the retention of an approved 150-bed hotel (Use Class C1), an extension of the existing retail floorspace (Gross Internal Area of 3,488 sq.m) of Burston Garden Centre, a 60-bed care home / adult social care facility (Use Class C2), 165 residential units of mixed type, tenure and size (Use Class C3), and a community business, workspace and tech hub (Use Class E), together with associated access, refuse / cycle storage, car parking, soft landscaping, open space and enhancements to the existing PRoW network.

6.3 In summary, the report demonstrates: -

- The site is located within an established area, and as a consequence benefits from being accessible on-foot, by cycle and public transport to a range of amenities and services available in Chiswell Green, How Wood, Bricket Wood as well as St Albans and Watford further afield via existing infrastructure and the PRoW network. Consequently, future households and end-users would be afforded opportunities to adopt sustainable travel patterns and behaviour, in accordance with HCC's hierarchy of needs for various journey purposes to and from the emerging mixed-use development.
- A review of PIA data (latest 5-year period) reveals that there are noticeable clusters of PIAs at The Noke Roundabout and the existing access to Burston Nurseries. As part of the consented hotel and upgrade to Burston Nurseries, substantial improvements are proposed, which will enhance the safety for vulnerable road users utilising the existing foot / cycleway infrastructure and PRoW network. The promoted scheme will provide opportunities to further enhance the local walking and cycling environment, and as a consequence the number of recorded PIAs is likely to be decreased.
- The emerging masterplan and SMAS has been informed by Policy 1 of HCC's LTP 4 publication, which promotes a hierarchy of user needs. Most notably: -
    - Opportunities to reduce travel demand and the need to travel are achieved through the provision of a community business, workspace / tech hub, leisure facilities and enhanced retail offer available at the Burston Rose & Garden Centre. Such facilities will attract future households and other end-users to travel on-foot and by cycle, thereby minimising the impact of the promoted mixed-use development on the local highway and transport networks.
    - Vulnerable road user needs (such as pedestrians and cyclists) will be catered for through the provision of a signal-control junction incorporating at-grade crossing facility across the A405 North Orbital Road. This improvement will enhance pedestrian and cyclist safety and provide an attractive walk / cycle route for future households and end-users accessing amenities available in Chiswell Green. The provision of sustainable transport corridors and enhanced PRoW network will also provide safe and convenient walking and cycling routes to How Wood and Bricket Wood village centres.

- Passenger transport user needs will be met through the provision of a minibus / shuttle service operating to / from a number of local destinations. Further, the internal road layout has been designed to accommodate buses, in the event that a future operator expresses an interest in creating a new or divert an existing service through the promoted site.
- Powered two-wheeler (mopeds and motorbikes) user needs will be met through the provision of safe and secure parking facilities.
- Other motor vehicle user needs will be satisfied through the provision of a signal-control junction and internal road connecting the access to Burston Nurseries to The Noke Roundabout junction.

- The promoted scheme will provide parking for cars, disabled users, powered two-wheelers, electric vehicles, and cycle parking in accordance with SACDC's adopted standards.
- Trip generation analysis shows that the promoted scheme would have the potential to generate a total of 324 and 335 two-way vehicular movements in the AM peak hour and PM peak hour periods, respectively.
- Through a preliminary analysis, the anticipated number of vehicular movements would have an immaterial impact on the operation and safety characteristics of the local highway network, as demonstrated in the ARCADY and LINSIG assessments of The Noke Roundabout and Burston Nurseries access.
- In the context of the guidelines within paragraph 109 of the NPPF, it is considered that a mixed-use development proposal would not result in there being a residual cumulative impact in terms of highway safety or the operational capacity of the surrounding transport network. Consequently, there are no transport planning or highways reasons for why the site should not be promoted to be allocated in SACDC's new Local Plan.

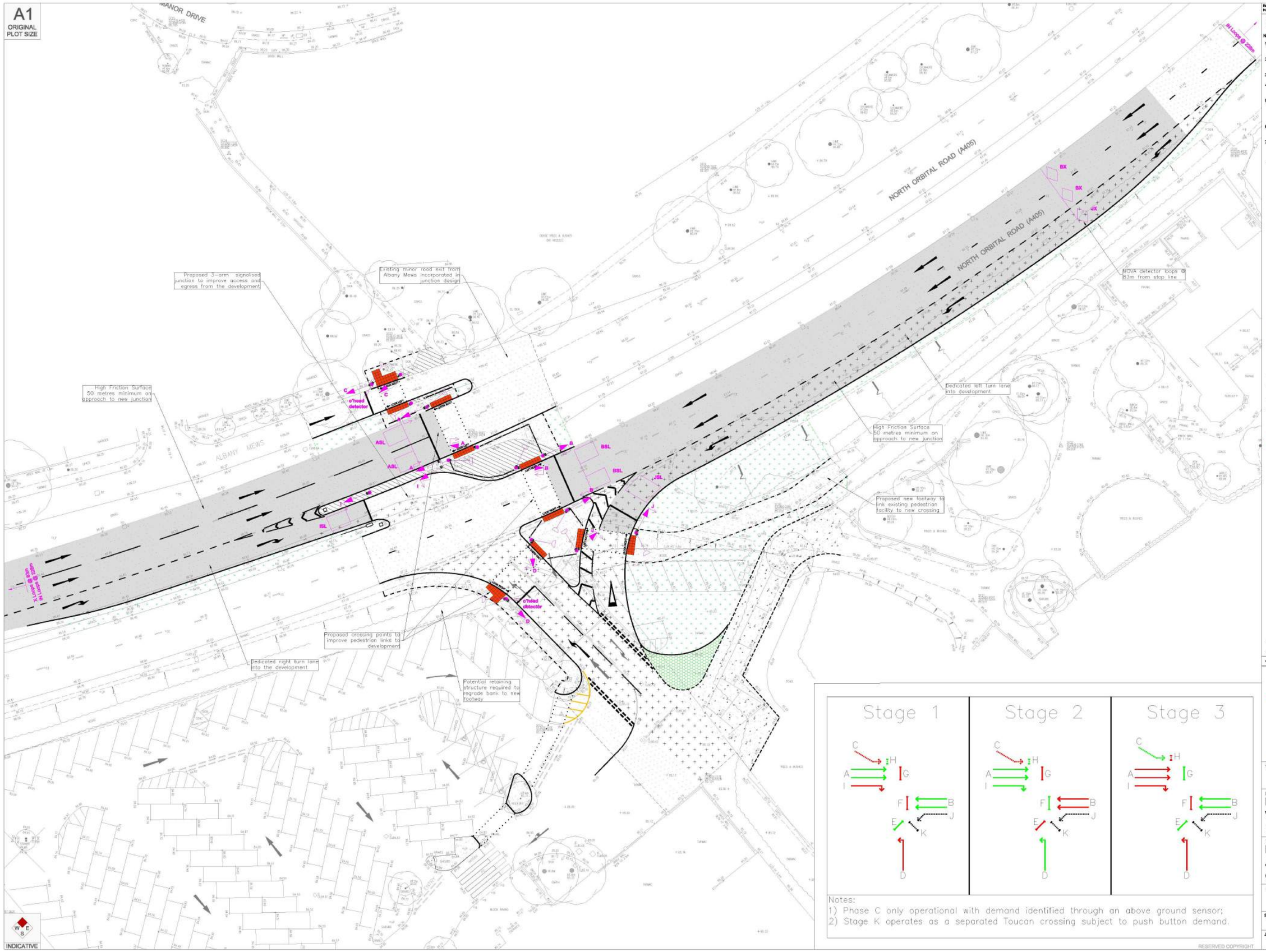
Recommendations

6.4 The main recommendations for the applicant are as follows: -

- Seek pre-application advice from SACDC and HCC to agree the scope of a Transport Assessment (TA) in support of a future planning application including the study area for gathering refreshed baseline traffic flows and study area for conducting junction capacity assessments.
- Engage with local bus operators to assess the potential to divert an existing or create a new bus service to serve the promoted scheme.
- Engage with HCC's PRoW Officers to discuss enhancements to the PRoW network within the vicinity of the promoted site.

Appendix 1

A1
ORIGINAL
PLOT SIZE



Topographical survey undertaken by: Malcolm Hughes Land Surveyors drawing no. 16827 / 1 - 5

NOTES:

1. All details are to be checked on site by the Contractor prior to the commencement of the works.
2. All dimensions in metres unless otherwise stated. Measurements to all lines are to be centre line. DO NOT SCALE from this drawing.
3. All levels in metres above ordnance datum unless otherwise stated.
4. TPA cannot be held responsible for the accuracy of the topographical survey.
5. All works to be undertaken in accordance with Manual of Contract Documents for Highway Works (MCHW). If there is any ambiguity between the Specification and the Drawings, the Contractor shall immediately inform the Engineer.
6. Traffic management to be in accordance with Chapter 8 of the Traffic Signs Manual and relevant codes of practice.
7. All lining diagram numbers refer to the Traffic Signs Regulations & General Directions 2002.

KEY:

- Full Carriageway Construction
- Carriageway Regulating / Resurfacing
- Full Footway Construction
- Partial Footway Construction / Resurfacing
- Driveway construction - TBC
- Areas of landscaping
- Grass-crete overrun area
- High friction surface min. 50m on approach to stop line. Increased to 102m on westbound approach and 90m on eastbound approach to include queue lengths in accordance with HD 36/06.
- New Kerbing
- New Edging
- Road restraint system
- Soft edge
- Tactile paving - controlled crossing
- Signal equipment. Note: High level secondary signal heads to be included on the A405 approaches.
- MOVA detector loops

Rev	Date	Details	Drawn by	Checked by	Approved by
B	13-03-15	Minor amendments in accordance with comments from HSA1	RC	TD	RL
A	28-10-14	Amendments to minor issue access	RC	TD	RL

Bristol
Cambridge
Cardiff
London
Welwyn Garden City

tpa Transport Planning Associates

Studio Four
37 Broadwater Road
Welwyn Garden City
AL7 3AX
01707 365 200
www.tpa.uk.com

CLIENT: Burston

PROJECT:
Burston Commercial Wholesale Horticultural & Retail Site, St Albans, Herts

TITLE:
Proposed Signalised Junction - Preliminary General Arrangement

STATUS:
PRELIMINARY

SCALE:	DATE:	DRAWN:	CHECKED:	APPROVED:
1:250	11.09.14	RC	TD	RL

JOB NO:	DRAWING NO:	REVISION:
1401-77	101	B

Notes:
1) Phase C only operational with demand identified through an above ground sensor;
2) Stage K operates as a separated Toucan crossing subject to push button demand.

Appendix 2

DWG No.
DWG-NO1

INDICATIVE ONLY

HOTEL

WATFORD ROAD

PETROL FILLING STATION

A 405 NORTH ORB

A 405 NORTH ORBITAL

Anti Skid Surfacing

Sign to Diag no 515 & 606

Enlarged Central Island on Roundabout

Sign to Diag no 515 & 606

Sign to Diag no 515 & 606

Footway/Cycleway Link

Footway/Cycleway Link

Anti Skid Surfacing

NOTES

MILESTONE TRANSPORT PLANNING

Heritage House, 7 Wey Court, Mary Road
Guildford, Surrey, GU1 4QU
Tel: 01483 397888
e-mail: mstevens@milestonetp.co.uk

51 Pegasus Limited

Proposed Hotel - Copsewood
North Orbital Road, St Albans

Proposed Site Access and Roundabout Improvements

DRAWN KBL	CHECKED MS	APPROVED MS			
DATE 16-02-15	DATE 16-02-15	DATE 16-02-15			
SCALE 1:250@A1	JOB No. 05/016		SIZE A1	REV K	
DWG No. 16/100/01					

CADFILE

Appendix 3

N

A405 NORTH ORBITAL ROAD

A405 NORTH ORBITAL ROAD

Proposed 1.2m triangle warning sign to diagram 543 'Traffic Signal Ahead' to be placed 245m in advance of the stop line.

215m forward visibility to back of anticipated queue from nearside lane

215m forward visibility offside primary traffic signal

215m forward visibility to stop line

Proposed edge of carriageway markings 300mm from face of kerb on both sides

Permitted A405/access junction signalised scheme

Proposed uncontrolled pedestrian crossing with Look Left/Look Right markings

Proposed 6m primary signal poles with two signal heads on each pole mounted at different heights

Revised access link to residential properties and business units

Footway link to new A405 pedestrian crossing

Proposed above ground detector on site access traffic signal with potential stop line loop

Proposed traffic signal maintenance bay

Proposed mini-roundabout

5.5m wide access road with 2m footway and 2m margin

KEY

Extent of existing adopted highway

Area of proposed 2.5% crossfall subject to detailed design

Indicative area for tie-in to existing levels subject to detailed design

(3.1%) / 2.5% (Existing crossfall) Proposed crossfall

pep

Peter Evans Partnership

Transport Planning & Highway Consultants

Client
CASTLEOAK CARE DEVELOPMENTS

Job
BURSTON GARDEN CENTRE, ST ALBANS

Drawing Title
PERMITTED SIGNALISED JUNCTION AND PROPOSED SITE ACCESS ARRANGEMENT WITH 215m FORWARD VISIBILITY ENVELOPE AND SPEED MITIGATION MEASURES

Scale @ A1	Date	Drawn by	Checked by
1:1000	08.01.19	DM	MEC

Drawing Number 3019.15

Issue Status

Appendix 4

St Albans City & District Cycling Map

Key

0 500 metres
¼ mile

Traffic free

Cycle route - away from road — Shared with pedestrians, usually well surfaced
Route access point - easy access
Route access point - restricted
Cycle route - on pavement — Shared with pedestrians, usually well surfaced
Footpath — Cycling not permitted, dismount and walk with your cycle

Usually traffic free

May be shared with horse riders and walkers, also residents' and farm vehicles

Bridleway / track / other — Surfacing varies from tarmacadam to unsealed surface, can be muddy or rough, may only be seasonally cycleable, and not suitable for narrow tyres

On road — Separate cycle lane on the road

Routes

St Albans Green Ring — Traffic free — On road
National Cycle Network 57 — Chiltern Cycle Way C
Routes suggested by local cyclists — Usually quieter roads, may include busier link sections

Historic Feature
Attraction
Cycle Shop
Toilets
Play Area
Sport or leisure facility
Cafe (rural)
Venue
Sch School
Lib Library
Mus Museum
Extra Care!
Church
Mosque
Synagogue
One Way

Welcome to this revised St Albans City & District Cycling Map. This new edition features the **St Albans Green Ring,** a continuous walking and cycling route covering 6.5 miles of open space, parks, nature reserves, and heritage sites.

For more maps and further information on cycling in the district, go to **www.stalbans.gov.uk/cycling**

If you have any suggestions for improving cycling provisions in the district, such as additional cycle parking locations or new cycle routes, please contact us at **contactus@stalbans.gov.uk**

St Albans District Council is grateful for assistance given by members of the St Albans Cycle Campaign with this map revision. **www.stacc.org.uk**

This map shows the **National Cycle Networks (NCN)** within the district.
To see the whole network, visit **www.sustrans.org.uk/ncn/map**

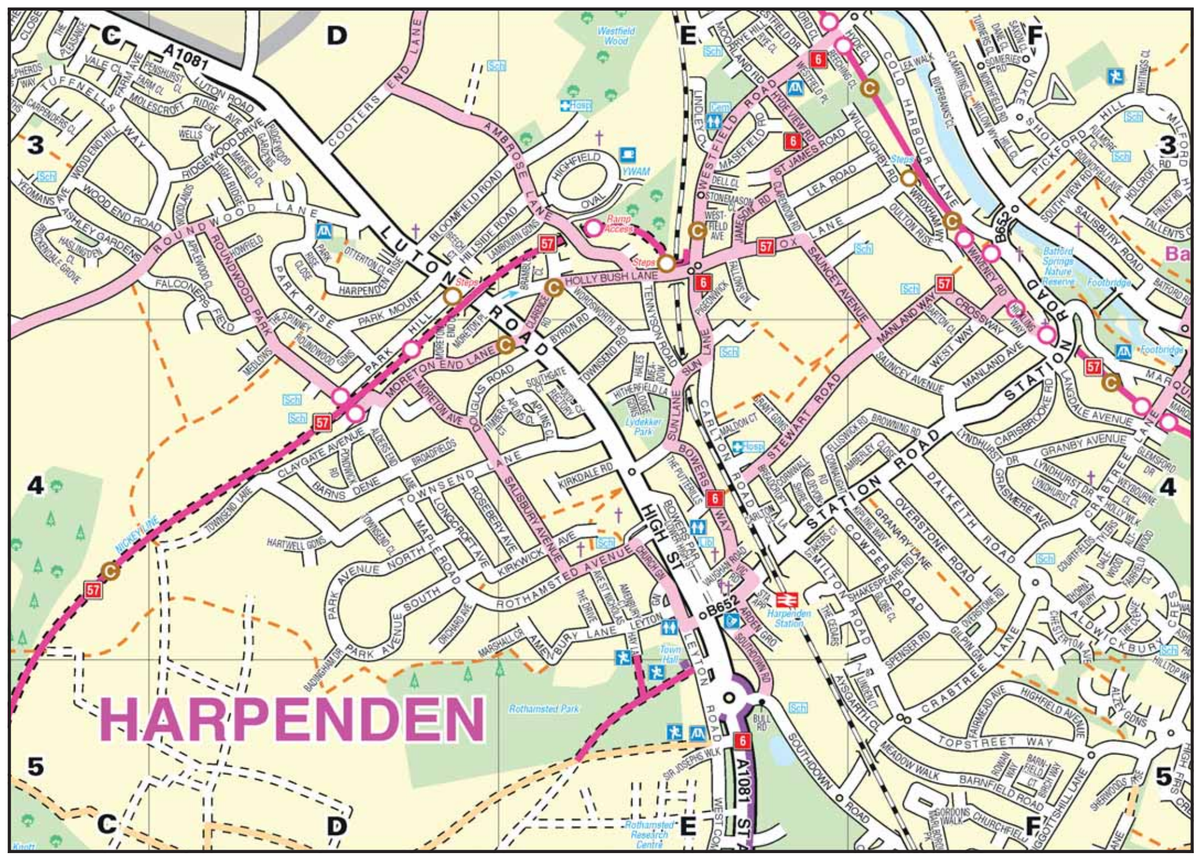
This map also shows part of the **Chiltern Cycleway.** To see the whole of the 170 mile circular route visit **www.chilternsaonb.org/explore-enjoy/chilterns-cycleway**

Signs and symbols - common signs relating to cycling

For all traffic signs and road markings, and rules of the road, refer to the Highway Code- **https://www.gov.uk/highway-code/contents**

St Albans City & District Council

July 2019



St Albans City & District Cycling Map

Your guide to cycle routes in St Albans District

St Albans City & District Council

Appendix 5

Junctions 9

ARCADY 9 - Roundabout Module

Filename: 21-066 Noke Roundabout Junctions 9 Option 2.j9
Path: P:\21 Jobs\066 Land at Land at Burston Nurseries, Chiswell Green, Hertfordshire, AL2 2DS\Technical Assessments\Junctions 9\Noke Roundabout
Report generation date: 08/03/2021 13:03:52

Summary of junction performance

	AM					PM				
	Queue (Veh)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (Veh)	Delay (s)	RFC	LOS	Junction Delay (s)
2021 Base										
Arm 1	7.9	18.65	0.90	C	547753.68	3.3	7.99	0.77	A	11.73
Arm 2	0.0	0.00	0.00	A		0.0	0.00	0.00	A	
Arm 3	159.1	230.71	1.13	F		6.3	12.35	0.87	B	
Arm 4	47.0	59999940.00	9999999999.00	F		0.9	146.16	0.51	F	
Arm 5	12.4	51.44	0.95	F		2.7	13.50	0.73	B	
2026										
Arm 1	14.9	33.58	0.96	D	557007.58	4.5	10.38	0.82	B	30.33
Arm 2	0.0	0.00	0.00	A		0.0	0.00	0.00	A	
Arm 3	230.1	369.38	1.20	F		9.9	18.70	0.92	C	
Arm 4	55.1	59999940.00	9999999999.00	F		7.4	2617.00	2.87	F	
Arm 5	21.8	81.79	1.00	F		3.8	18.37	0.80	C	
2026 + Development										
Arm 1	26.1	54.32	0.99	F	528118.84	9.3	20.74	0.91	C	39.20
Arm 2	0.6	13.53	0.37	B		0.2	8.01	0.19	A	
Arm 3	316.8	522.55	1.26	F		23.1	40.76	0.98	E	
Arm 4	55.4	59999940.00	9999999999.00	F		12.9	1558.01	9999999999.00	F	
Arm 5	35.3	123.94	1.05	F		6.3	31.14	0.88	D	

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages.

File summary

File Description

Title	
Location	
Site number	
Date	26/02/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	mtp\MTPGeneral
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	Veh	Veh	perHour	s	-Min	perMin

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75				0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2021 Base	AM	ONE HOUR	07:45	09:15	15	✓
D2	2021 Base	PM	ONE HOUR	16:45	18:15	15	✓
D3	2026	AM	ONE HOUR	07:45	09:15	15	✓
D4	2026	PM	ONE HOUR	16:45	18:15	15	✓
D5	2026 + Development	AM	ONE HOUR	07:45	09:15	15	✓
D6	2026 + Development	PM	ONE HOUR	16:45	18:15	15	✓

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2021 Base, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	547753.68	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
1	A405 North East	
2	Site Access	
3	A405 West	
4	Mercure Hotel	
5	Watford Road	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
1	7.30	8.70	15.0	25.0	56.0	34.0	
2	7.30	7.30	0.0	23.0	56.0	34.0	
3	7.30	8.70	12.0	15.0	56.0	46.0	
4	2.75	4.00	3.0	8.0	56.0	68.0	
5	3.50	8.70	13.0	27.5	56.0	33.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1	0.727	2528
2	0.666	2195
3	0.675	2340
4	0.359	791
5	0.590	1757

The slope and intercept shown above include any corrections and adjustments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2021 Base	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	1457	100.000
2		ONE HOUR	✓	0	100.000
3		ONE HOUR	✓	2242	100.000
4		ONE HOUR	✓	43	100.000
5		ONE HOUR	✓	836	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		1	2	3	4	5
From	1	31	0	1347	8	71
	2	0	0	0	0	0
	3	1209	0	52	15	966
	4	13	0	19	0	11
	5	24	0	808	1	3

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	13	0	3	0	0
	2	0	0	0	0	0
	3	5	0	0	0	2
	4	0	0	0	0	0
	5	4	0	1	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.90	18.65	7.9	C	1337	2005
2	0.00	0.00	0.0	A	0	0
3	1.13	230.71	159.1	F	2057	3086
4	9999999999.00	59999940.00	47.0	F	39	59
5	0.95	51.44	12.4	F	767	1151

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1097	274	659	1984	0.553	1092	954	0.0	1.2	4.015	A
2	0	0	1751	1002	0.000	0	0	0.0	0.0	0.000	A
3	1688	422	85	2202	0.767	1675	1666	0.0	3.2	6.685	A
4	32	8	1743	142	0.227	31	18	0.0	0.3	59999940.000	F
5	629	157	989	1133	0.556	624	785	0.0	1.2	7.018	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1310	327	779	1899	0.690	1306	1128	1.2	2.2	6.033	A
2	0	0	2085	775	0.000	0	0	0.0	0.0	0.000	A
3	2016	504	102	2190	0.920	1991	1982	3.2	9.4	16.302	C
4	39	10	2072	20	1.928	17	21	0.3	5.6	59999940.000	F
5	752	188	1160	1027	0.732	746	929	1.2	2.6	12.570	B

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1604	401	916	1801	0.891	1585	1226	2.2	7.0	15.426	C
2	0	0	2500	492	0.000	0	0	0.0	0.0	0.000	A
3	2468	617	124	2176	1.135	2164	2376	9.4	85.4	86.338	F
4	47	12	2264	0	9999999999.000	0	24	5.6	17.4	59999940.000	F
5	920	230	1251	971	0.948	891	1013	2.6	10.0	36.114	E

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1604	401	935	1787	0.898	1601	1232	7.0	7.9	18.646	C
2	0	0	2536	468	0.000	0	0	0.0	0.0	0.000	A
3	2468	617	125	2175	1.135	2174	2411	85.4	159.1	207.138	F
4	47	12	2275	0	9999999999.000	0	24	17.4	29.3	59999940.000	F
5	920	230	1257	968	0.951	911	1018	10.0	12.4	51.443	F

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1310	327	814	1874	0.699	1332	1224	7.9	2.4	6.902	A
2	0	0	2146	734	0.000	0	0	0.0	0.0	0.000	A
3	2016	504	104	2189	0.921	2175	2042	159.1	119.1	230.709	F
4	39	10	2257	0	9999999999.000	0	23	29.3	38.9	59999940.000	F
5	752	188	1252	971	0.774	786	1005	12.4	3.7	22.433	C

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1097	274	668	1977	0.555	1101	1200	2.4	1.3	4.130	A
2	0	0	1770	990	0.000	0	0	0.0	0.0	0.000	A
3	1688	422	86	2201	0.767	2148	1684	119.1	4.1	98.989	F
4	32	8	2213	0	9999999999.000	0	21	38.9	47.0	59999940.000	F
5	629	157	1232	983	0.640	637	982	3.7	1.8	10.607	B

2021 Base, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	11.73	B

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2021 Base	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	1372	100.000
2		ONE HOUR	✓	0	100.000
3		ONE HOUR	✓	1736	100.000
4		ONE HOUR	✓	22	100.000
5		ONE HOUR	✓	665	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		1	2	3	4	5
From	1	47	0	1242	4	79
	2	0	0	0	0	0
	3	1050	0	27	15	644
	4	8	0	2	0	12
	5	36	0	628	1	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	2	0	1
	2	0	0	0	0	0
	3	2	0	0	0	2
	4	0	0	0	0	0
	5	0	0	1	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.77	7.99	3.3	A	1259	1888
2	0.00	0.00	0.0	A	0	0
3	0.87	12.35	6.3	B	1593	2389
4	0.51	146.16	0.9	F	20	30
5	0.73	13.50	2.7	B	610	915

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1033	258	493	2127	0.486	1029	855	0.0	0.9	3.269	A
2	0	0	1522	1165	0.000	0	0	0.0	0.0	0.000	A
3	1307	327	98	2230	0.586	1301	1424	0.0	1.4	3.856	A
4	17	4	1385	284	0.058	16	15	0.0	0.1	13.420	B
5	501	125	850	1234	0.406	498	551	0.0	0.7	4.872	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1233	308	590	2057	0.600	1231	1023	0.9	1.5	4.349	A
2	0	0	1821	963	0.000	0	0	0.0	0.0	0.000	A
3	1561	390	118	2217	0.704	1557	1704	1.4	2.3	5.426	A
4	20	5	1657	185	0.107	20	18	0.1	0.1	21.760	C
5	598	149	1017	1135	0.527	596	659	0.7	1.1	6.661	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1511	378	718	1964	0.769	1504	1246	1.5	3.2	7.704	A
2	0	0	2222	692	0.000	0	0	0.0	0.0	0.000	A
3	1911	478	144	2199	0.869	1896	2079	2.3	6.1	11.361	B
4	24	6	2018	52	0.463	22	22	0.1	0.7	111.754	F
5	732	183	1238	1003	0.730	726	802	1.1	2.6	12.738	B

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1511	378	724	1960	0.771	1510	1255	3.2	3.3	7.989	A
2	0	0	2234	683	0.000	0	0	0.0	0.0	0.000	A
3	1911	478	144	2199	0.869	1910	2090	6.1	6.3	12.351	B
4	24	6	2032	47	0.514	24	22	0.7	0.9	146.159	F
5	732	183	1248	998	0.734	732	808	2.6	2.7	13.498	B

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1233	308	598	2051	0.601	1240	1037	3.3	1.5	4.478	A
2	0	0	1838	951	0.000	0	0	0.0	0.0	0.000	A
3	1561	390	118	2216	0.704	1576	1720	6.3	2.4	5.759	A
4	20	5	1677	177	0.111	23	18	0.9	0.1	23.684	C
5	598	149	1031	1127	0.531	604	669	2.7	1.1	6.967	A

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1033	258	497	2124	0.486	1035	862	1.5	1.0	3.314	A
2	0	0	1532	1158	0.000	0	0	0.0	0.0	0.000	A
3	1307	327	99	2229	0.586	1311	1434	2.4	1.4	3.938	A
4	17	4	1395	281	0.059	17	15	0.1	0.1	13.660	B
5	501	125	856	1230	0.407	502	555	1.1	0.7	4.959	A

2026, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	557007.58	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2026	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	1533	100.000
2		ONE HOUR	✓	0	100.000
3		ONE HOUR	✓	2359	100.000
4		ONE HOUR	✓	46	100.000
5		ONE HOUR	✓	879	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		1	2	3	4	5
From	1	33	0	1417	8	75
	2	0	0	0	0	0
	3	1272	0	55	16	1016
	4	14	0	20	0	12
	5	25	0	850	1	3

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	12	0	3	0	0
	2	0	0	0	0	0
	3	5	0	0	0	2
	4	0	0	0	0	0
	5	4	0	1	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.96	33.58	14.9	D	1407	2110
2	0.00	0.00	0.0	A	0	0
3	1.20	369.38	230.1	F	2165	3247
4	9999999999.00	59999940.00	55.1	F	42	63
5	1.00	81.79	21.8	F	807	1210

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1154	289	693	1961	0.589	1148	1002	0.0	1.4	4.402	A
2	0	0	1841	941	0.000	0	0	0.0	0.0	0.000	A
3	1776	444	90	2199	0.808	1760	1751	0.0	4.0	7.935	A
4	35	9	1831	110	0.316	33	19	0.0	0.4	59999940.000	F
5	662	165	1039	1102	0.601	656	825	0.0	1.5	7.970	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1378	345	809	1878	0.734	1373	1169	1.4	2.7	7.062	A
2	0	0	2182	709	0.000	0	0	0.0	0.0	0.000	A
3	2121	530	107	2187	0.970	2072	2074	4.0	16.1	24.647	C
4	41	10	2158	0	9999999999.000	0	22	0.4	10.8	59999940.000	F
5	790	198	1195	1005	0.786	782	962	1.5	3.4	15.625	C

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1688	422	944	1781	0.948	1651	1231	2.7	11.8	23.145	C
2	0	0	2596	427	0.000	0	0	0.0	0.0	0.000	A
3	2597	649	129	2172	1.196	2168	2466	16.1	123.5	122.421	F
4	51	13	2273	0	9999999999.000	0	24	10.8	23.4	59999940.000	F
5	968	242	1255	969	0.999	920	1018	3.4	15.4	49.634	E

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1688	422	966	1766	0.956	1676	1233	11.8	14.9	33.579	D
2	0	0	2641	396	0.000	0	0	0.0	0.0	0.000	A
3	2597	649	131	2171	1.196	2171	2510	123.5	230.1	296.803	F
4	51	13	2277	0	9999999999.000	0	25	23.4	36.1	59999940.000	F
5	968	242	1257	967	1.000	942	1020	15.4	21.8	81.786	F

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1378	345	884	1824	0.755	1425	1228	14.9	3.2	10.007	B
2	0	0	2308	623	0.000	0	0	0.0	0.0	0.000	A
3	2121	530	112	2184	0.971	2175	2197	230.1	216.6	369.383	F
4	41	10	2263	0	9999999999.000	0	23	36.1	46.4	59999940.000	F
5	790	198	1254	969	0.815	857	1009	21.8	5.1	41.660	E

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1154	289	705	1952	0.591	1161	1224	3.2	1.5	4.592	A
2	0	0	1866	924	0.000	0	0	0.0	0.0	0.000	A
3	1776	444	91	2198	0.808	2188	1775	216.6	113.6	272.643	F
4	35	9	2257	0	9999999999.000	0	22	46.4	55.1	59999940.000	F
5	662	165	1256	969	0.683	673	1001	5.1	2.2	12.607	B

2026, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	30.33	D

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2026	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	1444	100.000
2		ONE HOUR	✓	0	100.000
3		ONE HOUR	✓	1828	100.000
4		ONE HOUR	✓	23	100.000
5		ONE HOUR	✓	700	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		1	2	3	4	5
From	1	49	0	1308	4	83
	2	0	0	0	0	0
	3	1106	0	28	16	678
	4	8	0	2	0	13
	5	38	0	661	1	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	2	0	1
	2	0	0	0	0	0
	3	2	0	0	0	2
	4	0	0	0	0	0
	5	0	0	1	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.82	10.38	4.5	B	1325	1988
2	0.00	0.00	0.0	A	0	0
3	0.92	18.70	9.9	C	1677	2516
4	2.87	2617.00	7.4	F	21	32
5	0.80	18.37	3.8	C	642	964

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1087	272	518	2109	0.516	1083	900	0.0	1.1	3.496	A
2	0	0	1601	1112	0.000	0	0	0.0	0.0	0.000	A
3	1376	344	103	2227	0.618	1370	1498	0.0	1.6	4.172	A
4	17	4	1457	258	0.067	17	16	0.0	0.1	14.931	B
5	527	132	894	1208	0.436	524	580	0.0	0.8	5.240	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1298	325	620	2035	0.638	1295	1076	1.1	1.7	4.850	A
2	0	0	1915	899	0.000	0	0	0.0	0.0	0.000	A
3	1643	411	123	2213	0.743	1638	1792	1.6	2.8	6.211	A
4	21	5	1743	153	0.135	20	19	0.1	0.2	27.020	D
5	629	157	1069	1104	0.570	627	694	0.8	1.3	7.519	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1590	397	752	1940	0.820	1580	1302	1.7	4.3	9.728	A
2	0	0	2332	617	0.000	0	0	0.0	0.0	0.000	A
3	2013	503	150	2195	0.917	1988	2182	2.8	9.1	15.735	C
4	25	6	2115	17	1.485	13	23	0.2	3.2	722.843	F
5	771	193	1292	971	0.794	762	835	1.3	3.5	16.563	C

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1590	397	759	1934	0.822	1589	1314	4.3	4.5	10.375	B
2	0	0	2349	606	0.000	0	0	0.0	0.0	0.000	A
3	2013	503	151	2195	0.917	2009	2198	9.1	9.9	18.702	C
4	25	6	2137	9	2.874	8	23	3.2	7.4	2616.997	F
5	771	193	1304	964	0.800	770	841	3.5	3.8	18.366	C

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1298	325	634	2025	0.641	1309	1107	4.5	1.8	5.099	A
2	0	0	1943	881	0.000	0	0	0.0	0.0	0.000	A
3	1643	411	124	2212	0.743	1671	1819	9.9	3.0	6.976	A
4	21	5	1776	141	0.147	49	19	7.4	0.2	51.785	F
5	629	157	1103	1084	0.581	639	723	3.8	1.4	8.250	A

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1087	272	523	2105	0.517	1090	908	1.8	1.1	3.557	A
2	0	0	1614	1103	0.000	0	0	0.0	0.0	0.000	A
3	1376	344	103	2226	0.618	1382	1510	3.0	1.6	4.290	A
4	17	4	1469	253	0.068	18	16	0.2	0.1	15.301	C
5	527	132	902	1203	0.438	529	585	1.4	0.8	5.361	A

2026 + Development, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	528118.84	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2026 + Development	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	1575	100.000
2		ONE HOUR	✓	141	100.000
3		ONE HOUR	✓	2440	100.000
4		ONE HOUR	✓	46	100.000
5		ONE HOUR	✓	886	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		1	2	3	4	5
From	1	36	33	1423	8	75
	2	44	0	87	0	10
	3	1290	63	55	16	1016
	4	14	0	20	0	12
	5	25	7	850	1	3

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	11	0	3	0	0
	2	0	0	0	0	0
	3	5	0	0	0	2
	4	0	0	0	0	0
	5	4	0	1	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.99	54.32	26.1	F	1445	2168
2	0.37	13.53	0.6	B	129	194
3	1.26	522.55	316.8	F	2239	3358
4	9999999999.00	59999940.00	55.4	F	42	63
5	1.05	123.94	35.3	F	813	1220

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1186	296	743	1926	0.616	1179	1049	0.0	1.6	4.782	A
2	106	27	1846	938	0.113	106	77	0.0	0.1	4.321	A
3	1837	459	133	2173	0.845	1817	1819	0.0	5.1	9.620	A
4	35	9	1930	74	0.470	32	19	0.0	0.8	59999940.000	F
5	667	167	1132	1048	0.637	660	831	0.0	1.7	9.139	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1416	354	865	1839	0.770	1409	1203	1.6	3.2	8.247	A
2	127	32	2184	707	0.179	126	90	0.1	0.2	6.193	A
3	2194	548	158	2156	1.018	2098	2152	5.1	28.9	37.945	E
4	41	10	2235	0	9999999999.000	0	22	0.8	11.1	59999940.000	F
5	796	199	1282	955	0.834	786	952	1.7	4.4	20.067	C

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1734	434	982	1756	0.988	1675	1240	3.2	18.1	31.960	D
2	155	39	2559	451	0.344	154	97	0.2	0.5	12.057	B
3	2686	672	190	2135	1.258	2133	2524	28.9	167.3	171.237	F
4	51	13	2299	0	9999999999.000	0	24	11.1	23.8	59999940.000	F
5	976	244	1317	934	1.045	904	982	4.4	22.2	67.007	F

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1734	434	1000	1743	0.995	1702	1241	18.1	26.1	54.317	F
2	155	39	2604	421	0.369	155	98	0.5	0.6	13.529	B
3	2686	672	192	2133	1.259	2133	2567	167.3	305.7	401.755	F
4	51	13	2301	0	9999999999.000	0	24	23.8	36.4	59999940.000	F
5	976	244	1318	933	1.045	923	983	22.2	35.3	123.940	F

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1416	354	983	1755	0.807	1502	1236	26.1	4.5	18.509	C
2	127	32	2391	567	0.224	128	94	0.6	0.3	8.226	A
3	2194	548	167	2150	1.020	2149	2353	305.7	316.8	522.551	F
4	41	10	2293	0	9999999999.000	0	23	36.4	46.8	59999940.000	F
5	796	199	1314	935	0.852	905	979	35.3	8.2	91.850	F

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1186	296	775	1904	0.623	1197	1225	4.5	1.7	5.175	A
2	106	27	1885	911	0.117	107	86	0.3	0.1	4.478	A
3	1837	459	134	2172	0.846	2165	1858	316.8	234.9	459.128	F
4	35	9	2278	0	9999999999.000	0	21	46.8	55.4	59999940.000	F
5	667	167	1310	938	0.711	690	968	8.2	2.6	15.663	C

2026 + Development, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	39.20	E

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2026 + Development	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	1555	100.000
2		ONE HOUR	✓	97	100.000
3		ONE HOUR	✓	1922	100.000
4		ONE HOUR	✓	23	100.000
5		ONE HOUR	✓	708	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		1	2	3	4	5
From	1	61	38	1366	4	86
	2	30	0	62	0	5
	3	1125	75	28	16	678
	4	8	0	2	0	13
	5	38	8	661	1	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	2	0	1
	2	0	0	0	0	0
	3	2	0	0	0	2
	4	0	0	0	0	0
	5	0	0	1	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.91	20.74	9.3	C	1427	2140
2	0.19	8.01	0.2	A	89	134
3	0.98	40.76	23.1	E	1764	2645
4	9999999999.00	1558.01	12.9	F	21	32
5	0.88	31.14	6.3	D	650	975

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1171	293	580	2066	0.567	1166	945	0.0	1.3	3.977	A
2	73	18	1655	1076	0.068	73	91	0.0	0.1	3.589	A
3	1447	362	140	2203	0.657	1439	1587	0.0	1.9	4.667	A
4	17	4	1564	219	0.079	17	16	0.0	0.1	17.765	C
5	533	133	995	1149	0.464	530	586	0.0	0.9	5.784	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1398	349	694	1984	0.705	1394	1130	1.3	2.3	6.056	A
2	87	22	1979	856	0.102	87	108	0.1	0.1	4.679	A
3	1728	432	168	2185	0.791	1721	1898	1.9	3.6	7.638	A
4	21	5	1870	107	0.192	20	19	0.1	0.2	40.956	E
5	636	159	1190	1033	0.616	634	700	0.9	1.6	8.948	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1712	428	834	1883	0.909	1688	1345	2.3	8.3	16.799	C
2	107	27	2392	577	0.185	106	130	0.1	0.2	7.646	A
3	2116	529	203	2161	0.979	2059	2295	3.6	17.9	26.548	D
4	25	6	2240	0	9999999999.000	0	23	0.2	6.6	1558.009	F
5	780	195	1415	899	0.867	764	825	1.6	5.4	24.339	C

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1712	428	846	1874	0.914	1708	1368	8.3	9.3	20.740	C
2	107	27	2422	556	0.192	107	132	0.2	0.2	8.008	A
3	2116	529	205	2160	0.980	2095	2323	17.9	23.1	40.760	E
4	25	6	2278	0	9999999999.000	0	23	6.6	12.9	-6475.643	?
5	780	195	1439	885	0.881	776	839	5.4	6.3	31.142	D

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1398	349	722	1963	0.712	1425	1198	9.3	2.5	7.010	A
2	87	22	2034	819	0.107	88	113	0.2	0.1	4.926	A
3	1728	432	171	2183	0.792	1804	1951	23.1	4.0	11.345	B
4	21	5	1956	76	0.272	70	20	12.9	0.7	374.960	F
5	636	159	1266	988	0.644	654	759	6.3	1.9	11.332	B

18:00 - 18:15

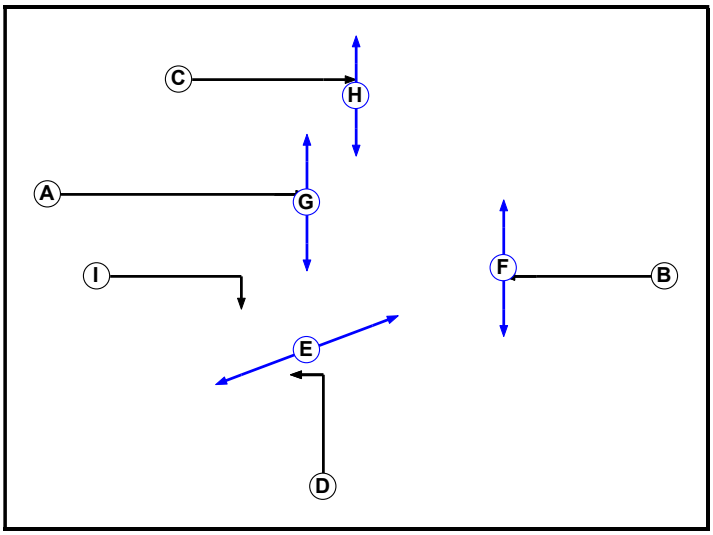
Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1171	293	588	2060	0.568	1176	956	2.5	1.3	4.092	A
2	73	18	1672	1064	0.069	73	92	0.1	0.1	3.635	A
3	1447	362	141	2203	0.657	1455	1604	4.0	1.9	4.868	A
4	17	4	1581	213	0.081	20	16	0.7	0.1	18.792	C
5	533	133	1007	1142	0.467	537	593	1.9	0.9	5.991	A

MTP Results Summary

User and Project Details

Project:	**Land at Burston Nurseries**
Title:	**Burston Nurseries Access**
Location:	Chiswell Green, Hertfordshire
File name:	Burston Nurseries Access.lsg3x
Author:	Olivia Hennessy
Company:	Milestone Transport Planning
Address:	Abbey House, 282 Farnborough Road, Farnborough, Hants, GU14 7NA
Notes:	

Phase Diagram



Phase Input Data

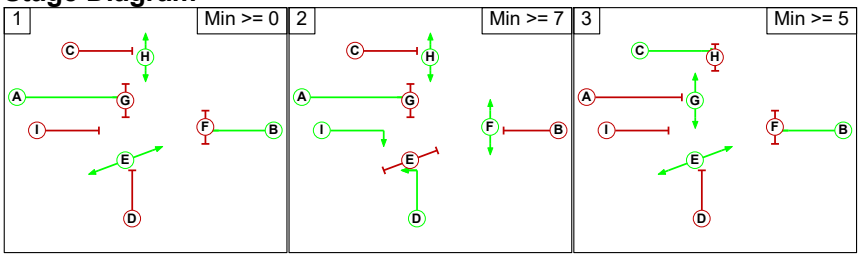
Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		7	7
B	Traffic		7	7
C	Traffic		7	7
D	Traffic		7	7
E	Pedestrian		7	7
F	Pedestrian		7	7
G	Pedestrian		7	7
H	Pedestrian		7	7
I	Traffic		7	7

MTP Results Summary

Phase Intergreens Matrix

Terminating Phase \ Starting Phase	A	B	C	D	E	F	G	H	I
A	■	-	5	-	-	-	5	-	-
B	-	■	-	7	-	5	-	-	6
C	5	-	■	-	-	-	-	5	-
D	-	6	-	■	5	-	-	-	-
E	-	-	-	8	■	-	-	-	6
F	-	8	-	-	-	■	-	-	-
G	8	-	-	-	-	-	■	-	-
H	-	-	6	-	-	-	-	■	-
I	-	6	-	-	7	-	-	-	■

Stage Diagram

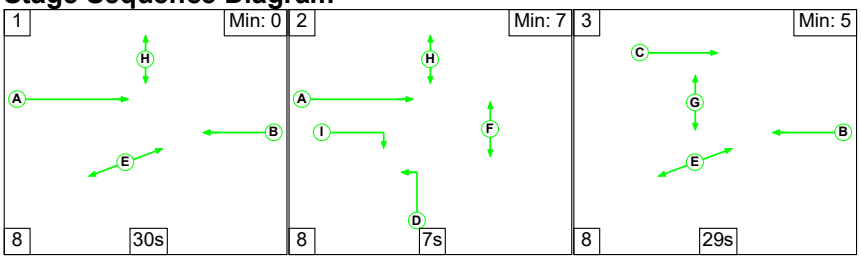


Phase Delays

Term. Stage	Start Stage	Phase	Type	Value	Cont value
There are no Phase Delays defined					

Scenario 1: '2021 Base AM' (FG1: '2021 Base AM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram



Lane Input Data

Junction: Burston Nurseries Access												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (A405 East)	O		2	3	13.6	Geom	-	3.51	0.00	Y	Arm 2 Left	Inf
1/2 (A405 East)	U	B	2	3	60.0	Geom	-	3.69	0.00	Y	Arm 3 Ahead	Inf
1/3 (A405 East)	U	B	2	3	60.0	Geom	-	3.74	0.00	Y	Arm 3 Ahead	Inf
2/1 (Burston Garden Access)	U		2	3	60.0	Geom	-	3.70	0.00	Y		
3/1 (A405 West)	U		2	3	60.0	Geom	-	3.65	0.00	Y		
3/2 (A405 West)	U		2	3	60.0	Geom	-	3.63	0.00	Y		
4/1 (A405 West)	U	A	2	3	60.0	Geom	-	3.64	0.00	Y	Arm 5 Ahead	Inf
4/2 (A405 West)	U	A	2	3	60.0	Geom	-	3.62	0.00	Y	Arm 5 Ahead	Inf
4/3 (A405 West)	U	I	2	3	7.3	Geom	-	3.02	0.00	Y	Arm 2 Right	Inf
5/1 (A405 East)	U		2	3	60.0	Geom	-	3.59	0.00	Y		
5/2 (A405 East)	U		2	3	60.0	Geom	-	3.69	0.00	Y		
6/1 (Burston Garden Access)	U	D	2	3	60.0	Geom	-	3.50	6.00	Y	Arm 3 Left	Inf
7/1 (Slip Lane)	U	C	2	3	60.0	Geom	-	3.07	0.00	Y	Arm 5 Ahead	Inf

Give-Way Lane Input Data

Junction: Burston Nurseries Access											
Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
1/1 (A405 East)	2/1 (Left)	1439	0	4/3	1.09	All	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: '2021 Base AM'	08:00	09:00	01:00	

MTP Results Summary

Traffic Flows, Actual

Actual Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	29	1454	0	1483
	B	0	0	4	0	4
	C	0	10	0	0	10
	D	0	0	0	0	0
	Tot.	0	39	1458	0	1497

MTP Results Summary

Network Results

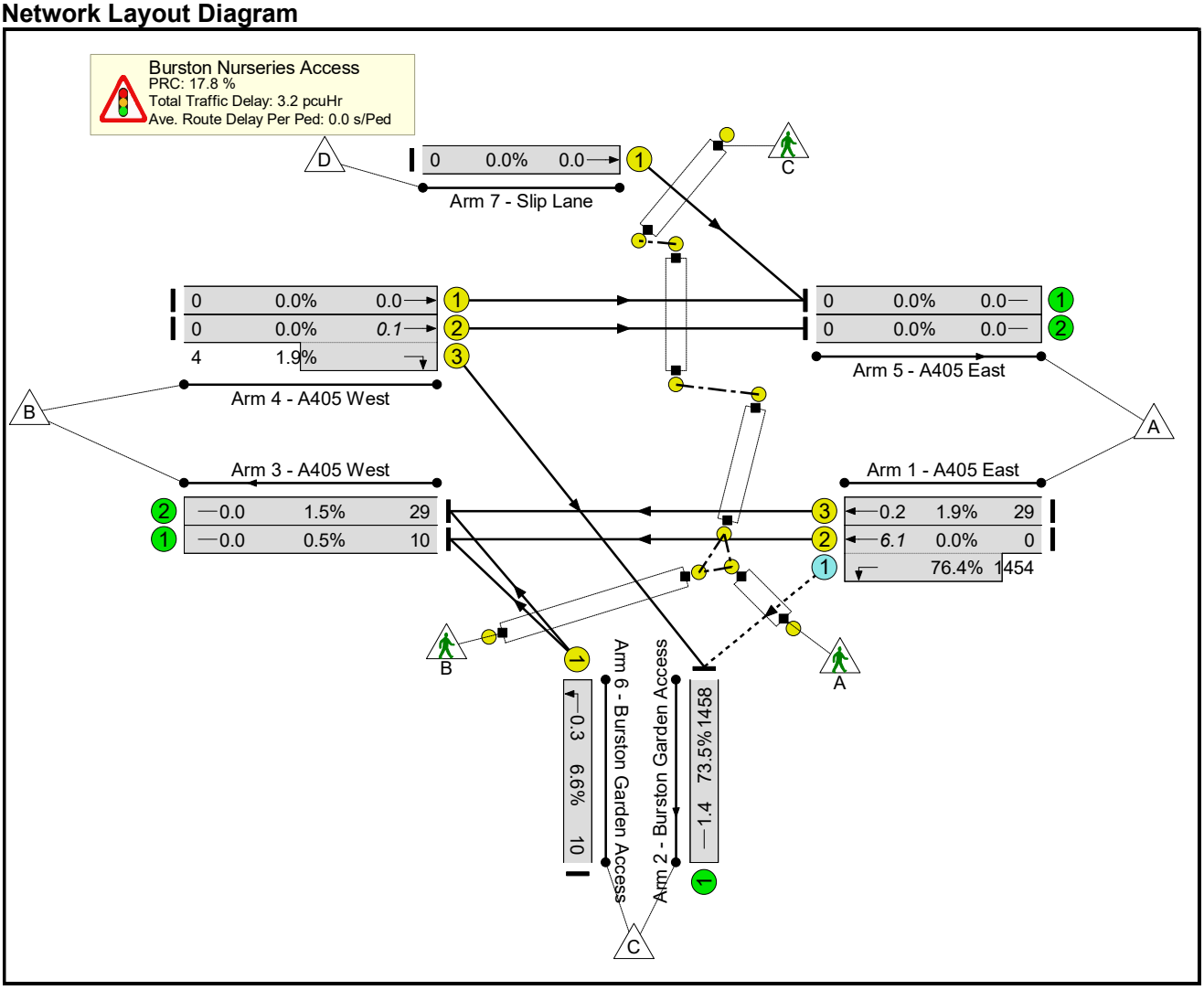
Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**76.4%**	**156**	**1298**	**0**	**3.2**	-
Burston Nurseries Access	-	-	-		-	-	-	-	-	-	**76.4%**	**156**	**1298**	**0**	**3.2**	-
1/2+1/1	A405 East Left Ahead	U+O	B -		1	67	-	1454	1984:1966	0+1903	0.0 : 76.4%	156	1298	0	1.6	6.1
1/3	A405 East Ahead	U	B		1	67	-	29	1989	1503	1.9%	-	-	-	0.0	0.2
2/1	Burston Garden Access	U	-		-	-	-	1458	1985	1985	73.5%	-	-	-	1.4	1.4
3/1	A405 West	U	-		-	-	-	10	1980	1980	0.5%	-	-	-	0.0	0.0
3/2	A405 West	U	-		-	-	-	29	1978	1978	1.5%	-	-	-	0.0	0.0
4/1	A405 West Ahead	U	A		1	45	-	0	1979	1011	0.0%	-	-	-	0.0	0.0
4/2+4/3	A405 West Right Ahead	U	A I		1	45:9	-	4	1977:1917	0+213	0.0 : 1.9%	-	-	-	0.0	0.1
5/1	A405 East	U	-		-	-	-	0	1974	1974	0.0%	-	-	-	0.0	0.0
5/2	A405 East	U	-		-	-	-	0	1984	1984	0.0%	-	-	-	0.0	0.0
6/1	Burston Garden Access Left	U	D		1	7	-	10	1713	152	6.6%	-	-	-	0.1	0.3
7/1	Slip Lane Ahead	U	C		1	31	-	0	1922	683	0.0%	-	-	-	0.0	0.0
Ped Link: P1	Unnamed Ped Link	-	E		1	68	-	0	-	54400	0.0%	-	-	-	0.0	0.0
Ped Link: P2	Unnamed Ped Link	-			0	0	-	0	-	72000	0.0%	-	-	-	Inf	Inf
Ped Link: P3	Unnamed Ped Link	-	F		1	10	-	0	-	8000	0.0%	-	-	-	0.0	0.0
Ped Link: P4	Unnamed Ped Link	-	G		1	32	-	0	-	25600	0.0%	-	-	-	0.0	0.0
Ped Link: P5	Unnamed Ped Link	-	H		1	48	-	0	-	38400	0.0%	-	-	-	0.0	0.0

MTP Results Summary

C1	PRC for Signalled Lanes (%):	17.8	Total Delay for Signalled Lanes (pcuHr):	1.84	Cycle Time (s):	90
	PRC Over All Lanes (%):	17.8	Total Delay Over All Lanes(pcuHr):	3.23		

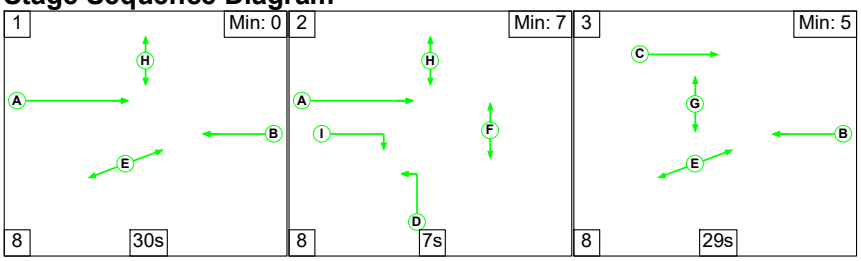
MTP Results Summary

Network Layout Diagram



Scenario 2: '2021 Base PM' (FG2: '2021 Base PM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram



Lane Input Data

Junction: Burston Nurseries Access												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (A405 East)	O		2	3	13.6	Geom	-	3.51	0.00	Y	Arm 2 Left	Inf
1/2 (A405 East)	U	B	2	3	60.0	Geom	-	3.69	0.00	Y	Arm 3 Ahead	Inf
1/3 (A405 East)	U	B	2	3	60.0	Geom	-	3.74	0.00	Y	Arm 3 Ahead	Inf
2/1 (Burston Garden Access)	U		2	3	60.0	Geom	-	3.70	0.00	Y		
3/1 (A405 West)	U		2	3	60.0	Geom	-	3.65	0.00	Y		
3/2 (A405 West)	U		2	3	60.0	Geom	-	3.63	0.00	Y		
4/1 (A405 West)	U	A	2	3	60.0	Geom	-	3.64	0.00	Y	Arm 5 Ahead	Inf
4/2 (A405 West)	U	A	2	3	60.0	Geom	-	3.62	0.00	Y	Arm 5 Ahead	Inf
4/3 (A405 West)	U	I	2	3	7.3	Geom	-	3.02	0.00	Y	Arm 2 Right	Inf
5/1 (A405 East)	U		2	3	60.0	Geom	-	3.59	0.00	Y		
5/2 (A405 East)	U		2	3	60.0	Geom	-	3.69	0.00	Y		
6/1 (Burston Garden Access)	U	D	2	3	60.0	Geom	-	3.50	6.00	Y	Arm 3 Left	Inf
7/1 (Slip Lane)	U	C	2	3	60.0	Geom	-	3.07	0.00	Y	Arm 5 Ahead	Inf

Give-Way Lane Input Data

Junction: Burston Nurseries Access											
Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
1/1 (A405 East)	2/1 (Left)	1439	0	4/3	1.09	All	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
2: '2021 Base PM'	17:00	18:00	01:00	

MTP Results Summary

Traffic Flows, Actual

Actual Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	27	1326	0	1353
	B	0	0	46	0	46
	C	0	9	0	0	9
	D	0	0	0	0	0
	Tot.	0	36	1372	0	1408

MTP Results Summary

Network Results

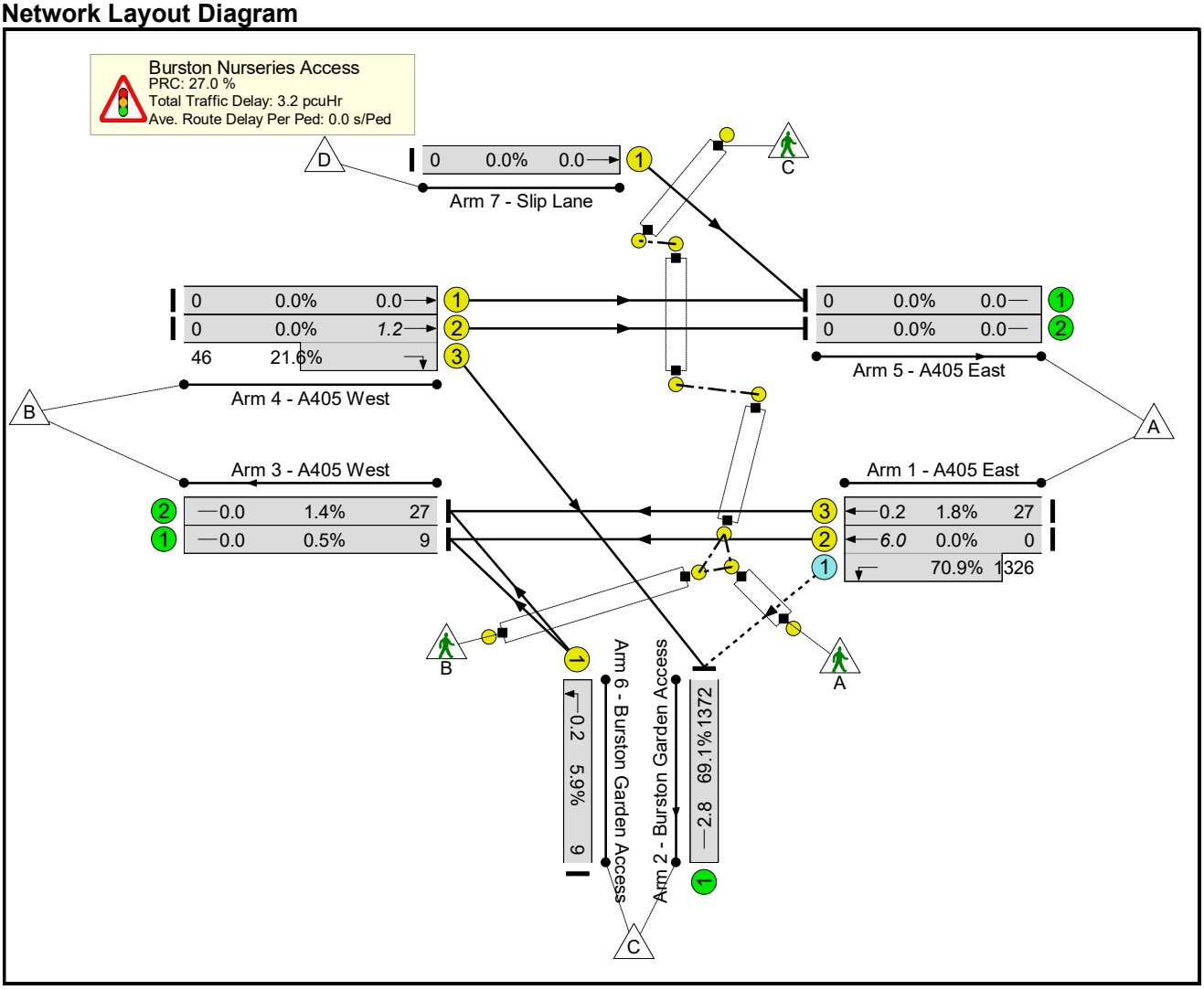
Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**70.9%**	**123**	**1203**	**0**	**3.2**	-
Burston Nurseries Access	-	-	-		-	-	-	-	-	-	**70.9%**	**123**	**1203**	**0**	**3.2**	-
1/2+1/1	A405 East Left Ahead	U+O	B -		1	67	-	1326	1984:1966	0+1871	0.0 : 70.9%	123	1203	0	1.3	6.0
1/3	A405 East Ahead	U	B		1	67	-	27	1989	1503	1.8%	-	-	-	0.0	0.2
2/1	Burston Garden Access	U	-		-	-	-	1372	1985	1985	69.1%	-	-	-	1.1	2.8
3/1	A405 West	U	-		-	-	-	9	1980	1980	0.5%	-	-	-	0.0	0.0
3/2	A405 West	U	-		-	-	-	27	1978	1978	1.4%	-	-	-	0.0	0.0
4/1	A405 West Ahead	U	A		1	45	-	0	1979	1011	0.0%	-	-	-	0.0	0.0
4/2+4/3	A405 West Right Ahead	U	A I		1	45:9	-	46	1977:1917	0+213	0.0 : 21.6%	-	-	-	0.6	1.2
5/1	A405 East	U	-		-	-	-	0	1974	1974	0.0%	-	-	-	0.0	0.0
5/2	A405 East	U	-		-	-	-	0	1984	1984	0.0%	-	-	-	0.0	0.0
6/1	Burston Garden Access Left	U	D		1	7	-	9	1713	152	5.9%	-	-	-	0.1	0.2
7/1	Slip Lane Ahead	U	C		1	31	-	0	1922	683	0.0%	-	-	-	0.0	0.0
Ped Link: P1	Unnamed Ped Link	-	E		1	68	-	0	-	54400	0.0%	-	-	-	0.0	0.0
Ped Link: P2	Unnamed Ped Link	-			0	0	-	0	-	72000	0.0%	-	-	-	Inf	Inf
Ped Link: P3	Unnamed Ped Link	-	F		1	10	-	0	-	8000	0.0%	-	-	-	0.0	0.0
Ped Link: P4	Unnamed Ped Link	-	G		1	32	-	0	-	25600	0.0%	-	-	-	0.0	0.0
Ped Link: P5	Unnamed Ped Link	-	H		1	48	-	0	-	38400	0.0%	-	-	-	0.0	0.0

MTP Results Summary

C1	PRC for Signalled Lanes (%):	27.0	Total Delay for Signalled Lanes (pcuHr):	2.05	Cycle Time (s):	90
	PRC Over All Lanes (%):	27.0	Total Delay Over All Lanes(pcuHr):	3.18		

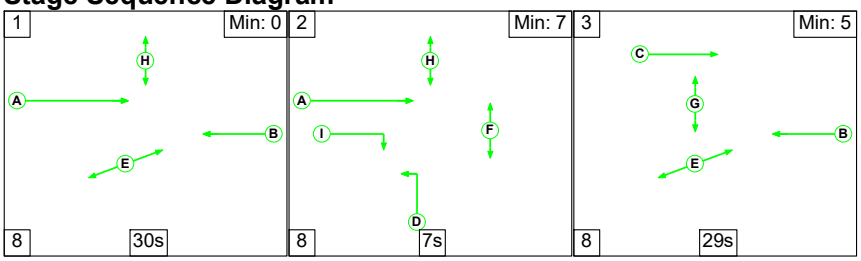
MTP Results Summary

Network Layout Diagram



Scenario 3: '2026 AM' (FG3: '2026 AM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram



Lane Input Data

Junction: Burston Nurseries Access												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (A405 East)	O		2	3	13.6	Geom	-	3.51	0.00	Y	Arm 2 Left	Inf
1/2 (A405 East)	U	B	2	3	60.0	Geom	-	3.69	0.00	Y	Arm 3 Ahead	Inf
1/3 (A405 East)	U	B	2	3	60.0	Geom	-	3.74	0.00	Y	Arm 3 Ahead	Inf
2/1 (Burston Garden Access)	U		2	3	60.0	Geom	-	3.70	0.00	Y		
3/1 (A405 West)	U		2	3	60.0	Geom	-	3.65	0.00	Y		
3/2 (A405 West)	U		2	3	60.0	Geom	-	3.63	0.00	Y		
4/1 (A405 West)	U	A	2	3	60.0	Geom	-	3.64	0.00	Y	Arm 5 Ahead	Inf
4/2 (A405 West)	U	A	2	3	60.0	Geom	-	3.62	0.00	Y	Arm 5 Ahead	Inf
4/3 (A405 West)	U	I	2	3	7.3	Geom	-	3.02	0.00	Y	Arm 2 Right	Inf
5/1 (A405 East)	U		2	3	60.0	Geom	-	3.59	0.00	Y		
5/2 (A405 East)	U		2	3	60.0	Geom	-	3.69	0.00	Y		
6/1 (Burston Garden Access)	U	D	2	3	60.0	Geom	-	3.50	6.00	Y	Arm 3 Left	Inf
7/1 (Slip Lane)	U	C	2	3	60.0	Geom	-	3.07	0.00	Y	Arm 5 Ahead	Inf

Give-Way Lane Input Data

Junction: Burston Nurseries Access											
Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
1/1 (A405 East)	2/1 (Left)	1439	0	4/3	1.09	All	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
3: '2026 AM'	08:00	09:00	01:00	

MTP Results Summary

Traffic Flows, Actual

Actual Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	31	1529	0	1560
	B	0	0	4	0	4
	C	0	11	0	0	11
	D	0	0	0	0	0
	Tot.	0	42	1533	0	1575

MTP Results Summary

Network Results

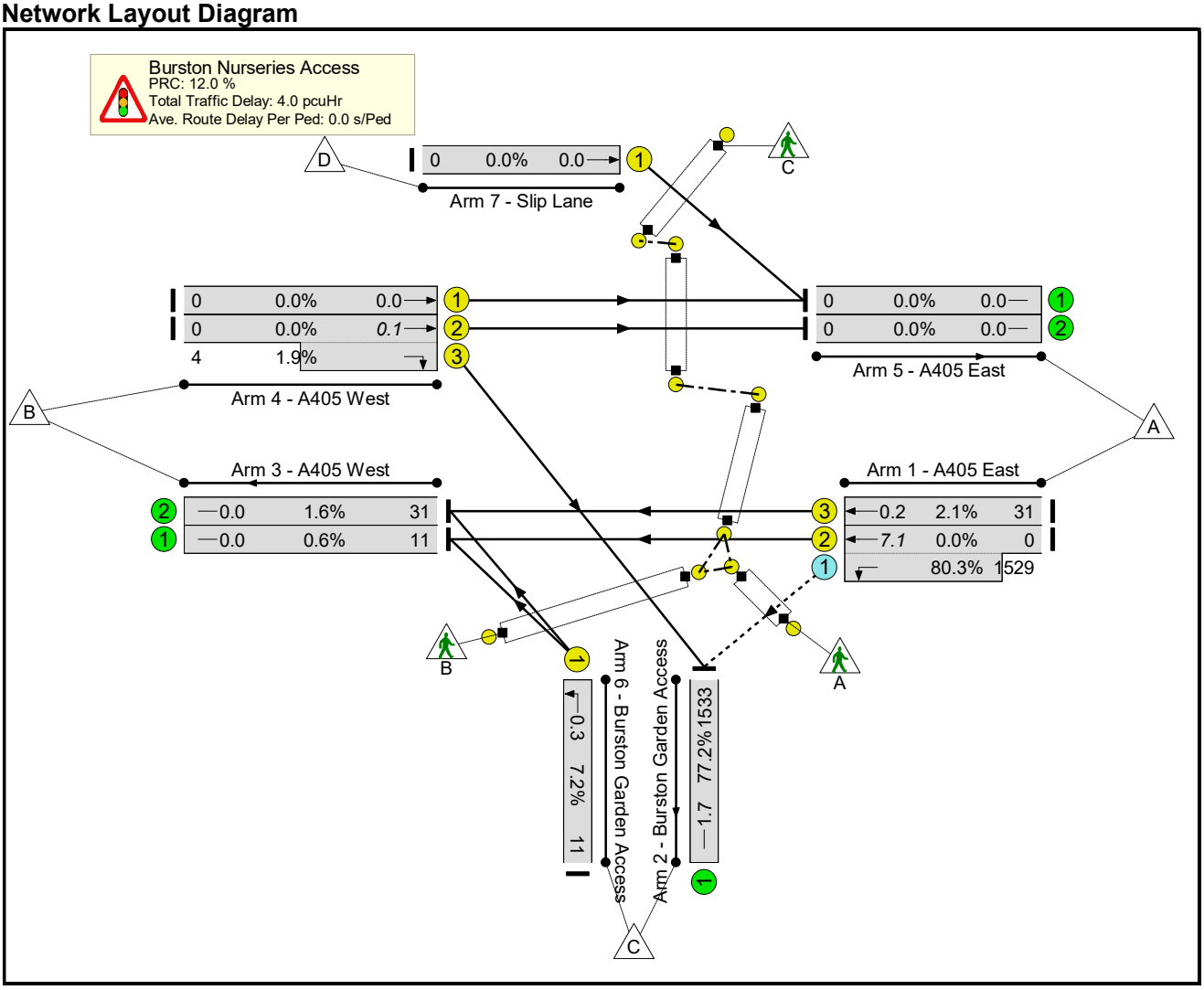
Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**80.3%**	**156**	**1373**	**0**	**4.0**	-
Burston Nurseries Access	-	-	-		-	-	-	-	-	-	**80.3%**	**156**	**1373**	**0**	**4.0**	-
1/2+1/1	A405 East Left Ahead	U+O	B -		1	67	-	1529	1984:1966	0+1903	0.0 : 80.3%	156	1373	0	2.1	7.1
1/3	A405 East Ahead	U	B		1	67	-	31	1989	1503	2.1%	-	-	-	0.0	0.2
2/1	Burston Garden Access	U	-		-	-	-	1533	1985	1985	77.2%	-	-	-	1.7	1.7
3/1	A405 West	U	-		-	-	-	11	1980	1980	0.6%	-	-	-	0.0	0.0
3/2	A405 West	U	-		-	-	-	31	1978	1978	1.6%	-	-	-	0.0	0.0
4/1	A405 West Ahead	U	A		1	45	-	0	1979	1011	0.0%	-	-	-	0.0	0.0
4/2+4/3	A405 West Right Ahead	U	A I		1	45:9	-	4	1977:1917	0+213	0.0 : 1.9%	-	-	-	0.0	0.1
5/1	A405 East	U	-		-	-	-	0	1974	1974	0.0%	-	-	-	0.0	0.0
5/2	A405 East	U	-		-	-	-	0	1984	1984	0.0%	-	-	-	0.0	0.0
6/1	Burston Garden Access Left	U	D		1	7	-	11	1713	152	7.2%	-	-	-	0.2	0.3
7/1	Slip Lane Ahead	U	C		1	31	-	0	1922	683	0.0%	-	-	-	0.0	0.0
Ped Link: P1	Unnamed Ped Link	-	E		1	68	-	0	-	54400	0.0%	-	-	-	0.0	0.0
Ped Link: P2	Unnamed Ped Link	-			0	0	-	0	-	72000	0.0%	-	-	-	Inf	Inf
Ped Link: P3	Unnamed Ped Link	-	F		1	10	-	0	-	8000	0.0%	-	-	-	0.0	0.0
Ped Link: P4	Unnamed Ped Link	-	G		1	32	-	0	-	25600	0.0%	-	-	-	0.0	0.0
Ped Link: P5	Unnamed Ped Link	-	H		1	48	-	0	-	38400	0.0%	-	-	-	0.0	0.0

MTP Results Summary

C1	PRC for Signalled Lanes (%):	12.0	Total Delay for Signalled Lanes (pcuHr):	2.29	Cycle Time (s):	90
	PRC Over All Lanes (%):	12.0	Total Delay Over All Lanes(pcuHr):	3.99		

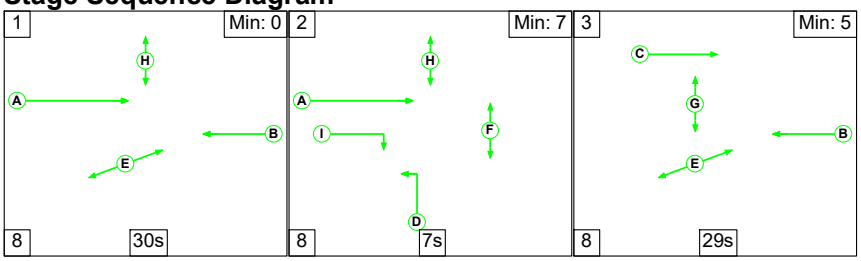
MTP Results Summary

Network Layout Diagram



Scenario 4: '2026 PM' (FG4: '2026 PM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram



Lane Input Data

Junction: Burston Nurseries Access												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (A405 East)	O		2	3	13.6	Geom	-	3.51	0.00	Y	Arm 2 Left	Inf
1/2 (A405 East)	U	B	2	3	60.0	Geom	-	3.69	0.00	Y	Arm 3 Ahead	Inf
1/3 (A405 East)	U	B	2	3	60.0	Geom	-	3.74	0.00	Y	Arm 3 Ahead	Inf
2/1 (Burston Garden Access)	U		2	3	60.0	Geom	-	3.70	0.00	Y		
3/1 (A405 West)	U		2	3	60.0	Geom	-	3.65	0.00	Y		
3/2 (A405 West)	U		2	3	60.0	Geom	-	3.63	0.00	Y		
4/1 (A405 West)	U	A	2	3	60.0	Geom	-	3.64	0.00	Y	Arm 5 Ahead	Inf
4/2 (A405 West)	U	A	2	3	60.0	Geom	-	3.62	0.00	Y	Arm 5 Ahead	Inf
4/3 (A405 West)	U	I	2	3	7.3	Geom	-	3.02	0.00	Y	Arm 2 Right	Inf
5/1 (A405 East)	U		2	3	60.0	Geom	-	3.59	0.00	Y		
5/2 (A405 East)	U		2	3	60.0	Geom	-	3.69	0.00	Y		
6/1 (Burston Garden Access)	U	D	2	3	60.0	Geom	-	3.50	6.00	Y	Arm 3 Left	Inf
7/1 (Slip Lane)	U	C	2	3	60.0	Geom	-	3.07	0.00	Y	Arm 5 Ahead	Inf

Give-Way Lane Input Data

Junction: Burston Nurseries Access											
Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
1/1 (A405 East)	2/1 (Left)	1439	0	4/3	1.09	All	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
4: '2026 PM'	17:00	18:00	01:00	

MTP Results Summary

Traffic Flows, Actual

Actual Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	28	1396	0	1424
	B	0	0	48	0	48
	C	0	9	0	0	9
	D	0	0	0	0	0
	Tot.	0	37	1444	0	1481

MTP Results Summary

Network Results

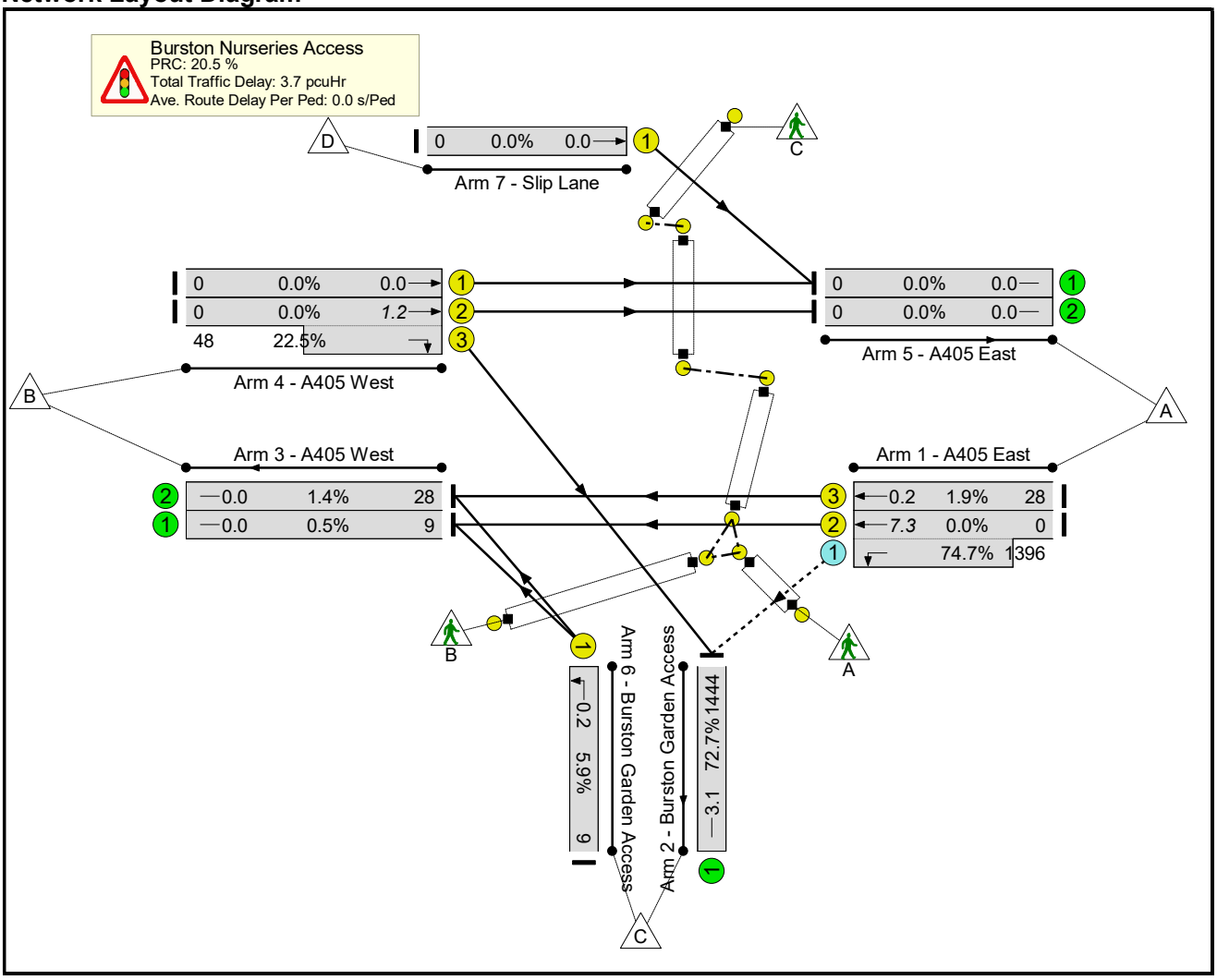
Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**74.7%**	**122**	**1274**	**0**	**3.7**	-
Burston Nurseries Access	-	-	-		-	-	-	-	-	-	**74.7%**	**122**	**1274**	**0**	**3.7**	-
1/2+1/1	A405 East Left Ahead	U+O	B -		1	67	-	1396	1984:1966	0+1870	0.0 : 74.7%	122	1274	0	1.6	7.3
1/3	A405 East Ahead	U	B		1	67	-	28	1989	1503	1.9%	-	-	-	0.0	0.2
2/1	Burston Garden Access	U	-		-	-	-	1444	1985	1985	72.7%	-	-	-	1.3	3.1
3/1	A405 West	U	-		-	-	-	9	1980	1980	0.5%	-	-	-	0.0	0.0
3/2	A405 West	U	-		-	-	-	28	1978	1978	1.4%	-	-	-	0.0	0.0
4/1	A405 West Ahead	U	A		1	45	-	0	1979	1011	0.0%	-	-	-	0.0	0.0
4/2+4/3	A405 West Right Ahead	U	A I		1	45:9	-	48	1977:1917	0+213	0.0 : 22.5%	-	-	-	0.6	1.2
5/1	A405 East	U	-		-	-	-	0	1974	1974	0.0%	-	-	-	0.0	0.0
5/2	A405 East	U	-		-	-	-	0	1984	1984	0.0%	-	-	-	0.0	0.0
6/1	Burston Garden Access Left	U	D		1	7	-	9	1713	152	5.9%	-	-	-	0.1	0.2
7/1	Slip Lane Ahead	U	C		1	31	-	0	1922	683	0.0%	-	-	-	0.0	0.0
Ped Link: P1	Unnamed Ped Link	-	E		1	68	-	0	-	54400	0.0%	-	-	-	0.0	0.0
Ped Link: P2	Unnamed Ped Link	-			0	0	-	0	-	72000	0.0%	-	-	-	Inf	Inf
Ped Link: P3	Unnamed Ped Link	-	F		1	10	-	0	-	8000	0.0%	-	-	-	0.0	0.0
Ped Link: P4	Unnamed Ped Link	-	G		1	32	-	0	-	25600	0.0%	-	-	-	0.0	0.0
Ped Link: P5	Unnamed Ped Link	-	H		1	48	-	0	-	38400	0.0%	-	-	-	0.0	0.0

MTP Results Summary

C1	PRC for Signalled Lanes (%):	20.5	Total Delay for Signalled Lanes (pcuHr):	2.36	Cycle Time (s):	90
	PRC Over All Lanes (%):	20.5	Total Delay Over All Lanes(pcuHr):	3.70		

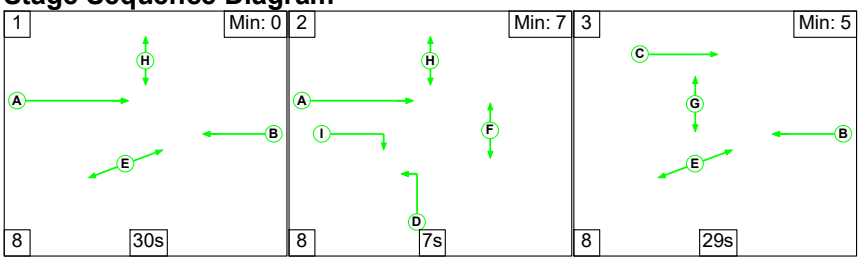
MTP Results Summary

Network Layout Diagram



Scenario 5: '2026 + Development AM' (FG5: '2026 + Development Flows AM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram



Lane Input Data

Junction: Burston Nurseries Access												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (A405 East)	O		2	3	13.6	Geom	-	3.51	0.00	Y	Arm 2 Left	Inf
1/2 (A405 East)	U	B	2	3	60.0	Geom	-	3.69	0.00	Y	Arm 3 Ahead	Inf
1/3 (A405 East)	U	B	2	3	60.0	Geom	-	3.74	0.00	Y	Arm 3 Ahead	Inf
2/1 (Burston Garden Access)	U		2	3	60.0	Geom	-	3.70	0.00	Y		
3/1 (A405 West)	U		2	3	60.0	Geom	-	3.65	0.00	Y		
3/2 (A405 West)	U		2	3	60.0	Geom	-	3.63	0.00	Y		
4/1 (A405 West)	U	A	2	3	60.0	Geom	-	3.64	0.00	Y	Arm 5 Ahead	Inf
4/2 (A405 West)	U	A	2	3	60.0	Geom	-	3.62	0.00	Y	Arm 5 Ahead	Inf
4/3 (A405 West)	U	I	2	3	7.3	Geom	-	3.02	0.00	Y	Arm 2 Right	Inf
5/1 (A405 East)	U		2	3	60.0	Geom	-	3.59	0.00	Y		
5/2 (A405 East)	U		2	3	60.0	Geom	-	3.69	0.00	Y		
6/1 (Burston Garden Access)	U	D	2	3	60.0	Geom	-	3.50	6.00	Y	Arm 3 Left	Inf
7/1 (Slip Lane)	U	C	2	3	60.0	Geom	-	3.07	0.00	Y	Arm 5 Ahead	Inf

Give-Way Lane Input Data

Junction: Burston Nurseries Access											
Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
1/1 (A405 East)	2/1 (Left)	1439	0	4/3	1.09	All	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
5: '2026 + Development Flows AM'	08:00	09:00	01:00	

MTP Results Summary

Traffic Flows, Actual

Actual Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	60	1562	0	1622
	B	0	0	13	0	13
	C	0	29	0	0	29
	D	0	0	0	0	0
	Tot.	0	89	1575	0	1664

MTP Results Summary

Network Results

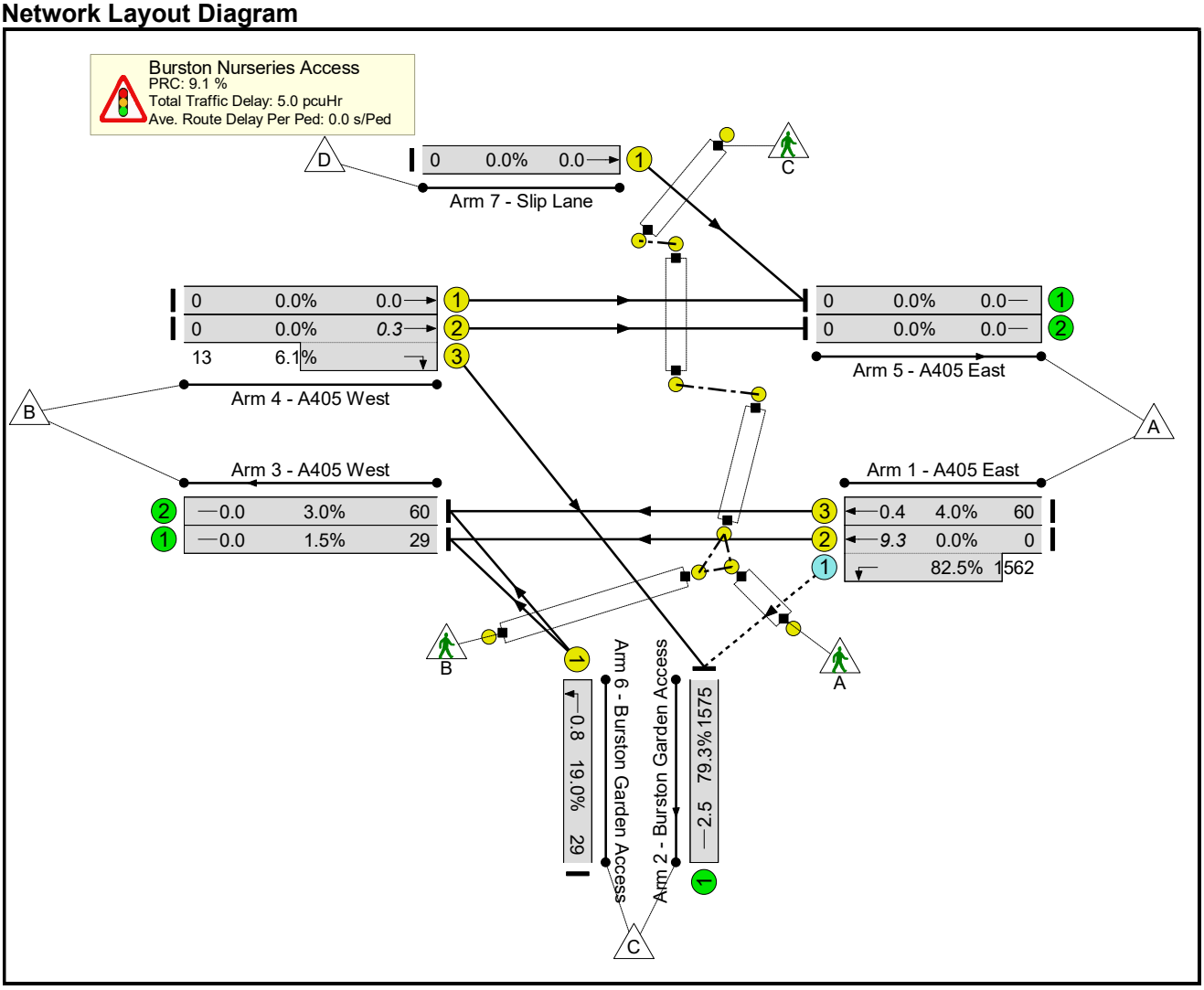
Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**82.5%**	**146**	**1416**	**0**	**5.0**	-
Burston Nurseries Access	-	-	-		-	-	-	-	-	-	**82.5%**	**146**	**1416**	**0**	**5.0**	-
1/2+1/1	A405 East Left Ahead	U+O	B -		1	67	-	1562	1984:1966	0+1893	0.0 : 82.5%	146	1416	0	2.4	9.3
1/3	A405 East Ahead	U	B		1	67	-	60	1989	1503	4.0%	-	-	-	0.1	0.4
2/1	Burston Garden Access	U	-		-	-	-	1575	1985	1985	79.3%	-	-	-	1.9	2.5
3/1	A405 West	U	-		-	-	-	29	1980	1980	1.5%	-	-	-	0.0	0.0
3/2	A405 West	U	-		-	-	-	60	1978	1978	3.0%	-	-	-	0.0	0.0
4/1	A405 West Ahead	U	A		1	45	-	0	1979	1011	0.0%	-	-	-	0.0	0.0
4/2+4/3	A405 West Right Ahead	U	A I		1	45:9	-	13	1977:1917	0+213	0.0 : 6.1%	-	-	-	0.2	0.3
5/1	A405 East	U	-		-	-	-	0	1974	1974	0.0%	-	-	-	0.0	0.0
5/2	A405 East	U	-		-	-	-	0	1984	1984	0.0%	-	-	-	0.0	0.0
6/1	Burston Garden Access Left	U	D		1	7	-	29	1713	152	19.0%	-	-	-	0.4	0.8
7/1	Slip Lane Ahead	U	C		1	31	-	0	1922	683	0.0%	-	-	-	0.0	0.0
Ped Link: P1	Unnamed Ped Link	-	E		1	68	-	0	-	54400	0.0%	-	-	-	0.0	0.0
Ped Link: P2	Unnamed Ped Link	-			0	0	-	0	-	72000	0.0%	-	-	-	Inf	Inf
Ped Link: P3	Unnamed Ped Link	-	F		1	10	-	0	-	8000	0.0%	-	-	-	0.0	0.0
Ped Link: P4	Unnamed Ped Link	-	G		1	32	-	0	-	25600	0.0%	-	-	-	0.0	0.0
Ped Link: P5	Unnamed Ped Link	-	H		1	48	-	0	-	38400	0.0%	-	-	-	0.0	0.0

MTP Results Summary

C1	PRC for Signalled Lanes (%):	9.1	Total Delay for Signalled Lanes (pcuHr):	3.06	Cycle Time (s):	90
	PRC Over All Lanes (%):	9.1	Total Delay Over All Lanes(pcuHr):	4.98		

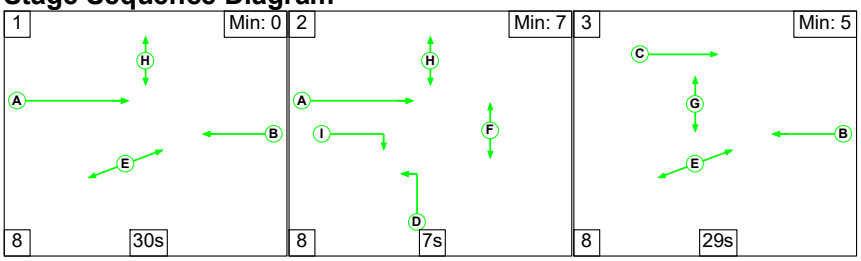
MTP Results Summary

Network Layout Diagram



Scenario 6: '2026 + Development PM' (FG6: '2026 + Development Flows PM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram



Lane Input Data

Junction: Burston Nurseries Access												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (A405 East)	O		2	3	13.6	Geom	-	3.51	0.00	Y	Arm 2 Left	Inf
1/2 (A405 East)	U	B	2	3	60.0	Geom	-	3.69	0.00	Y	Arm 3 Ahead	Inf
1/3 (A405 East)	U	B	2	3	60.0	Geom	-	3.74	0.00	Y	Arm 3 Ahead	Inf
2/1 (Burston Garden Access)	U		2	3	60.0	Geom	-	3.70	0.00	Y		
3/1 (A405 West)	U		2	3	60.0	Geom	-	3.65	0.00	Y		
3/2 (A405 West)	U		2	3	60.0	Geom	-	3.63	0.00	Y		
4/1 (A405 West)	U	A	2	3	60.0	Geom	-	3.64	0.00	Y	Arm 5 Ahead	Inf
4/2 (A405 West)	U	A	2	3	60.0	Geom	-	3.62	0.00	Y	Arm 5 Ahead	Inf
4/3 (A405 West)	U	I	2	3	7.3	Geom	-	3.02	0.00	Y	Arm 2 Right	Inf
5/1 (A405 East)	U		2	3	60.0	Geom	-	3.59	0.00	Y		
5/2 (A405 East)	U		2	3	60.0	Geom	-	3.69	0.00	Y		
6/1 (Burston Garden Access)	U	D	2	3	60.0	Geom	-	3.50	6.00	Y	Arm 3 Left	Inf
7/1 (Slip Lane)	U	C	2	3	60.0	Geom	-	3.07	0.00	Y	Arm 5 Ahead	Inf

Give-Way Lane Input Data

Junction: Burston Nurseries Access											
Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
1/1 (A405 East)	2/1 (Left)	1439	0	4/3	1.09	All	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
6: '2026 + Development Flows PM'	17:00	18:00	01:00	

MTP Results Summary

Traffic Flows, Actual

Actual Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	53	1434	0	1487
	B	0	0	121	0	121
	C	0	29	0	0	29
	D	0	0	0	0	0
	Tot.	0	82	1555	0	1637

MTP Results Summary

Network Results

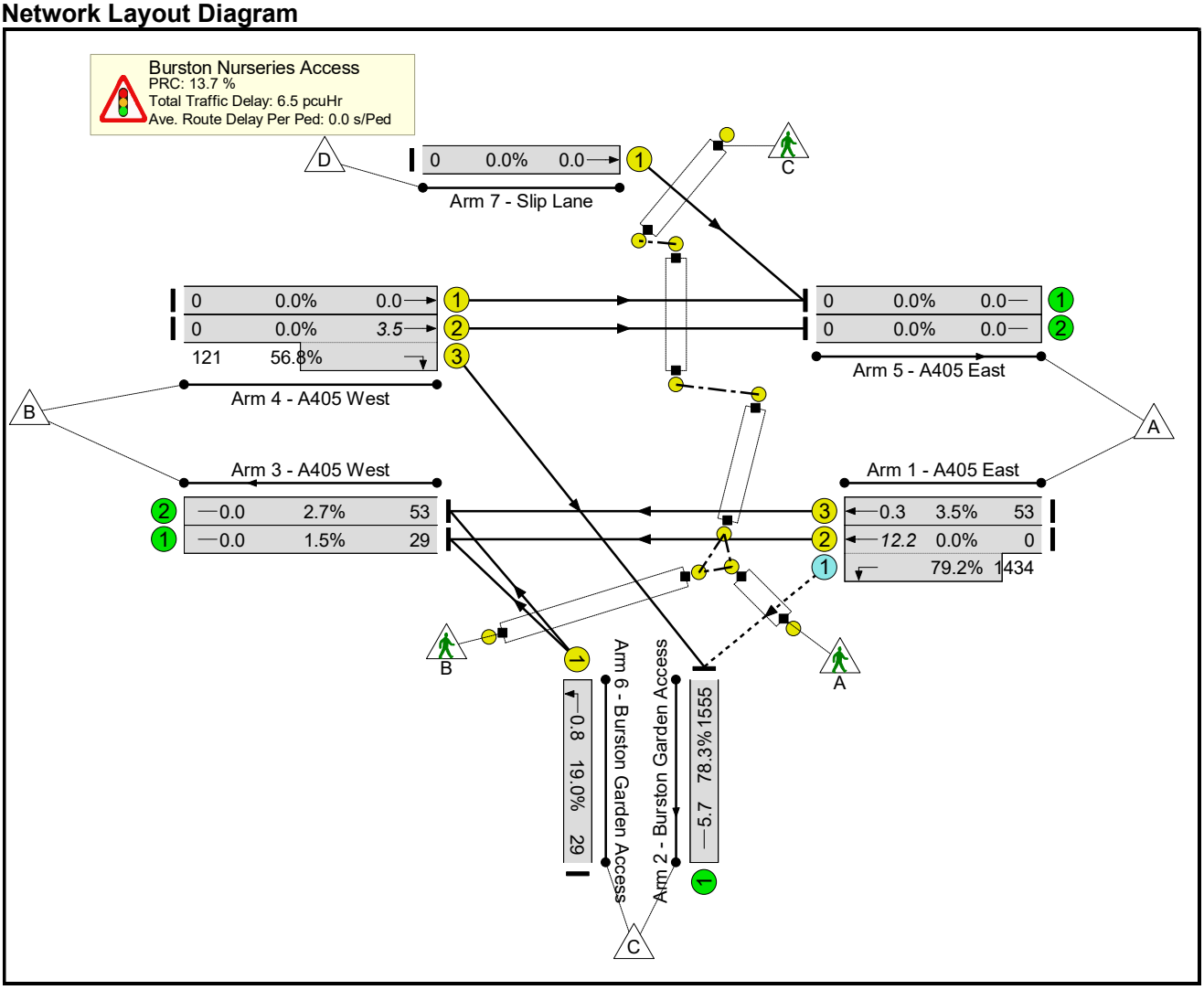
Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**79.2%**	**64**	**1370**	**0**	**6.5**	-
Burston Nurseries Access	-	-	-		-	-	-	-	-	-	**79.2%**	**64**	**1370**	**0**	**6.5**	-
1/2+1/1	A405 East Left Ahead	U+O	B -		1	67	-	1434	1984:1966	0+1812	0.0 : 79.2%	64	1370	0	2.3	12.2
1/3	A405 East Ahead	U	B		1	67	-	53	1989	1503	3.5%	-	-	-	0.1	0.3
2/1	Burston Garden Access	U	-		-	-	-	1555	1985	1985	78.3%	-	-	-	1.8	5.7
3/1	A405 West	U	-		-	-	-	29	1980	1980	1.5%	-	-	-	0.0	0.0
3/2	A405 West	U	-		-	-	-	53	1978	1978	2.7%	-	-	-	0.0	0.0
4/1	A405 West Ahead	U	A		1	45	-	0	1979	1011	0.0%	-	-	-	0.0	0.0
4/2+4/3	A405 West Right Ahead	U	A I		1	45:9	-	121	1977:1917	0+213	0.0 : 56.8%	-	-	-	1.9	3.5
5/1	A405 East	U	-		-	-	-	0	1974	1974	0.0%	-	-	-	0.0	0.0
5/2	A405 East	U	-		-	-	-	0	1984	1984	0.0%	-	-	-	0.0	0.0
6/1	Burston Garden Access Left	U	D		1	7	-	29	1713	152	19.0%	-	-	-	0.4	0.8
7/1	Slip Lane Ahead	U	C		1	31	-	0	1922	683	0.0%	-	-	-	0.0	0.0
Ped Link: P1	Unnamed Ped Link	-	E		1	68	-	0	-	54400	0.0%	-	-	-	0.0	0.0
Ped Link: P2	Unnamed Ped Link	-			0	0	-	0	-	72000	0.0%	-	-	-	Inf	Inf
Ped Link: P3	Unnamed Ped Link	-	F		1	10	-	0	-	8000	0.0%	-	-	-	0.0	0.0
Ped Link: P4	Unnamed Ped Link	-	G		1	32	-	0	-	25600	0.0%	-	-	-	0.0	0.0
Ped Link: P5	Unnamed Ped Link	-	H		1	48	-	0	-	38400	0.0%	-	-	-	0.0	0.0

MTP Results Summary

C1	PRC for Signalled Lanes (%):	13.7	Total Delay for Signalled Lanes (pcuHr):	4.68	Cycle Time (s):	90
	PRC Over All Lanes (%):	13.7	Total Delay Over All Lanes(pcuHr):	6.52		

MTP Results Summary

Network Layout Diagram



Appendix 6

BURSTON NURSERIES ST ALBANS

0 25M 50M 100M

1:1250

ST. ALBANS : 3 MILES

LONDON COLNEY : 4 MILES

WATFORD ROAD

NORTH ORBITAL ROAD

A 405

LYE LANE

MIRIAM LANE

BELVEDERE GARDENS

PENHAM CLOSE

ALBANY MEWS

THE NOKE HOTEL

THE LIMES

BURSTON MANOR FARM

POND

BURSTON MANOR

MOAT

HOW WOOD

CASTLEOAKS RETIREMENT VILAGE

BIRCH WOOD

SUNSET

SUNRISE

MIDDAY

SPIELPLATZ

NURSING HOME

GREEN BUFFER

HOTEL SITE

LOW DENSITY HOUSING

STANDARD DENSITY HOUSING

CARE HOME

COMMUNITY HUB

RETAIL A1

N

INDICATIVE MASTER PLAN // LAND USE

PLAN 6 // MAR 21' // 1:1250

Appendix 7

KS404EW - Car or van availability

population	All households; All cars or vans
units	Households
date	2011
rural urban	Total

Cars	ualad09:St Albans		lsoa2011:E01023731 : St Albans 020C		msoa2011:E02004943 : St Albans 020	
All categories: Car or van availability	56,140	100%	610	100%	3,080	100%
No cars or vans in household	7,606	14%	43	7%	243	8%
1 car or van in household	24,108	43%	256	42%	1,113	36%
2 cars or vans in household	18,964	34%	234	38%	1,242	40%
3 cars or vans in household	3,975	7%	51	8%	313	10%
4 or more cars or vans in household	1,487	3%	26	4%	169	5%

Average no. of cars per household	1.4	1.6	1.7

Appendix 8

Calculation Reference: AUDIT-740101-210225-0204

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : K - MIXED PRIV HOUS (FLATS AND HOUSES)
MULTI-MODAL TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST		
	ES	EAST SUSSEX	1 days
	HC	HAMPSHIRE	1 days
	WS	WEST SUSSEX	1 days
03	SOUTH WEST		
	CW	CORNWALL	1 days
04	EAST ANGLIA		
	CA	CAMBRIDGESHIRE	2 days
05	EAST MIDLANDS		
	DS	DERBYSHIRE	1 days
06	WEST MIDLANDS		
	ST	STAFFORDSHIRE	1 days
09	NORTH		
	CB	CUMBRIA	1 days

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

Primary Filtering selection:

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

Parameter: No of Dwellings
Actual Range: 15 to 618 (units:)
Range Selected by User: 15 to 618 (units:)

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/12 to 23/05/19

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

Selected survey days:

Monday	2 days
Tuesday	1 days
Wednesday	1 days
Thursday	4 days
Friday	1 days

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

Selected survey types:

Manual count	9 days
Directional ATC Count	0 days

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

Selected Locations:

Suburban Area (PPS6 Out of Centre)	4
Edge of Town	5

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

Selected Location Sub Categories:

Industrial Zone	1
Residential Zone	8

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,

Secondary Filtering selection:

Use Class:

C3	9 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 500m Range:

All Surveys Included

Population within 1 mile:

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

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

Population within 5 miles:

25,001 to 50,000	4 days
50,001 to 75,000	1 days
125,001 to 250,000	3 days
250,001 to 500,000	1 days

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

Car ownership within 5 miles:

0.6 to 1.0	4 days
1.1 to 1.5	4 days
1.6 to 2.0	1 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	2 days
No	7 days

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

PTAL Rating:

No PTAL Present	9 days

This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1 CA-03-K-01 MIXED HOUSES & FLATS CAMBRIDGESHIRE
WEASANHAM LANE
WISBECH
FENLAND
Edge of Town
Residential Zone
Total No of Dwellings: 100
Survey date: MONDAY *07/09/15* *Survey Type: MANUAL*

2 CA-03-K-04 MIXED HOUSES & FLATS CAMBRIDGESHIRE
FORDHAM ROAD
SOHAM

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 65
Survey date: WEDNESDAY *11/07/18* *Survey Type: MANUAL*

3 CB-03-K-02 SEMI-DETACHED & FLATS CUMBRIA
NATLAND ROAD
KENDAL

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 15
Survey date: TUESDAY *21/06/16* *Survey Type: MANUAL*

4 CW-03-K-01 MIXED HOUSES & FLATS CORNWALL
TRELOWEN DRIVE
PENRYN

Edge of Town
Residential Zone
Total No of Dwellings: 89
Survey date: THURSDAY *28/03/19* *Survey Type: MANUAL*

5 DS-03-K-01 MIXED HOUSES & FLATS DERBYSHIRE
PRIDE PARKWAY
DERBY
WILMORTON
Edge of Town
Industrial Zone
Total No of Dwellings: 618
Survey date: MONDAY *23/07/18* *Survey Type: MANUAL*

6 ES-03-K-01 MIXED HOUSES & FLATS EAST SUSSEX
LEWES ROAD
UCKFIELD
RIDGEWOOD
Edge of Town
Residential Zone
Total No of Dwellings: 64
Survey date: THURSDAY *14/07/16* *Survey Type: MANUAL*

7 HC-03-K-06 HOUSES & FLATS HAMPSHIRE
ROMSEY ROAD
SOUTHAMPTON
MAYBUSH
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 91
Survey date: THURSDAY *02/10/14* *Survey Type: MANUAL*

8 ST-03-K-03 MIXED HOUSING & FLATS STAFFORDSHIRE
CLAREMONT ROAD
WOLVERHAMPTON

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 28
Survey date: FRIDAY *09/05/14* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

9 WS-03-K-03 MIXED HOUSES & FLATS WEST SUSSEX
LITTLEHAMPTON ROAD
WORTHING
WEST DURRINGTON
Edge of Town
Residential Zone
Total No of Dwellings: 111
Survey date: THURSDAY *12/05/16* *Survey Type: MANUAL*

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

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
CB-03-K-01	Rail station in close proximity
NE-03-K-01	Flats only
NT-03-K-02	Industrial area
WS-03-K-04	Rail station Location

TRIP RATE for Land Use 03 - RESIDENTIAL/K - MIXED PRIV HOUS (FLATS AND HOUSES)
MULTI-MODAL TOTAL VEHICLES
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	9	131	0.069	9	131	0.246	9	131	0.315
08:00 - 09:00	9	131	0.093	9	131	0.295	9	131	0.388
09:00 - 10:00	9	131	0.103	9	131	0.136	9	131	0.239
10:00 - 11:00	9	131	0.112	9	131	0.149	9	131	0.261
11:00 - 12:00	9	131	0.107	9	131	0.107	9	131	0.214
12:00 - 13:00	9	131	0.135	9	131	0.124	9	131	0.259
13:00 - 14:00	9	131	0.117	9	131	0.119	9	131	0.236
14:00 - 15:00	9	131	0.117	9	131	0.135	9	131	0.252
15:00 - 16:00	9	131	0.183	9	131	0.141	9	131	0.324
16:00 - 17:00	9	131	0.195	9	131	0.107	9	131	0.302
17:00 - 18:00	9	131	0.263	9	131	0.125	9	131	0.388
18:00 - 19:00	9	131	0.220	9	131	0.145	9	131	0.365
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.714			1.829			3.543

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:	15 - 618 (units:)
Survey date date range:	01/01/12 - 23/05/19
Number of weekdays (Monday-Friday):	9
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	4

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

TRIP RATE for Land Use 03 - RESIDENTIAL/K - MIXED PRIV HOUS (FLATS AND HOUSES)
MULTI-MODAL TAXIS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	9	131	0.002	9	131	0.001	9	131	0.003
08:00 - 09:00	9	131	0.003	9	131	0.004	9	131	0.007
09:00 - 10:00	9	131	0.005	9	131	0.005	9	131	0.010
10:00 - 11:00	9	131	0.004	9	131	0.003	9	131	0.007
11:00 - 12:00	9	131	0.004	9	131	0.006	9	131	0.010
12:00 - 13:00	9	131	0.003	9	131	0.003	9	131	0.006
13:00 - 14:00	9	131	0.003	9	131	0.003	9	131	0.006
14:00 - 15:00	9	131	0.007	9	131	0.003	9	131	0.010
15:00 - 16:00	9	131	0.001	9	131	0.003	9	131	0.004
16:00 - 17:00	9	131	0.001	9	131	0.001	9	131	0.002
17:00 - 18:00	9	131	0.003	9	131	0.003	9	131	0.006
18:00 - 19:00	9	131	0.006	9	131	0.006	9	131	0.012
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.042			0.041			0.083

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.*

TRIP RATE for Land Use 03 - RESIDENTIAL/K - MIXED PRIV HOUS (FLATS AND HOUSES)
MULTI-MODAL OGVS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	9	131	0.002	9	131	0.002	9	131	0.004
08:00 - 09:00	9	131	0.002	9	131	0.000	9	131	0.002
09:00 - 10:00	9	131	0.001	9	131	0.003	9	131	0.004
10:00 - 11:00	9	131	0.004	9	131	0.003	9	131	0.007
11:00 - 12:00	9	131	0.001	9	131	0.002	9	131	0.003
12:00 - 13:00	9	131	0.003	9	131	0.001	9	131	0.004
13:00 - 14:00	9	131	0.003	9	131	0.003	9	131	0.006
14:00 - 15:00	9	131	0.002	9	131	0.003	9	131	0.005
15:00 - 16:00	9	131	0.000	9	131	0.000	9	131	0.000
16:00 - 17:00	9	131	0.000	9	131	0.000	9	131	0.000
17:00 - 18:00	9	131	0.001	9	131	0.001	9	131	0.002
18:00 - 19:00	9	131	0.000	9	131	0.000	9	131	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.019			0.018			0.037

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.*

TRIP RATE for Land Use 03 - RESIDENTIAL/K - MIXED PRIV HOUS (FLATS AND HOUSES)
MULTI-MODAL PSVS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	9	131	0.000	9	131	0.000	9	131	0.000
08:00 - 09:00	9	131	0.001	9	131	0.001	9	131	0.002
09:00 - 10:00	9	131	0.000	9	131	0.000	9	131	0.000
10:00 - 11:00	9	131	0.000	9	131	0.000	9	131	0.000
11:00 - 12:00	9	131	0.000	9	131	0.000	9	131	0.000
12:00 - 13:00	9	131	0.000	9	131	0.000	9	131	0.000
13:00 - 14:00	9	131	0.000	9	131	0.000	9	131	0.000
14:00 - 15:00	9	131	0.000	9	131	0.000	9	131	0.000
15:00 - 16:00	9	131	0.001	9	131	0.001	9	131	0.002
16:00 - 17:00	9	131	0.000	9	131	0.000	9	131	0.000
17:00 - 18:00	9	131	0.000	9	131	0.000	9	131	0.000
18:00 - 19:00	9	131	0.000	9	131	0.000	9	131	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.002			0.002			0.004

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.*

TRIP RATE for Land Use 03 - RESIDENTIAL/K - MIXED PRIV HOUS (FLATS AND HOUSES)
MULTI-MODAL CYCLISTS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	9	131	0.005	9	131	0.019	9	131	0.024
08:00 - 09:00	9	131	0.007	9	131	0.027	9	131	0.034
09:00 - 10:00	9	131	0.001	9	131	0.004	9	131	0.005
10:00 - 11:00	9	131	0.003	9	131	0.008	9	131	0.011
11:00 - 12:00	9	131	0.003	9	131	0.003	9	131	0.006
12:00 - 13:00	9	131	0.007	9	131	0.002	9	131	0.009
13:00 - 14:00	9	131	0.002	9	131	0.003	9	131	0.005
14:00 - 15:00	9	131	0.007	9	131	0.004	9	131	0.011
15:00 - 16:00	9	131	0.014	9	131	0.010	9	131	0.024
16:00 - 17:00	9	131	0.008	9	131	0.006	9	131	0.014
17:00 - 18:00	9	131	0.016	9	131	0.003	9	131	0.019
18:00 - 19:00	9	131	0.008	9	131	0.004	9	131	0.012
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.081			0.093			0.174

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.*

TRIP RATE for Land Use 03 - RESIDENTIAL/K - MIXED PRIV HOUS (FLATS AND HOUSES)
MULTI-MODAL VEHICLE OCCUPANTS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	9	131	0.085	9	131	0.326	9	131	0.411
08:00 - 09:00	9	131	0.118	9	131	0.450	9	131	0.568
09:00 - 10:00	9	131	0.147	9	131	0.206	9	131	0.353
10:00 - 11:00	9	131	0.160	9	131	0.202	9	131	0.362
11:00 - 12:00	9	131	0.141	9	131	0.152	9	131	0.293
12:00 - 13:00	9	131	0.190	9	131	0.167	9	131	0.357
13:00 - 14:00	9	131	0.165	9	131	0.161	9	131	0.326
14:00 - 15:00	9	131	0.157	9	131	0.177	9	131	0.334
15:00 - 16:00	9	131	0.308	9	131	0.207	9	131	0.515
16:00 - 17:00	9	131	0.281	9	131	0.154	9	131	0.435
17:00 - 18:00	9	131	0.373	9	131	0.179	9	131	0.552
18:00 - 19:00	9	131	0.331	9	131	0.215	9	131	0.546
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.456			2.596			5.052

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.*

TRIP RATE for Land Use 03 - RESIDENTIAL/K - MIXED PRIV HOUS (FLATS AND HOUSES)
MULTI-MODAL PEDESTRIANS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	9	131	0.016	9	131	0.072	9	131	0.088
08:00 - 09:00	9	131	0.043	9	131	0.119	9	131	0.162
09:00 - 10:00	9	131	0.037	9	131	0.032	9	131	0.069
10:00 - 11:00	9	131	0.019	9	131	0.034	9	131	0.053
11:00 - 12:00	9	131	0.027	9	131	0.033	9	131	0.060
12:00 - 13:00	9	131	0.026	9	131	0.029	9	131	0.055
13:00 - 14:00	9	131	0.040	9	131	0.054	9	131	0.094
14:00 - 15:00	9	131	0.042	9	131	0.061	9	131	0.103
15:00 - 16:00	9	131	0.102	9	131	0.059	9	131	0.161
16:00 - 17:00	9	131	0.086	9	131	0.037	9	131	0.123
17:00 - 18:00	9	131	0.113	9	131	0.029	9	131	0.142
18:00 - 19:00	9	131	0.072	9	131	0.043	9	131	0.115
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.623			0.602			1.225

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.*

TRIP RATE for Land Use 03 - RESIDENTIAL/K - MIXED PRIV HOUS (FLATS AND HOUSES)
MULTI-MODAL PUBLIC TRANSPORT USERS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	9	131	0.000	9	131	0.025	9	131	0.025
08:00 - 09:00	9	131	0.009	9	131	0.033	9	131	0.042
09:00 - 10:00	9	131	0.001	9	131	0.009	9	131	0.010
10:00 - 11:00	9	131	0.004	9	131	0.013	9	131	0.017
11:00 - 12:00	9	131	0.005	9	131	0.008	9	131	0.013
12:00 - 13:00	9	131	0.008	9	131	0.010	9	131	0.018
13:00 - 14:00	9	131	0.008	9	131	0.014	9	131	0.022
14:00 - 15:00	9	131	0.009	9	131	0.007	9	131	0.016
15:00 - 16:00	9	131	0.030	9	131	0.014	9	131	0.044
16:00 - 17:00	9	131	0.017	9	131	0.009	9	131	0.026
17:00 - 18:00	9	131	0.023	9	131	0.005	9	131	0.028
18:00 - 19:00	9	131	0.027	9	131	0.003	9	131	0.030
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.141			0.150			0.291

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.*

TRIP RATE for Land Use 03 - RESIDENTIAL/K - MIXED PRIV HOUS (FLATS AND HOUSES)
MULTI-MODAL TOTAL PEOPLE
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	9	131	0.106	9	131	0.442	9	131	0.548
08:00 - 09:00	9	131	0.177	9	131	0.628	9	131	0.805
09:00 - 10:00	9	131	0.186	9	131	0.251	9	131	0.437
10:00 - 11:00	9	131	0.186	9	131	0.257	9	131	0.443
11:00 - 12:00	9	131	0.177	9	131	0.196	9	131	0.373
12:00 - 13:00	9	131	0.230	9	131	0.207	9	131	0.437
13:00 - 14:00	9	131	0.215	9	131	0.231	9	131	0.446
14:00 - 15:00	9	131	0.216	9	131	0.249	9	131	0.465
15:00 - 16:00	9	131	0.455	9	131	0.290	9	131	0.745
16:00 - 17:00	9	131	0.393	9	131	0.207	9	131	0.600
17:00 - 18:00	9	131	0.524	9	131	0.215	9	131	0.739
18:00 - 19:00	9	131	0.438	9	131	0.266	9	131	0.704
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			3.303			3.439			6.742

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.*

TRIP RATE for Land Use 03 - RESIDENTIAL/K - MIXED PRIV HOUS (FLATS AND HOUSES)
MULTI-MODAL CARS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	9	131	0.052	9	131	0.229	9	131	0.281
08:00 - 09:00	9	131	0.079	9	131	0.271	9	131	0.350
09:00 - 10:00	9	131	0.078	9	131	0.116	9	131	0.194
10:00 - 11:00	9	131	0.083	9	131	0.115	9	131	0.198
11:00 - 12:00	9	131	0.087	9	131	0.080	9	131	0.167
12:00 - 13:00	9	131	0.102	9	131	0.095	9	131	0.197
13:00 - 14:00	9	131	0.086	9	131	0.094	9	131	0.180
14:00 - 15:00	9	131	0.091	9	131	0.109	9	131	0.200
15:00 - 16:00	9	131	0.163	9	131	0.118	9	131	0.281
16:00 - 17:00	9	131	0.173	9	131	0.087	9	131	0.260
17:00 - 18:00	9	131	0.237	9	131	0.108	9	131	0.345
18:00 - 19:00	9	131	0.201	9	131	0.124	9	131	0.325
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.432			1.546			2.978

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.*

TRIP RATE for Land Use 03 - RESIDENTIAL/K - MIXED PRIV HOUS (FLATS AND HOUSES)
MULTI-MODAL LGVS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	9	131	0.013	9	131	0.012	9	131	0.025
08:00 - 09:00	9	131	0.007	9	131	0.014	9	131	0.021
09:00 - 10:00	9	131	0.019	9	131	0.011	9	131	0.030
10:00 - 11:00	9	131	0.019	9	131	0.025	9	131	0.044
11:00 - 12:00	9	131	0.010	9	131	0.016	9	131	0.026
12:00 - 13:00	9	131	0.021	9	131	0.019	9	131	0.040
13:00 - 14:00	9	131	0.022	9	131	0.015	9	131	0.037
14:00 - 15:00	9	131	0.014	9	131	0.015	9	131	0.029
15:00 - 16:00	9	131	0.015	9	131	0.016	9	131	0.031
16:00 - 17:00	9	131	0.015	9	131	0.016	9	131	0.031
17:00 - 18:00	9	131	0.018	9	131	0.012	9	131	0.030
18:00 - 19:00	9	131	0.010	9	131	0.008	9	131	0.018
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.183			0.179			0.362

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.*

TRIP RATE for Land Use 03 - RESIDENTIAL/K - MIXED PRIV HOUS (FLATS AND HOUSES)
MULTI-MODAL MOTOR CYCLES
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	9	131	0.000	9	131	0.001	9	131	0.001
08:00 - 09:00	9	131	0.000	9	131	0.001	9	131	0.001
09:00 - 10:00	9	131	0.000	9	131	0.000	9	131	0.000
10:00 - 11:00	9	131	0.000	9	131	0.000	9	131	0.000
11:00 - 12:00	9	131	0.002	9	131	0.001	9	131	0.003
12:00 - 13:00	9	131	0.001	9	131	0.001	9	131	0.002
13:00 - 14:00	9	131	0.002	9	131	0.003	9	131	0.005
14:00 - 15:00	9	131	0.000	9	131	0.001	9	131	0.001
15:00 - 16:00	9	131	0.000	9	131	0.000	9	131	0.000
16:00 - 17:00	9	131	0.003	9	131	0.000	9	131	0.003
17:00 - 18:00	9	131	0.003	9	131	0.000	9	131	0.003
18:00 - 19:00	9	131	0.001	9	131	0.001	9	131	0.002
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.012			0.009			0.021

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.*

Appendix 9

QS701EW - Method of travel to work

population	All usual residents aged 16 to 74
units	Persons
date	2011
rural urban	Total

Method of Travel to Work	ualad09:St Albans		lsoa2011:E01023731 : St Albans 020C		msoa2011:E02004943 : St Albans 020	
All categories: Method of travel to work	99,863		1,030		5,498	
TOTAL	65,779	100%	659	100%	3,501	100%
Underground, metro, light rail, tram	673	1%	2	0%	60	2%
Train	13,489	21%	61	9%	322	9%
Bus, minibus or coach	1,724	3%	14	2%	63	2%
Taxi	186	0%	3	0%	18	1%
Motorcycle, scooter or moped	449	1%	7	1%	30	1%
Driving a car or van	39,425	60%	495	75%	2,639	75%
Passenger in a car or van	2,160	3%	29	4%	138	4%
Bicycle	1,219	2%	7	1%	33	1%
On foot	6,090	9%	36	5%	168	5%
Other method of travel to work	364	1%	5	1%	30	1%
Work mainly at or from home	5,599		57		325	
Not in employment	28,485		314		1,672	

Appendix 10

Calculation Reference: AUDIT-740101-210225-0232

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
Category : B - BUSINESS PARK
MULTI-MODAL TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST		
	EX	ESSEX	2 days
03	SOUTH WEST		
	DV	DEVON	1 days
05	EAST MIDLANDS		
	LN	LINCOLNSHIRE	1 days

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

Primary Filtering selection:

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

Parameter: Gross floor area
Actual Range: 1500 to 5000 (units: sqm)
Range Selected by User: 975 to 7000 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/12 to 26/06/18

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:

Wednesday	1 days
Thursday	1 days
Friday	2 days

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

Selected survey types:

Manual count	4 days
Directional ATC Count	0 days

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

Selected Locations:

Edge of Town	4

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

Selected Location Sub Categories:

Industrial Zone	3
Commercial Zone	1

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

Secondary Filtering selection:

Use Class:

B1	4 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®.

Filter by Use Class Breakdown:
All Surveys Included

Secondary Filtering selection (Cont.):

Population within 500m Range:
All Surveys Included

Population within 1 mile:

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

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

Population within 5 miles:

125,001 to 250,000	4 days

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

Car ownership within 5 miles:

0.6 to 1.0	1 days
1.1 to 1.5	3 days

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

Travel Plan:

No	4 days

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

PTAL Rating:

No PTAL Present	4 days

This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1 DV-02-B-01 BUSINESS PARK DEVON
MANATON CLOSE
EXETER
MATFORD BUSINESS PARK
Edge of Town
Commercial Zone
Total Gross floor area: 1500 sqm
Survey date: WEDNESDAY 05/07/17 Survey Type: MANUAL

2 EX-02-B-01 BUSINESS PARK ESSEX
BRUNEL COURT
COLCHESTER
SEVERALLS INDUSTRIAL PK
Edge of Town
Industrial Zone
Total Gross floor area: 2900 sqm
Survey date: FRIDAY 18/05/18 Survey Type: MANUAL

3 EX-02-B-02 BUSINESS PARK ESSEX
WYNCOLLS ROAD
COLCHESTER
SEVERALLS INDUSTRIAL PK
Edge of Town
Industrial Zone
Total Gross floor area: 4083 sqm
Survey date: FRIDAY 18/05/18 Survey Type: MANUAL

4 LN-02-B-02 BUSINESS PARK LINCOLNSHIRE
CARDINAL CLOSE
LINCOLN

Edge of Town
Industrial Zone
Total Gross floor area: 5000 sqm
Survey date: THURSDAY 25/06/15 Survey Type: MANUAL

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

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
WO-02-B-02	High parking provision

TRIP RATE for Land Use 02 - EMPLOYMENT/B - BUSINESS PARK
MULTI-MODAL TOTAL VEHICLES
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	4	3371	0.126	4	3371	0.037	4	3371	0.163
07:30 - 08:00	4	3371	0.393	4	3371	0.096	4	3371	0.489
08:00 - 08:30	4	3371	0.608	4	3371	0.119	4	3371	0.727
08:30 - 09:00	4	3371	0.853	4	3371	0.282	4	3371	1.135
09:00 - 09:30	4	3371	0.630	4	3371	0.363	4	3371	0.993
09:30 - 10:00	4	3371	0.467	4	3371	0.378	4	3371	0.845
10:00 - 10:30	4	3371	0.371	4	3371	0.371	4	3371	0.742
10:30 - 11:00	4	3371	0.408	4	3371	0.378	4	3371	0.786
11:00 - 11:30	4	3371	0.356	4	3371	0.408	4	3371	0.764
11:30 - 12:00	4	3371	0.408	4	3371	0.341	4	3371	0.749
12:00 - 12:30	4	3371	0.319	4	3371	0.356	4	3371	0.675
12:30 - 13:00	4	3371	0.297	4	3371	0.334	4	3371	0.631
13:00 - 13:30	4	3371	0.378	4	3371	0.326	4	3371	0.704
13:30 - 14:00	4	3371	0.415	4	3371	0.475	4	3371	0.890
14:00 - 14:30	4	3371	0.304	4	3371	0.363	4	3371	0.667
14:30 - 15:00	4	3371	0.304	4	3371	0.519	4	3371	0.823
15:00 - 15:30	4	3371	0.289	4	3371	0.312	4	3371	0.601
15:30 - 16:00	4	3371	0.215	4	3371	0.304	4	3371	0.519
16:00 - 16:30	4	3371	0.260	4	3371	0.601	4	3371	0.861
16:30 - 17:00	4	3371	0.289	4	3371	0.660	4	3371	0.949
17:00 - 17:30	4	3371	0.319	4	3371	0.668	4	3371	0.987
17:30 - 18:00	4	3371	0.052	4	3371	0.282	4	3371	0.334
18:00 - 18:30	4	3371	0.185	4	3371	0.208	4	3371	0.393
18:30 - 19:00	4	3371	0.111	4	3371	0.260	4	3371	0.371
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			8.357			8.441			16.798

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:	1500 - 5000 (units: sqm)
Survey date date range:	01/01/12 - 26/06/18
Number of weekdays (Monday-Friday):	4
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	1

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

TRIP RATE for Land Use 02 - EMPLOYMENT/B - BUSINESS PARK
MULTI-MODAL TAXIS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	4	3371	0.007	4	3371	0.007	4	3371	0.014
07:30 - 08:00	4	3371	0.000	4	3371	0.000	4	3371	0.000
08:00 - 08:30	4	3371	0.000	4	3371	0.000	4	3371	0.000
08:30 - 09:00	4	3371	0.007	4	3371	0.000	4	3371	0.007
09:00 - 09:30	4	3371	0.000	4	3371	0.000	4	3371	0.000
09:30 - 10:00	4	3371	0.000	4	3371	0.000	4	3371	0.000
10:00 - 10:30	4	3371	0.000	4	3371	0.007	4	3371	0.007
10:30 - 11:00	4	3371	0.007	4	3371	0.000	4	3371	0.007
11:00 - 11:30	4	3371	0.000	4	3371	0.000	4	3371	0.000
11:30 - 12:00	4	3371	0.000	4	3371	0.000	4	3371	0.000
12:00 - 12:30	4	3371	0.000	4	3371	0.007	4	3371	0.007
12:30 - 13:00	4	3371	0.000	4	3371	0.000	4	3371	0.000
13:00 - 13:30	4	3371	0.000	4	3371	0.000	4	3371	0.000
13:30 - 14:00	4	3371	0.000	4	3371	0.000	4	3371	0.000
14:00 - 14:30	4	3371	0.000	4	3371	0.000	4	3371	0.000
14:30 - 15:00	4	3371	0.000	4	3371	0.000	4	3371	0.000
15:00 - 15:30	4	3371	0.000	4	3371	0.000	4	3371	0.000
15:30 - 16:00	4	3371	0.000	4	3371	0.000	4	3371	0.000
16:00 - 16:30	4	3371	0.000	4	3371	0.000	4	3371	0.000
16:30 - 17:00	4	3371	0.000	4	3371	0.000	4	3371	0.000
17:00 - 17:30	4	3371	0.000	4	3371	0.000	4	3371	0.000
17:30 - 18:00	4	3371	0.000	4	3371	0.000	4	3371	0.000
18:00 - 18:30	4	3371	0.000	4	3371	0.000	4	3371	0.000
18:30 - 19:00	4	3371	0.000	4	3371	0.000	4	3371	0.000
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			0.021			0.021			0.042

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.*

TRIP RATE for Land Use 02 - EMPLOYMENT/B - BUSINESS PARK
MULTI-MODAL OGVS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	4	3371	0.007	4	3371	0.007	4	3371	0.014
07:30 - 08:00	4	3371	0.007	4	3371	0.000	4	3371	0.007
08:00 - 08:30	4	3371	0.007	4	3371	0.000	4	3371	0.007
08:30 - 09:00	4	3371	0.037	4	3371	0.045	4	3371	0.082
09:00 - 09:30	4	3371	0.030	4	3371	0.030	4	3371	0.060
09:30 - 10:00	4	3371	0.030	4	3371	0.022	4	3371	0.052
10:00 - 10:30	4	3371	0.007	4	3371	0.022	4	3371	0.029
10:30 - 11:00	4	3371	0.007	4	3371	0.007	4	3371	0.014
11:00 - 11:30	4	3371	0.007	4	3371	0.015	4	3371	0.022
11:30 - 12:00	4	3371	0.022	4	3371	0.030	4	3371	0.052
12:00 - 12:30	4	3371	0.022	4	3371	0.022	4	3371	0.044
12:30 - 13:00	4	3371	0.022	4	3371	0.022	4	3371	0.044
13:00 - 13:30	4	3371	0.007	4	3371	0.007	4	3371	0.014
13:30 - 14:00	4	3371	0.015	4	3371	0.015	4	3371	0.030
14:00 - 14:30	4	3371	0.000	4	3371	0.007	4	3371	0.007
14:30 - 15:00	4	3371	0.000	4	3371	0.000	4	3371	0.000
15:00 - 15:30	4	3371	0.059	4	3371	0.045	4	3371	0.104
15:30 - 16:00	4	3371	0.015	4	3371	0.015	4	3371	0.030
16:00 - 16:30	4	3371	0.022	4	3371	0.022	4	3371	0.044
16:30 - 17:00	4	3371	0.007	4	3371	0.007	4	3371	0.014
17:00 - 17:30	4	3371	0.000	4	3371	0.015	4	3371	0.015
17:30 - 18:00	4	3371	0.000	4	3371	0.000	4	3371	0.000
18:00 - 18:30	4	3371	0.000	4	3371	0.000	4	3371	0.000
18:30 - 19:00	4	3371	0.000	4	3371	0.000	4	3371	0.000
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			0.330			0.355			0.685

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.*

TRIP RATE for Land Use 02 - EMPLOYMENT/B - BUSINESS PARK
MULTI-MODAL CYCLISTS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	4	3371	0.000	4	3371	0.000	4	3371	0.000
07:30 - 08:00	4	3371	0.015	4	3371	0.000	4	3371	0.015
08:00 - 08:30	4	3371	0.030	4	3371	0.000	4	3371	0.030
08:30 - 09:00	4	3371	0.022	4	3371	0.000	4	3371	0.022
09:00 - 09:30	4	3371	0.007	4	3371	0.000	4	3371	0.007
09:30 - 10:00	4	3371	0.007	4	3371	0.000	4	3371	0.007
10:00 - 10:30	4	3371	0.000	4	3371	0.000	4	3371	0.000
10:30 - 11:00	4	3371	0.000	4	3371	0.000	4	3371	0.000
11:00 - 11:30	4	3371	0.007	4	3371	0.007	4	3371	0.014
11:30 - 12:00	4	3371	0.007	4	3371	0.007	4	3371	0.014
12:00 - 12:30	4	3371	0.000	4	3371	0.015	4	3371	0.015
12:30 - 13:00	4	3371	0.007	4	3371	0.000	4	3371	0.007
13:00 - 13:30	4	3371	0.000	4	3371	0.000	4	3371	0.000
13:30 - 14:00	4	3371	0.000	4	3371	0.000	4	3371	0.000
14:00 - 14:30	4	3371	0.007	4	3371	0.000	4	3371	0.007
14:30 - 15:00	4	3371	0.000	4	3371	0.007	4	3371	0.007
15:00 - 15:30	4	3371	0.000	4	3371	0.007	4	3371	0.007
15:30 - 16:00	4	3371	0.000	4	3371	0.007	4	3371	0.007
16:00 - 16:30	4	3371	0.000	4	3371	0.022	4	3371	0.022
16:30 - 17:00	4	3371	0.007	4	3371	0.015	4	3371	0.022
17:00 - 17:30	4	3371	0.000	4	3371	0.030	4	3371	0.030
17:30 - 18:00	4	3371	0.000	4	3371	0.015	4	3371	0.015
18:00 - 18:30	4	3371	0.000	4	3371	0.000	4	3371	0.000
18:30 - 19:00	4	3371	0.007	4	3371	0.007	4	3371	0.014
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			0.123			0.139			0.262

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.*

TRIP RATE for Land Use 02 - EMPLOYMENT/B - BUSINESS PARK
MULTI-MODAL VEHICLE OCCUPANTS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	4	3371	0.141	4	3371	0.030	4	3371	0.171
07:30 - 08:00	4	3371	0.490	4	3371	0.111	4	3371	0.601
08:00 - 08:30	4	3371	0.623	4	3371	0.141	4	3371	0.764
08:30 - 09:00	4	3371	0.927	4	3371	0.378	4	3371	1.305
09:00 - 09:30	4	3371	0.742	4	3371	0.467	4	3371	1.209
09:30 - 10:00	4	3371	0.668	4	3371	0.475	4	3371	1.143
10:00 - 10:30	4	3371	0.541	4	3371	0.504	4	3371	1.045
10:30 - 11:00	4	3371	0.593	4	3371	0.497	4	3371	1.090
11:00 - 11:30	4	3371	0.519	4	3371	0.556	4	3371	1.075
11:30 - 12:00	4	3371	0.616	4	3371	0.423	4	3371	1.039
12:00 - 12:30	4	3371	0.467	4	3371	0.519	4	3371	0.986
12:30 - 13:00	4	3371	0.386	4	3371	0.452	4	3371	0.838
13:00 - 13:30	4	3371	0.556	4	3371	0.482	4	3371	1.038
13:30 - 14:00	4	3371	0.586	4	3371	0.653	4	3371	1.239
14:00 - 14:30	4	3371	0.401	4	3371	0.519	4	3371	0.920
14:30 - 15:00	4	3371	0.415	4	3371	0.734	4	3371	1.149
15:00 - 15:30	4	3371	0.438	4	3371	0.423	4	3371	0.861
15:30 - 16:00	4	3371	0.297	4	3371	0.430	4	3371	0.727
16:00 - 16:30	4	3371	0.334	4	3371	0.838	4	3371	1.172
16:30 - 17:00	4	3371	0.393	4	3371	0.927	4	3371	1.320
17:00 - 17:30	4	3371	0.438	4	3371	0.831	4	3371	1.269
17:30 - 18:00	4	3371	0.067	4	3371	0.386	4	3371	0.453
18:00 - 18:30	4	3371	0.297	4	3371	0.289	4	3371	0.586
18:30 - 19:00	4	3371	0.178	4	3371	0.334	4	3371	0.512
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			11.113			11.399			22.512

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.*

TRIP RATE for Land Use 02 - EMPLOYMENT/B - BUSINESS PARK
MULTI-MODAL PEDESTRIANS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	4	3371	0.007	4	3371	0.000	4	3371	0.007
07:30 - 08:00	4	3371	0.037	4	3371	0.045	4	3371	0.082
08:00 - 08:30	4	3371	0.059	4	3371	0.045	4	3371	0.104
08:30 - 09:00	4	3371	0.082	4	3371	0.030	4	3371	0.112
09:00 - 09:30	4	3371	0.037	4	3371	0.022	4	3371	0.059
09:30 - 10:00	4	3371	0.022	4	3371	0.007	4	3371	0.029
10:00 - 10:30	4	3371	0.022	4	3371	0.030	4	3371	0.052
10:30 - 11:00	4	3371	0.015	4	3371	0.007	4	3371	0.022
11:00 - 11:30	4	3371	0.015	4	3371	0.030	4	3371	0.045
11:30 - 12:00	4	3371	0.000	4	3371	0.022	4	3371	0.022
12:00 - 12:30	4	3371	0.022	4	3371	0.022	4	3371	0.044
12:30 - 13:00	4	3371	0.030	4	3371	0.052	4	3371	0.082
13:00 - 13:30	4	3371	0.082	4	3371	0.052	4	3371	0.134
13:30 - 14:00	4	3371	0.045	4	3371	0.059	4	3371	0.104
14:00 - 14:30	4	3371	0.037	4	3371	0.045	4	3371	0.082
14:30 - 15:00	4	3371	0.000	4	3371	0.022	4	3371	0.022
15:00 - 15:30	4	3371	0.007	4	3371	0.007	4	3371	0.014
15:30 - 16:00	4	3371	0.015	4	3371	0.015	4	3371	0.030
16:00 - 16:30	4	3371	0.015	4	3371	0.059	4	3371	0.074
16:30 - 17:00	4	3371	0.045	4	3371	0.015	4	3371	0.060
17:00 - 17:30	4	3371	0.074	4	3371	0.067	4	3371	0.141
17:30 - 18:00	4	3371	0.030	4	3371	0.022	4	3371	0.052
18:00 - 18:30	4	3371	0.030	4	3371	0.022	4	3371	0.052
18:30 - 19:00	4	3371	0.007	4	3371	0.015	4	3371	0.022
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			0.735			0.712			1.447

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.*

TRIP RATE for Land Use 02 - EMPLOYMENT/B - BUSINESS PARK
MULTI-MODAL PUBLIC TRANSPORT USERS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	4	3371	0.007	4	3371	0.000	4	3371	0.007
07:30 - 08:00	4	3371	0.022	4	3371	0.000	4	3371	0.022
08:00 - 08:30	4	3371	0.052	4	3371	0.000	4	3371	0.052
08:30 - 09:00	4	3371	0.045	4	3371	0.000	4	3371	0.045
09:00 - 09:30	4	3371	0.022	4	3371	0.000	4	3371	0.022
09:30 - 10:00	4	3371	0.007	4	3371	0.000	4	3371	0.007
10:00 - 10:30	4	3371	0.007	4	3371	0.000	4	3371	0.007
10:30 - 11:00	4	3371	0.022	4	3371	0.000	4	3371	0.022
11:00 - 11:30	4	3371	0.000	4	3371	0.015	4	3371	0.015
11:30 - 12:00	4	3371	0.000	4	3371	0.007	4	3371	0.007
12:00 - 12:30	4	3371	0.015	4	3371	0.000	4	3371	0.015
12:30 - 13:00	4	3371	0.030	4	3371	0.000	4	3371	0.030
13:00 - 13:30	4	3371	0.045	4	3371	0.015	4	3371	0.060
13:30 - 14:00	4	3371	0.007	4	3371	0.022	4	3371	0.029
14:00 - 14:30	4	3371	0.000	4	3371	0.022	4	3371	0.022
14:30 - 15:00	4	3371	0.015	4	3371	0.015	4	3371	0.030
15:00 - 15:30	4	3371	0.000	4	3371	0.015	4	3371	0.015
15:30 - 16:00	4	3371	0.000	4	3371	0.007	4	3371	0.007
16:00 - 16:30	4	3371	0.007	4	3371	0.022	4	3371	0.029
16:30 - 17:00	4	3371	0.000	4	3371	0.045	4	3371	0.045
17:00 - 17:30	4	3371	0.022	4	3371	0.096	4	3371	0.118
17:30 - 18:00	4	3371	0.015	4	3371	0.059	4	3371	0.074
18:00 - 18:30	4	3371	0.007	4	3371	0.022	4	3371	0.029
18:30 - 19:00	4	3371	0.000	4	3371	0.000	4	3371	0.000
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			0.347			0.362			0.709

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.*

TRIP RATE for Land Use 02 - EMPLOYMENT/B - BUSINESS PARK
MULTI-MODAL TOTAL PEOPLE
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	4	3371	0.156	4	3371	0.030	4	3371	0.186
07:30 - 08:00	4	3371	0.564	4	3371	0.156	4	3371	0.720
08:00 - 08:30	4	3371	0.764	4	3371	0.185	4	3371	0.949
08:30 - 09:00	4	3371	1.075	4	3371	0.408	4	3371	1.483
09:00 - 09:30	4	3371	0.808	4	3371	0.490	4	3371	1.298
09:30 - 10:00	4	3371	0.705	4	3371	0.482	4	3371	1.187
10:00 - 10:30	4	3371	0.571	4	3371	0.534	4	3371	1.105
10:30 - 11:00	4	3371	0.630	4	3371	0.504	4	3371	1.134
11:00 - 11:30	4	3371	0.541	4	3371	0.608	4	3371	1.149
11:30 - 12:00	4	3371	0.623	4	3371	0.460	4	3371	1.083
12:00 - 12:30	4	3371	0.504	4	3371	0.556	4	3371	1.060
12:30 - 13:00	4	3371	0.452	4	3371	0.504	4	3371	0.956
13:00 - 13:30	4	3371	0.682	4	3371	0.549	4	3371	1.231
13:30 - 14:00	4	3371	0.638	4	3371	0.734	4	3371	1.372
14:00 - 14:30	4	3371	0.445	4	3371	0.586	4	3371	1.031
14:30 - 15:00	4	3371	0.430	4	3371	0.779	4	3371	1.209
15:00 - 15:30	4	3371	0.445	4	3371	0.452	4	3371	0.897
15:30 - 16:00	4	3371	0.312	4	3371	0.460	4	3371	0.772
16:00 - 16:30	4	3371	0.356	4	3371	0.942	4	3371	1.298
16:30 - 17:00	4	3371	0.445	4	3371	1.001	4	3371	1.446
17:00 - 17:30	4	3371	0.534	4	3371	1.024	4	3371	1.558
17:30 - 18:00	4	3371	0.111	4	3371	0.482	4	3371	0.593
18:00 - 18:30	4	3371	0.334	4	3371	0.334	4	3371	0.668
18:30 - 19:00	4	3371	0.193	4	3371	0.356	4	3371	0.549
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			12.318			12.616			24.934

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.*

TRIP RATE for Land Use 02 - EMPLOYMENT/B - BUSINESS PARK
MULTI-MODAL CARS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	4	3371	0.082	4	3371	0.000	4	3371	0.082
07:30 - 08:00	4	3371	0.341	4	3371	0.074	4	3371	0.415
08:00 - 08:30	4	3371	0.527	4	3371	0.059	4	3371	0.586
08:30 - 09:00	4	3371	0.645	4	3371	0.089	4	3371	0.734
09:00 - 09:30	4	3371	0.475	4	3371	0.223	4	3371	0.698
09:30 - 10:00	4	3371	0.289	4	3371	0.200	4	3371	0.489
10:00 - 10:30	4	3371	0.193	4	3371	0.156	4	3371	0.349
10:30 - 11:00	4	3371	0.215	4	3371	0.178	4	3371	0.393
11:00 - 11:30	4	3371	0.156	4	3371	0.178	4	3371	0.334
11:30 - 12:00	4	3371	0.215	4	3371	0.193	4	3371	0.408
12:00 - 12:30	4	3371	0.156	4	3371	0.193	4	3371	0.349
12:30 - 13:00	4	3371	0.163	4	3371	0.223	4	3371	0.386
13:00 - 13:30	4	3371	0.252	4	3371	0.215	4	3371	0.467
13:30 - 14:00	4	3371	0.237	4	3371	0.260	4	3371	0.497
14:00 - 14:30	4	3371	0.215	4	3371	0.260	4	3371	0.475
14:30 - 15:00	4	3371	0.148	4	3371	0.371	4	3371	0.519
15:00 - 15:30	4	3371	0.156	4	3371	0.178	4	3371	0.334
15:30 - 16:00	4	3371	0.111	4	3371	0.200	4	3371	0.311
16:00 - 16:30	4	3371	0.156	4	3371	0.467	4	3371	0.623
16:30 - 17:00	4	3371	0.215	4	3371	0.571	4	3371	0.786
17:00 - 17:30	4	3371	0.282	4	3371	0.564	4	3371	0.846
17:30 - 18:00	4	3371	0.045	4	3371	0.237	4	3371	0.282
18:00 - 18:30	4	3371	0.156	4	3371	0.193	4	3371	0.349
18:30 - 19:00	4	3371	0.111	4	3371	0.245	4	3371	0.356
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			5.541			5.527			11.068

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.*

TRIP RATE for Land Use 02 - EMPLOYMENT/B - BUSINESS PARK
MULTI-MODAL LGVS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	4	3371	0.030	4	3371	0.022	4	3371	0.052
07:30 - 08:00	4	3371	0.045	4	3371	0.022	4	3371	0.067
08:00 - 08:30	4	3371	0.074	4	3371	0.059	4	3371	0.133
08:30 - 09:00	4	3371	0.163	4	3371	0.141	4	3371	0.304
09:00 - 09:30	4	3371	0.104	4	3371	0.111	4	3371	0.215
09:30 - 10:00	4	3371	0.148	4	3371	0.156	4	3371	0.304
10:00 - 10:30	4	3371	0.171	4	3371	0.185	4	3371	0.356
10:30 - 11:00	4	3371	0.178	4	3371	0.185	4	3371	0.363
11:00 - 11:30	4	3371	0.193	4	3371	0.215	4	3371	0.408
11:30 - 12:00	4	3371	0.163	4	3371	0.119	4	3371	0.282
12:00 - 12:30	4	3371	0.134	4	3371	0.134	4	3371	0.268
12:30 - 13:00	4	3371	0.111	4	3371	0.089	4	3371	0.200
13:00 - 13:30	4	3371	0.119	4	3371	0.096	4	3371	0.215
13:30 - 14:00	4	3371	0.163	4	3371	0.193	4	3371	0.356
14:00 - 14:30	4	3371	0.089	4	3371	0.096	4	3371	0.185
14:30 - 15:00	4	3371	0.156	4	3371	0.148	4	3371	0.304
15:00 - 15:30	4	3371	0.074	4	3371	0.082	4	3371	0.156
15:30 - 16:00	4	3371	0.089	4	3371	0.089	4	3371	0.178
16:00 - 16:30	4	3371	0.082	4	3371	0.111	4	3371	0.193
16:30 - 17:00	4	3371	0.067	4	3371	0.074	4	3371	0.141
17:00 - 17:30	4	3371	0.037	4	3371	0.089	4	3371	0.126
17:30 - 18:00	4	3371	0.007	4	3371	0.045	4	3371	0.052
18:00 - 18:30	4	3371	0.030	4	3371	0.015	4	3371	0.045
18:30 - 19:00	4	3371	0.000	4	3371	0.015	4	3371	0.015
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			2.427			2.491			4.918

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.*

TRIP RATE for Land Use 02 - EMPLOYMENT/B - BUSINESS PARK
MULTI-MODAL MOTOR CYCLES
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	4	3371	0.000	4	3371	0.000	4	3371	0.000
07:30 - 08:00	4	3371	0.000	4	3371	0.000	4	3371	0.000
08:00 - 08:30	4	3371	0.000	4	3371	0.000	4	3371	0.000
08:30 - 09:00	4	3371	0.000	4	3371	0.000	4	3371	0.000
09:00 - 09:30	4	3371	0.015	4	3371	0.000	4	3371	0.015
09:30 - 10:00	4	3371	0.000	4	3371	0.000	4	3371	0.000
10:00 - 10:30	4	3371	0.000	4	3371	0.000	4	3371	0.000
10:30 - 11:00	4	3371	0.000	4	3371	0.000	4	3371	0.000
11:00 - 11:30	4	3371	0.000	4	3371	0.000	4	3371	0.000
11:30 - 12:00	4	3371	0.000	4	3371	0.000	4	3371	0.000
12:00 - 12:30	4	3371	0.007	4	3371	0.000	4	3371	0.007
12:30 - 13:00	4	3371	0.000	4	3371	0.000	4	3371	0.000
13:00 - 13:30	4	3371	0.000	4	3371	0.000	4	3371	0.000
13:30 - 14:00	4	3371	0.000	4	3371	0.007	4	3371	0.007
14:00 - 14:30	4	3371	0.000	4	3371	0.000	4	3371	0.000
14:30 - 15:00	4	3371	0.000	4	3371	0.000	4	3371	0.000
15:00 - 15:30	4	3371	0.000	4	3371	0.007	4	3371	0.007
15:30 - 16:00	4	3371	0.000	4	3371	0.000	4	3371	0.000
16:00 - 16:30	4	3371	0.000	4	3371	0.000	4	3371	0.000
16:30 - 17:00	4	3371	0.000	4	3371	0.007	4	3371	0.007
17:00 - 17:30	4	3371	0.000	4	3371	0.000	4	3371	0.000
17:30 - 18:00	4	3371	0.000	4	3371	0.000	4	3371	0.000
18:00 - 18:30	4	3371	0.000	4	3371	0.000	4	3371	0.000
18:30 - 19:00	4	3371	0.000	4	3371	0.000	4	3371	0.000
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			0.022			0.021			0.043

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.*

Appendix 11

WP703EW - Method of travel to work (2001 specification) (Workplace population)

population	All usual residents aged 16 to 74 in employment in the area the week before the census
units	Persons
date	2011

Method of travel to work	ualad09:St Albans		msoa2011:E02004943 : St Albans 020	
All categories: Method of travel to work (20	61,531		3,098	
TOTAL	52,310	100%	2,520	100%
Underground, metro, light rail or tram	375	1%	20	1%
Train	2,522	5%	70	3%
Bus, minibus or coach	2,420	5%	79	3%
Taxi	186	0%	21	1%
Motorcycle, scooter or moped	308	1%	18	1%
Driving a car or van	36,903	71%	1,973	78%
Passenger in a car or van	2,665	5%	123	5%
Bicycle	1,168	2%	53	2%
On foot	5,563	11%	154	6%
Other method of travel to work	200	0%	9	0%
Work mainly at or from home	9,221		578	

Appendix 12

Calculation Reference: AUDIT-740101-210225-0201

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 05 - HEALTH
Category : F - CARE HOME (ELDERLY RESIDENTIAL)
MULTI-MODAL TOTAL VEHICLES

Selected regions and areas:

06	WEST MIDLANDS		
	WK	WARWICKSHIRE	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE		
	NY	NORTH YORKSHIRE	1 days
08	NORTH WEST		
	LC	LANCASHIRE	1 days
09	NORTH		
	TW	TYNE & WEAR	1 days

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

Primary Filtering selection:

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

Parameter: Number of residents
Actual Range: 31 to 52 (units:)
Range Selected by User: 17 to 180 (units:)

Parking Spaces Range: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/12 to 02/05/19

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

Selected survey days:

Monday	1 days
Tuesday	1 days
Thursday	2 days

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

Selected survey types:

Manual count	4 days
Directional ATC Count	0 days

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

Selected Locations:

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

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

Selected Location Sub Categories:

Residential Zone	4

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

Secondary Filtering selection:

Use Class:

C2	4 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 500m Range:
All Surveys Included

Secondary Filtering selection (Cont.):

Population within 1 mile:

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

25,001 to 50,000	1 days
75,001 to 100,000	1 days
125,001 to 250,000	1 days
250,001 to 500,000	1 days

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

Car ownership within 5 miles:

0.6 to 1.0	3 days
1.1 to 1.5	1 days

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

Travel Plan:

No	4 days

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

PTAL Rating:

No PTAL Present	4 days

This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1	LC-05-F-02	NURSING HOME		LANCASHIRE
	LYTHAM ROAD			
	BLACKPOOL			
	SQUIRES GATE			
	Edge of Town			
	Residential Zone			
	Total Number of residents:		31	
	Survey date: TUESDAY		*27/09/16*	*Survey Type: MANUAL*
2	NY-05-F-05	NURSING HOME		NORTH YORKSHIRE
	SEAGRIM CRESCENT			
	RICHMOND			
	Edge of Town			
	Residential Zone			
	Total Number of residents:		37	
	Survey date: MONDAY		*04/03/19*	*Survey Type: MANUAL*
3	TW-05-F-03	NURSING HOME		TYNE & WEAR
	MOORE STREET			
	GATESHEAD			
	FELLING SHORE			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Number of residents:		52	
	Survey date: THURSDAY		*02/05/19*	*Survey Type: MANUAL*
4	WK-05-F-01	NURSING HOME		WARWICKSHIRE
	CLARENDON SQUARE			
	LEAMINGTON SPA			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Number of residents:		32	
	Survey date: THURSDAY		*25/10/12*	*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 05 - HEALTH/F - CARE HOME (ELDERLY RESIDENTIAL)
MULTI-MODAL TOTAL VEHICLES
Calculation factor: 1 RESIDE
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. RESIDE	Trip Rate	No. Days	Ave. RESIDE	Trip Rate	No. Days	Ave. RESIDE	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	4	38	0.033	4	38	0.046	4	38	0.079
08:00 - 09:00	4	38	0.059	4	38	0.066	4	38	0.125
09:00 - 10:00	4	38	0.099	4	38	0.033	4	38	0.132
10:00 - 11:00	4	38	0.046	4	38	0.099	4	38	0.145
11:00 - 12:00	4	38	0.086	4	38	0.105	4	38	0.191
12:00 - 13:00	4	38	0.066	4	38	0.059	4	38	0.125
13:00 - 14:00	4	38	0.118	4	38	0.033	4	38	0.151
14:00 - 15:00	4	38	0.079	4	38	0.138	4	38	0.217
15:00 - 16:00	4	38	0.092	4	38	0.105	4	38	0.197
16:00 - 17:00	4	38	0.066	4	38	0.079	4	38	0.145
17:00 - 18:00	4	38	0.072	4	38	0.079	4	38	0.151
18:00 - 19:00	4	38	0.059	4	38	0.072	4	38	0.131
19:00 - 20:00	4	38	0.039	4	38	0.046	4	38	0.085
20:00 - 21:00	4	38	0.033	4	38	0.039	4	38	0.072
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.947			0.999			1.946

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:	31 - 52 (units:)
Survey date date range:	01/01/12 - 02/05/19
Number of weekdays (Monday-Friday):	4
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

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

TRIP RATE for Land Use 05 - HEALTH/F - CARE HOME (ELDERLY RESIDENTIAL)
MULTI-MODAL TAXIS
Calculation factor: 1 RESIDE
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. RESIDE	Trip Rate	No. Days	Ave. RESIDE	Trip Rate	No. Days	Ave. RESIDE	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	4	38	0.000	4	38	0.000	4	38	0.000
08:00 - 09:00	4	38	0.000	4	38	0.000	4	38	0.000
09:00 - 10:00	4	38	0.000	4	38	0.000	4	38	0.000
10:00 - 11:00	4	38	0.000	4	38	0.000	4	38	0.000
11:00 - 12:00	4	38	0.007	4	38	0.007	4	38	0.014
12:00 - 13:00	4	38	0.007	4	38	0.000	4	38	0.007
13:00 - 14:00	4	38	0.000	4	38	0.000	4	38	0.000
14:00 - 15:00	4	38	0.000	4	38	0.007	4	38	0.007
15:00 - 16:00	4	38	0.000	4	38	0.000	4	38	0.000
16:00 - 17:00	4	38	0.007	4	38	0.007	4	38	0.014
17:00 - 18:00	4	38	0.007	4	38	0.000	4	38	0.007
18:00 - 19:00	4	38	0.000	4	38	0.007	4	38	0.007
19:00 - 20:00	4	38	0.000	4	38	0.000	4	38	0.000
20:00 - 21:00	4	38	0.000	4	38	0.000	4	38	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.028			0.028			0.056

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.*

TRIP RATE for Land Use 05 - HEALTH/F - CARE HOME (ELDERLY RESIDENTIAL)
MULTI-MODAL OGVS
Calculation factor: 1 RESIDE
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. RESIDE	Trip Rate	No. Days	Ave. RESIDE	Trip Rate	No. Days	Ave. RESIDE	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	4	38	0.000	4	38	0.000	4	38	0.000
08:00 - 09:00	4	38	0.000	4	38	0.000	4	38	0.000
09:00 - 10:00	4	38	0.000	4	38	0.000	4	38	0.000
10:00 - 11:00	4	38	0.000	4	38	0.000	4	38	0.000
11:00 - 12:00	4	38	0.007	4	38	0.007	4	38	0.014
12:00 - 13:00	4	38	0.000	4	38	0.000	4	38	0.000
13:00 - 14:00	4	38	0.000	4	38	0.000	4	38	0.000
14:00 - 15:00	4	38	0.000	4	38	0.000	4	38	0.000
15:00 - 16:00	4	38	0.007	4	38	0.007	4	38	0.014
16:00 - 17:00	4	38	0.000	4	38	0.000	4	38	0.000
17:00 - 18:00	4	38	0.000	4	38	0.000	4	38	0.000
18:00 - 19:00	4	38	0.000	4	38	0.000	4	38	0.000
19:00 - 20:00	4	38	0.000	4	38	0.000	4	38	0.000
20:00 - 21:00	4	38	0.000	4	38	0.000	4	38	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.014			0.014			0.028

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.*

TRIP RATE for Land Use 05 - HEALTH/F - CARE HOME (ELDERLY RESIDENTIAL)
MULTI-MODAL PSVS
Calculation factor: 1 RESIDE
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. RESIDE	Trip Rate	No. Days	Ave. RESIDE	Trip Rate	No. Days	Ave. RESIDE	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	4	38	0.000	4	38	0.000	4	38	0.000
08:00 - 09:00	4	38	0.000	4	38	0.007	4	38	0.007
09:00 - 10:00	4	38	0.000	4	38	0.000	4	38	0.000
10:00 - 11:00	4	38	0.000	4	38	0.000	4	38	0.000
11:00 - 12:00	4	38	0.000	4	38	0.000	4	38	0.000
12:00 - 13:00	4	38	0.000	4	38	0.000	4	38	0.000
13:00 - 14:00	4	38	0.000	4	38	0.000	4	38	0.000
14:00 - 15:00	4	38	0.007	4	38	0.000	4	38	0.007
15:00 - 16:00	4	38	0.000	4	38	0.007	4	38	0.007
16:00 - 17:00	4	38	0.000	4	38	0.000	4	38	0.000
17:00 - 18:00	4	38	0.000	4	38	0.000	4	38	0.000
18:00 - 19:00	4	38	0.000	4	38	0.000	4	38	0.000
19:00 - 20:00	4	38	0.000	4	38	0.000	4	38	0.000
20:00 - 21:00	4	38	0.000	4	38	0.000	4	38	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.007			0.014			0.021

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.*

TRIP RATE for Land Use 05 - HEALTH/F - CARE HOME (ELDERLY RESIDENTIAL)
MULTI-MODAL CYCLISTS
Calculation factor: 1 RESIDE
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. RESIDE	Trip Rate	No. Days	Ave. RESIDE	Trip Rate	No. Days	Ave. RESIDE	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	4	38	0.000	4	38	0.000	4	38	0.000
08:00 - 09:00	4	38	0.000	4	38	0.000	4	38	0.000
09:00 - 10:00	4	38	0.000	4	38	0.000	4	38	0.000
10:00 - 11:00	4	38	0.007	4	38	0.000	4	38	0.007
11:00 - 12:00	4	38	0.000	4	38	0.000	4	38	0.000
12:00 - 13:00	4	38	0.000	4	38	0.007	4	38	0.007
13:00 - 14:00	4	38	0.007	4	38	0.000	4	38	0.007
14:00 - 15:00	4	38	0.000	4	38	0.007	4	38	0.007
15:00 - 16:00	4	38	0.007	4	38	0.000	4	38	0.007
16:00 - 17:00	4	38	0.000	4	38	0.000	4	38	0.000
17:00 - 18:00	4	38	0.007	4	38	0.007	4	38	0.014
18:00 - 19:00	4	38	0.000	4	38	0.007	4	38	0.007
19:00 - 20:00	4	38	0.000	4	38	0.000	4	38	0.000
20:00 - 21:00	4	38	0.000	4	38	0.000	4	38	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.028			0.028			0.056

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.*

TRIP RATE for Land Use 05 - HEALTH/F - CARE HOME (ELDERLY RESIDENTIAL)
MULTI-MODAL VEHICLE OCCUPANTS
Calculation factor: 1 RESIDE
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. RESIDE	Trip Rate	No. Days	Ave. RESIDE	Trip Rate	No. Days	Ave. RESIDE	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	4	38	0.046	4	38	0.066	4	38	0.112
08:00 - 09:00	4	38	0.086	4	38	0.072	4	38	0.158
09:00 - 10:00	4	38	0.112	4	38	0.046	4	38	0.158
10:00 - 11:00	4	38	0.053	4	38	0.138	4	38	0.191
11:00 - 12:00	4	38	0.105	4	38	0.112	4	38	0.217
12:00 - 13:00	4	38	0.079	4	38	0.066	4	38	0.145
13:00 - 14:00	4	38	0.151	4	38	0.033	4	38	0.184
14:00 - 15:00	4	38	0.086	4	38	0.184	4	38	0.270
15:00 - 16:00	4	38	0.105	4	38	0.132	4	38	0.237
16:00 - 17:00	4	38	0.079	4	38	0.099	4	38	0.178
17:00 - 18:00	4	38	0.079	4	38	0.099	4	38	0.178
18:00 - 19:00	4	38	0.086	4	38	0.099	4	38	0.185
19:00 - 20:00	4	38	0.046	4	38	0.053	4	38	0.099
20:00 - 21:00	4	38	0.033	4	38	0.039	4	38	0.072
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.146			1.238			2.384

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.*

TRIP RATE for Land Use 05 - HEALTH/F - CARE HOME (ELDERLY RESIDENTIAL)
MULTI-MODAL PEDESTRIANS
Calculation factor: 1 RESIDE
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. RESIDE	Trip Rate	No. Days	Ave. RESIDE	Trip Rate	No. Days	Ave. RESIDE	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	4	38	0.020	4	38	0.007	4	38	0.027
08:00 - 09:00	4	38	0.020	4	38	0.020	4	38	0.040
09:00 - 10:00	4	38	0.039	4	38	0.013	4	38	0.052
10:00 - 11:00	4	38	0.046	4	38	0.026	4	38	0.072
11:00 - 12:00	4	38	0.013	4	38	0.013	4	38	0.026
12:00 - 13:00	4	38	0.033	4	38	0.039	4	38	0.072
13:00 - 14:00	4	38	0.033	4	38	0.020	4	38	0.053
14:00 - 15:00	4	38	0.020	4	38	0.039	4	38	0.059
15:00 - 16:00	4	38	0.020	4	38	0.033	4	38	0.053
16:00 - 17:00	4	38	0.007	4	38	0.020	4	38	0.027
17:00 - 18:00	4	38	0.007	4	38	0.013	4	38	0.020
18:00 - 19:00	4	38	0.039	4	38	0.026	4	38	0.065
19:00 - 20:00	4	38	0.007	4	38	0.059	4	38	0.066
20:00 - 21:00	4	38	0.007	4	38	0.007	4	38	0.014
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.311			0.335			0.646

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.*

TRIP RATE for Land Use 05 - HEALTH/F - CARE HOME (ELDERLY RESIDENTIAL)
MULTI-MODAL PUBLIC TRANSPORT USERS
Calculation factor: 1 RESIDE
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. RESIDE	Trip Rate	No. Days	Ave. RESIDE	Trip Rate	No. Days	Ave. RESIDE	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	4	38	0.007	4	38	0.000	4	38	0.007
08:00 - 09:00	4	38	0.039	4	38	0.007	4	38	0.046
09:00 - 10:00	4	38	0.026	4	38	0.013	4	38	0.039
10:00 - 11:00	4	38	0.007	4	38	0.000	4	38	0.007
11:00 - 12:00	4	38	0.007	4	38	0.000	4	38	0.007
12:00 - 13:00	4	38	0.007	4	38	0.013	4	38	0.020
13:00 - 14:00	4	38	0.007	4	38	0.000	4	38	0.007
14:00 - 15:00	4	38	0.007	4	38	0.007	4	38	0.014
15:00 - 16:00	4	38	0.007	4	38	0.013	4	38	0.020
16:00 - 17:00	4	38	0.020	4	38	0.020	4	38	0.040
17:00 - 18:00	4	38	0.007	4	38	0.013	4	38	0.020
18:00 - 19:00	4	38	0.020	4	38	0.026	4	38	0.046
19:00 - 20:00	4	38	0.007	4	38	0.026	4	38	0.033
20:00 - 21:00	4	38	0.000	4	38	0.013	4	38	0.013
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.168			0.151			0.319

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.*

TRIP RATE for Land Use 05 - HEALTH/F - CARE HOME (ELDERLY RESIDENTIAL)
MULTI-MODAL TOTAL PEOPLE
Calculation factor: 1 RESIDE
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. RESIDE	Trip Rate	No. Days	Ave. RESIDE	Trip Rate	No. Days	Ave. RESIDE	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	4	38	0.072	4	38	0.072	4	38	0.144
08:00 - 09:00	4	38	0.145	4	38	0.099	4	38	0.244
09:00 - 10:00	4	38	0.178	4	38	0.072	4	38	0.250
10:00 - 11:00	4	38	0.112	4	38	0.164	4	38	0.276
11:00 - 12:00	4	38	0.125	4	38	0.125	4	38	0.250
12:00 - 13:00	4	38	0.118	4	38	0.125	4	38	0.243
13:00 - 14:00	4	38	0.197	4	38	0.053	4	38	0.250
14:00 - 15:00	4	38	0.112	4	38	0.237	4	38	0.349
15:00 - 16:00	4	38	0.138	4	38	0.178	4	38	0.316
16:00 - 17:00	4	38	0.105	4	38	0.138	4	38	0.243
17:00 - 18:00	4	38	0.099	4	38	0.132	4	38	0.231
18:00 - 19:00	4	38	0.145	4	38	0.158	4	38	0.303
19:00 - 20:00	4	38	0.059	4	38	0.138	4	38	0.197
20:00 - 21:00	4	38	0.039	4	38	0.059	4	38	0.098
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.644			1.750			3.394

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.*

Appendix 13

WU03EW - Location of usual residence and place of work by method of travel to work (MSOA level)

population All usual residents aged 16 and over in employment the week before the census
units Persons
date 2011
method of t Driving a car or van

Place of work		Residence - E02004943 : St Albans 020		Primary Route
St Albans	1	12	1%	50% A405 North East / 50% Watford Road
	2	6	0%	50% A405 North East / 50% Watford Road
	3	13	1%	50% A405 North East / 50% Watford Road
	4	9	0%	50% A405 North East / 50% Watford Road
	5	2	0%	50% A405 North East / 50% Watford Road
	6	7	0%	75% Watford Road / 25% A405 North East
	7	24	1%	50% A405 North East / 50% Watford Road
	8	7	0%	A405 North East
	9	26	1%	50% A405 North East / 50% Watford Road
	10	6	0%	50% A405 North East / 50% Watford Road
	11	31	1%	A405 North East
	12	117	5%	50% A405 North East / 50% Watford Road
	13	15	1%	A405 North East
	14	53	2%	50% A405 North East / 50% Watford Road
	15	15	1%	A405 North East
	16	11	1%	A405 North East
	17	33	2%	A405 North East
	18	29	1%	50% A405 North East / 50% South West
	19	51	2%	50% A405 North East / 50% South West
	20	123	6%	75% A405 South West / 25% Watford Road
East	Basildon	2	0%	A405 South West
	Bedford	4	0%	A405 North East
	Brentwood	2	0%	A405 South West
	Broadland	0	0%	A405 North East
	Broxbourne	13	1%	A405 South West
	Central Bedfordshire	29	1%	A405 North East
	Chelmsford	4	0%	50% A405 North East / 50% South West
	Colchester	1	0%	50% A405 North East / 50% South West
	Dacorum	96	4%	50% A405 North East / 50% South West
	East Hertfordshire	21	1%	A405 North East
	Epping Forest	6	0%	A405 South West
	Great Yarmouth	2	0%	50% A405 North East / 50% South West
	Harlow	9	0%	50% A405 North East / 50% South West
	Hertsmere	199	9%	50% A405 North East / 50% South West
	Luton	61	3%	A405 North East
	North Hertfordshire	13	1%	A405 North East
	Peterborough	1	0%	A405 North East
	Rochford	2	0%	A405 South West
	South Cambridgeshire	2	0%	50% A405 North East / 50% South West
	Stevenage	28	1%	50% A405 North East / 50% South West
	Three Rivers	102	5%	A405 South West
	Thurrock	1	0%	A405 South West
	Uttlesford	3	0%	50% A405 North East / 50% South West
	Watford	237	11%	A405 South West
	Welwyn Hatfield	127	6%	50% A405 North East / 50% South West
East Midlands		5	0%	A405 North East
London		476	22%	A405 South West
North West		1	0%	A405 North East
South East		115	5%	A405 South West
South West		6	0%	A405 South West
Wales		2	0%	A405 South West
West Midlands		6	0%	A405 North East
Yorkshire and The Humber		2	0%	A405 North East
TOTAL		2,168	100%	

Primary Route	A405 North East	666	30.7%
	A405 South West	1332	61.4%
	Watford Road	170	7.8%

Appendix 14

WU03EW - Location of usual residence and place of work by method of travel to work (MSOA level)

population All usual residents aged 16 and over in employment the week before the census
units Persons
date 2011
method of t Driving a car or van

usual residence		Place of work -E02004943 : St Albans 020		Primary Route
St Albans	1	7	0%	50% A405 North East / 50% Watford Road
	2	12	1%	50% A405 North East / 50% Watford Road
	3	5	0%	50% A405 North East / 50% Watford Road
	4	12	1%	50% A405 North East / 50% Watford Road
	5	13	1%	50% A405 North East / 50% Watford Road
	6	14	1%	75% Watford Road / 25% A405 North East
	7	20	1%	50% A405 North East / 50% Watford Road
	8	13	1%	A405 North East
	9	15	1%	50% A405 North East / 50% Watford Road
	10	8	0%	50% A405 North East / 50% Watford Road
	11	7	0%	A405 North East
	12	19	1%	50% A405 North East / 50% Watford Road
	13	18	1%	A405 North East
	14	20	1%	50% A405 North East / 50% Watford Road
	15	8	0%	A405 North East
	16	25	1%	A405 North East
	17	24	1%	A405 North East
	18	43	3%	50% A405 North East / 50% South West
	19	64	4%	50% A405 North East / 50% South West
	20	123	7%	75% A405 South West / 25% Watford Road
	Basildon	2	0%	A405 South West
	Bedford	6	0%	A405 North East
	Braintree	1	0%	50% A405 North East / 50% South West
	Broadland	1	0%	A405 North East
	Broxbourne	6	0%	A405 South West
	Central Bedfordshire	58	3%	A405 North East
	Dacorum	163	10%	50% A405 North East / 50% South West
	East Hertfordshire	15	1%	A405 North East
	Epping Forest	6	0%	A405 South West
	Forest Heath	1	0%	50% A405 North East / 50% South West
	Harlow	6	0%	50% A405 North East / 50% South West
	Hertsmere	78	5%	50% A405 North East / 50% South West
	Huntingdonshire	3	0%	A405 North East
	Luton	54	3%	A405 North East
	North Hertfordshire	19	1%	A405 North East
	Peterborough	1	0%	A405 North East
	St Edmundsbury	1	0%	50% A405 North East / 50% South West
	Stevenage	23	1%	50% A405 North East / 50% South West
	Tendring	1	0%	A405 South West
	Three Rivers	160	9%	A405 South West
	Uttlesford	2	0%	50% A405 North East / 50% South West
	Watford	247	15%	A405 South West
	Welwyn Hatfield	52	3%	50% A405 North East / 50% South West
East Midlands		11	1%	A405 North East
London		143	8%	A405 South West
North East		1	0%	A405 North East
North West		2	0%	A405 North East
South East		125	7%	A405 South West
South West		8	0%	A405 South West
Wales		6	0%	A405 South West
West Midlands		10	1%	A405 North East
Yorkshire and The Humber		3	0%	A405 North East
TOTAL		1,685	100%	

Primary Route	A405 North East	565	34%
	A405 South West	1013	60%
	Watford Road	107	6%

Appendix 15

Figure 1: 2021 Base AM Flows (07:00 - 08:00)

Notes:
All values in pcu

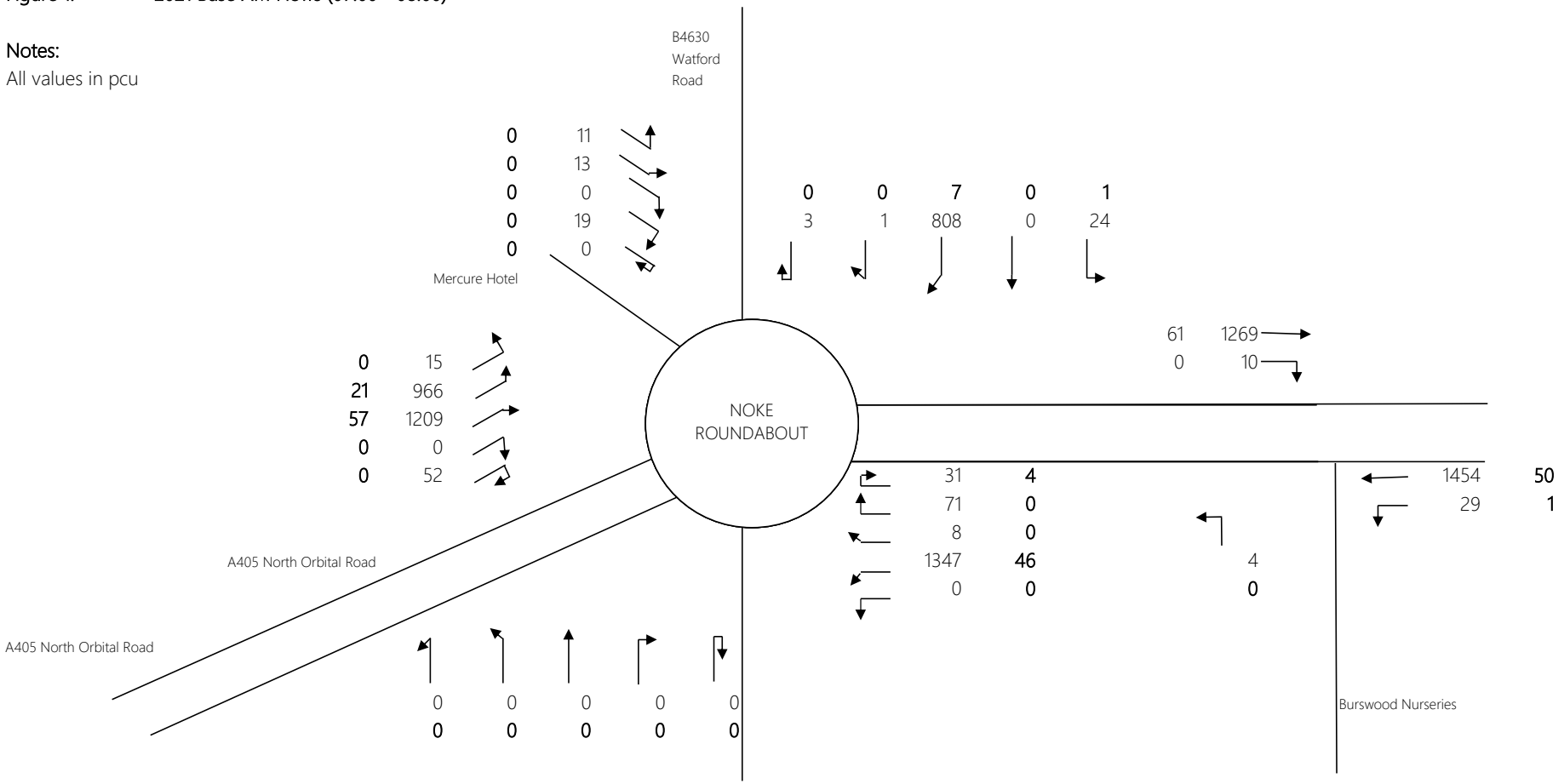


Figure 2: 2021 Base PM Flows (17:00 - 18:00)

Notes:
All values in pcu

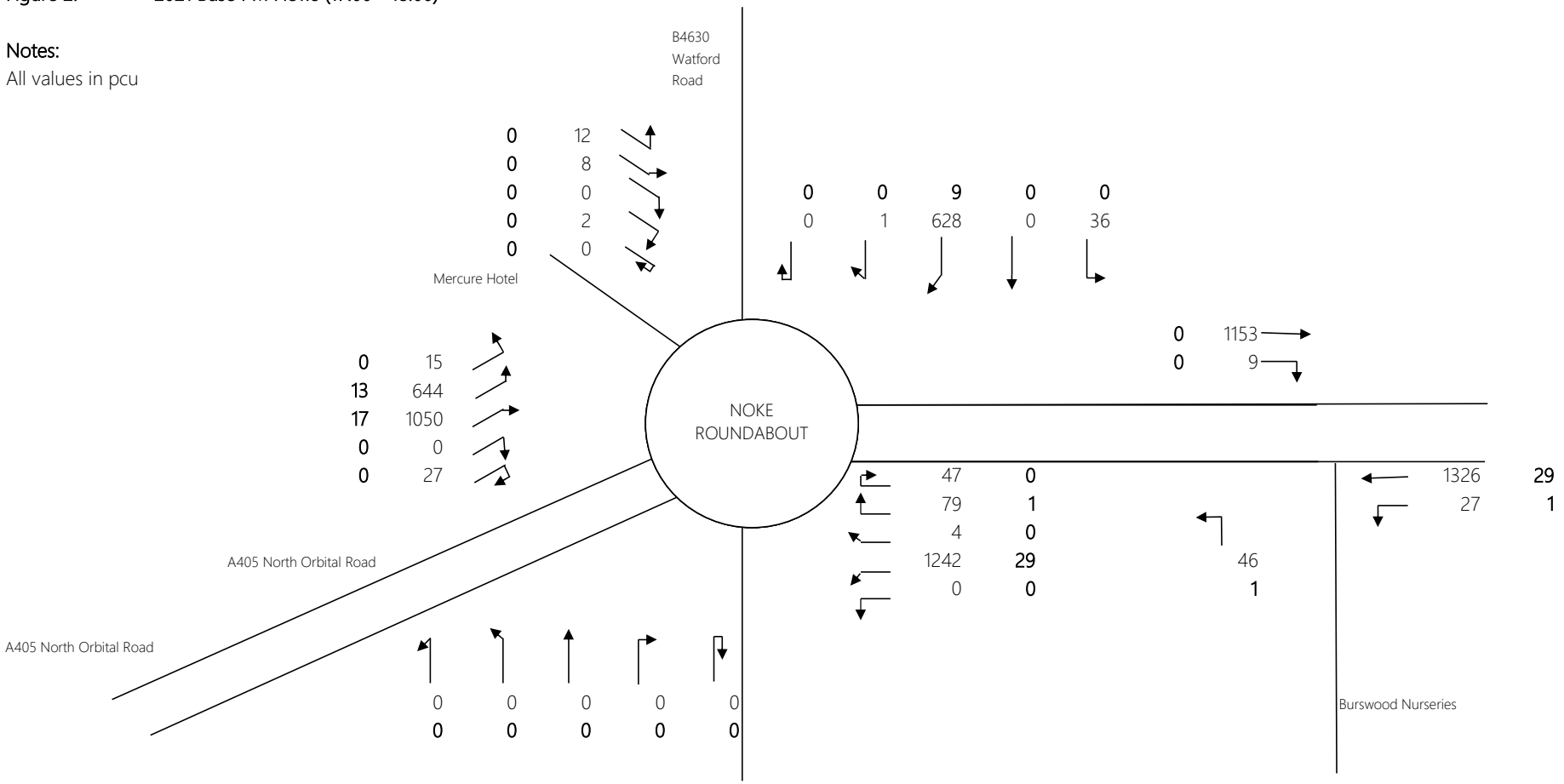


Figure 3: 2026 AM Flows (07:00 - 08:00)

Notes:
All values in pcu

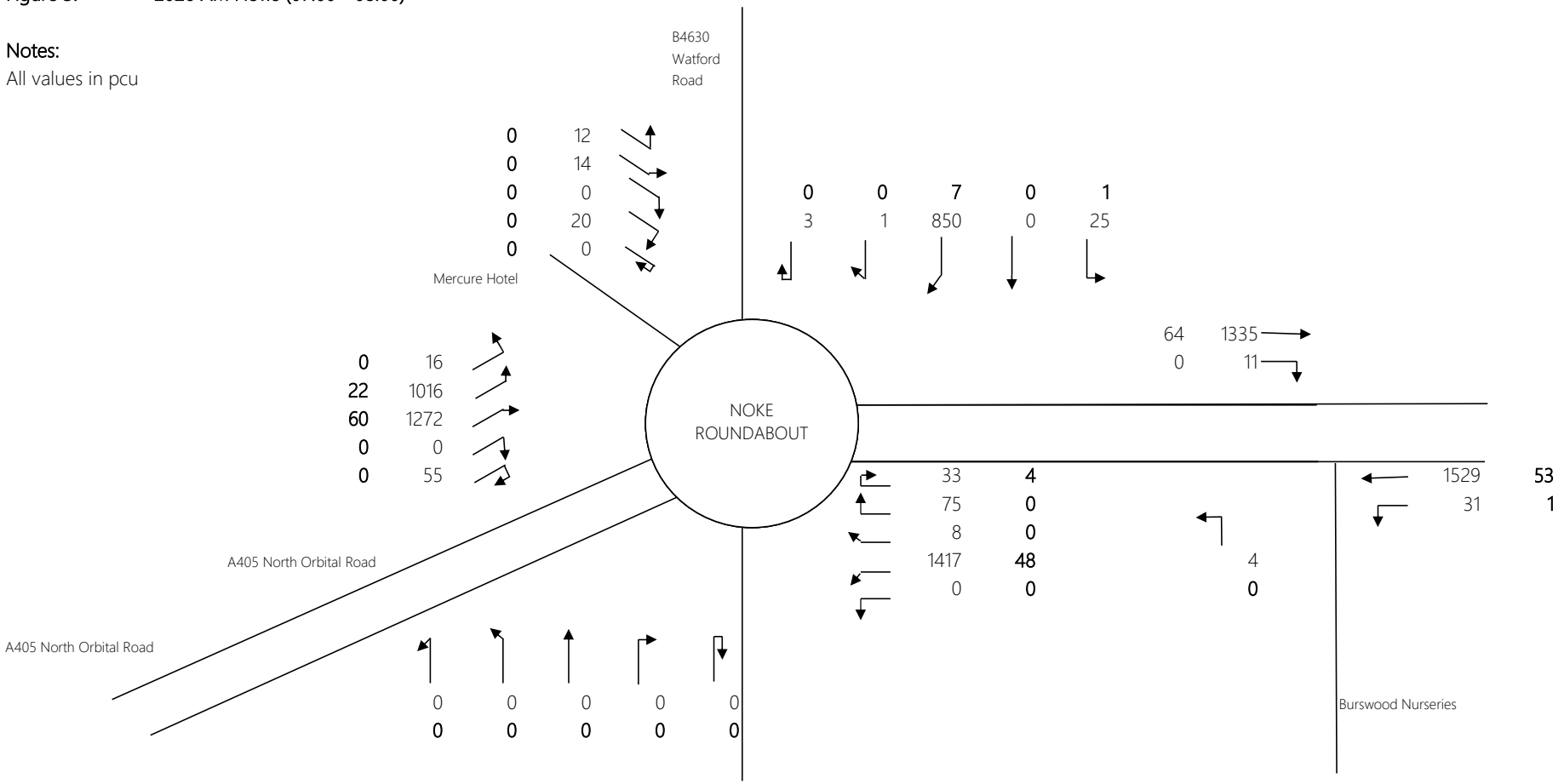


Figure 4: 2026 PM Flows (17:00 - 18:00)

Notes:
All values in pcu

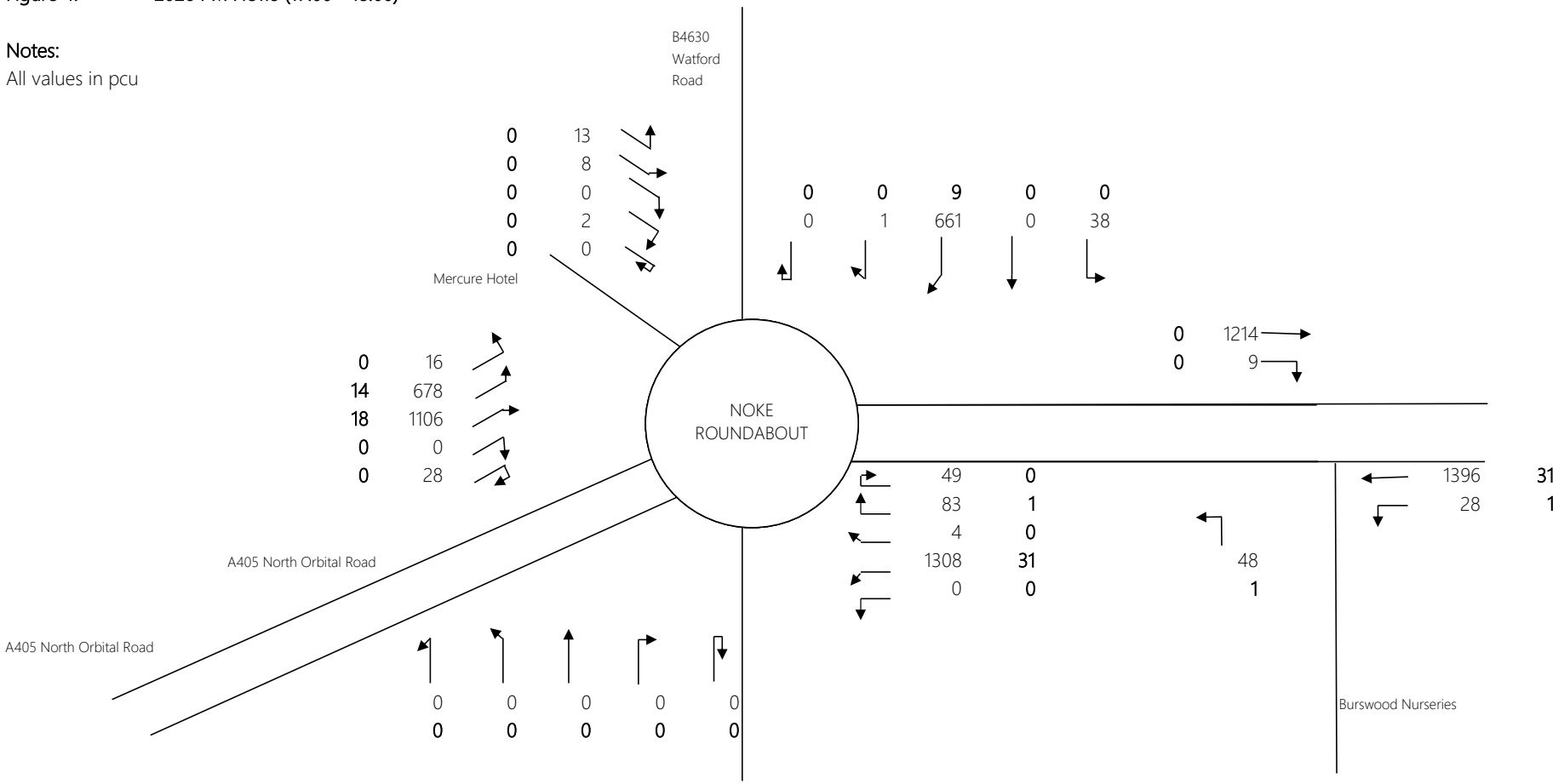


Figure: Residenital Development AM Peak Flows (07:00 - 08:00)

Notes:
All values in pcu

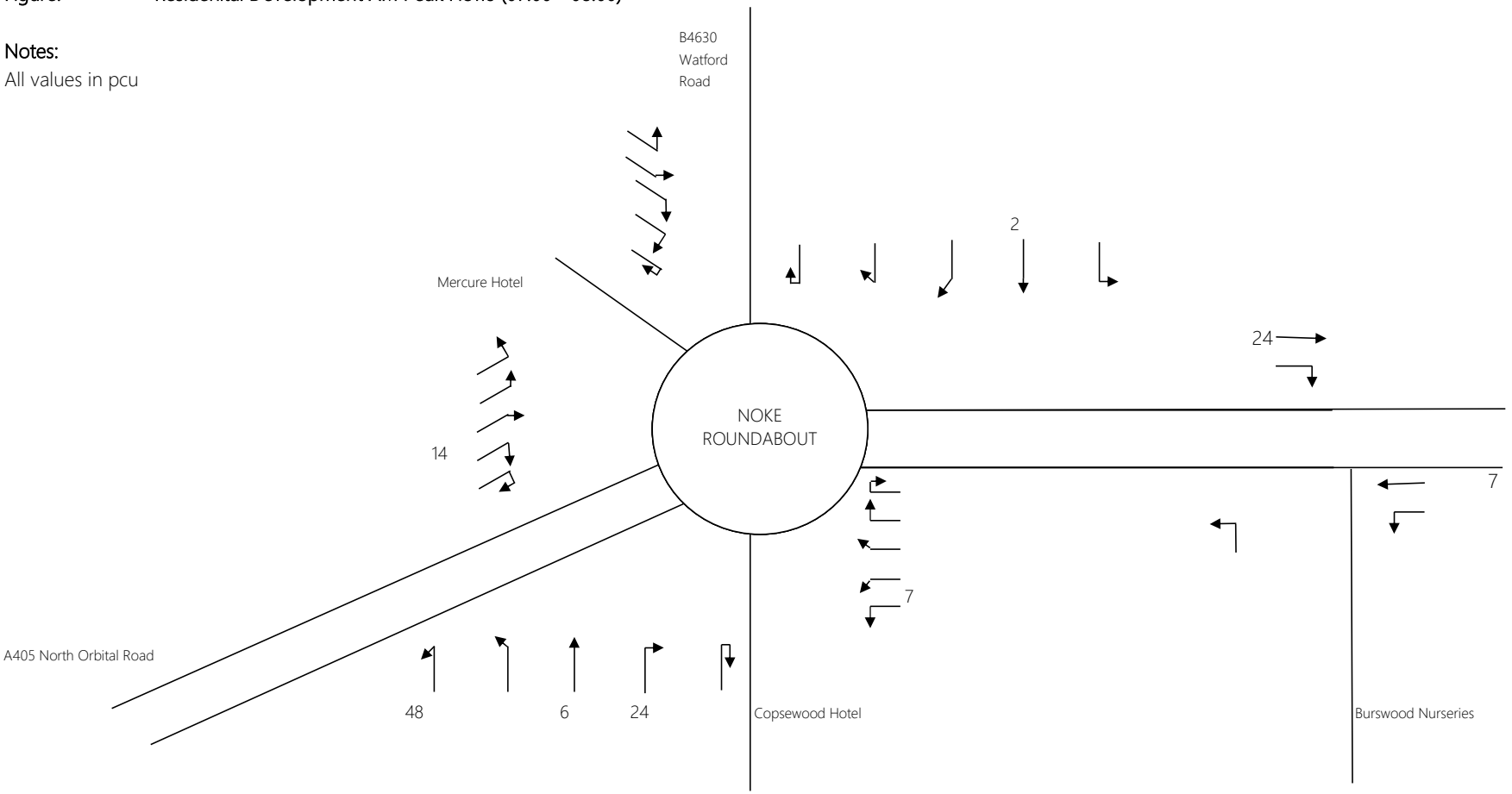


Figure: Residenital Development PM Peak Flows (17:00 - 18:00)

Notes:
All values in pcu

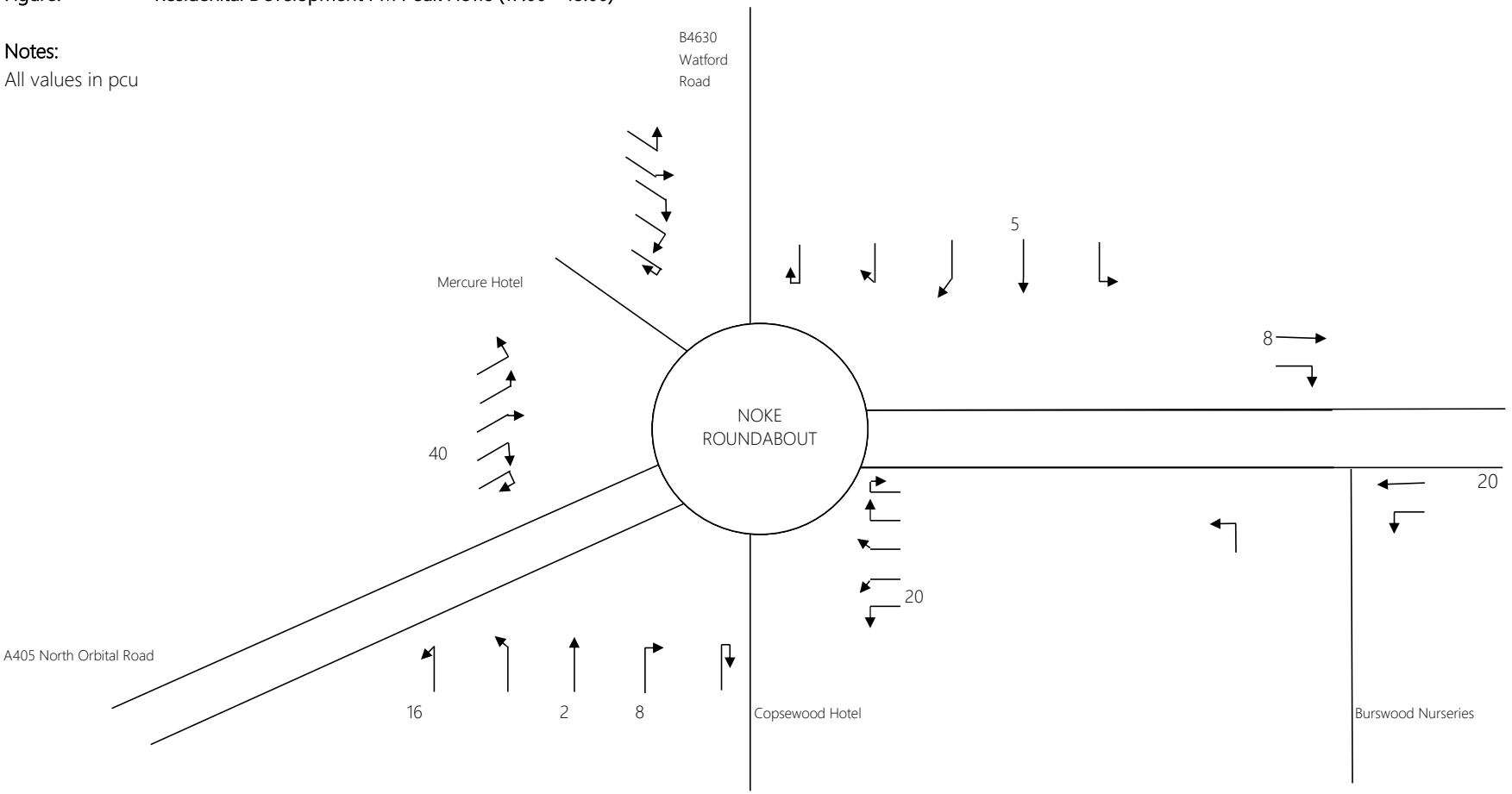


Figure: Hotel Development AM Peak Flows (07:00 - 08:00)

Notes:
Data taken from agreed Copsewood Hotel TA
All values in pcu

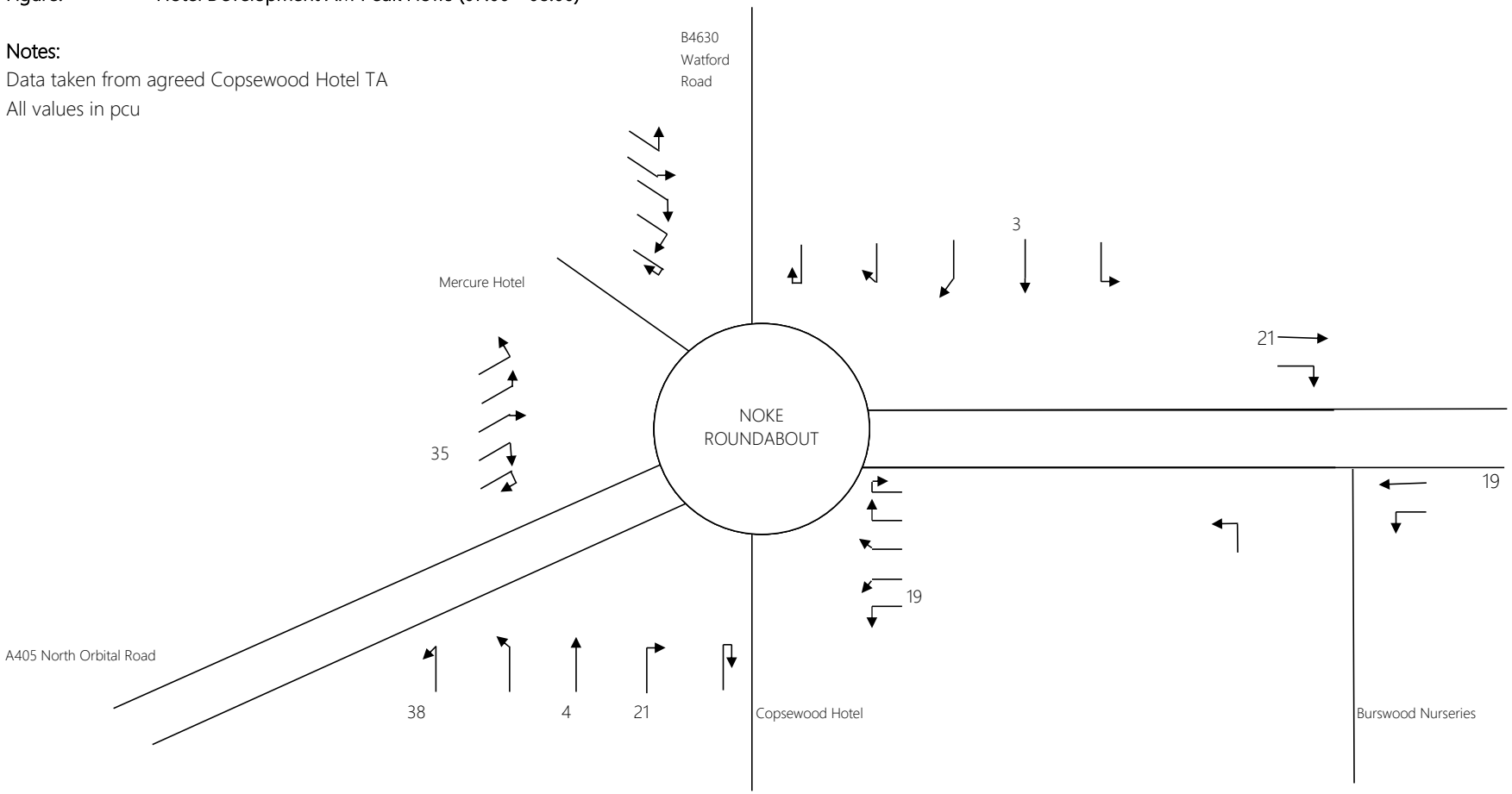


Figure: Hotel Development PM Peak Flows (17:00 - 18:00)

Notes:
Data taken from agreed Copsewood Hotel TA
All values in pcu

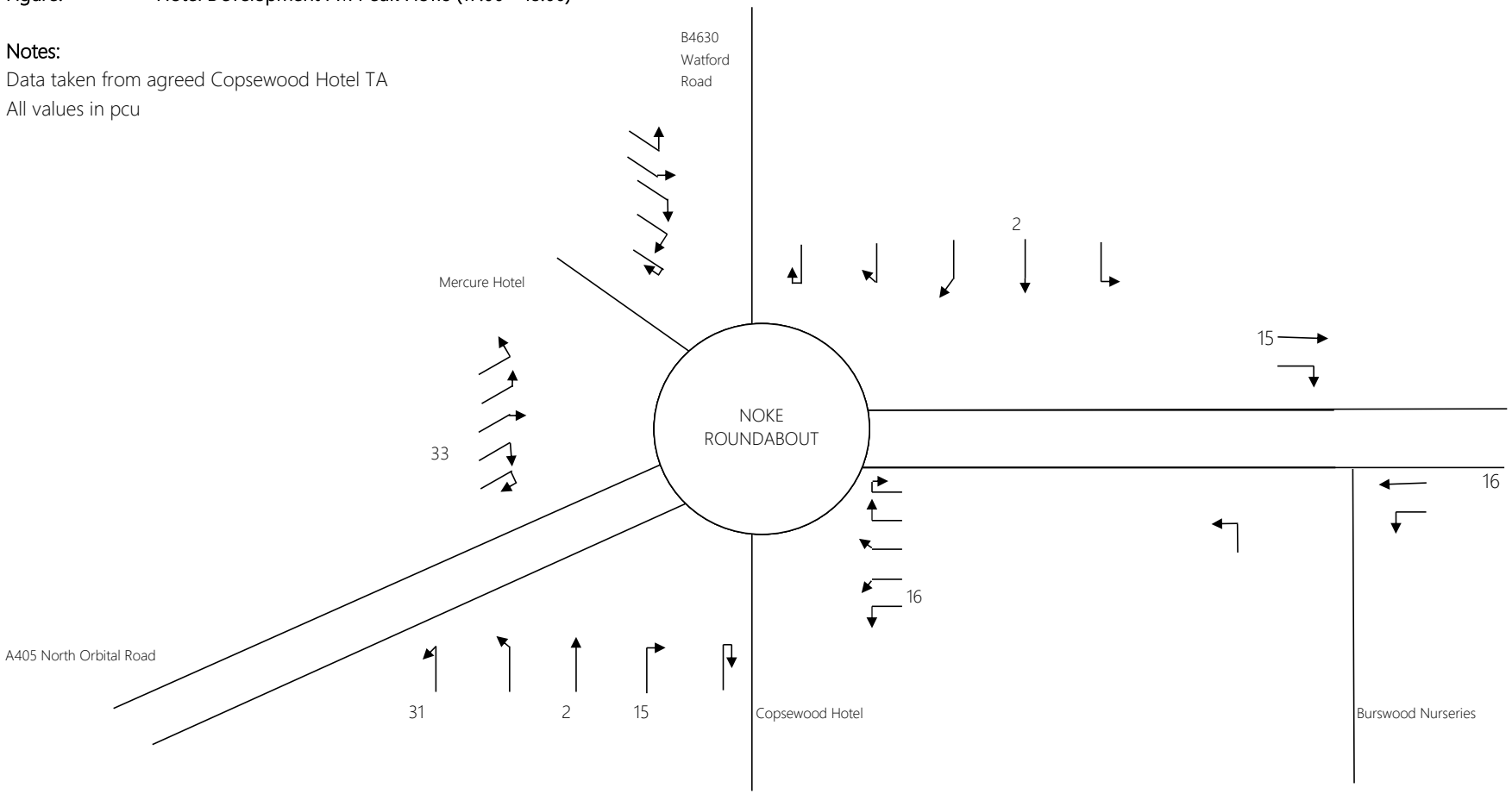


Figure: Business Park Development AM Peak Flows (07:00 - 08:00)

Notes:
All values in pcu

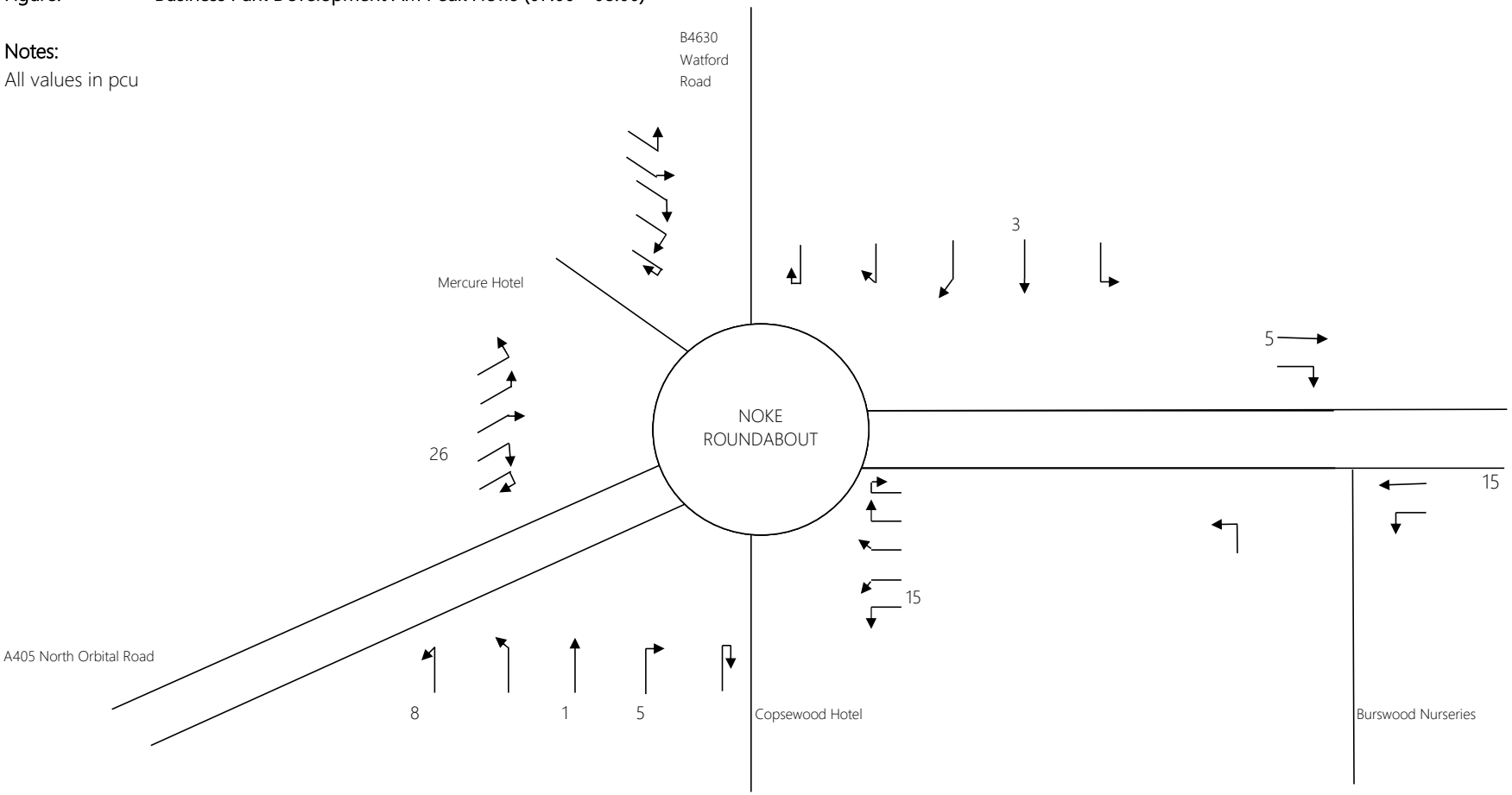


Figure: Business Park Development PM Peak Flows (17:00 - 18:00)

Notes:
All values in pcu

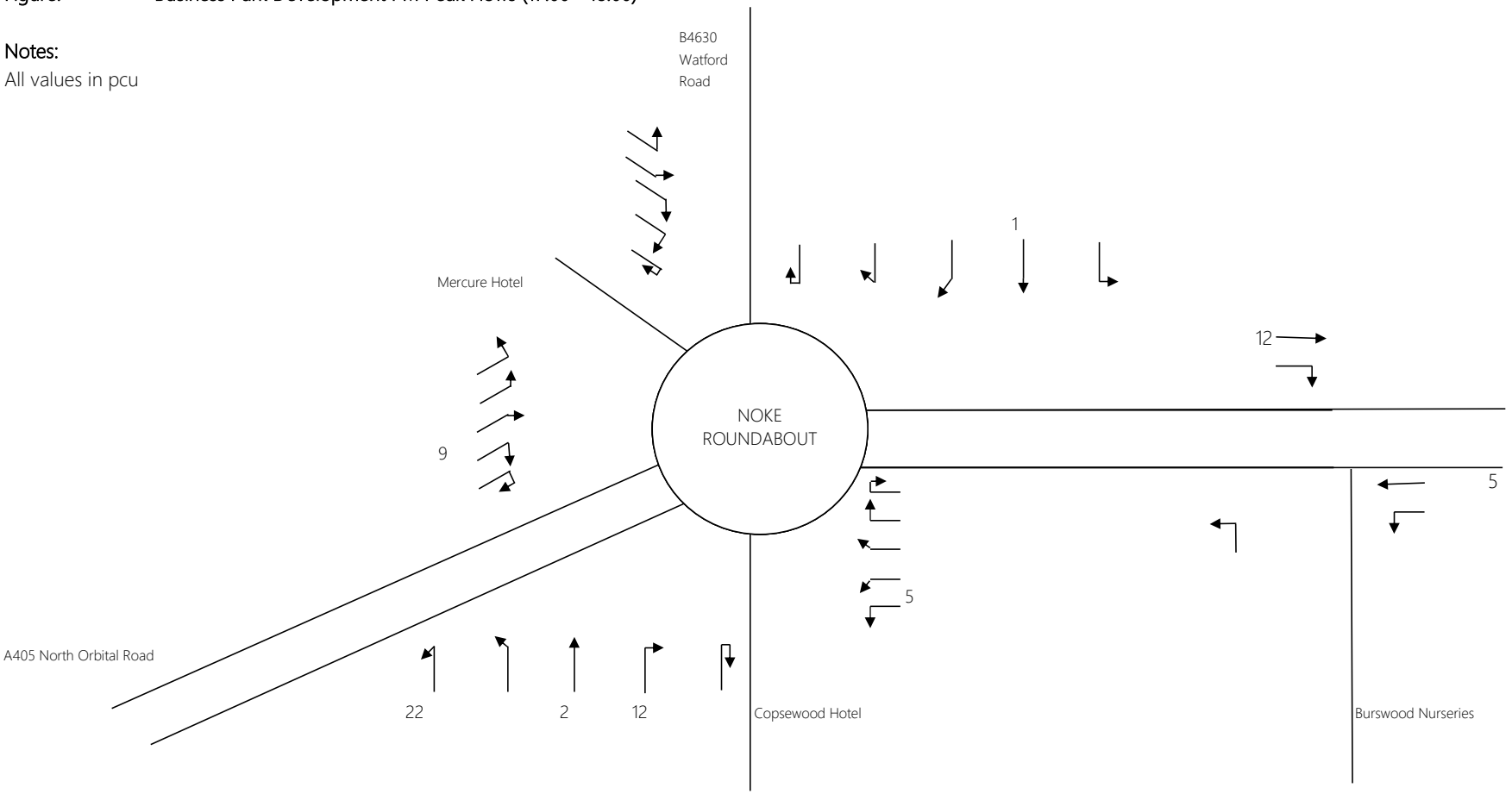


Figure: Care Home Development AM Peak Flows (07:00 - 08:00)

Notes:
All values in pcu

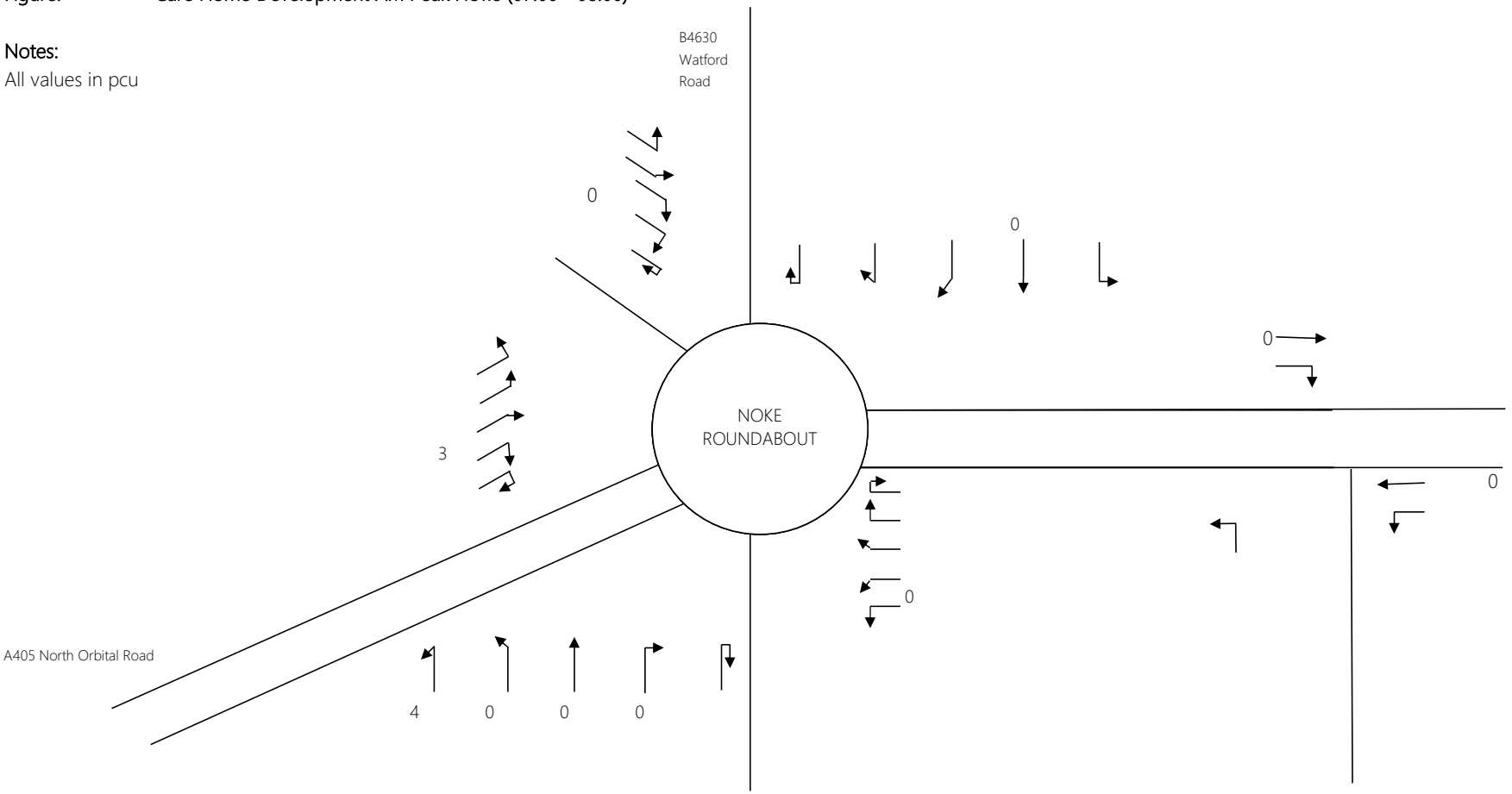


Figure: Care Home Development PM Peak Flows (17:00 - 18:00)

Notes:
All values in pcu

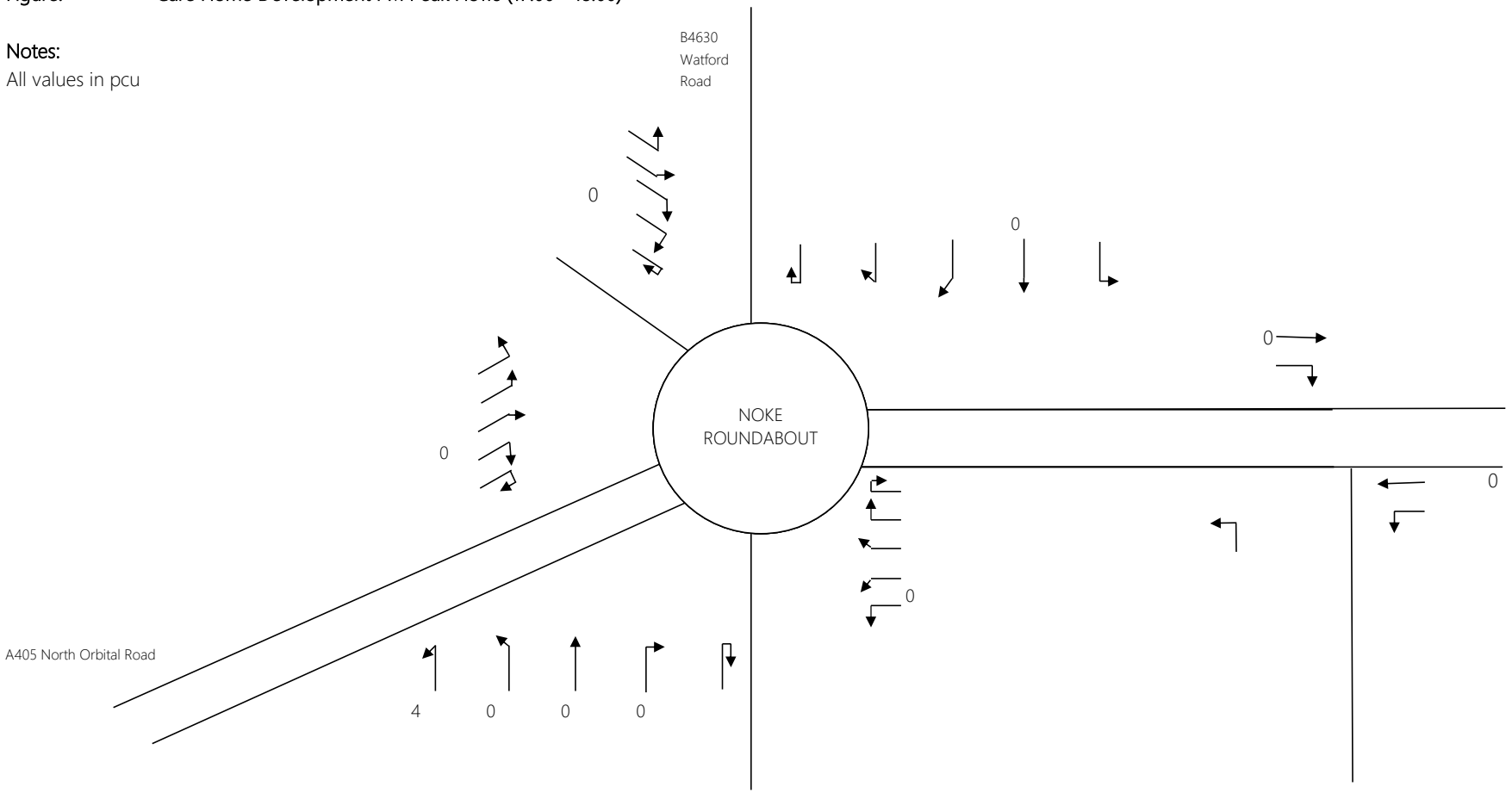


Figure: Garden Centre Development AM Peak Flows (07:00 - 08:00)

Notes:
Data taken from Castle Oak TA
All values in pcu

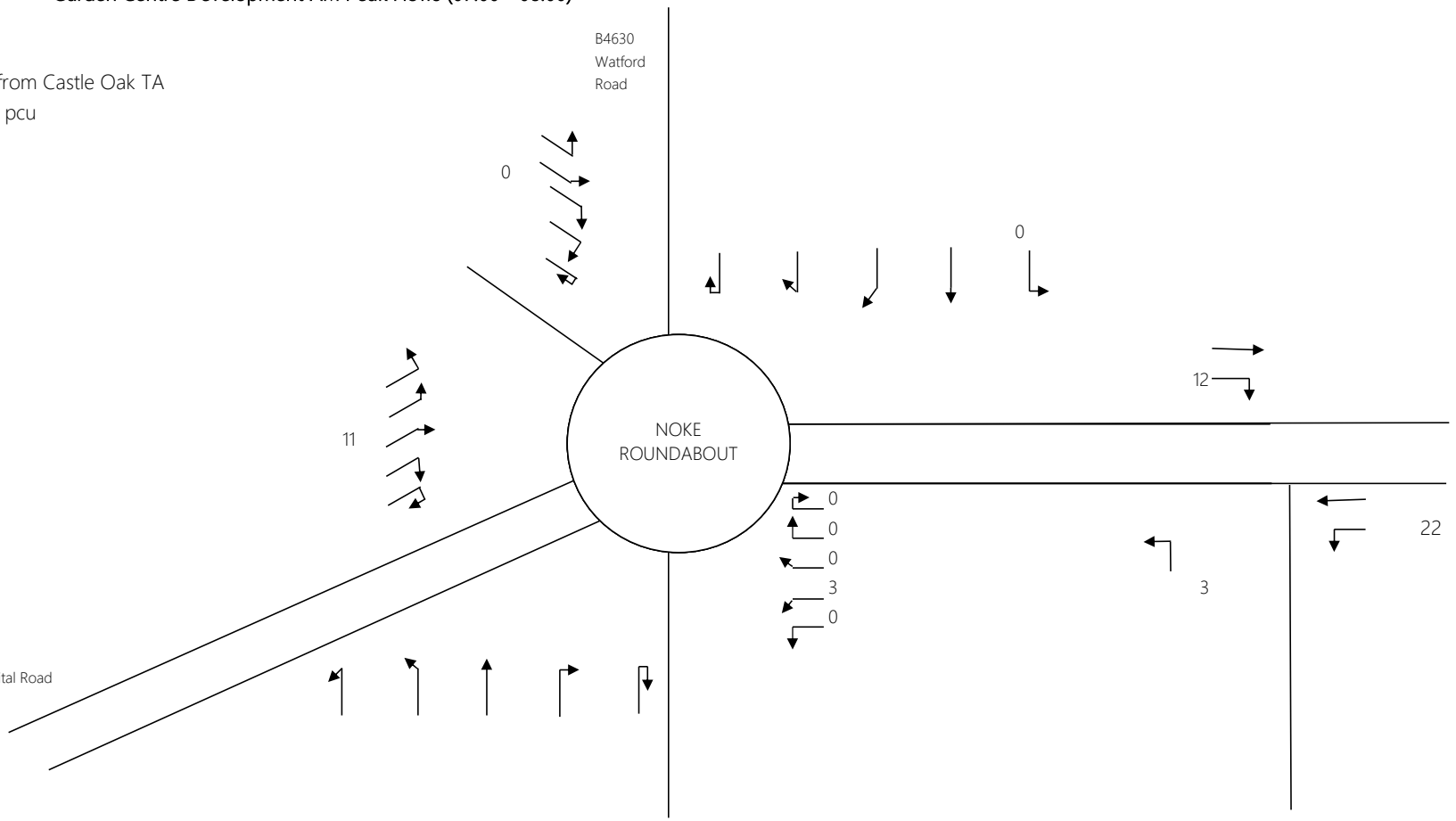


Figure: Garden Centre Development PM Peak Flows (17:00 - 18:00)

Notes:
Data taken from Castle Oak TA
All values in pcu

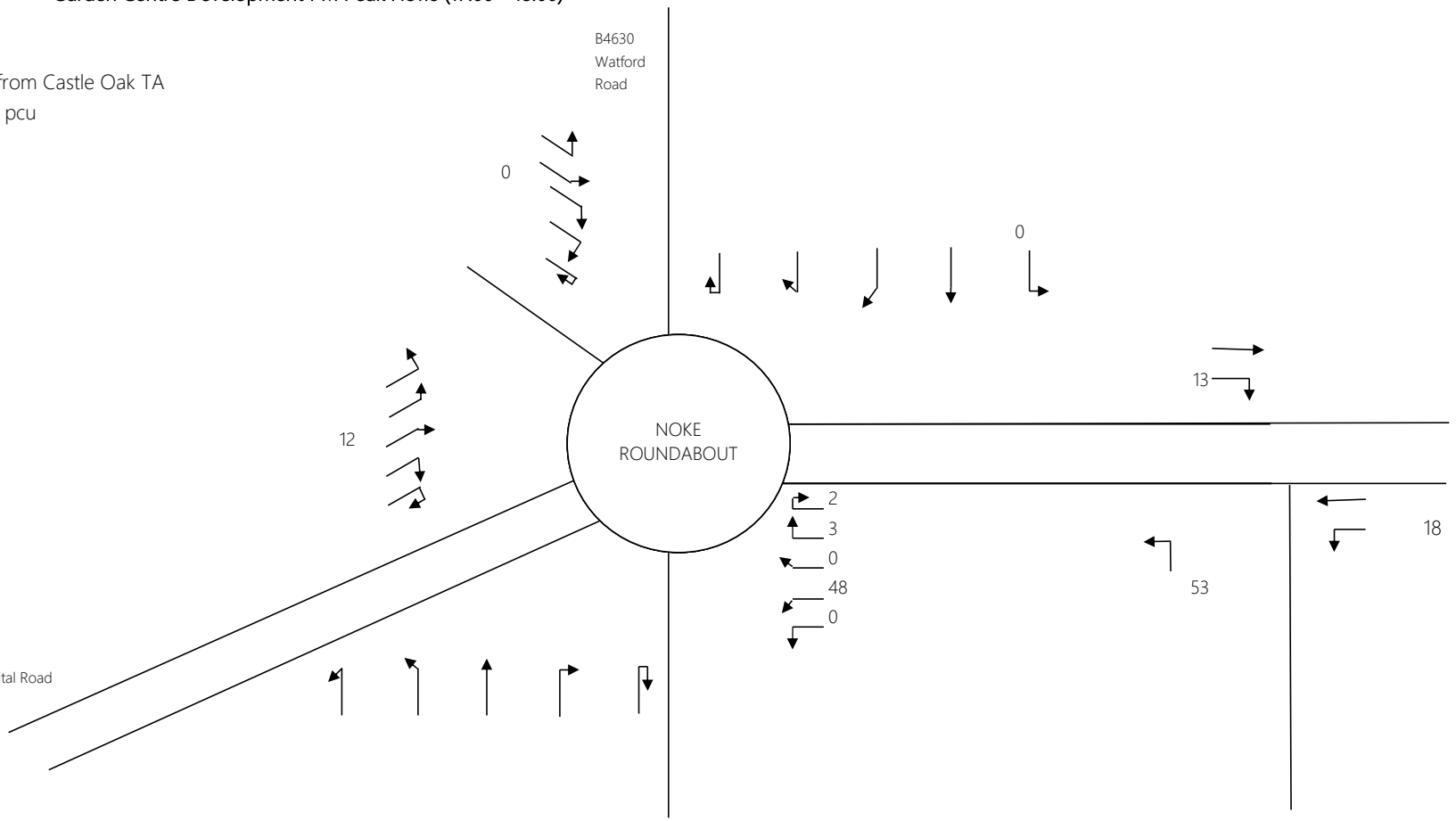


Figure 5: Total Development AM Peak Flows (07:00 - 08:00)

Notes:
All values in pcu

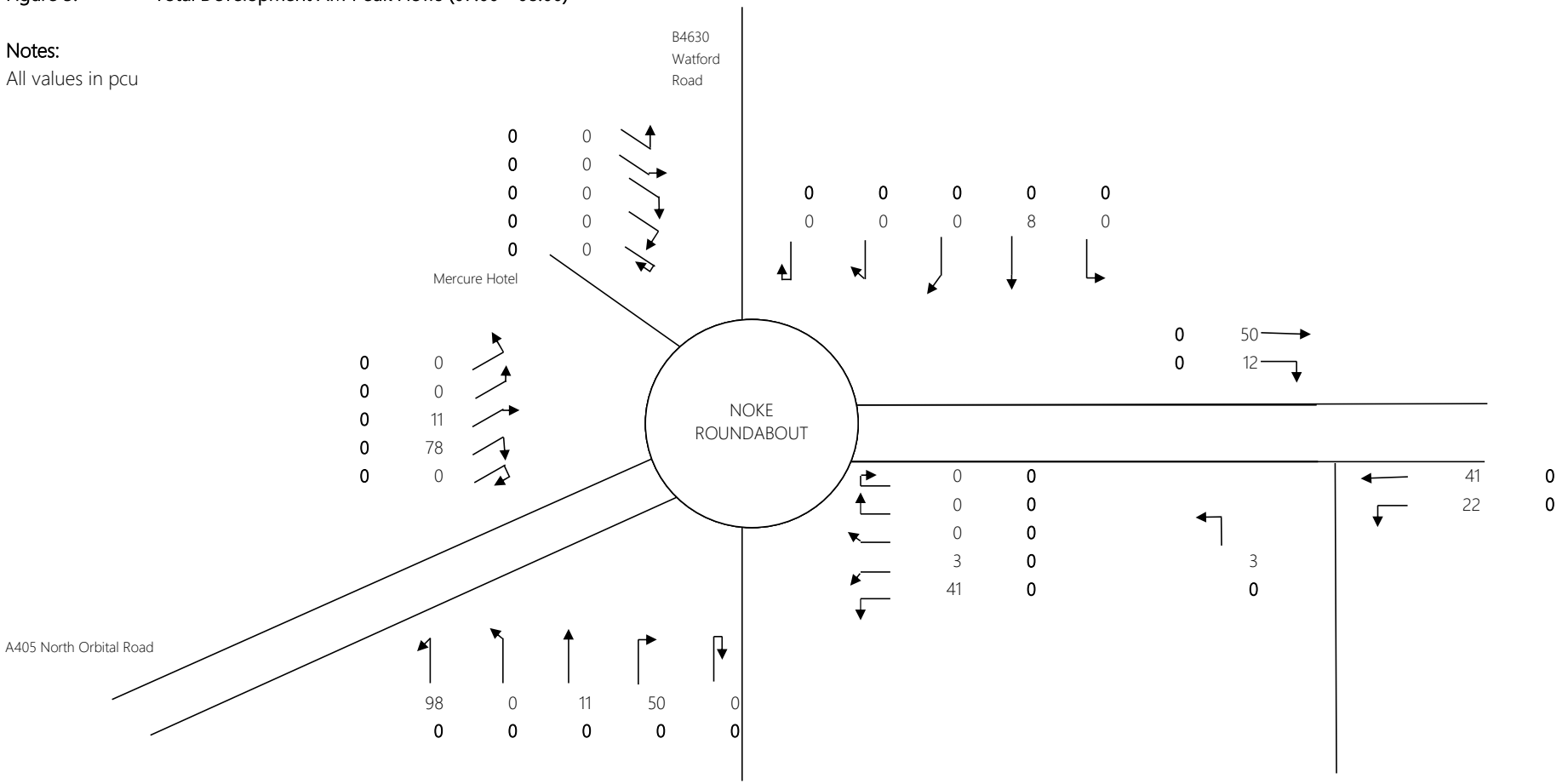


Figure 6: Total Development PM Peak Flows (07:00 - 08:00)

Notes:
All values in pcu

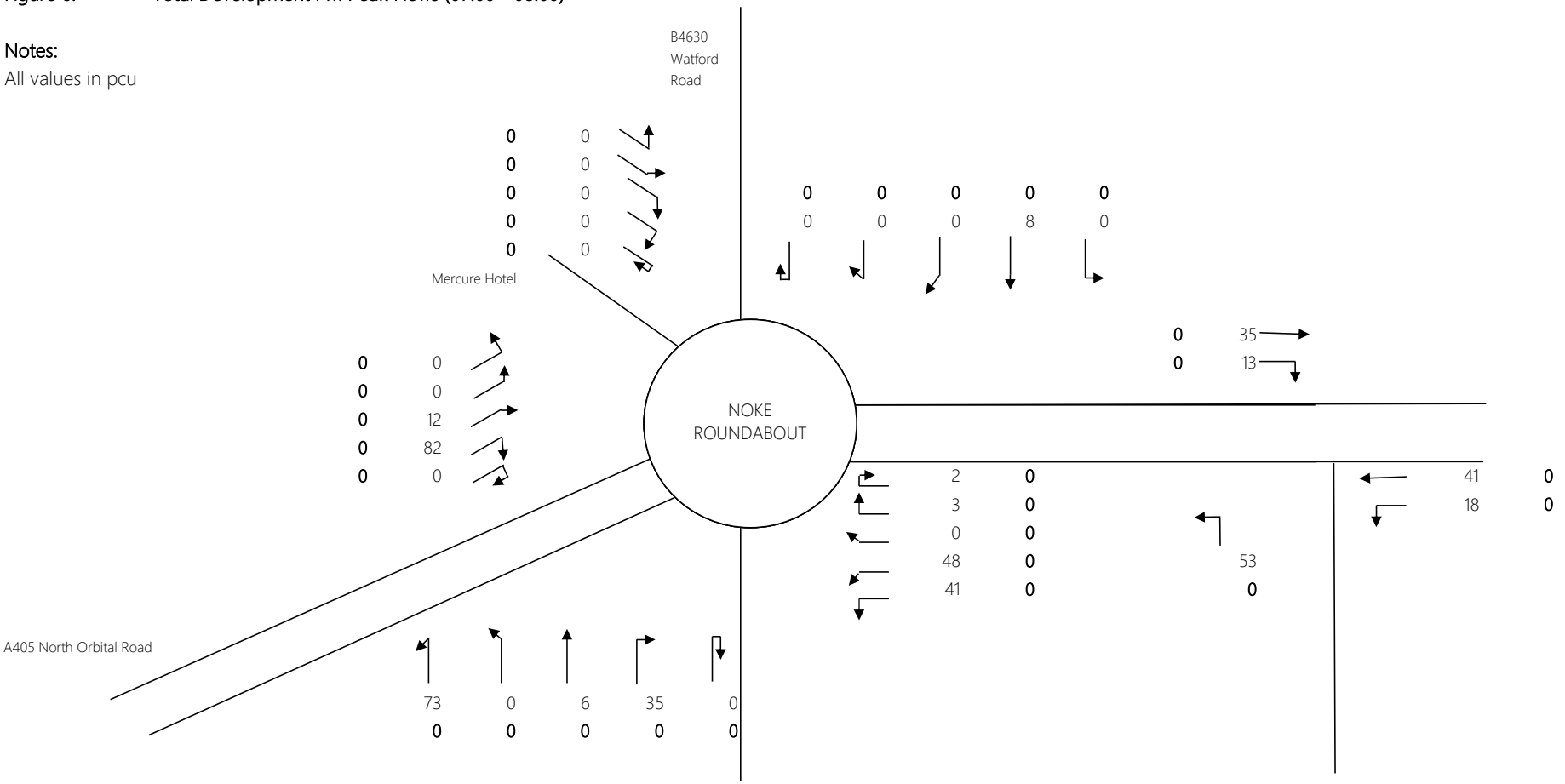


Figure 7: Total Development AM Peak Flows (07:00 - 08:00)

Notes:
All values in pcu

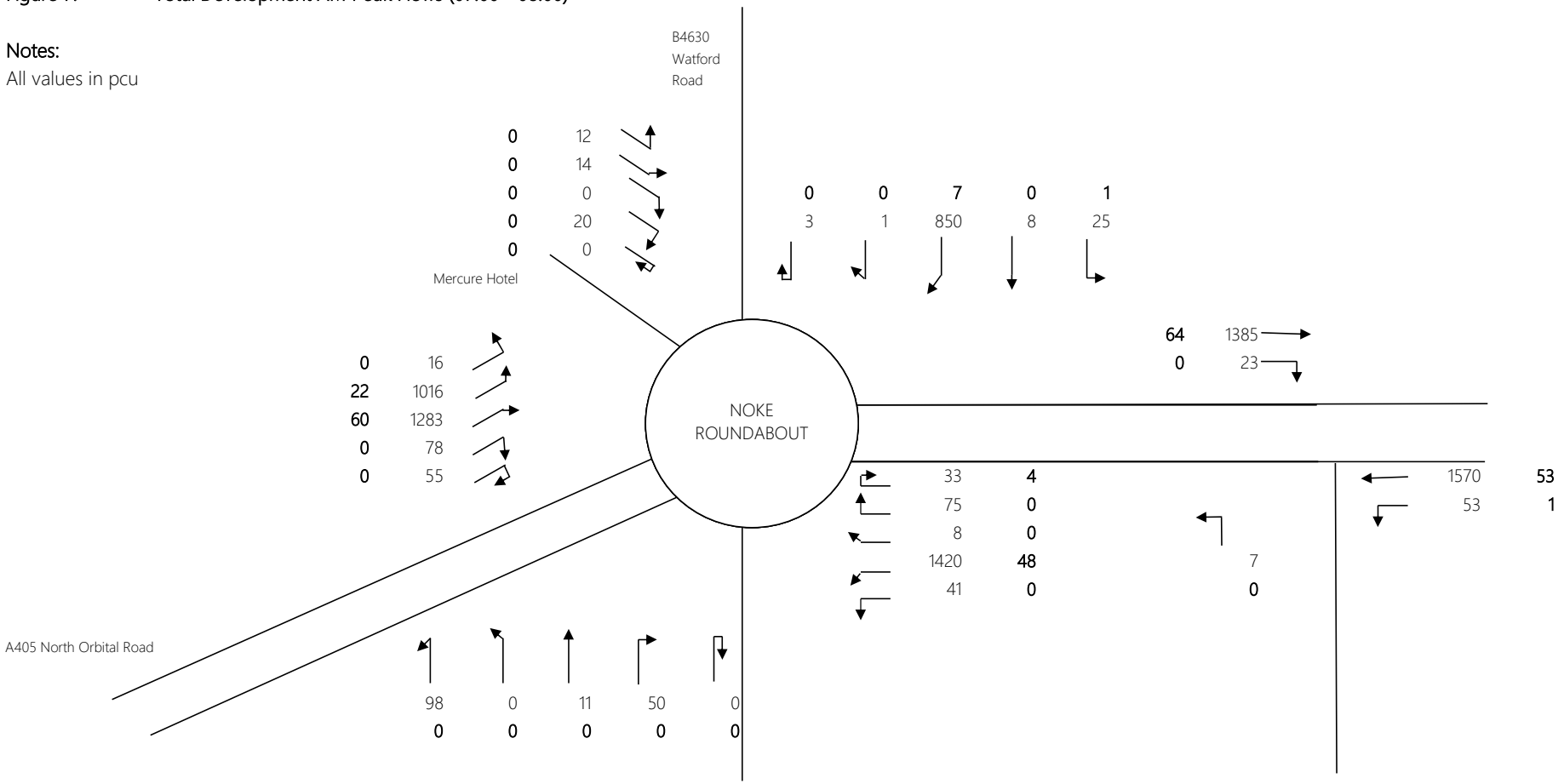
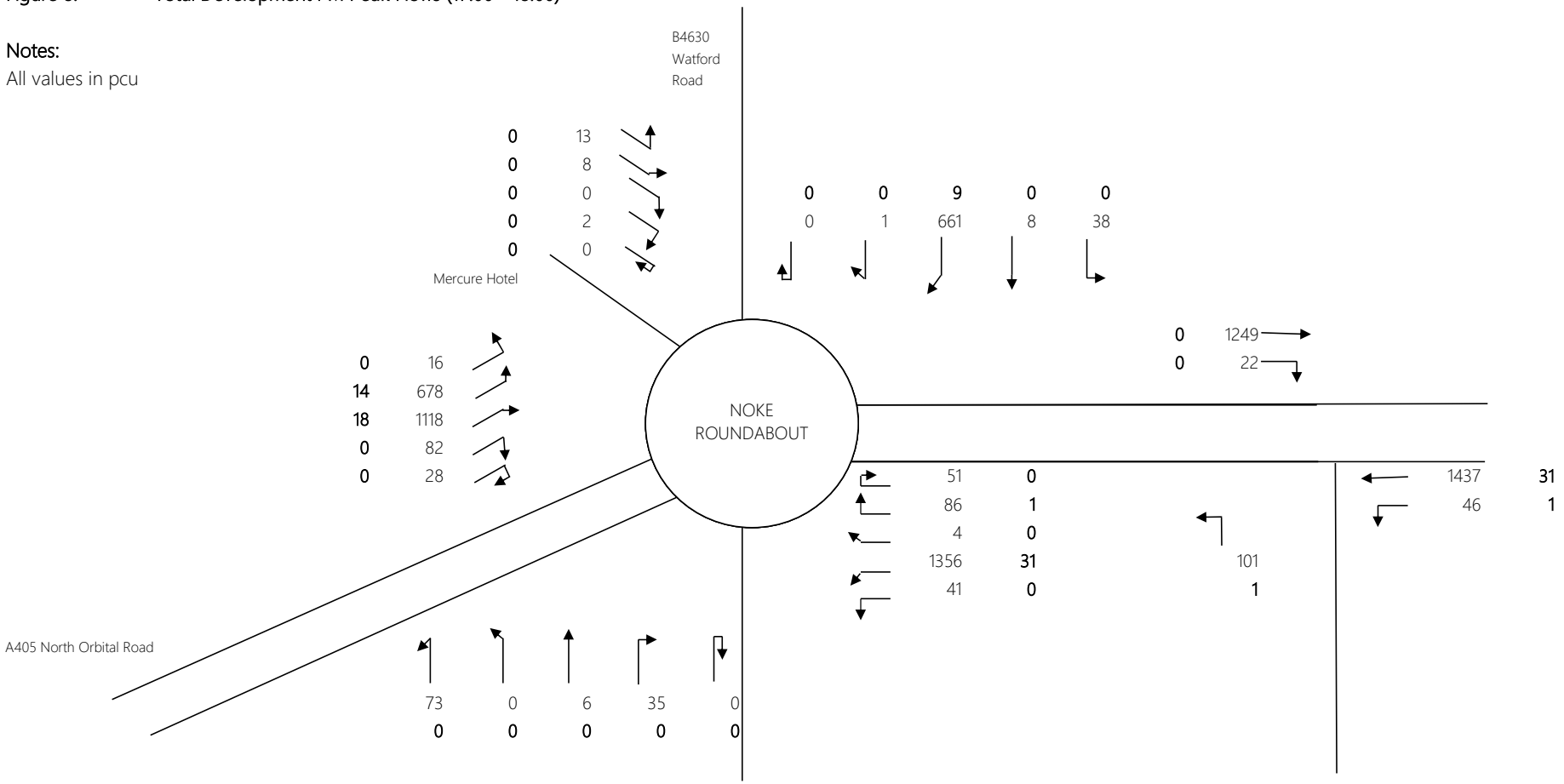


Figure 8: Total Development PM Peak Flows (17:00 - 18:00)

Notes:
All values in pcu



Drawings

INDICATIVE

Notes

1. Do not scale from this drawing.

Ordnance Survey Licence number: 100057360

Drawing Revisions

Rev:	Drn:	Date:	Details	Chk:
-	OH	02/03/2021	First issue	TW

Client

Mr Emerton, Ms Bond and Mr Cowen

Project

Land at Burston Nurseries, Chiswell Green, Hertfordshire, AL2 2DS

Title

Constraints Plan

MILESTONE TRANSPORT PLANNING
Abbey House, 282 Farnborough Rd, Farnborough, Hants GU14 7NA
Tel: 01483 397888
Gateshead IBC, Mulgrave Terrace, Gateshead, NE8 1AN
Tel: 0191 338 7220
web: www.milestonetp.co.uk

Drawing Number: 21066 / 001

Scale: Not to Scale

Revision: -

INDICATIVE

Notes

1. Do not scale from this drawing.

Sustainable Transport Corridors

Internal Access Road

Drawing Revisions

Rev:	Drn:	Date:	Details	Chk:
-	OH	02/03/2021	First issue	TW

Client

Mr Emerton, Ms Bond and Mr Cowen

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Title

Opportunities Plan

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Tel: 0191 338 7220
web: www.milestonetp.co.uk

Drawing Number:

21066 / 001

Scale:

Not to scale

Revision:

-

SS15

HELAA Reference (Internal use only)|

25 January to 5pm 8 March 2021
'Call for Sites 2021' Site Identification Form

St Albans City and District Council is in the process of preparing a new Local Plan 2020-2038. The 'Call for Sites' is an early opportunity for individuals, landowners and developers to suggest sites within the District for development over the next 15-20 years. The site suggestions received by us will be used to inform the preparation of the new Local Plan 2020-2038.

You are invited to put forward any new sites that you would like the Council to consider in its Housing Economic Land Availability Assessment (HELAA). These should be capable of delivering 5 or more dwellings, or economic development on sites of 0.25 hectares or more (or 500 square metres of floor space or more). The Council will take account of the Strategic Housing Land Availability Assessment (SHLAA) submissions previously received since 2009 and therefore there is no need to resubmit these unless circumstances have changed. Sites from previous SHLAAs will form part of the Council's assessment. Proposed land uses can include:

- Housing
- Gypsy & Traveller Housing
- Mixed Use
- Employment
- Renewable and low carbon energy and heat
- Biodiversity Improvement / Offsetting
- Green Belt Compensatory Land
- Land for Tree Planting
- Other

To enable sites to be mapped digitally, please provide GIS shapefiles of your site, where possible.

The consultation period runs for six weeks between Monday 25 January to 5pm on Monday 8 March 2021.

Unfortunately, we cannot treat any of the information you provide as confidential.

It is important to note that not all sites received through the 'Call for Sites' will be appropriate for consideration as part of the Housing Economic Land Availability Assessment (HELAA). As a general rule:

We encourage you to submit sites that are likely to become available for development or redevelopment between now and 2038.

Please do not submit sites that:

- Are already included as a housing allocation in the St Albans District Local Plan Review (November 1994) – i.e. sites that are listed in 'saved' Policies 4 and 5.

- Have already been submitted to the Council for consideration via previous 'Call for Sites' and Strategic Housing Land Availability Assessment (SHLAA) processes (unless information is updated/changed).

- Already have planning permission for development, unless a new and different proposal is likely in the future; or

- Are situated outside St Albans City and District's administrative area.

If you wish to update information about a site previously submitted please complete the form below.

Please return the **form and site location plan** to the Spatial Planning and Design Team. We strongly encourage digital submissions via our online portal.

By online consultation portal:

http://stalbans-consult.limehouse.co.uk/portal/

By e-mail to: planning.policy@stalbans.gov.uk

By post to: St Albans Council Offices, St Peters Street, St Albans, Hertfordshire, AL1 3JE

Due to COVID-19; offices being shut and officers working from home; submissions by post are discouraged.

Your Details	
Name	[redacted]
Company/Organisation	JB Planning Associates / Barton Willmore LLP
Address	Chells Manor, Chells Lane, Stevenage / 7 Soho Square, London
Postcode	SG2 7AA / W1D3QB
Telephone	01438 312130 / 0207 446 6888
Email	[redacted]
Your interest	☐Site Owner ✓Planning Consultants ☐Registered Social Landlord ☐Local Resident ☐Developer ☐Community ☐Other

Site Details

Requirements:

- Delivers 5 or more dwellings or;
- Provides economic development on sites of 0.25 hectares or more (or 500 square metres of floor space or more)

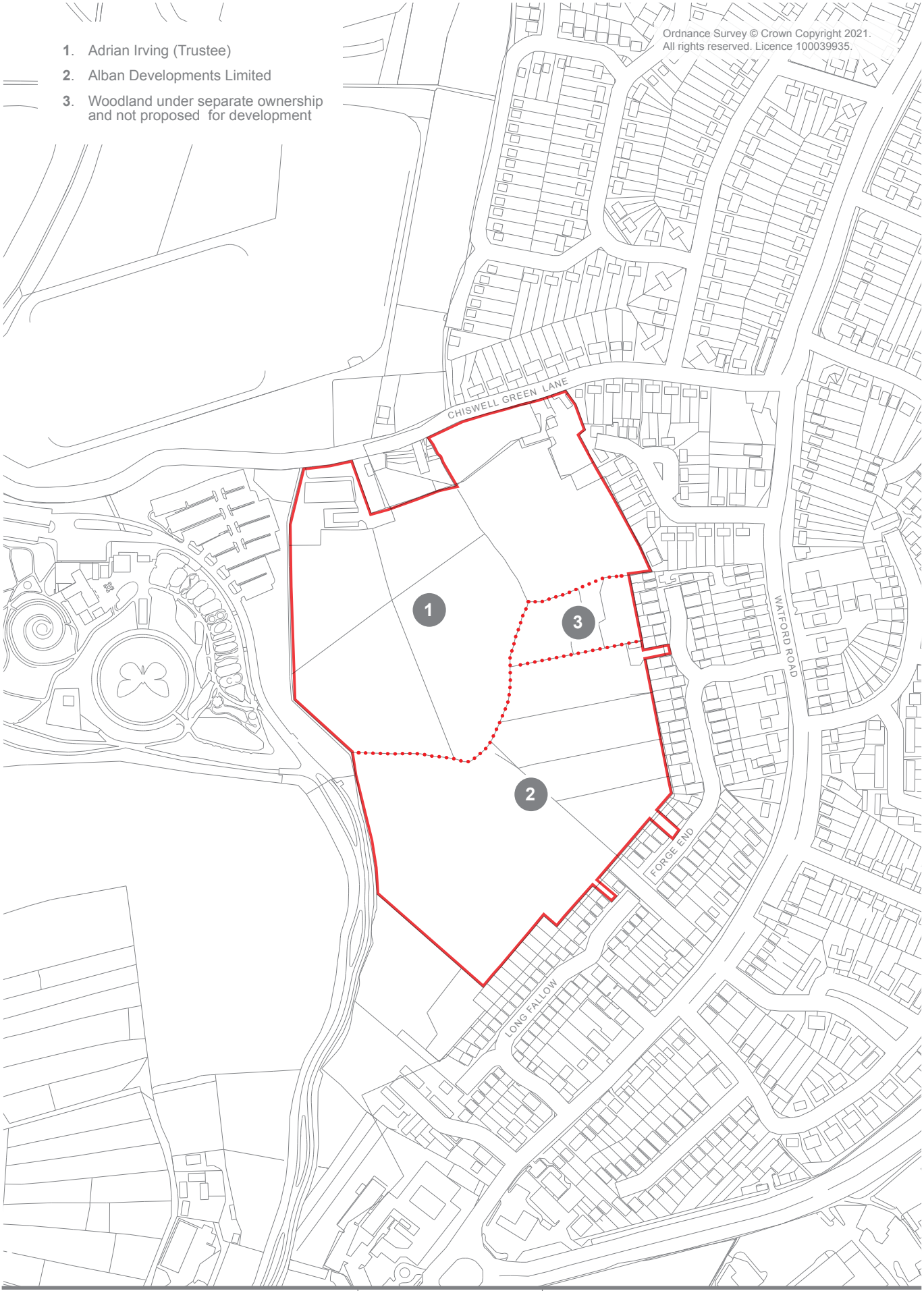
Site address/location (Please provide a map showing the site boundary)	**Land at Chiswell Green, Chiswell Green Lane, Chiswell Green, St Albans.**			
Site area (in hectares)	**15.2ha**			
Coordinates	Easting	**513106**	Northing	**204272**
Site Location Plan Attached	✓Yes ☐No			
GIS mapping shapefile attached (in .shp file format)	☐Yes ✓No			
Landownership (please include contact details if known)	**Alban Developments Ltd - Freeholder of southern portion, which is under option to CALA Group Ltd** **Adrian Irving (Trustee) - Freeholder of northern portion, which is under option to Redington Capital**			
Current land use	**The northern portion of the site includes grazing land, although it does also contain previously developed land, including Chiswell Green Farmhouse, yard and garden in the north-eastern corner of the Site boundary. An active livery yard, including the grazing of horses and riding tuition can be found in the north-west section of the northern portion of the site.** **The southern portion of the site includes land used as a compound for the storage of building materials, plant and machinery, following an Inspectors enforcement appeal decision (LPA Ref. P/ENF/253, PINS Ref. T/APP/C/97/E1930/647173).**			
Condition of current use (e.g. vacant, derelict)	**As described above**			

Suggested land use	✓ Housing ☐ Gypsy & Travellers ✓ Mixed Use (please specify) **Primary school** ☐ Employment ☐ Renewable and low carbon energy and heat ☐ Biodiversity Improvement / Offsetting ☐ Green Belt Compensatory Land ☐ Land for Tree Planting ☐ Other (please specify)
Reasons for suggested development / land use	**Please see cover letter**
Likely timescale for delivery of suggested development / land use	✓ 1-5 Years ☐ 6-10 Years ☐ 11-15 Years ☐ 15+ Years

Site Constraints	Contamination/pollution issues (previous hazardous land uses)	☐ Yes ✓ No
	Environmental issues (e.g. Tree Presentation Orders; SSSIs)	☐ Yes ✓ No
	Flood Risk	☐ Yes ✓ No
	Topography affecting site (land levels, slopes, ground conditions)	☐ Yes ✓ No
	Utility Services (access to mains electricity, gas, water, drainage etc.)	✓ Yes ☐ No
	Legal issues (For example, restrictive covenants or ownership titles affecting the site)	☐ Yes ✓ No
	Access. Is the site accessible from a public highway without the need to cross land in a different ownership to the site?	✓ Yes ☐ No (If no please provide details of how the site could be accessed. Without this information the site will not be considered to be deliverable).

	Other constraints affecting the site	☐ Yes (If yes, please specify) ✓ No
Planning Status	☐ Planning Permission Granted ☐ Planning Permission Refused ☐ Pending Decision ☐ Application Withdrawn ☐ Planning Permission Lapsed ☐ Pre-Application Advice ✓ Planning Permission Not Sought ☐ Other	
Other comments	**Please see cover letter**	

1. Adrian Irving (Trustee)
2. Alban Developments Limited
3. Woodland under separate ownership and not proposed for development



Land at Chiswell Green

SITE LOCATION AND OWNERSHIP PLAN

1298.04
26/02/2021

1:5,000 @ A4

metres 100

N

jb planning associates
town planning
and development
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STEVENAGE, SG2 7AA

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Legend

- North Parcel
- South Parcel
- School Parcel
- Infrastructure
- Active Frontage
- Rear Gardens
- Public Open Space
- Parking Court
- Vehicular / Pedestrian Access
- Possible Future Access
- Existing Trees
- Proposed Structural Tree Planting
- Landmark Building
- Key Vista Stops
- "The Square"
- LEAP
- Strategic Green Space
- Pedestrian / Cycle Link

REV	DATE	DESCRIPTION

CALA HOMES
CALA GROUP LIMITED
Riverside House, Meltham Lane, Woodburn Green
High Wycombe, Buckinghamshire, HP10 0TJ
Tel: 01628 536200 Fax: 01628 536201
DX: 12510 D Woodburn Green E-mail: info@cala.co.uk

Chiswell Green, St.Albans

Concept Plan

1 : 1250 @ A1 — 0 10 20 30 40 50 60

Scale: 1:1250@A1	Dwg No.: Concept - 02
Date: 10.04.19	Rev: B
Drawn: MJ	

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JB/1298/JPD

8 March 2021

By email: planning.policy@stalbans.gov.uk
Mr Chris Briggs
Spatial Planning Manager
Planning Policy Team
St Albans Council Offices
St Peters Street
St Albans AL1 3JE

Dear Mr Briggs,

St Albans City and District – Housing & Economic Land Availability Assessment Update – 2021 – 'Call for Sites'

JB Planning Associates and Barton Willmore LLP hereby jointly write on behalf of their mutual clients CALA Group Ltd and Redington Capital in response to the 'Call for Sites' made by St Albans City and District Council (SACDC) in connection with their emerging Local Plan.

Accompanying this letter are the following documents:

- Call for Sites – Site Identification Form
- Site Location & Ownership Plan
- CALA Concept Plan
- Joint Delivery Statement
- Additional technical evidence (as referred to in this letter)

Our Clients interests relate to land abutting Chiswell Green Lane, Long Fallow and Forge End in Chiswell Green, Hertfordshire ("the Site"), which is identified on the enclosed Site Location & Ownership Plan.

Background

Our Clients land was originally put forward for consideration in respect of the 2008 SHLAA Call for Sites (sites references: 43a, 43b and 44). The officer's conclusions were that these sites would be suitable for residential development in principle and that any new housing could be suitably screened from the surrounding countryside. The Assessment concluded that the sites were available, achievable and deliverable for housing.

Since then, the sites combined have been identified as a Broad Location for Development in the Strategic Local Plan (SLP) and in the more recent Local Plan, both of which were withdrawn at the Examination Stage.

As part of the plan making process, SACDC instructed consultants Sinclair Knight Merz (SKM) to undertake a detailed and robust assessment of the eight Broad Locations in the District under consideration for potential release from the Green Belt. In considering the contribution

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made by each location towards the five Green Belt purposes, as set out at paragraph 134 of the NPPF, the Site was identified as the most suitable site for Green Belt release; i.e. ranked 1st out of the 8 sites assessed.

Land Ownership and Developer interest

The Site is comprised of three freehold land ownerships. As can be seen on the Site Location & Ownership Plan that accompanies this submission, Adrian Irving (Trustee) and Alban Developments Ltd own the majority of the land. The remaining parcel of land outside their ownership is a small pocket of woodland not critical to the delivery of the development proposals.

Since the last Local Plan consultation took place in October 2018, CALA Group Ltd have acquired an interest in the land owned by ADL and Redington Capital in land owned by Adrian Irving (Trustee).

A Joint Delivery Statement, signed by CALA Group Ltd and Redington Capital, is enclosed with our submission and demonstrates the genuine nature of the working relationships between the two parties focussed on the delivery of the Site.

CALA Group Ltd are represented by JB Planning Associates and Redington Capital by Barton Willmore, which continues an effective working relationship for the joint promotion of the Site which began in 2014, initially on behalf of the landowners and more recently on behalf of CALA Group Ltd and Redington Capital.

Development Proposals

An Illustrative Design Brochure has previously been prepared for the Site on behalf of the Landowners and submitted to the Council in response to Local Plan consultations to illustrate the capability of the Site to deliver a minimum 370 dwellings; a 2-form entry primary school; recreation and open space provision.

Since CALA Group became involved in the promotion, this high-level design work has been refined through the preparation of the enclosed Concept Plan, which illustrates the proposals in a finer grain and with the benefit of the design expertise of a national housebuilder.

In terms of the number of dwellings which the site can accommodate, we note that previously the Council arrived at a dwelling yield figure of 365 dwellings, which it calculated by applying a 60% residential 40% non-residential split to the Site area (15.2ha) and assuming an average density of 40dph. Having given further consideration to the design, we consider that 6.08 ha (40% of the site area) for non-residential may not all be required (for the school, main roads, and amenity space, etc) and that this will be determined during masterplan process. Therefore, there may be an opportunity for the Council to secure more homes on the site utilising this non-residential area and / or by allowing higher-density typologies on appropriate parts of the site.

With respect to sustainable design and construction, which we understand will be a key theme for the new Local Plan, we wish to highlight that CALA Group are continuously and conscientiously working towards a greener future and are committed to being a business that is good for people and the planet. Sustainability is one of six pillars CALA have committed to developing over the next five years and forms part of their five-year plan. Sustainability strategies have been rolled out throughout its regions and dedicated regional Green Teams put

together to actively aim towards providing more environmentally sound and sustainable developments.

As a region, CALA Chiltern are already providing various sites with sustainable technologies. Examples of these include using PV at Fullers Meadow, Wantage; and implementing EV charging points at Wantage as well as Paper Mill, Wolvercote, where they have also implemented a car club for the residents and locals. Across the wider CALA Group these and other initiatives are also in place to continue their efforts on sustainability. In addition to this CALA are enthusiastically working towards reducing carbon emissions during site works and its overall footprint as a company in all areas. Infrastructure teams have also been established to investigate the possible effects of the shift in technologies we are working on.

These initiatives will continue and be added to in the coming years, as CALA aim to become a leader in the industry on the sustainability front.

Timescales for development

The Site is immediately available for development with options in place with a site promoter and national housebuilder, and as discussed further below, is free from constraint. It is therefore feasible for the development to commence as soon as possible following adoption of the new Local Plan and offer a meaningful contribution to the supply of housing in SACDC in the first 5 years of the new Plan period.

Environmental Considerations

The joint promotion of the Site has involved the preparation of extensive technical evidence to demonstrate its deliverability, suitability and availability. The majority of this technical evidence was submitted in support of representations made on the Regulation 19 Publication Draft Local Plan in October 2018. We request that work be fully accounted for as part of the updated HELAA, and thus we do not intend to resubmit it now in response to the Call for Sites.

Key findings of the technical assessments are highlighted below, together with the relevant appendix numbers of those documents previously submitted with our Regulation 19 representations.

a) Flood risk

The Flood Risk Assessment (Appendix 7) identifies that the site is located within Flood Zone 1. It proposes a surface water drainage strategy that utilises sustainable surface water drainage strategy techniques, including the use of porous paving to facilitate the discharge of surface water by infiltration to the underlying soil strata and attenuation features providing storage for the 1 in 100 + 30% climate change storm event. As such, discharge volumes from the Site will not increase as a result of the proposed development for all storm durations up to and including this event.

b) Ecology

The Preliminary Ecological Appraisal (Appendix 9) prepared in January 2016 (and updated in October 2018) identifies little of ecological note. There is some potential for bats to be present and a low likelihood of reptiles using the Site. Mitigation for bats, reptiles and nesting birds (if

present) is possible and could include the erection of bird and bat boxes and the provision of informal open space, kept rough.

Since the last Regulation 19 Representations were made a high-level biodiversity net gain assessment has been undertaken for the southern part of the Site. This accompanies this letter and demonstrates, having established the baseline conditions, that the provision and management of grassland, native shrubs, tree and hedgerow planting would provide an overall biodiversity gain of over 10% following the development. This is a significant planning benefit.

Updated ecological assessments will be carried out ahead of any formal planning application, and these will be used to refine the biodiversity net gain assessment.

c) Heritage

The Archaeological Desk Based Assessment (Appendix 14) relates to the northern part of the Site and establishes that there are no designated archaeological heritage assets within or in close proximity to the study site. This reflects the conclusion reached by SACDC, in its previous evaluation work of the whole Site, that there will be no adverse effects on heritage assets and the Site has no archaeological potential. The Site does not contain any listed buildings and is not subject to a conservation area designation.

d) Transport and Site Accessibility

The Transport Assessment (TA) and Addendum produced by Glanville Consultants (Appendices 5 and 6) describes how the road layout shown in the emerging proposals for the Site seeks to distribute traffic as evenly as possible between four identified access points onto the surrounding highway network. Glanville has considered the capacity of all of the junction points with Watford Road in the Transport Assessment and determined that all have significant spare capacity apart from the Watford Road / Chiswell Green Lane double mini-roundabout, where there are existing capacity issues. In this regard, the development of the Site presents an opportunity to secure improvements to this junction to mitigate the effects of the development and deliver improvements that will also benefit the wider community.

The TA also identifies that the Site is accessible by a range of transport modes and is in a sustainable location with good access to a wide range of local facilities, amenities and employment opportunities. The effect of the development can be further reduced through the adoption of an effective Travel Plan.

Since the TA was prepared further consideration has been given to the access strategy and WSP has been appointed to consider a slightly amended approach to access to the southern part of the Site. WSP investigated whether this could be served via two new priority junctions on Forge End, with the previously identified vehicular access point from Long Fallow being using instead as a pedestrian, cyclist and emergency vehicle access. A Technical Note was prepared to demonstrate the acceptability of this proposal and this was discussed and agreed at a meeting with the Highway Authority on 27 August 2019. The Highway Authority also confirmed in this meeting that, in overall terms, the Site is unlikely to cause a severe impact in highway terms.

The Technical Note and meeting notes accompany this letter.

e) Utilities and Foul Drainage

The Utilities and Foul Water Drainage Assessment (Appendix 8) established that existing gas, electricity, potable water, telecommunications and foul water infrastructure all exist in the vicinity of the Site. Given the size and prevalence of existing infrastructure in the vicinity of the Site, it is anticipated that there will be no problems with provision of new supplies to the Site.

f) Ground contamination

The Geo-Environmental Desk Study Report submitted with the last Regulation 19 representations (Appendix 12) relates to the northern part of the Site and concludes that the study site is considered overall at being at low risk from contamination.

Since acquiring an interest in the southern part of the site CALA Group has commissioned a site investigation on this area. A summary of the site investigation report accompanies this letter and reveals that no unacceptable contamination risks were identified. The full report can be provided if required.

g) Arboricultural

The Arboricultural Constraints Summary (Appendix 13) Constraints Summary comprises of a survey of the existing trees on the northern part of the Site. The Tree Constraints identifies the quality of existing trees, whether they should be retained or removed and also conveys the root protection areas. In addition the assessment identifies 3 separate groups of Tree Preservation Orders which are located along the western boundary of the study site. These are also acknowledged by SACDC in its own evaluation of the whole Site, which confirms that trees do not represent a constraint to development, since they can be retained and enhanced as features in the development area.

h) Landscape Character

The Landscape and Visual Appraisal (Appendix 11) (LVA) identifies that that views of the Site from the surrounding area are largely restricted due to the presence of adjoining residential development to the east and south-east, and Butterfly World to the west, with rising landform to the west, north and north east which, along with surrounding woodlands and hedgerows, assist in enclosing the land.

The LVA supports the assessment of the abovementioned SKM ‘Green Belt Review’ that the site makes limited or no contribution to the five purposes of Green Belt, largely as a result of its urban fringe location between the settlement edge of Chiswell Green and Butterfly World. It concludes that residential development would assimilate well into the existing western edge of Chiswell Green, and new woodland and hedgerow planting would help integrate the built structures within the local landscape character. In addition, a new rational, robust and defensible Green Belt boundary would be created along the western edge of Chiswell Green.

i) Healthcare Assessment

The Healthcare Assessment (Appendix 10) identifies that, when undertaken in October 2018, there was surplus capacity to accommodate an additional 2,918 patients at the Midway Surgery, which is more than sufficient to absorb new residents from the proposed allocation.

Assuming an average household size of 2.5 people per household applied to the circa 370 units proposed, the development could give rise to an additional 925 patients. However, not all of the residents will be new to the area, and many will continue to utilise their existing GP services.

The Healthcare Assessment found that the area is well provided with dental treatment facilities and a telephone survey, conducted in October 2018, established that all dental practices identified are accepting new patients on a private basis (a number of whom are also accepting new fee exempt (NHS) patients).

Conclusion

The above analysis has demonstrated that the Site is free from constraint, is 'available' for development now and is sustainably located close to existing facilities and infrastructure within the settlement of Chiswell Green, with scope for these to be added to and enhanced as a result of the development proposals. The proposals can therefore be considered 'deliverable' in accordance with the NPPF.

In addition, we would highlight the potential for the following benefits that would be associated with the development of the Site:

- The Site is in a sustainable location with good access to public transport facilities and local services, and is therefore well-suited to providing high-quality housing to support the continued success and expansion of the M1/M25 growth area;
- Other than the Site's designation as Green Belt land, there are no significant environmental, physical, or other constraints that should prevent the development of the Site;
- Parts of the Site have been previously developed and redeveloping it therefore represents an opportunity to make effective use of brownfield land in accordance with the objectives of the NPPF;
- The provision of a minimum of 370 new homes represents a significant contribution to meeting the district's identified housing demand, including a range of housing types to meet the needs of different groups including: affordable homes, older people, key worker, and self-build homes;
- There is an opportunity to deliver a site for a primary school, if required to meet an identified shortfall of primary school places in the local area;
- Development would include direct financial investment to Chiswell Green in the form of S106 planning obligations, Community Infrastructure Levy ("CIL") payments, and council tax payments generated by additional residents (also matched by the Government's New Homes Bonus);
- During construction, the development would directly provide opportunities for training, jobs, and apprenticeships for local people;
- Indirect financial investment through additional retail revenue generated by additional residents in Chiswell Green;
- There is the potential to provide an overall biodiversity gain of over 10% following the development; and
- The Site is capable of early delivery to immediately boost the supply of land for housing in the District. This will be particularly important should the Council elect to continue to promote significant growth on the edge of Hemel Hempstead. Early delivery of medium scale sites, such as land at Chiswell Green, will be critical if housing land supply is to be maintained.

Please let us know if you require any further information to complete your HELAA update.

Yours Sincerely

[redacted]

[redacted]

Encs

Land at Chiswell Green
Joint Statement on Delivery

1. This Joint Statement is made by Redington Capital who have an interest in land at Chiswell Green Farm, which is the northern part of Land at Chiswell Green ("the Site") and CALA Group Ltd who have an interest in the southern part of the Site.

2. Redington Capital and CALA Group Ltd ("the Promoters") and their respective consultants are collaborating to ensure that the development of the Site, including the delivery of publicly accessible open space and accesses (vehicle, pedestrian and cycles) and other facilities required by the Council as a result of pre-application discussions, is brought forward in a co-ordinated and comprehensive way.

3. The Promoters, recognise the requirement of the NPPF that plans should be deliverable and to ensure that housing delivery through the plan-making process is achieved through a reliable supply of land for housing over the entirety of the plan period.

4. The Promoters have a common interest in bringing the Site forward for housing development and confirm through this Joint Statement that they will continue to co-ordinate in the delivery of the wider site and promote its identification as a residential allocation in the emerging Local Plan.

5. The Promoters look forward to engaging further with the Council during the preparation of its Local Plan.

[redacted]

…… Date: 8 March 2021
On behalf of Redington Capital

[redacted]

…… Date: 8 March 2021
On behalf of CALA Group Ltd