



CHALCROFT BUSINESS CENTRE

TRANSPORT ASSESSMENT

FIP WEST END LTD

NOVEMBER 2023

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1. INTRODUCTION

- 1.1. This Transport Assessment (TA) has been prepared by PFA Consulting on behalf of FIP West End Ltd to support an outline planning application for development proposals on land to the southeast of Chalcroft Business Park, Burnetts Lane, West End, Southampton.
- 1.2. The site is allocated in the Eastleigh Borough Local Plan (2016-2036) under policy WE2 for employment development, and is located to the southeast of Chalcroft Business Park, as indicated on **Figure 1.1**.

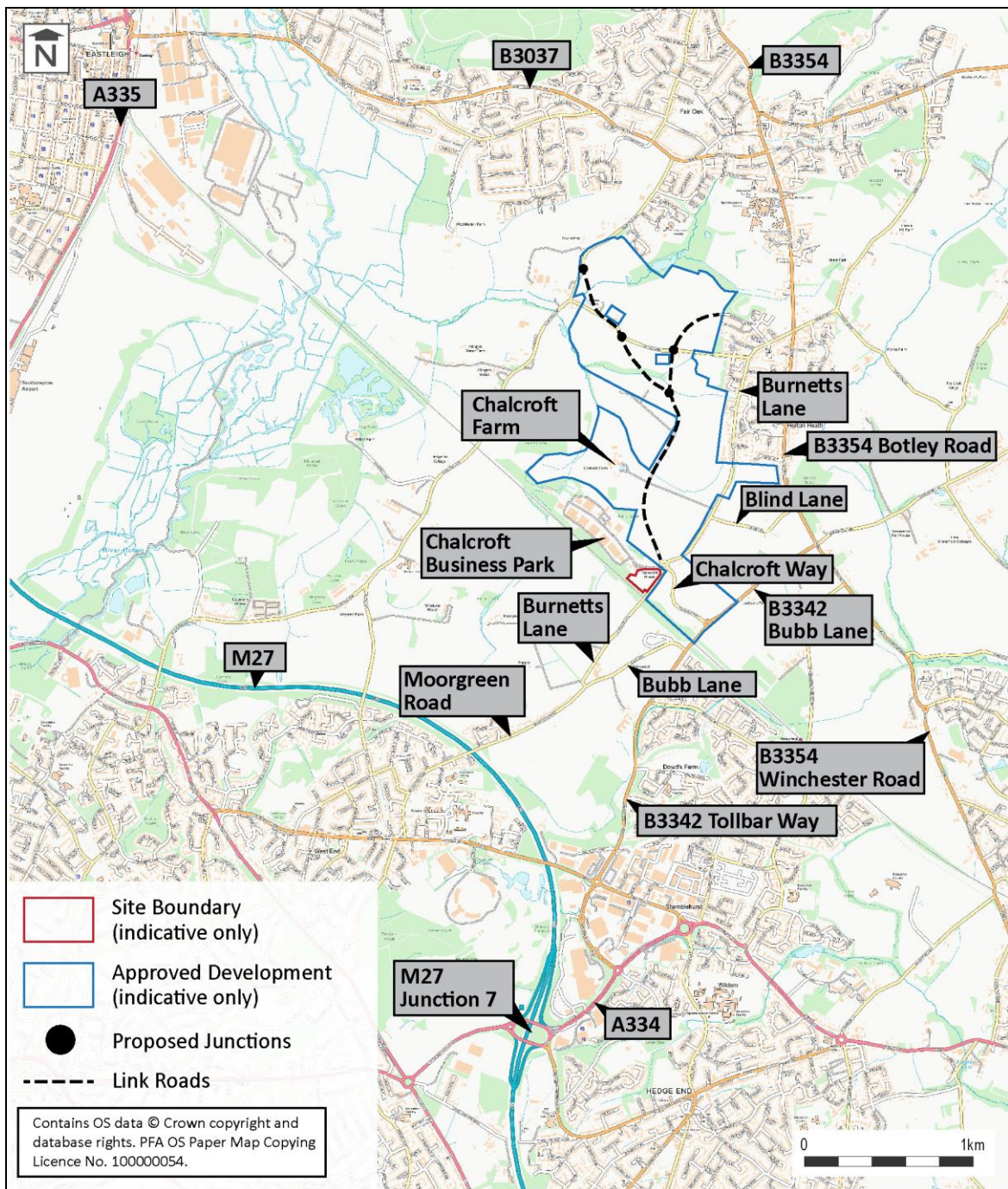


Figure 1.1: Site Context Plan

Development Proposal

- 1.3. The development proposal is an outline application for up to 4,130sqm of commercial floorspace (Use Classes E(g)(ii), (iii) and B8) to include farm shop (Use Class E(a)) of up to 327sqm, parking and yard areas (including accessible spaces), landscape buffers and acoustic mitigation. Formation of vehicular and pedestrian access to Estate road (access not a reserved matter). A potential development site layout is reproduced in **Appendix A**.

Planning Context

- 1.4. In recent years significant development has been approved west of Horton Heath, in the vicinity of Chalcroft Business Park. 'Land West of Horton Heath and Chalcroft Farm' (Ref: O/14/75735) has been approved for 950 dwellings, employment, education, retail and community uses, whilst 'Land to the North West of Horton Heath' (Ref: O/16/79354) has been approved for 450 dwellings.
- 1.5. The area of land taken up by the above two consented sites is shown outlined in 'blue' in **Figure 1.1**. These developments have delivered the link road connecting the B3342 Bubb Lane with Burnetts Lane, and will continue through the Horton Heath development sites, although this section is currently under construction.
- 1.6. The link road has improved access to Chalcroft Business Park, reducing impact on other local roads, specifically with respect to HGV traffic, and offers significant benefits to non-car modes of travel.

Chalcroft Business Park

- 1.7. Chalcroft Business Park has previously received planning permission for the following:
- F/18/83945 – Owton's Butchery (2,064sqm) and Commercial floor space (6,420sqm)
 - F/20/89518 – Unit 19
- 1.8. Owton's Butchery has been constructed and is operational, whilst the associated commercial floor space is currently the subject of a reserved matters approval and as such has not been constructed. The extension to Unit 19 has also yet to be constructed.
- 1.9. The Section 106 legal agreement for F/18/83945, dated 12 March 2020 included a financial contribution of £100,000 towards the foot/cycleway link from Eastleigh to Hedge End in line with Policy S12 of the draft Eastleigh Borough Local Plan (since adopted). A financial contribution of £222,926 was also secured towards improvements to the Bubb Lane /Tollbar Way junction.

Guidance and Report Structure

- 1.10. The TA has been prepared in accordance with the National Planning Policy Framework (NPPF), updated September 2023, and the web-based Planning Practice Guidance: 'Travel plans, transport assessments and statements in decision taking', March 2014.
- 1.11. The TA comprises the following sections:
- Introduction
 - Planning Policy Framework
 - Existing Conditions, including Transport Accessibility and Sustainability
 - Proposed Development
 - Trip Generation and Distribution
 - Impact on the Local Transport Network
 - Construction Traffic
 - Summary and Conclusions

2. PLANNING POLICY FRAMEWORK

Introduction

- 2.1. The following provides a brief review of existing and emerging transport planning policy at national and local level considered relevant to the proposed development.

National Policy

National Planning Policy Framework

- 2.2. National guidance on planning is set out in the National Planning Policy Framework (NPPF) published in September 2023. It sets out the Government's planning policies for England and how these are expected to be applied. At the heart of the NPPF is a presumption in favour of sustainable development.
- 2.3. Chapter 9 of the NPPF deals with 'Promoting sustainable transport'.
- 2.4. In considering development proposals the NPPF at paragraph 110 identifies three main elements that the assessment of sites for plans or specific applications for development should take into account, which are whether:

- a) **"appropriate opportunities to promote sustainable transport modes can be – or have been - taken up, given the type of development and its location;**
- b) **safe and suitable access to the site can be achieved for all users;**
- c) **the design of streets, parking areas, other transport elements and the content of associated standards reflects current national guidance, including the National Design Guide and the National Model Design Code 46; and**
- d) **any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree."**

- 2.5. Paragraph 111 states that:

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

- 2.6. Paragraph 112 expands on this, stating that applications for development should:

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

2.7. Paragraph 113 states that:

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

Planning Practice Guidance

2.8. The Government's Planning Practice Guidance to the NPPF was launched as a web-based resource by DCLG on 6 March 2014, and includes guidance on travel plans, transport assessments and statements in decision-taking' (Reference ID: 42 Updated 06 03 2014). The guidance explains that travel plans, transport assessments and statements are all ways of assessing and mitigating the negative transport impacts of development in order to promote sustainable development, and are required for all developments which generate significant amounts of movement. The guidance has been taken into account in the preparation of this Transport Assessment and associated Travel Plan.

Local Policy

Hampshire Local Transport Plan - 2011-2031

2.9. Hampshire's transport strategy for the period 2011-2031 is set out in this document. The document also outlines how the LTP will contribute to the Council's corporate priorities and includes a three year implementation plan.

2.10. The LTP sets out three main priorities for this period. These are:

- **"Support economic growth by ensuring the safety, soundness, and efficiency of the transport network in Hampshire;**
- **Provide a safe, well-maintained, and more resilient road network in Hampshire, as the basic transport infrastructure of the County, on which all forms of transport directly or indirectly depend, and the key to continued casualty reduction; and**
- **Manage traffic to maximise the efficiency of the existing network capacity, improving journey time reliability and reducing emissions, and thereby supporting the efficient and sustainable movement of people and goods."**

2.11. The LTP identifies Eastleigh as being within the South Hampshire Joint Strategy area. This has been developed by Hampshire County Council, Portsmouth City Council and Southampton City Council, working together as Transport for South Hampshire (TfSH).

2.12. The vision of the TfSH authorities is to create:

"A resilient, cost effective, fully-integrated sub-regional transport network, enabling economic growth whilst protecting and enhancing health, quality of life and environment"

2.13. The vision will be delivered through 14 transport policies. Policies relevant to Eastleigh include:

- **"To develop transport improvements that support sustainable economic growth and development within South Hampshire;**
- **To optimise the capacity of the highway network and improve journey time reliability for all modes;**
- **To achieve and sustain a high-quality, resilient and well maintained highway network for all;**
- **To deliver improvements in air quality;**

- To improve road safety across the sub-region;
- To promote active travel modes and develop supporting infrastructure;
- To encourage private investment in bus, taxi and community transport solutions, and where practical, better infrastructure and services;
- To work with Local Planning Authorities to integrate planning and transport;
- To develop and deliver high-quality public realm improvements; and
- To safeguard and enable the future delivery of transport improvements within the TfSH area.”

Draft Hampshire Local Transport Plan 4

2.14. Hampshire are developing a new Local Transport Plan (LTP), which was open for consultation from April-June 2022, there is no current identified date for adoption. Hampshire state that the LTP:

- “describes our transport vision for 2050, the key transport outcomes we are seeking to achieve, and the principles that would guide future investment and decision making in relation to transport and travel;
- sets out transport policies covering all aspects of transport planning, delivery, and operation (i.e. the ‘rules’ about how we would do things and how we want others to do things);
- presents our approach to delivering the Plan – ‘making it happen’, setting out a roadmap to 2050 and how we would prioritise, fund and deliver interventions, and monitor our progress; and
- supports the County Council’s wider strategies, plans and priorities.”

2.15. The LTP proposes changes that:

- “shift away from planning for vehicles, towards planning for people and places;
- meet national priorities to decarbonise the transport system;
- reduce reliance on private car travel;
- support sustainable economic development and regeneration; and promote active lifestyles.”

Eastleigh Borough Local Plan - 2016-2036

2.16. The Eastleigh Borough Local Plan 2016-2036 was adopted in April 2022.

2.17. Chalcroft Business Park is referred to at paragraph 6.5.51 under Policies WE1. The application site adjoining Chalcroft Business Park is covered by Policy WE2, which is reproduced below.

Policy WE2, Land adjoining the Chalcroft Business Park

1. A site of approximately 1.6 hectares between the Chalcroft Business Park and Burnetts Lane is allocated for approximately 6,400 sqm of employment development in use classes B8 and E(g)(ii)/(iii) provided that:

- a. a new road is built as shown on the policies map to serve the Chalcroft Business Park and the new development west of Horton Heath;**
- b. the site is served by a shared access with the rest of the Chalcroft Business Park;**
- c. the use of the site does not adversely affect the residential amenities of adjoining dwellings within the Chalcroft Business Park, or opposite the site on Burnetts Lane;**

d. the development would have no unacceptable adverse impact on the adjoining Chalcroft Business Park Site of Importance for Nature Conservation or existing mature trees within and bordering the site; and

e. a substantial landscape screen is provided fronting Burnetts Lane to help screen the development from the dwellings on the opposite side of the lane.

2. In accordance with the sequential approach, major office development (use class E(g)(i)) (greater than 1,000 sq.m gross) will only be supported if there are no suitable, available or viable alternative sites available in either Eastleigh town centre, the wider Eastleigh urban renaissance quarter, at Eastleigh River Side, (Southampton Airport) or in district and local centres.

3. A site level Habitats Regulation Assessment is required to demonstrate how this site will be delivered without adverse effect on any European site.

2.18. In respect of transport, the principal items are 1a and 1b. The new road referred to in 1a is the section of the West Horton Link Road between the B3342 Bubb Lane / Tollbar Way and Burnetts Lane, which opened in 2022, and named Chalcroft Way.

2.19. Strategic Policy S12 covers footpaths, cycleways and bridleways, routes which the borough council in partnership with the highway authority will seek to create or improve. Route (e) is the Eastleigh to Hedge End route which run parallel with the railway line and which routes adjacent to the site and Chalcroft Business Park.

2.20. Other relevant policies include Policy DM13: General development criteria – transport and Policy DM14: Parking.

Eastleigh Borough Council Parking Standards SPD – Draft for Consultation – July 2023

2.21. The SPD has been prepared to support the provision of parking for cycles and cars in new development, and is out for consultation until 18 September 2023. Once adopted, it will replace the SPD published in 2009, which only covered residential parking. There is currently no standards for non-residential parking following Hampshire County Council's withdrawal of parking standards in 2014.

3. EXISTING CONDITIONS

Existing Site Information

- 3.1. The site is allocated in the Eastleigh Borough Local Plan (2016-2036) under policy WE2, and located to the southeast of Chalcroft Business Park. The site is currently pasture land surrounded by hedgerows and interspersed with trees.

Local Highway Network

- 3.2. **Figure 3.1** below shows the surrounding local highway network which has recently been improved as part of the consented development at Horton Heath.



Figure 3.1: Local Highway Network

Chalcroft Business Park Access Road

- 3.3. Chalcroft Business Park is accessed from the Burnetts Lane roundabout, as provided as part of the Horton Heath strategic developments. The access road is subject to a 20mph speed limit, street lit, with a carriageway width of 6m and a 2m footway on the northern side of the carriageway, as shown in **Photograph 2.1**.



Photograph 2.1: Chalcroft Business Park access road, looking east

Chalcroft Way

- 3.4. Chalcroft Way is the first section of the link road to be provided by the Horton Heath strategic developments, routing between Bubb Lane and Burnetts Lane.
- 3.5. The road is street lit and subject to a 40mph speed limit, with a 7.0m wide carriageway and a 3m wide shared use foot/cycleway on the eastern side of the carriageway.
- 3.6. It connects with Burnetts Lane, the Horton Heath Link Road and Chalcroft Business Park in the north at a 4-arm roundabout, and with Bubb Lane to the south at a 3-arm roundabout. Crossings for pedestrians and cyclists are provided at dropped kerbs crossings at splitter islands on all arms of each roundabout.

Horton Heath Link Road

- 3.7. Horton Heath link road will connect Burnetts Lane roundabout with Allington Lane and Hammerley Road in the north. The short contracted section of link road has a carriageway width of 6.75m, with a 3m shared foot/cycleway on the eastern side and 2m footway on the western side. It is subject to a 30mph speed limit, is street lit, and is also subject to a 7.5T weight limit.

Burnetts Lane

- 3.8. Burnetts Lane routes from the Botley Road signalised junction in the north to the Bubb Lane / Moorgreen Road priority junction in the south. It is subject to a 30mph speed limit through Horton Heath changing to 40mph to the south of Horton Heath past Chalcroft Business Park.
- 3.9. The character of Burnetts Lane changes south of Horton Heath, becoming more rural in character. In the vicinity of Chalcroft Business Park the newly constructed section of carriageway north of the Burnetts Lane roundabout is of approximate width 6.5 metres, with a short section of footway to the south and a 3m shared foot/cycleway along the old carriageway alignment. North of the Burnetts Lane roundabout, Burnetts Lane is also subject to a 7.5T weight limit. There is no footway on Burnetts Lane north of the Chalcroft Business Park until beyond the 30mph speed limit entering Horton Heath.
- 3.10. The southern section of Burnetts Lane only connects with the roundabout by means of a shared 3m foot/cycleway, with the old Chalcroft Business Park access forming a turning head. There is a footway on the eastern side of the carriageway from the business park access, continuing south past residential properties and terminating to the north of the railway bridge.

- 3.11. To the south of Chalcroft Business Park, Burnett Lane narrows to single way working across a bridge over the railway. The priority is for northbound movements, with signing for southbound movements to “give way to oncoming vehicles”.

Bubb Lane

- 3.12. Bubb Lane connects Burnetts Lane/Moorgreen Road in the southwest with the B3342 Bubb Lane/Tollbar Way to the northeast. It has a carriageway width of approximately 5.5m, with narrow verges/hedgerows to each side, and no footways. The national 60mph speed limit applies until the approach to the junction with the B3342, where it reduces to 40mph; street lighting is provided at the junction.

Moorgreen Road

- 3.13. Moorgreen Road runs northeast-southwest between the junction of Bubb Lane / Burnetts Lane and the B3035 in West End, via a bridge over the M27. It is subject to the national speed limit at the junction with Burnetts lane / Bubb Lane, reducing to 30mph within Moorgreen. Moorgreen Road is subject to a 7.5 tonne weight restriction, except for loading, for the entirety of its length.

B3342 Bubb Lane / Tollbar Way

- 3.14. The B3342 Bubb Lane/Tollbar Way follows a north east-south west alignment between the B3354 Winchester Road to the north running along the western side of Hedge End down towards M27 Junction 7, providing the main road connection into the commercial / retail areas of Hedge End.

Blind Lane

- 3.15. Blind Lane is a narrow rural lane routing between Burnetts Lane and the B3354 Botley Road, mid-way between Chalcroft Business Park and Horton Heath. It provides access to a small number of residential properties and has a carriageway width of approximately 3.0-3.5m, with narrow verges to each side.

Existing Traffic Data

- 3.16. Traffic surveys have been carried on the surrounding highway network to establish existing traffic flows as follows:
- Automatic Traffic Counts (ATCs) at Chalcroft Business Park covering a full 7-day period of 13-19 July 2023.
 - Manual classified turning counts at Burnetts Lane and Bubb Lane roundabouts covering the weekday AM peak (07:00-10:00) and PM peak (15:30-18:30) time periods undertaken on Wednesday 19 July 2023.
- 3.17. A summary of the results of the ATC survey is provided in **Table 3.1** below with an output provided at **Appendix B**.

Table 3.1: ATC Summary – Chalcroft Business Park

	Eastbound	Westbound
08:00-09:00 AM Peak Hour Weekday Traffic Flow	31	57
16:00-17:00 PM Peak Hour Weekday Traffic Flow	89	20
24 Hour AADT Traffic Flow	420	419
18 Hour AAWT Traffic Flow	507	469
Mean Traffic Speed (mph)	27.0	26.7
85%ile Traffic Speed (mph)	32.6	31.7

- 3.18. The actual peak hours across the surveyed network were 07:30-08:30 and 16:30-17:30, which are the periods of traffic data that have been summarised as part of the spreadsheet model set out in Section 5. The full turning count data is available to the highway authority upon request.
- 3.19. **Table 3.2** sets out a comparison between the average weekday recorded by the ATC and the turning count data from Wednesday 19 July for Chalcroft Business Park.

Table 3.2: ATC and Turning Count Comparison – Chalcroft Business Park

	ATC Average Weekday		Turning Count Wednesday 19 July	
	Departures	Arrivals	Departures	Arrivals
07:00-08:00 AM Peak Hour	24	60	20	61
08:00-09:00 AM Peak Hour	31	57	32	49
16:00-17:00 PM Peak Hour	89	20	94	15
17:00-18:00 PM Peak Hour	53	23	45	20

Note: Average weekday covers 13-14 and 17-19 July 2023

- 3.20. It can be seen that traffic data is comparable with the average weekday, with flows a small percentage difference, typical of every day variances. It is therefore considered that the traffic data is representative.

Safety Considerations and Collision Analysis

- 3.21. Information on personal injury collisions was requested from Hampshire Police for Chalcroft Way, the Bubb Lane and Burnetts Lane roundabout and associated approaches for the most recently available five year period between 1 March 2018 and 28 February 2023. The data provided by Hampshire Police also included the B3342 Tollbar Way/Bubb Lane priority junction.
- 3.22. A plan showing the location of the collisions and the stats19 incident reports summarising the accident data is reproduced at **Appendix C**.
- 3.23. In total there were five personal injury road traffic collisions in the study period and study area. All five collisions occurred on the B3342 Tollbar Way/Bubb Lane priority junction, and all were classified as resulting in slight injuries.
- 3.24. Three of the collisions involved motor vehicles, one involved a motorcyclist and one involved a pedal cyclist. There were no recorded collisions involving pedestrians.
- 3.25. **Table 3.3** shows a summary of the casualties' resultant from these collisions.

Table 3.3: Collisions classified by the casualties involved

Casualties involved:	No. of collisions
Vehicle driver	3
Passenger	0
Motorcycle rider	1
Cyclist	1
Pedestrian	0
Other	0
Total	5

- 3.26. All five collisions occurred with traffic turning into or out of the junction. Causation factors in four of the collisions were drivers failing to look properly or give way, with the other collision due to the driver being distracted.
- 3.27. The collision involving the cyclist occurred when the cyclist turned right onto Tollbar Way stops in the filter lane waiting to join the correct lane. The car travelling behind the cyclist on Bubb Lane also pulls out onto Tollbar Way colliding into the rear of the cyclist.
- 3.28. The collision involving the motorcyclist occurred when a car turned right across their path.
- 3.29. Therefore, while there is a small cluster of accidents at the B3342 Tollbar Way/Bubb Lane priority junction, it is concluded that there is no evidence that suggests any particular road safety issues that the proposed development could potentially exacerbate.

Local Facilities

- 3.30. Chalcroft Café & Takeaway is located at Unit 13A at Chalcroft Business Park, within approximately 300m of the site.
- 3.31. In addition, the new Horton Heath development will provide a local centre and amenities within walking distance of the site. The exact location is unknown, though will be within 1.5-2.0km of the site.
- 3.32. This will help reduce car travel off the site during the working day.

Walking/Cycling

Chalcroft Way

- 3.33. A 3m wide shared use foot/cycleway is provided on the eastern side of the carriageway, which will connect with a 3m wide shared foot/cycleway on the eastern side of the Horton Heath link road.
- 3.34. Crossings for pedestrians and cyclists are provided as dropped kerbs crossings at splitter islands on all arms of both the Burnetts Land and Bubb Lane roundabouts.

Burnetts Lane

- 3.35. In the vicinity of the site the only footway provision is on the eastern side of the carriageway from the business park access, continuing south and terminating to the north of the railway bridge. The southern section of Burnetts Lane connects with the roundabout by means of a shared 3m foot/cycleway.

Bubb Lane

- 3.36. There are 3m shared use footway/cycleway facilities on Bubb Lane in the vicinity of the crematorium at the Bubb Lane junction with the B3342 Bubb Lane/Tollbar Way. From this point west there are then no formal facilities for pedestrians or cyclists on Bubb Lane up to the junction with Burnetts Lane.
- 3.37. People cycling northeast on Bubb Lane are required to return to the carriageway north of the shared foot/cycleway.

Moorgreen Road

- 3.38. To the south of the Burnetts Lane junction, there are no formal facilities for pedestrians or cyclists on Moorgreen Road for approximately 125m. From this point, a footway is provided on the northern side of the carriageway along Moorgreen Road toward West End.

B3342 Bubb Lane / Tollbar Way

- 3.39. A shared use footway/cycleway of varying width is provided along the south eastern side of the B3342 Bubb Lane. This continues along the eastern side of the road where the B3342 Bubb Lane becomes the B3342 Tollbar Way. This facility then connects to a series of other shared use footway/cycleway facilities within Hedge End.

Walking and Cycling Improvements

- 3.40. Improvements to be provided by 'Land West of Horton Heath and Chalcroft Farm' and 'Land to the North West of Horton Heath' are summarised below.
- 3.41. North of Chalcroft Business Park, a footway/cycleway will be provided within a linear park behind the existing hedgerow on Burnetts Lane, with a short section of footway to link this path with the existing footway provision to the south of Barley Fields on the southern edge of Horton Heath.
- 3.42. The Section 106 legal agreement for application F/18/83945 at Chalcroft Business Park, dated 12 March 2020 included a cycleway financial contribution of £100,000 for a foot/cycleway link from Eastleigh to Hedge End in line with Policy S13 of the draft Eastleigh Local Plan (policy S12 of the adopted Local Plan).

Public Rights of Way

- 3.43. There is also a network of public footpaths off site which provide connections in Horton Heath and West End. These include:
- Footpath 3 – North of Chalcroft Business Park between Burnetts Lane and Allington Lane
 - Footpath 4 – South of the railway line between Moorgreen Road and Allington Lane
 - Footpath 8 – Between Burnetts Lane and the B3342 Tollbar Way
 - Footpath 13 – South of the railway bridge on Burnetts Lane to Bubb Lane
- 3.44. The Hampshire County Council Public Rights of Way Plan is reproduced at **Appendix D**.

Public Transport

Bus Services

- 3.45. A bus stop is located on Burnetts Lane, opposite the access road to Chalcroft Business Park. The bus stop is served by bus service 49 which routes between Hedge End and Bishops Waltham. This service began in April 2023, replacing the previous X9 and X10 services. Services are provided on a weekday, with a single service towards Hedge End stopping at 11:42, and two services towards Bishops Waltham, stopping at 13:44 and 16:19.
- 3.46. Further bus services will be accessible through the development of the remainder of the new link road for the two Horton Heath developments.

Rail Services

- 3.47. Hedge End Railway Station is located to the south east of Chalcroft Business Park within 2km walking/cycling distance of the site. The station serves trains operated by GWR and South Western Railway. Hedge End Railway Station benefits from 26 sheltered cycle parking spaces provided through Sheffield Stands and 5 cycle lockers.
- 3.48. Hourly train services are provided from Hedge End direct to London Waterloo and half-hourly services to Portsmouth Harbour. Approximate rail journey travel times from Hedge End Station to key destinations are as follows:
- London Waterloo - 90 minutes
 - Portsmouth Harbour – 45 minutes

Breeze App

- 3.49. Launched in 2022, a new Mobility-as-a-Service (MaaS) platform called Breeze connects public transport and shared mobility services across the Solent Region in one app. The app features route planning (for a combination of modes of travel), ticketing and vehicle hire to transform how residents and visitors travel around the Solent region. The Breeze for Business website address is <https://breezeuk.app/breeze-for-business/#business-my-organisation>

4. PROPOSED DEVELOPMENT

- 4.1. The development proposal is an outline application for up to 4,130sqm of commercial floorspace (Use Classes E(g)(ii), (iii) and B8) to include farm shop (Use Class E(a)) of up to 327sqm, parking and yard areas (including accessible spaces), landscape buffers and acoustic mitigation. Formation of vehicular and pedestrian access to Estate road (access not a reserved matter). A potential development layout is reproduced in **Appendix A**.

Site Access

- 4.2. Access to Chalcroft Business Centre is proposed from a new priority junction from the existing access road for Chalcroft Business Park. A preliminary design of the site access is set out on drawing W638/01 Rev B, reproduced at **Appendix E**.
- 4.3. The access provides suitable geometry to accommodate an articulated HGV accessing from the east, and for a large refuse vehicle to turn west towards Chalcroft Business Park. Also proposed are an extension of the existing 3m shared foot/cycleway into the site from Burnetts Lane roundabout and a footway continuing into Chalcroft Business Park.
- 4.4. Visibility splays of 2.4x25m are shown to the west commensurate with MfS requirements for a 20mph speed limit within Chalcroft Business Park and 43m to the east in line with recorded 85%ile speeds, though in reality visibility will be able to be achieved to the roundabout exit and even onto the roundabout.
- 4.5. It is proposed to also connect to the existing shared pedestrian/cycleway between Burnetts Lane and Chalcroft Way (which subsequently connects to wider shared pedestrian/cycle routes) by means of widening the existing footway on the southern side of Burnetts Lane roundabout to a 3m shared pedestrian/cycleway, and then continuing this into the site.

Parking

- 4.6. There have been no adopted non-residential parking standards for Eastleigh Borough, since Hampshire withdrew their non-residential standards in 2014.
- 4.7. Eastleigh Borough Council have issued a new Parking Standards Supplementary Planning Document: Draft for Consultation in July 2023. Relevant standards are summarised below in **Table 4.1**.

Table 4.1: Draft Parking Standards

Use Class	Car Parking	Loading Area	Pool Cars and Service Vehicles	Long Stay Cycle Parking	Short Stay Cycle Parking
Class E High-tech/light industry	1 space per 45m ²	1 space	Site by site basis	1 space per 8 staff	1 space per 500m ²
B8 warehouse	1 space per 80m ²	1 space		1 space per 10 staff	1 space per 600m ²
Class E Food Retail	1 space per 14m ² covered areas	1 space		1 space per 6 staff	1 space per 200m ²

- 4.8. 20% of car spaces are required to have active charging provision, with a further 20% with passive provision. A minimum of 5% of spaces should be designated for use by disabled people. Parking spaces for powered two wheelers should be provided at a minimum of 5% of total car parking spaces with a minimum of 2 spaces provided per site.

- 4.9. These draft standards have been taken into consideration in the design of the potential development layout, reproduced at **Appendix A**. Long-stay cycle parking would be accommodated within each unit, with short-stay shown on the layout.
- 4.10. Appropriate car and cycle parking will be provided on site, in accordance with the relevant parking standards and typical demand, at the time of the Reserved Matters application(s).

Travel Plan

- 4.11. A Travel Plan has been prepared in conjunction with this Transport Assessment in accordance with the latest guidance, including the Planning Practice Guidance to the NPPF. The Travel Plan seeks to encourage travel by sustainable modes of transport rather than single occupancy car.

5. TRAFFIC MODELLING METHODOLOGY

Existing Trip Generation

- 5.1. The existing site is vacant land with no existing trip generation.

Proposed Trip Generation

Farm Shop

- 5.2. The trip generation for the previous Owton's Farm Shop at Chalcroft Farm was set out in the Transport Assessment produced by Mayer Brown for the previous Owton's application (Ref: F/18/83521). This is considered to provide accurate local site data for the proposed farm shop.
- 5.3. Information relating to the daily number of customers at the previous Owton's Farm Shop at Chalcroft Farm are summarised in **Table 5.1**.

Table 5.1: Average Number of Farm Shop Customers

Day of the Week	Average No. of Customers
Monday	50
Tuesday	65
Wednesday	65
Thursday	65
Friday	125
Saturday	200
Sunday	70

Note: Data for customers at previous Owton's Farm Shop at Chalcroft Farm

- 5.4. The busiest weekday can be seen to be Friday, for which the farm shop is open between 07:00 and 17:00 on a Friday, and it is expected that the proposed farm shop will operate the same opening hours as the existing farm shop. Movements to the existing farm shop during the AM and PM network peak hours are summarised in **Table 5.2**.

Table 5.2: Summary of Existing Farm Shop Traffic

Period	Arrivals	Departures	Two-Way
AM Peak 08:00-09:00	2	2	4
PM Peak 16:00-17:00	12	13	25
PM Peak 17:00-18:00	0	0	0

Note: Based on survey in September 2018 by Mayer Brown for previous Owton's application (Ref: F/18/83521)

- 5.5. The Owton's Farm Shop at Chalcroft Farm had a floor area of 115sqm and the proposed farm shop has a floor area of 327sqm. An uplift factor of 2.84 has been applied to the observed arrivals and departures at the existing farm shop. The resulting level of arrival and departures are detailed in **Table 5.3**.

Table 5.3: Summary of Proposed Farm Shop Trip Generation

Period	Arrivals	Departures	Two-Way
AM Peak 08:00-09:00	6	6	11
PM Peak 16:00-17:00	34	37	71
PM Peak 17:00-18:00	0	0	0

- 5.6. As there are no observed trips to or from the farm shop during the actual PM peak hour (17:00-18:00), the sensitivity test assesses the hour prior to the PM peak hour to provide a “worst case” assessment, whilst the actual recorded PM peak hour on the network is 16:30-17:30.

Commercial Units

- 5.7. Vehicular trip rates for the proposed commercial units have been obtained from an interrogation of the TRICS trip generation database for Industrial Estates within Great Britain, excluding Greater London. The site selection was adjusted to remove sites on the edge of town centres, and isolated sites, which is consistent with parameters used to establish proposed trip generation for previous work at Chalcroft Business Park. Sites with B2 land use and dominant amounts of B8 were also removed, as was an unrepresentatively large site (which also had abnormally low trip generation).
- 5.8. The TRICS output is reproduced at **Appendix F** and vehicular trip rates are summarised in **Table 5.4**.

Table 5.4: Vehicle Trip Rates for Proposed Commercial Units

Period	Arrivals	Departures	Two-Way
AM Peak 08:00-09:00	0.738	0.300	1.038
PM Peak 17:00-18:00	0.223	0.605	0.828

Note: Trip rates per 100m²

- 5.9. Vehicular trip generation has been estimated for the proposed 3,803sqm of commercial units, and is set out in **Table 5.5**.

Table 5.5: Vehicle Trip Generation for Proposed Commercial Units

Period	Arrivals	Departures	Two-Way
AM Peak 08:00-09:00	28	11	39
PM Peak 17:00-18:00	8	23	31

Note: Based on a floor area of 3,803sqm

Total Trip Generation

- 5.10. The total vehicle trip generation arising from the proposed development is set out in **Table 5.6**.

Table 5.6: Total Trip Generation

Period	Arrivals	Departures	Total Two-Way
AM Peak 08:00-09:00	34	17	51
PM Peak 17:00-18:00	43	60	103

Vehicular Trip Distribution and Assignment

- 5.11. Distribution of new trips associated with the proposed development has been carried out using existing turning movements, with 50% of trips to/from Burnetts Lane reassigned to use the North West Horton Heath Link Road.
- 5.12. Existing farm shop trips, which are included in the traffic counts have been reassigned at Burnetts Lane roundabout to take account of the relocation to Chalcroft Business Centre.

Assessment Scenarios

- 5.13. **Table 5.7** sets out the assessment scenarios for the weekday AM peak hour (07:30-08:30) and weekday PM peak hour (16:30-17:30) time periods. The peak hours were established from the

traffic counts, with development traffic applied for peak periods as set out in the above tables. The assessment year reflects the current year and five years from application registration.

Table 5.7: Assessment Scenarios

Scenarios	
1	2023 Base Year
2	2028 with Committed Development
3	2028 with Committed Development + Proposed Development

Traffic Growth

- 5.14. Background traffic has been factored to the assessment year using TEMPro growth factors. The growth factors are summarised in **Table 5.8**, and calculations reproduced at **Appendix G**.

Table 5.8: 2023-2028 AM and PM Peak Growth Factors

AM Peak	PM Peak
1.0404	1.0407

Committed Development

- 5.15. Committed development traffic, including traffic associated with the 'West of Horton Heath and Chalcroft Farm' development (Ref: O/14/75735), Boorley Gardens (Ref: O/15/75953), 'Land to the North West of Horton Heath' (Ref: O/16/79354), as well as development at Chalcroft Business Park identified have been included in addition to TEMPRO growth. Other committed developments included as part of North West Horton Heath in the i-Transport Transport Assessment dated October 2016 have since been built out and are therefore included in the base traffic flows, or do not impact on the junctions being assessed within this TA.

Spreadsheet Model

- 5.16. To assess the traffic impact of the proposed development on the local highway network a spreadsheet traffic model has been produced. Traffic flows from the spreadsheet model has been input into junction capacity assessments of key junctions for each of the assessment scenarios for the weekday AM and PM peak hours.
- 5.17. The individual worksheets within the spreadsheet model are detailed in **Table 5.9** below, with the spreadsheet model provided at **Appendices H and I** for the AM and PM peaks respectively.

Table 5.9: Spreadsheet Traffic Model Worksheets

Sheet Ref:		Description
AM Peak	PM Peak	
A1	P1	2023 Base Year (Scenario 1)
A2	P2	2028 with TEMPro Growth
A3	P3	Total Committed Development Traffic
A4	P4	2028 Forecast Year with Committed Development (Scenario 2)
A5	P5	Proposed Development Traffic Distribution
A6	P6	Proposed Development Traffic (Farm Shop & Commercial Units)
A7	P7	2028 Forecast Year with Proposed Development (Scenario 3)

6. IMPACT ON THE LOCAL TRANSPORT NETWORK

Introduction

- 6.1. This section examines the impact of traffic generated by the proposed development at Chalcroft Business Centre on the surrounding road network using traffic flows derived from the spreadsheet model for each of the assessment scenarios.
- 6.2. The following junctions have been assessed for capacity:
- Burnetts Lane/Chalcroft Way/Link Road/Chalcroft Business Park Roundabout
 - Bubb Lane/ Chalcroft Way Roundabout

Assessment Methodology

- 6.3. The TRL modelling program JUNCTIONS 10 was used to assess the operational performance and capacity of each of the assessed junctions using geometrical data and traffic demand flows.
- 6.4. A summary of the operational performance of the junctions assessed is given below, identifying for all approaches a maximum queue (in vehicles), maximum delay (in seconds per vehicle) and maximum ratio of flow to capacity (RFC). Values of 0.85 RFC typically indicate the practical capacity, above which congestion is likely to begin to occur; with values of 1.00 equating to the theoretical capacity above which congestion is forecast to occur regularly.

Burnetts Lane/Chalcroft Way/Link Road/Chalcroft Business Park Roundabout

- 6.5. **Tables 6.1 and 6.2** set out the JUNCTIONS 10 results for the 2023 base year during the weekday AM and PM peaks hours for the Burnetts Lane Roundabout.

Table 6.1: 2023 Base Year AM Peak Hour Results (Scenario 1)

Arm	Queue (veh)	Delay (sec/veh)	RFC
Burnetts Lane (N)	0.1	2.65	0.10
Chalcroft Way	0.1	2.44	0.10
Chalcroft Business Park	0.0	3.14	0.02
Link Road North	0.0	0.00	0.00

Table 6.2: 2023 Base Year PM Peak Hour Results (Scenario 1)

Arm	Queue (veh)	Delay (sec/veh)	RFC
Burnetts Lane	0.1	2.53	0.06
Chalcroft Way	0.1	3.26	0.12
Chalcroft Business Park	0.1	2.73	0.06
Link Road North	0.0	0.00	0.00

- 6.6. **Tables 6.3 and 6.4** set out the JUNCTIONS 10 results for the Burnetts Lane Roundabout for 2028 without and with development during both the AM and PM peak hours respectively.

Table 6.3: 2028 Assessment Year AM Peak Hour Results (Scenario 2 & 3)

Arm	Queue (veh)		Delay (sec/veh)		RFC	
	No Dev	With Dev	No Dev	With Dev	No Dev	With Dev
Burnetts Lane	0.2	0.2	3.41	3.46	0.17	0.17
Chalcroft Way	0.5	0.5	3.32	3.44	0.33	0.35
Chalcroft Business Park	0.1	0.1	3.46	3.41	0.05	0.07
Link Road North	0.4	0.4	3.17	3.22	0.27	0.28

Table 6.4: 2028 Assessment Year PM Peak Hour Results (Scenario 2 & 3)

Arm	Queue (veh)		Delay (sec/veh)		RFC	
	No Dev	With Dev	No Dev	With Dev	No Dev	With Dev
Burnetts Lane	0.1	0.1	2.97	3.05	0.10	0.11
Chalcroft Way	0.5	0.5	3.26	3.38	0.32	0.34
Chalcroft Business Park	0.1	0.2	3.27	3.43	0.10	0.15
Link Road North	0.2	0.2	2.91	3.00	0.16	0.17

- 6.7. The results show that the roundabout will operate well within capacity in 2028 with the development in place. The proposed development at Chalcroft Business Park will have very little effect on queues, delays and maximum RFC at the Burnetts Lane roundabout. The JUNCTIONS 10 output is reproduced in **Appendix I**.

Bubb Lane/ Chalcroft Way Roundabout

- 6.8. **Tables 6.5 and 6.6** set out the JUNCTIONS 10 results for each of the 2023 base year during the weekday AM and PM peaks hours for the Bubb Lane Roundabout.

Table 6.5: 2023 Base Year AM Peak Hour Results (Scenario 1)

Arm	Queue (veh)	Delay (sec/veh)	RFC
Bubb Lane (North)	1.0	4.45	0.51
Bubb Lane (South)	1.0	4.35	0.51
Chalcroft Way	0.2	3.89	0.15

Table 6.6: 2023 Base Year PM Peak Hour Results (Scenario 1)

Arm	Queue (veh)	Delay (sec/veh)	RFC
Bubb Lane (North)	0.8	3.84	0.45
Bubb Lane (South)	1.5	5.28	0.60
Chalcroft Way	0.2	4.26	0.14

- 6.9. **Tables 6.7 and 6.8** set out the JUNCTIONS 10 results for the Bubb Lane Roundabout for 2028 without and with development during both the AM and PM peak hours respectively.

Table 6.7: 2028 Assessment Year AM Peak Hour Results (Scenario 2 & 3)

Arm	Queue (veh)		Delay (sec/veh)		RFC	
	No Dev	With Dev	No Dev	With Dev	No Dev	With Dev
Bubb Lane (North)	3.7	3.9	12.33	12.97	0.79	0.80
Bubb Lane (South)	3.0	3.2	8.60	9.18	0.75	0.77
Chalcroft Way	1.4	1.5	8.28	8.75	0.59	0.60

Table 6.8: 2028 Assessment Year PM Peak Hour Results (Scenario 2 & 3)

Arm	Queue (veh)		Delay (sec/veh)		RFC	
	No Dev	With Dev	No Dev	With Dev	No Dev	With Dev
Bubb Lane (North)	1.5	1.4	6.18	5.76	0.60	0.59
Bubb Lane (South)	7.1	8.4	17.74	20.61	0.89	0.90
Chalcroft Way	0.9	1.0	7.40	7.90	0.46	0.50

- 6.10. The results show that the roundabout would operate within capacity for all scenarios during the AM peak hour, but just over practical capacity, though within theoretic capacity in the PM peak hour on Bubb Lane (South) for both scenarios in 2028.
- 6.11. The proposed development does not have a material impact on the operation of the existing junction with an increase in queuing of 1 vehicle, which cannot be considered 'severe'. The JUNCTIONS 10 output is reproduced in **Appendix J**.

Summary and Mitigation

- 6.12. Traffic associated with the proposed development at Chalcroft Business Centre will have a negligible effect on the operation of the new Burnetts Lane and Bubb Lane roundabouts.
- 6.13. The overall level of impact is not considered severe, and therefore in line with paragraph 111 of the NPPF should not be prevented or refused on highway grounds.
- 6.14. As part of pre-application discussions Eastleigh Borough Council requested a financial contribution towards the Hedge End to Eastleigh cycle route, in line with strategic Policy S12 of the Local Plan. The applicant is content to make an appropriate proportional contribution to this cycle provision.

7. CONSTRUCTION TRAFFIC

Construction Traffic

- 7.1. The proposed redevelopment at Chalcroft Business Centre will give rise to deliveries of materials and products that will be transported by heavy goods vehicles. Construction traffic is temporary and will have a relatively short-term effect on the adjacent highway network.
- 7.2. In addition, there will be construction employees on site, the number varying according to construction activity. Many construction companies transport their employees in work vans or minibuses and, the estimated vehicle generation is unlikely to exceed that predicted to be associated with the completed development.

Construction Plant

- 7.3. As well as vehicular traffic, construction plant will be operating on-site. Such construction plant will give rise to environmental effects such as increased noise, vibration, dust and air pollution.

Mitigation

- 7.4. Construction impacts would be managed through a Construction Environmental Management Plan or similar document, the measures of which would be intended to protect the environment, amenity and safety of local residents, businesses, the general public and the surroundings in the vicinity of the proposed development.
- 7.5. Potential impacts of construction traffic include noise, vehicle exhaust emissions, dust, and mud and debris on roads, as well as possible road safety issues. Mitigation of these impacts would be achieved through strict adherence to the proposed construction routes and permitted hours of working, as well as by controls under health and safety legislation and good construction site practices.

8. SUMMARY AND CONCLUSIONS

- 8.1. This Transport Assessment (TA) has been prepared by PFA Consulting on behalf of FIP West End Ltd to support an outline planning application for development proposals on land to the southeast of Chalcroft Business Park, Burnetts Lane, West End, Southampton. The site is allocated in the Eastleigh Borough Local Plan (2016-2036) under policy WE2.
- 8.2. The development proposal is an outline application for up to 4,130sqm of commercial floorspace (Use Classes E(g)(ii), (iii) and B8) to include farm shop (Use Class E(a)) of up to 327sqm, parking and yard areas (including accessible spaces), landscape buffers and acoustic mitigation. Formation of vehicular and pedestrian access to Estate road (access not a reserved matter).
- 8.3. In recent years significant development has been approved west of Horton Heath, in the vicinity of Chalcroft Business Park. 'Land West of Horton Heath and Chalcroft Farm' (Ref: O/14/75735) has been approved for 950 dwellings, employment, education, retail and community uses, whilst 'Land to the North West of Horton Heath' (Ref: O/16/79354) has been approved for 450 dwellings. The specific benefit to Chalcroft Business Park is that a new link road connecting the B3342 Bubb Lane / Tollbar Way and Burnetts Lane has been provided. The link road continues north through the two Horton Heath development sites, and this section is under construction.
- 8.4. Access to Chalcroft Business Centre is proposed from a new priority junction from the existing access road for Chalcroft Business Park. It is proposed to also connect to the existing shared pedestrian/cycleway between Burnetts Lane and Chalcroft Way (which subsequently connects to wider shared pedestrian/cycle routes) by means of widening the existing footway on the southern side of Burnetts Lane roundabout to a 3m shared pedestrian/cycleway, and then continuing this into the site.
- 8.5. Appropriate car and cycle parking will be provided, in accordance with the relevant parking standards and typical demand, including at least 5% disabled parking at the time of the Reserved Matters application(s).
- 8.6. The consented Horton Heath developments will provide significant improvements for access by non-car modes of travel, enabling bus, walking and cycling to be feasible modes of travel to Chalcroft Business Park. A Travel Plan has been prepared in conjunction with this Transport Assessment to encourage travel by sustainable modes of transport rather than single occupancy car. The applicant will make an appropriate proportional financial contribution towards the Hedge End to Eastleigh cycle route, in line with strategic policy S12 of the Local Plan.
- 8.7. The following junctions have been assessed for capacity, assuming the completion of the full redevelopment:
 - Burnetts Lane/Link Road/Chalcroft Business Park Roundabout
 - Bubb Lane/ Link Road Roundabout
- 8.8. The results show that both roundabouts will operate within theoretical capacity in 2028 with the development in place. The proposed development does not have a material impact on the operation of the existing junction with an increase in queuing of 1 vehicle, which cannot be considered 'severe'.
- 8.9. The proposed redevelopment at Chalcroft Business Centre accords with national and local policy, in that safe and suitable access will be provided for all. Improvements planned in the local area will enhance opportunities for travel by sustainable modes. There is expected to be no unacceptable impact on highway safety, and no severe residual cumulative impact on the road network. There is therefore no reason in transport terms why the planning application for redevelopment at Chalcroft Business Park should not be permitted.



Notes

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Other than for the purposes of planning, do not scale these drawings. Use written dimensions only. All dimensions to be checked on site prior to commencement of work.

Ordnance Survey Data

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Site and plot boundaries are shown indicatively only and subject to confirmation.

Area Schedule

New business starter and move-on units:
Gross plot area: 1.8ha / 4.45ac
Gross External Area (building footprints): 4,130sqm. / 44,454sqft.
Site coverage / plot ratio: approximately 25%
Gross Internal Area (building footprints): 3,823sqm. / 41,150sqft.
Allowance for mezzanine offices circa 5% of GIA: 198sqm. / 2,131sqft. (excluding farm shop)
Building height (to haunch): 6-8m (excluding farm shop)
Use Class: E(a),(g)(ii), (iii) and B8
Car parking: 97 spaces (including 9no. accessible)

Detailed area breakdown by building: Gross Internal Areas
Farm Shop 327sqm. / 3,519sqft.
A 169sqm. / 1,819sqft.
B 362sqm. / 3,896sqft.
C 474sqm. / 5,102sqft.
D 913sqm. / 9,827sqft.
E 454sqm. / 4,886sqft.
F 723sqm. / 7,782sqft.
G 401sqm. / 4,316sqft.

Legend

- Approximate site area - 1.8ha
- Client ownership boundary
- Indicative acoustic fence
- Retained tree
- Root protection zone (RPZ)

Proposed Site

CBP - BSL - ZZ - XX - DR - A - 1501 - PL

October 2023

22093: Paddock Development

1:500 @ A1

Chalcroft Business Park

Drawn ER

Client: FIPWEL

Checked TB

Canute Chambers
Canute Road
Southampton
Hampshire
SO14 3AB

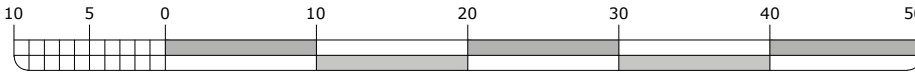
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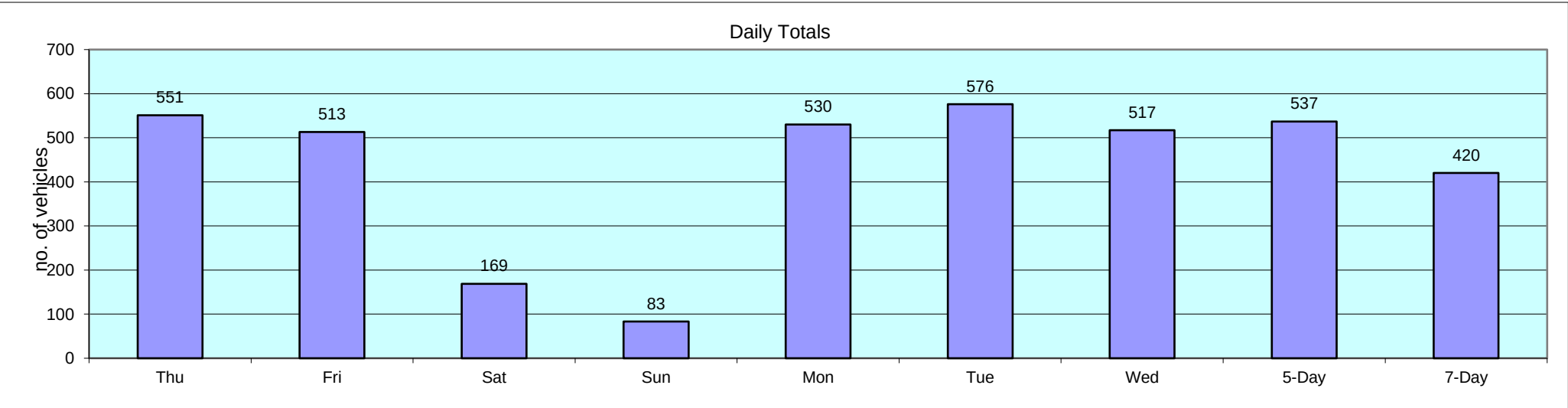
PLANNING



12563		SOUTHAMPTON								
JULY 2023					Posted Speed Limit (PSL)	Total Vehicles	5 Day Ave.	7 Day Ave.	Average 85%ile Speed	Average Mean Speed
Site	Location	Direction	Start Date	End Date						
Site No: 12563001	Chalcroft Business Park, Southampton 50.94162, -0.30704	Channel: Eastbound	Thu 13-Jul-23	Wed 19-Jul-23	20	2939	537	420	32.6	27.0
		Channel: Westbound	Thu 13-Jul-23	Wed 19-Jul-23		2931	535	419	31.7	26.7

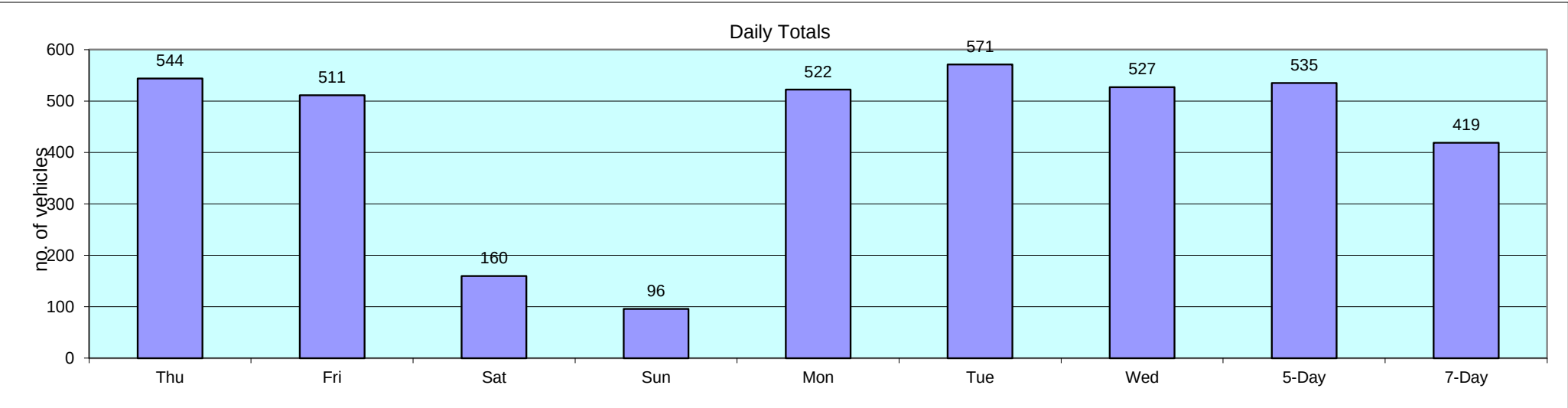
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	Channel: Eastbound								
	Thu	Fri	Sat	Sun	Mon	Tue	Wed	5-Day	7-Day
TIME PERIOD	13/07/2023	14/07/23	15/07/23	16/07/23	17/07/23	18/07/23	19/07/23	Av	Av
Week Begin: 13-Jul-23									
00:00	2	1	0	1	0	0	0	1	1
01:00	1	2	4	0	2	2	1	2	2
02:00	5	2	3	0	2	7	4	4	3
03:00	7	10	5	0	7	4	12	8	6
04:00	2	3	3	0	4	0	2	2	2
05:00	13	9	6	1	14	18	14	14	11
06:00	30	30	2	1	25	21	25	26	19
07:00	24	17	9	3	24	34	21	24	19
08:00	36	27	15	5	28	31	32	31	25
09:00	28	30	16	1	27	36	30	30	24
10:00	23	20	4	4	31	22	22	24	18
11:00	40	43	12	12	20	39	39	36	29
12:00	40	55	19	7	53	50	44	48	38
13:00	39	28	18	7	42	37	27	35	28
14:00	41	48	19	8	37	34	35	39	32
15:00	37	47	11	9	33	45	41	41	32
16:00	84	75	8	4	91	100	93	89	65
17:00	60	44	4	4	61	55	44	53	39
18:00	21	9	6	4	12	18	19	16	13
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22:00	3	1	1	0	1	2	1	2	1
23:00	2	1	1	0	3	2	0	2	1
12H,7-19	473	443	141	68	459	501	447	465	362
16H,6-22	516	484	146	81	497	541	483	504	393
18H,6-24	521	486	148	81	501	545	484	507	395
24H,0-24	551	513	169	83	530	576	517	537	420
Am	11:00	11:00	09:00	11:00	10:00	11:00	11:00		
Peak	40	43	16	12	31	39	39		
Pm	16:00	16:00	14:00	15:00	16:00	16:00	16:00		
Peak	84	75	19	9	91	100	93		

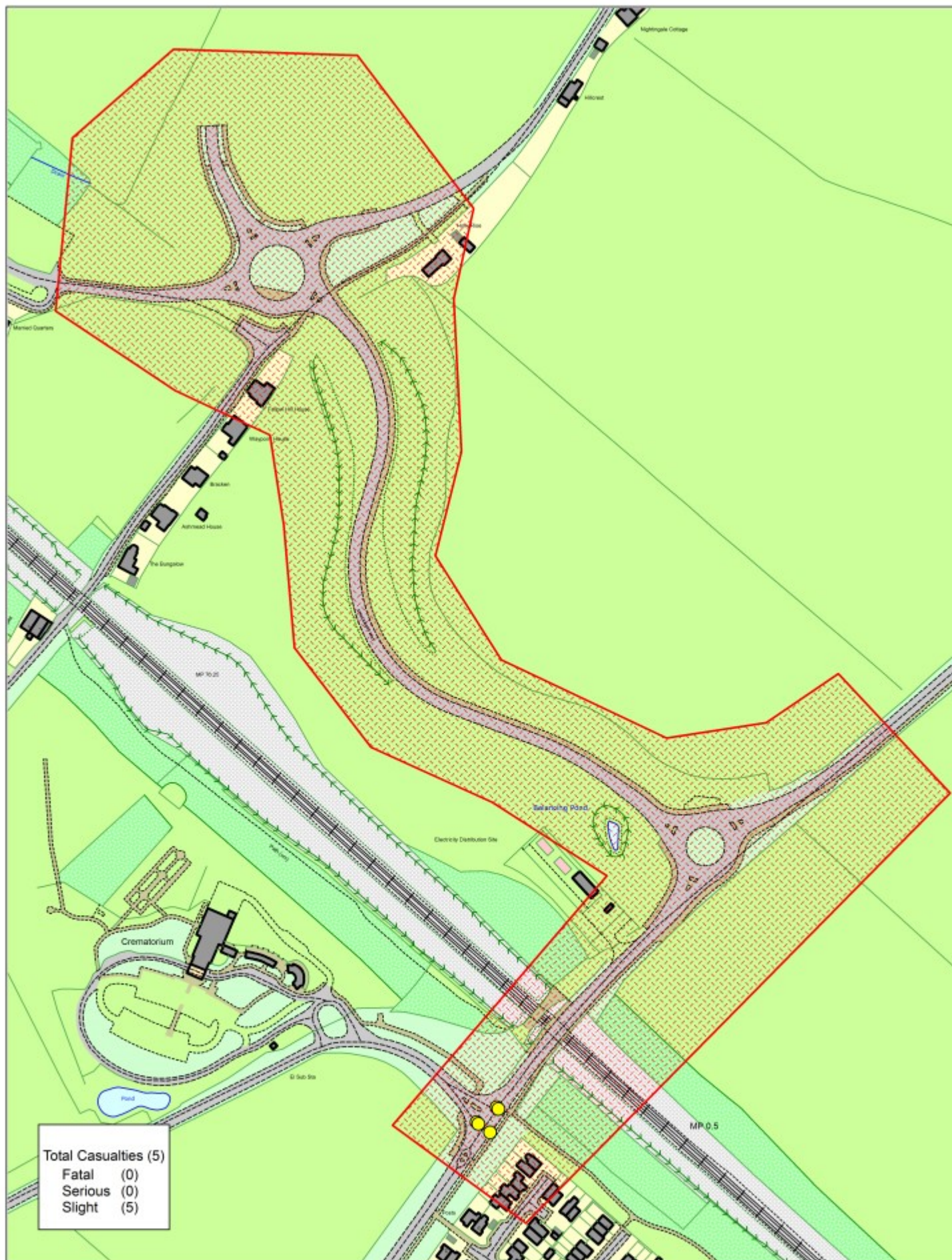
12563	SOUTHAMPTON		Site No: 12563001		Location	Chalcroft Business Park, Southampton			
			Channel: Eastbound						
	Thu	Fri	Sat	Sun	Mon	Tue	Wed	5-Day	7-Day
TIME PERIOD	13/07/2023	14/07/23	15/07/23	16/07/23	17/07/23	18/07/23	19/07/23	Av	Av



12563	SOUTHAMPTON		Site No: 12563001		Location		Chalcroft Business Park, Southampton		
			Channel: Westbound						
	Thu	Fri	Sat	Sun	Mon	Tue	Wed	5-Day	7-Day
TIME PERIOD	13/07/2023	14/07/23	15/07/23	16/07/23	17/07/23	18/07/23	19/07/23	Av	Av
Week Begin: 13-Jul-23									
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01:00	0	3	2	0	0	1	2	1	1
02:00	14	15	8	0	19	18	16	16	13
03:00	3	2	3	0	3	4	6	4	3
04:00	22	21	7	0	24	25	23	23	17
05:00	23	24	5	1	18	19	21	21	16
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11:00	27	31	14	12	26	32	20	27	23
12:00	25	35	23	8	25	28	32	29	25
13:00	35	34	15	6	47	32	40	38	30
14:00	37	49	17	7	31	32	28	35	29
15:00	35	34	8	10	32	58	49	42	32
16:00	22	15	2	2	19	28	15	20	15
17:00	25	24	3	12	22	23	20	23	18
18:00	11	3	3	6	7	9	9	8	7
19:00	7	4	0	6	8	9	10	8	6
20:00	2	3	1	3	4	5	4	4	3
21:00	5	1	1	1	2	4	1	3	2
22:00	1	0	0	0	2	1	1	1	1
23:00	1	1	1	1	1	4	0	1	1
12H,7-19	417	392	122	83	396	423	392	404	318
16H,6-22	479	443	133	93	454	498	457	466	365
18H,6-24	481	444	134	94	457	503	458	469	367
24H,0-24	544	511	160	96	522	571	527	535	419
Am	07:00	07:00	10:00	11:00	08:00	08:00	07:00		
Peak	70	56	15	12	63	64	57		
Pm	14:00	14:00	12:00	17:00	13:00	15:00	15:00		
Peak	37	49	23	12	47	58	49		

12563	SOUTHAMPTON				Site No: 12563001	Location	Chalcroft Business Park, Southampton		
Channel: Westbound									
	Thu	Fri	Sat	Sun	Mon	Tue	Wed	5-Day	7-Day
TIME PERIOD	13/07/2023	14/07/23	15/07/23	16/07/23	17/07/23	18/07/23	19/07/23	Av	Av





Chalcroft Business Park

SCALE	1 : 3000
DATE	08/09/2023
DRAWING No.	
DRAWN BY	

Accidents between dates 01/03/2018 and 28/02/2023 (60) months

Selection:

Notes:

Selected using Pre-defined Query : ; Refined using Accidents
within selected Polygons -HC - RPU Statistics Request ("AW
W638 CHALCROFT BUSINESS PARK BACS/SR/0823/129")

Selected Polygon:AW W638 CHALCROFT BUSINESS PARK BACS/SR/082

44180397832 22/10/2018 Time 1949 Vehicles 2 Casualties 1 Slight
E:448999 N: 115539 First Road: B 3342 Road Type Single carriageway
Speed limit: 40 Junction Detail: T & Stag Jct Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Dry
Darkness: street lighting unknown Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: Elsewhere DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:	Failed to look properly	Vehicle 2	Very Likely
2nd:			
3rd:			
4th:			
5th:			
6th:			

VEH1 (P/CYCLE) TRAV SE ALONG BUBB LANE TURNS RIGHT ONTO TOLLBAR WAY, BUT STOPS IN THE
FILTER LANE WAITING TO JOIN THE CORRECT LANE. VEH2 (CAR) TRAV BEHIND SE VEH1 ON BUBB LANE
ALSO PULLS OUT ONTO TOLLBAR WAY AND COLLIDES WITH THE REAR OF VEH1.

Occurred on B3342 TOLLBAR WAY AT JUNCTION WITH BUBB LANE, SOUTHAMPTON, HAMPSHIRE.

Vehicle Reference 1 Pedal Cycle Waiting to turn right
Vehicle movement from NW to SW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Back Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 64 Male
Not hit and run Breath test Not applicable
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 64 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Yes

Vehicle Reference 2 Car Turning right
Vehicle movement from NW to SW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 32 Female
Not hit and run Breath test Driver not contacted
Left hand drive: No

Accidents between dates 01/03/2018 and 28/02/2023 (60) months

Selection:

Notes:

Selected using Pre-defined Query : ; Refined using Accidents
within selected Polygons -HC - RPU Statistics Request ("AW
W638 CHALCROFT BUSINESS PARK BACS/SR/0823/129")

44210034176 29/01/2021 Time 0800 Vehicles 2 Casualties 1 Slight
E:449000 N: 115538 First Road: B 3342 Road Type Single carriageway
Speed limit: 40 Junction Detail: T & Stag Jct Give way or controlled Unclassified
Crossing: Control None Facilities: Central reservation Road surface Wet/Damp
Daylight Raining without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:	Disobeyed Give Way or Stop sign or markings	Vehicle 2	Very Likely
2nd:	Failed to judge other persons path or speed	Vehicle 2	Very Likely
3rd:			
4th:			
5th:			
6th:			

VEH2 (VAN) TRAVELLING SE ALONG BUBB LANE TURNED RIGHT ONTO B3342 TOLLBAR WAY INTO THE
PATH OF VEH1 (CAR) TRAVELLING SW ALONG B3342 TOLLBAR WAY. VEH2 HAS COLLIDED WITH THE
OFFSIDE OF VEH1.

Occurred on B3342 TOLLBAR WAY AT JUNCTION WITH BUBB LANE, HEDGE END, HAMPSHIRE.

Vehicle Reference 1 Car Going ahead other
Vehicle movement from NE to SE No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Offside Hit vehicle:
Hit object in road None Off road: None
O/S Age of Driver 29 Male
Not hit and run Breath test Not requested
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 29 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Vehicle Reference 2 Van or Goods 3.5 tonnes mgw and under Turning right
Vehicle movement from W to SW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 57 Female
Not hit and run Breath test Driver not contacted
Left hand drive: No

Accidents between dates 01/03/2018 and 28/02/2023 (60) months

Selection:

Notes:

Selected using Pre-defined Query : ; Refined using Accidents
within selected Polygons -HC - RPU Statistics Request ("AW
W638 CHALCROFT BUSINESS PARK BACS/SR/0823/129")

44210190865 17/05/2021 Time 1910 Vehicles 2 Casualties 1 Slight
E:448987 N: 115530 First Road: B 3342 Road Type Single carriageway
Speed limit: 40 Junction Detail: T & Stag Jct Give way or controlled Unclassified
Crossing: Control None Facilities: Central reservation Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation			
Factor:	Participant:	Confidence:	
1st: Failed to judge other persons path or speed	Vehicle 1	Very Likely	
2nd: Inexperience of driving on the left	Vehicle 1	Very Likely	
3rd:			
4th:			
5th:			
6th:			

VEH1 (CAR) TRAVELLING SW ALONG B3343 BUBB LANE TURNED RIGHT INTO BUBB LANE WITHOUT
GIVING WAY O VEH2 (CAR) TRAVELLING NE ALONG B3343 BUBB LANE / TOLLBAR WAY.

Occurred on B3342 BUBB LANE AT JUNCTION WITH BUBB LANE, HEDGE END, HAMPSHIRE.

Vehicle Reference 1 Car Turning right
Vehicle movement from NE to NW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Nearside Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 23 Male
Not hit and run Breath test Negative
Left hand drive: No

Vehicle Reference 2 Car Going ahead other
Vehicle movement from SW to NE No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 42 Female
Not hit and run Breath test Not applicable
Left hand drive: No

Casualty Reference: 1 Vehicle: 2 Age: 42 Female Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Accidents between dates 01/03/2018 and 28/02/2023 (60) months

Selection:

Notes:

Selected using Pre-defined Query : ; Refined using Accidents
within selected Polygons -HC - RPU Statistics Request ("AW
W638 CHALCROFT BUSINESS PARK BACS/SR/0823/129")

44210318297 10/08/2021 Time 2044 Vehicles 2 Casualties 1 Slight
E:448995 N: 115524 First Road: B 3342 Road Type Single carriageway
Speed limit: 60 Junction Detail: T & Stag Jct Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Dry
Darkness: street lighting unknown Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation			
Factor:	Participant:	Confidence:	
1st: Failed to look properly	Vehicle 001	Very Likely	
2nd: Failed to judge other persons path or speed	Vehicle 001	Very Likely	
3rd:			
4th:			
5th:			
6th:			

VEH 1 (CAR) TRAVELLING ON TOLLBAR WAY NE TO NW TURNS RIGHT INTO PATH OF VEH 2 (M/CYCLE)
TRAVELLING SW TO NE ON TOLLBAR WAY
Occurred on JUNCTION OF TOLLBAR WAY WITH BUBB LANE HEDGE END

Vehicle Reference 1 Car Turning right
Vehicle movement from NE to NW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Leaving main road First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 74 Male
Hit and run Breath test Negative
Left hand drive: No

Vehicle Reference 2 Motor Cycle over 50 cc and up to 125cc Going ahead other
Vehicle movement from SW to NE No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Did not impact Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 18 Male
Not hit and run Breath test Not requested
Left hand drive: No

Casualty Reference: 1 Vehicle: 2 Age: 18 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Accidents between dates 01/03/2018 and 28/02/2023 (60) months

Selection:

Selected using Pre-defined Query : ; Refined using Accidents
within selected Polygons -HC - RPU Statistics Request ("AW
W638 CHALCROFT BUSINESS PARK BACS/SR/0823/129")

Notes:

44220241232 17/06/2022 Time 1645 Vehicles 2 Casualties 1 Slight
E:448988 N: 115529 First Road: B 3342 Road Type Single carriageway
Speed limit: 40 Junction Detail: T & Stag Jct Give way or controlled Unclassified
Crossing: Control None Facilities: Central reservation Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:	Distraction in vehicle	Vehicle 1	Very Likely
2nd:	Dazzling sun	Vehicle 2	Very Likely
3rd:			
4th:			
5th:			
6th:			

VEH1 (PICK-UP TRUCK) TRAVELLING SW ALONG TOLLBAR WAY TRUNED RIGHT ONTO BUBB LANE INTO
THE PATH OF VEH2 (CAR) TRAVELLING NE ALONG TOLLBAR WAY CAUSING A COLLISION
Occurred on B3342 TOLLBAR WAY AT JUNCTION WITH BUBB LANE, HEDGE END, HAMPSHIRE

Vehicle Reference 1 Other Vehicle Turning right
Vehicle movement from NE to NW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Leaving main road First impact Nearside Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 52 Male
Not hit and run Breath test Negative
Left hand drive: No

Vehicle Reference 2 Car Going ahead other
Vehicle movement from SW to NE No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 25 Female
Not hit and run Breath test Negative
Left hand drive: No

Casualty Reference: 1 Vehicle: 2 Age: 25 Female Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Accidents between dates **01/03/2018 and 28/02/2023** (60) months

Selection:

Selected using Pre-defined Query : ; Refined using Accidents
 within selected Polygons -HC - RPU Statistics Request ("AW
 W638 CHALCROFT BUSINESS PARK BACS/SR/0823/129")

Notes:

Accidents involving:

	Fatal	Serious	Slight	Total
Motor vehicles only (excluding 2-wheels)	0	0	3	3
2-wheeled motor vehicles	0	0	1	1
Pedal cycles	0	0	1	1
Horses & other	0	0	0	0
Total	0	0	5	5

Casualties:

	Fatal	Serious	Slight	Total
Vehicle driver	0	0	3	3
Passenger	0	0	0	0
Motorcycle rider	0	0	1	1
Cyclist	0	0	1	1
Pedestrian	0	0	0	0
Other	0	0	0	0
Total	0	0	5	5

THE HAMPSHIRE COUNTY COUNCIL (s.57(3) WILDLIFE AND COUNTRYSIDE ACT 1981)
DEFINITIVE MAP OF PUBLIC RIGHTS OF WAY 2008

This sheet was reprinted on 31.12.2013 to take account of an order, or orders, confirmed after the publication of the 2008 definitive map.

Given this day of

The Common Seal of Hampshire County Council was hereunto affixed in the presence of:-

.....
Authorised Signatory

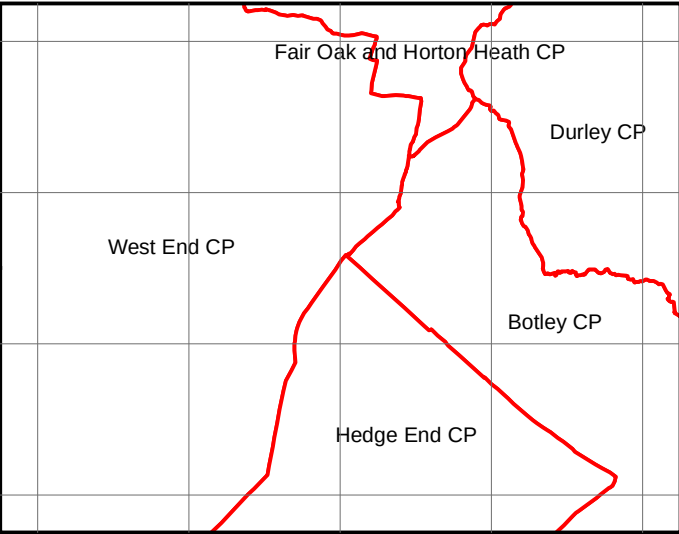
Map Scale 1:10,000

Legend

- Footpath 
- Bridleway 
- Restricted Byway 
- Byway Open to All Traffic 
- Parish Boundary 
- County Boundary 



Public Rights of Way are not shown over any areas shaded in grey on the map below, as these are outside the administrative boundary of Hampshire County Council

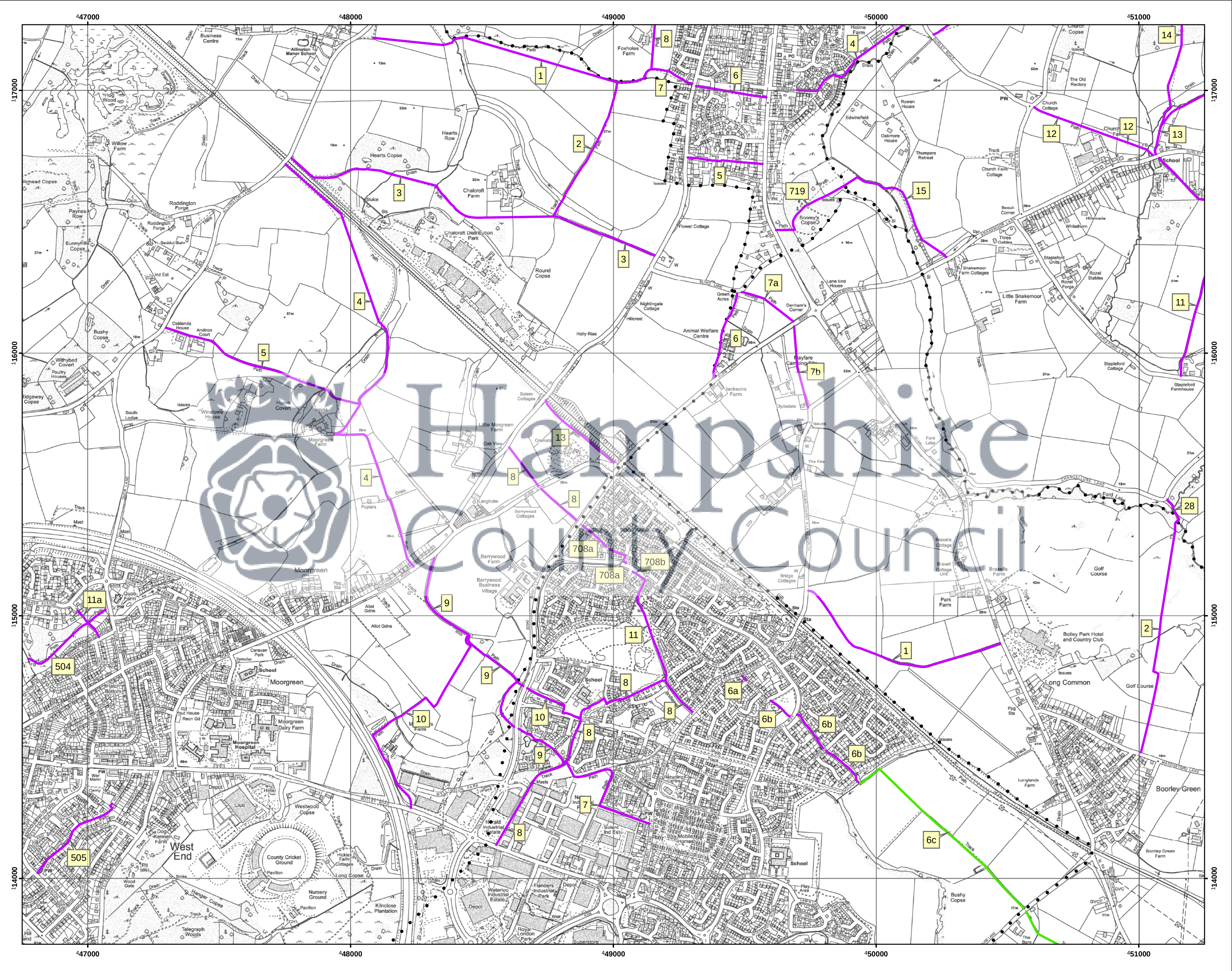


Index to adjoining maps

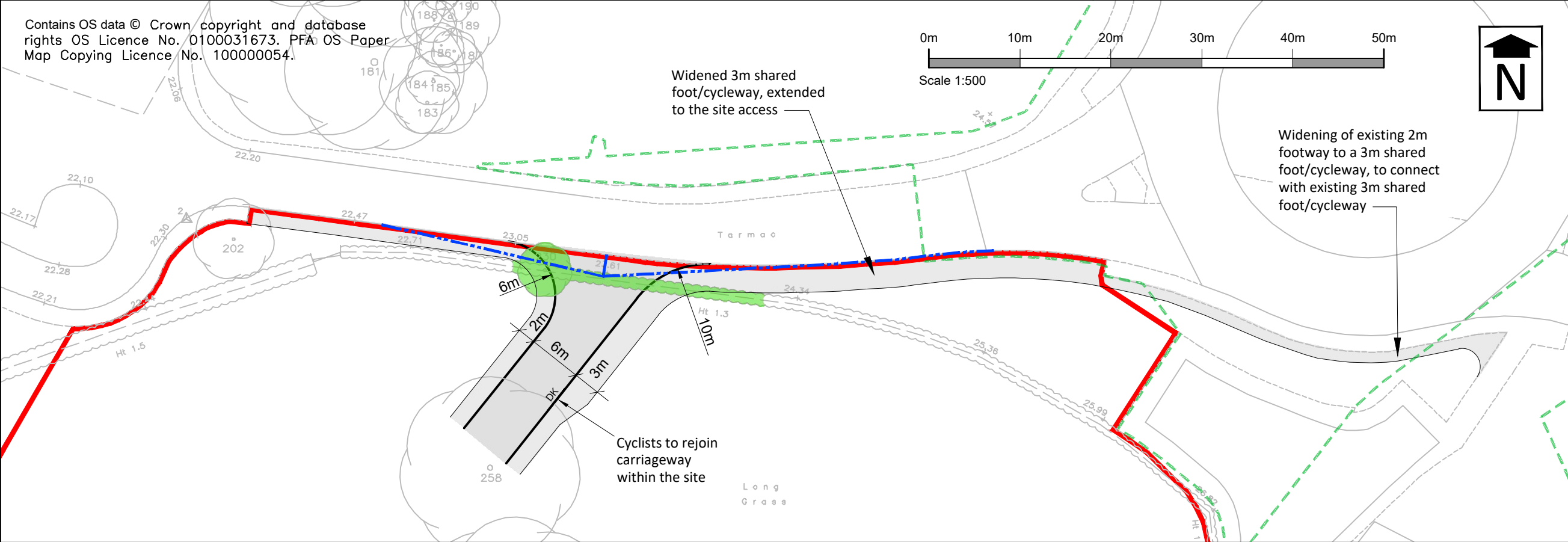
11.10	12.10	13.10
11.09	12.09	13.09
11.08	12.08	13.08

Map
Number

12.09



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Stratton Park House, Wanborough Road Swindon, SN3 4HG

Telephone

01793 828000

Website

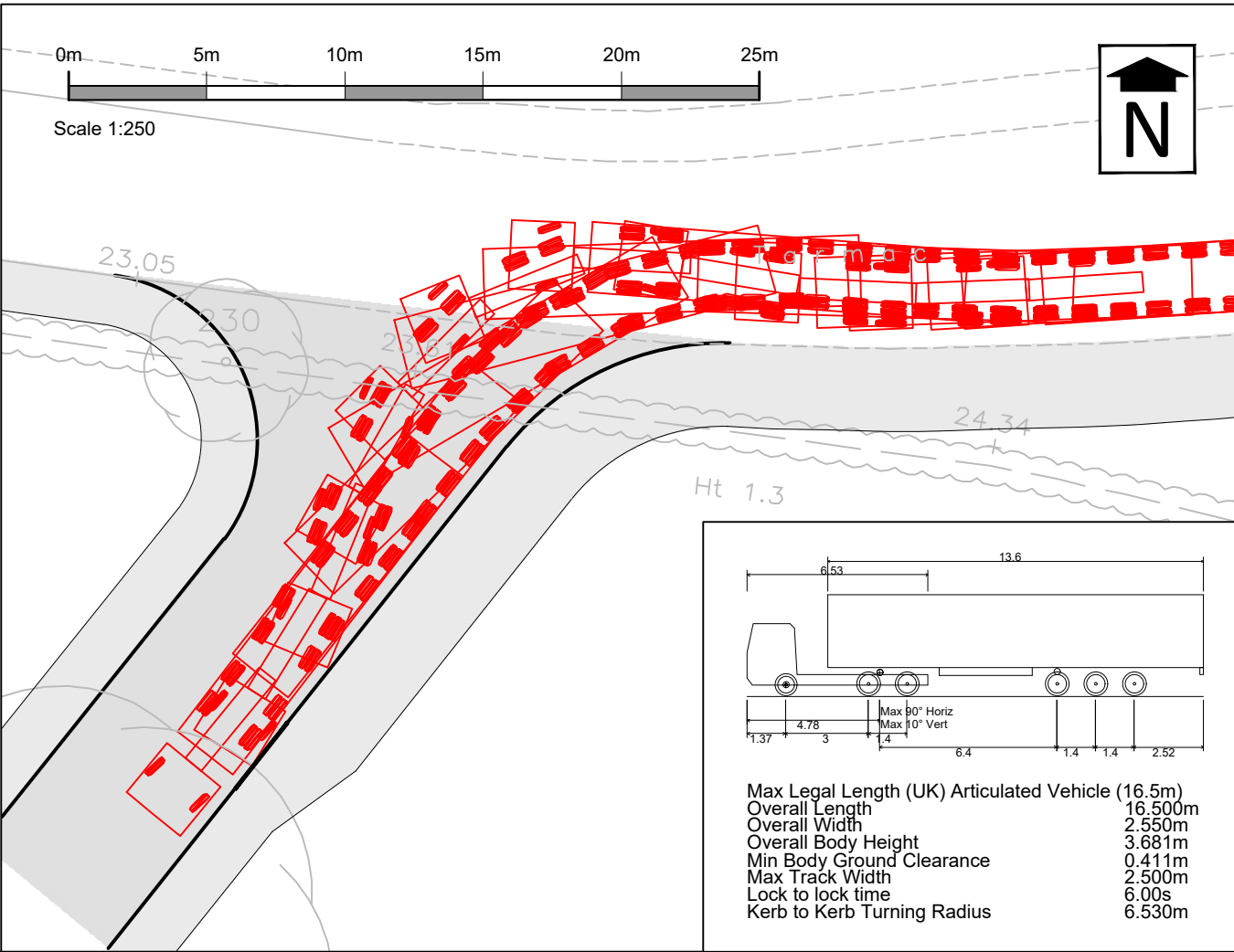
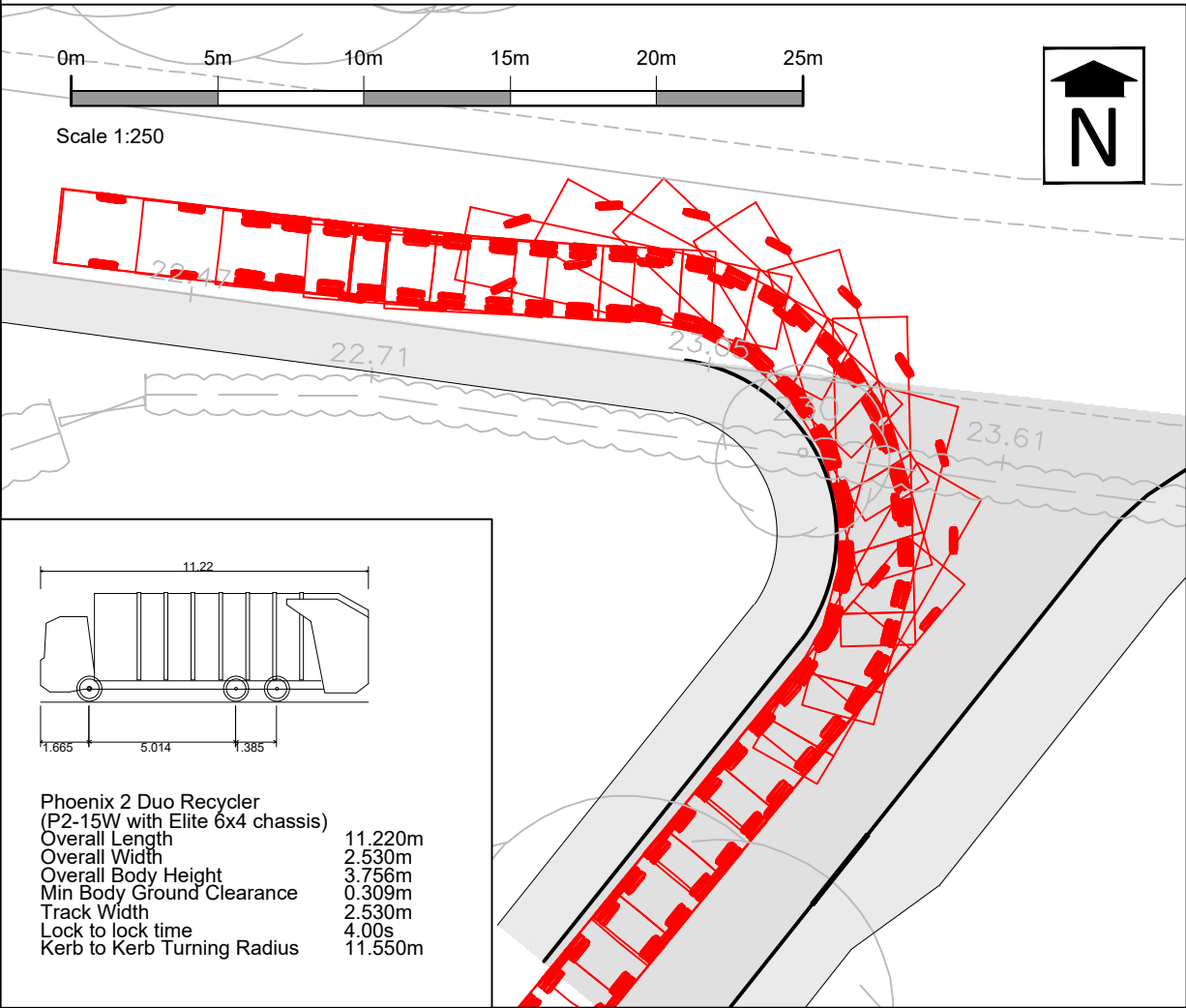
www.pfapl.com

NOTES

Plan based on survey produced by Laser Surveys July 2000, drawing no. T3914/1 and supplemented with OS mapping showing the more recently constructed Chalcroft Way roundabout

KEY

- Site boundary
- Section 38 Highways land subject to deed of dedication
- 20m of tree/hedge removal to provide access
- 2.4m visibility splay
- 25m West
- 43m (tangential) East



Rev	Date	Description	Drawn	Check
#	27/07/23	First Issue	TLH	PK
A	14/08/23	Shared footway cycleway included	TLH	PK
B	31/08/23	Extent of Section 38 land amended	TLH	PK

Status

FOR INFORMATION

Client

West End FIP

Project

Chalcroft Business Centre

Drawing Title

Preliminary Site Access

Drawing No. **W638/1** Rev B

Date: July 2023 Scale: As shown @ A3

E-Mail: thillier@pfapl.com

Calculation Reference: AUDIT-712101-230308-0301

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
Category : D - INDUSTRIAL ESTATE
MULTI-MODAL TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST	
	BH BRIGHTON & HOVE	1 days
	EX ESSEX	3 days
03	SOUTH WEST	
	SD SWINDON	1 days
04	EAST ANGLIA	
	PB PETERBOROUGH	1 days
06	WEST MIDLANDS	
	WK WARWICKSHIRE	1 days
	WM WEST MIDLANDS	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: Gross floor area
Actual Range: 1138 to 34630 (units: sqm)
Range Selected by User: 552 to 135845 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/14 to 18/05/22

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

Selected survey days:

Tuesday	3 days
Wednesday	1 days
Thursday	3 days
Friday	2 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	5
Residential Zone	2
No Sub Category	2

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

Inclusion of Servicing Vehicles Counts:

Secondary Filtering selection:

Use Class:

Not Known 9 days

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

Filter by Site Operations Breakdown:

General Industrial Maximum: 10%

Population within 500m Range:

All Surveys Included

Population within 1 mile:

10,001 to 15,000	3 days
15,001 to 20,000	1 days
20,001 to 25,000	2 days
25,001 to 50,000	2 days
50,001 to 100,000	1 days

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

Population within 5 miles:

75,001 to 100,000	1 days
125,001 to 250,000	5 days
250,001 to 500,000	3 days

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

Car ownership within 5 miles:

0.6 to 1.0	2 days
1.1 to 1.5	6 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:

No 9 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	BH-02-D-03 HUGHES ROAD BRIGHTON	INDUSTRIAL ESTATE	BRIGHTON & HOVE
	Suburban Area (PPS6 Out of Centre) Industrial Zone Total Gross floor area: 6625 sqm Survey date: THURSDAY 16/10/14 Survey Type: MANUAL		
2	EX-02-D-03 WYNCOLLS ROAD COLCHESTER SEVERALLS INDUSTRIAL PK Edge of Town Industrial Zone	INDUSTRIAL ESTATE	ESSEX
	Total Gross floor area: 4876 sqm Survey date: FRIDAY 18/05/18 Survey Type: MANUAL		
3	EX-02-D-04 PASTURE ROAD WITHAM	INDUSTRIAL ESTATE	ESSEX
	Edge of Town Industrial Zone Total Gross floor area: 37130 sqm Survey date: THURSDAY 10/05/18 Survey Type: MANUAL		
4	EX-02-D-05 HECKWORTH CLOSE COLCHESTER SEVERALLS INDUSTRIAL PK Edge of Town Industrial Zone	INDUSTRIAL ESTATE	ESSEX
	Total Gross floor area: 7280 sqm Survey date: FRIDAY 18/05/18 Survey Type: MANUAL		
5	PB-02-D-03 LINCOLN ROAD PETERBOROUGH	INDUSTRIAL ESTATE	PETERBOROUGH
	Suburban Area (PPS6 Out of Centre) No Sub Category Total Gross floor area: 4133 sqm Survey date: TUESDAY 02/12/14 Survey Type: MANUAL		
6	SD-02-D-01 HEADLANDS GROVE SWINDON	INDUSTRIAL ESTATE	SWINDON
	Suburban Area (PPS6 Out of Centre) Residential Zone Total Gross floor area: 10000 sqm Survey date: TUESDAY 20/09/16 Survey Type: MANUAL		
7	TW-02-D-10 ELEVENTH AVENUE GATESHEAD TEAM VALLEY Edge of Town No Sub Category	INDUSTRIAL ESTATE	TYNE & WEAR
	Total Gross floor area: 21500 sqm Survey date: WEDNESDAY 18/05/22 Survey Type: MANUAL		

LIST OF SITES relevant to selection parameters (Cont.)

8	WK-02-D-03 EASTBORO WAY NUNEATON Edge of Town Industrial Zone Total Gross floor area: 20860 sqm Survey date: THURSDAY 26/09/19	INDUSTRIAL ESTATE WARWICKSHIRE Survey Type: MANUAL
9	WM-02-D-03 JUNCTION ROAD STOURBRIDGE AUDNAM Suburban Area (PPS6 Out of Centre) Residential Zone Total Gross floor area: 1138 sqm Survey date: TUESDAY 28/11/17	INDUSTRIAL ESTATE WEST MIDLANDS 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
DV-02-D-07	All B2 use
SW-02-D-01	Too much B8
SW-02-D-02	All B8 use
WK-02-D-01	Site too large and not representative
WK-02-D-02	Too much B8
WY-02-D-07	Too much B8

TRIP RATE for Land Use 02 - EMPLOYMENT/D - INDUSTRIAL ESTATE
MULTI-MODAL TOTAL VEHICLES
 Calculation factor: 100 sqm
 BOLD print indicates peak (busiest) period
 Total People to Total Vehicles ratio (all time periods and directions): 1.44

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	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	2	17780	0.082	2	17780	0.028	2	17780	0.110
06:00 - 07:00	2	17780	0.163	2	17780	0.065	2	17780	0.228
07:00 - 08:00	9	11155	0.506	9	11155	0.130	9	11155	0.636
08:00 - 09:00	9	11155	0.738	9	11155	0.300	9	11155	1.038
09:00 - 10:00	9	11155	0.525	9	11155	0.426	9	11155	0.951
10:00 - 11:00	9	11155	0.494	9	11155	0.415	9	11155	0.909
11:00 - 12:00	9	11155	0.379	9	11155	0.428	9	11155	0.807
12:00 - 13:00	9	11155	0.435	9	11155	0.522	9	11155	0.957
13:00 - 14:00	9	11155	0.471	9	11155	0.442	9	11155	0.913
14:00 - 15:00	9	11155	0.361	9	11155	0.456	9	11155	0.817
15:00 - 16:00	9	11155	0.285	9	11155	0.368	9	11155	0.653
16:00 - 17:00	9	11155	0.340	9	11155	0.559	9	11155	0.899
17:00 - 18:00	9	11155	0.223	9	11155	0.605	9	11155	0.828
18:00 - 19:00	9	11155	0.136	9	11155	0.298	9	11155	0.434
19:00 - 20:00	2	17780	0.197	2	17780	0.194	2	17780	0.391
20:00 - 21:00	2	17780	0.048	2	17780	0.107	2	17780	0.155
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			5.383			5.343			10.726

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

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

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Parameter summary

Trip rate parameter range selected:	1138 - 34630 (units: sqm)
Survey date date range:	01/01/14 - 18/05/22
Number of weekdays (Monday-Friday):	9
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	-1
Surveys manually removed from selection:	6

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/D - INDUSTRIAL ESTATE
 MULTI-MODAL OGVS
 Calculation factor: 100 sqm
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	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	2	17780	0.017	2	17780	0.017	2	17780	0.034
06:00 - 07:00	2	17780	0.011	2	17780	0.022	2	17780	0.033
07:00 - 08:00	9	11155	0.011	9	11155	0.010	9	11155	0.021
08:00 - 09:00	9	11155	0.036	9	11155	0.025	9	11155	0.061
09:00 - 10:00	9	11155	0.042	9	11155	0.042	9	11155	0.084
10:00 - 11:00	9	11155	0.047	9	11155	0.042	9	11155	0.089
11:00 - 12:00	9	11155	0.041	9	11155	0.034	9	11155	0.075
12:00 - 13:00	9	11155	0.031	9	11155	0.039	9	11155	0.070
13:00 - 14:00	9	11155	0.033	9	11155	0.033	9	11155	0.066
14:00 - 15:00	9	11155	0.045	9	11155	0.032	9	11155	0.077
15:00 - 16:00	9	11155	0.028	9	11155	0.036	9	11155	0.064
16:00 - 17:00	9	11155	0.021	9	11155	0.018	9	11155	0.039
17:00 - 18:00	9	11155	0.015	9	11155	0.009	9	11155	0.024
18:00 - 19:00	9	11155	0.009	9	11155	0.012	9	11155	0.021
19:00 - 20:00	2	17780	0.006	2	17780	0.008	2	17780	0.014
20:00 - 21:00	2	17780	0.003	2	17780	0.003	2	17780	0.006
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.396			0.382			0.778

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/D - INDUSTRIAL ESTATE
MULTI-MODAL CYCLISTS
 Calculation factor: 100 sqm
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	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	2	17780	0.003	2	17780	0.000	2	17780	0.003
06:00 - 07:00	2	17780	0.008	2	17780	0.000	2	17780	0.008
07:00 - 08:00	9	11155	0.008	9	11155	0.003	9	11155	0.011
08:00 - 09:00	9	11155	0.009	9	11155	0.002	9	11155	0.011
09:00 - 10:00	9	11155	0.003	9	11155	0.003	9	11155	0.006
10:00 - 11:00	9	11155	0.001	9	11155	0.001	9	11155	0.002
11:00 - 12:00	9	11155	0.000	9	11155	0.000	9	11155	0.000
12:00 - 13:00	9	11155	0.002	9	11155	0.001	9	11155	0.003
13:00 - 14:00	9	11155	0.004	9	11155	0.002	9	11155	0.006
14:00 - 15:00	9	11155	0.001	9	11155	0.006	9	11155	0.007
15:00 - 16:00	9	11155	0.002	9	11155	0.003	9	11155	0.005
16:00 - 17:00	9	11155	0.003	9	11155	0.010	9	11155	0.013
17:00 - 18:00	9	11155	0.015	9	11155	0.017	9	11155	0.032
18:00 - 19:00	9	11155	0.001	9	11155	0.002	9	11155	0.003
19:00 - 20:00	2	17780	0.000	2	17780	0.000	2	17780	0.000
20:00 - 21:00	2	17780	0.000	2	17780	0.000	2	17780	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.060			0.050			0.110

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/D - INDUSTRIAL ESTATE
MULTI-MODAL VEHICLE OCCUPANTS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	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	2	17780	0.098	2	17780	0.028	2	17780	0.126
06:00 - 07:00	2	17780	0.211	2	17780	0.059	2	17780	0.270
07:00 - 08:00	9	11155	0.658	9	11155	0.162	9	11155	0.820
08:00 - 09:00	9	11155	0.989	9	11155	0.358	9	11155	1.347
09:00 - 10:00	9	11155	0.708	9	11155	0.532	9	11155	1.240
10:00 - 11:00	9	11155	0.634	9	11155	0.515	9	11155	1.149
11:00 - 12:00	9	11155	0.500	9	11155	0.572	9	11155	1.072
12:00 - 13:00	9	11155	0.573	9	11155	0.649	9	11155	1.222
13:00 - 14:00	9	11155	0.599	9	11155	0.582	9	11155	1.181
14:00 - 15:00	9	11155	0.477	9	11155	0.618	9	11155	1.095
15:00 - 16:00	9	11155	0.401	9	11155	0.530	9	11155	0.931
16:00 - 17:00	9	11155	0.450	9	11155	0.770	9	11155	1.220
17:00 - 18:00	9	11155	0.283	9	11155	0.851	9	11155	1.134
18:00 - 19:00	9	11155	0.172	9	11155	0.391	9	11155	0.563
19:00 - 20:00	2	17780	0.197	2	17780	0.202	2	17780	0.399
20:00 - 21:00	2	17780	0.053	2	17780	0.118	2	17780	0.171
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			7.003			6.937			13.940

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/D - INDUSTRIAL ESTATE
MULTI-MODAL PEDESTRIANS
 Calculation factor: 100 sqm
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	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	2	17780	0.003	2	17780	0.000	2	17780	0.003
06:00 - 07:00	2	17780	0.003	2	17780	0.000	2	17780	0.003
07:00 - 08:00	9	11155	0.029	9	11155	0.028	9	11155	0.057
08:00 - 09:00	9	11155	0.057	9	11155	0.034	9	11155	0.091
09:00 - 10:00	9	11155	0.033	9	11155	0.028	9	11155	0.061
10:00 - 11:00	9	11155	0.015	9	11155	0.022	9	11155	0.037
11:00 - 12:00	9	11155	0.011	9	11155	0.012	9	11155	0.023
12:00 - 13:00	9	11155	0.074	9	11155	0.076	9	11155	0.150
13:00 - 14:00	9	11155	0.052	9	11155	0.059	9	11155	0.111
14:00 - 15:00	9	11155	0.032	9	11155	0.038	9	11155	0.070
15:00 - 16:00	9	11155	0.024	9	11155	0.017	9	11155	0.041
16:00 - 17:00	9	11155	0.022	9	11155	0.026	9	11155	0.048
17:00 - 18:00	9	11155	0.038	9	11155	0.066	9	11155	0.104
18:00 - 19:00	9	11155	0.010	9	11155	0.026	9	11155	0.036
19:00 - 20:00	2	17780	0.006	2	17780	0.006	2	17780	0.012
20:00 - 21:00	2	17780	0.003	2	17780	0.006	2	17780	0.009
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.412			0.444			0.856

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: $COUNT/TRP \times FACT$. Trip rates are then rounded to 3 decimal places.

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

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	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	2	17780	0.000	2	17780	0.000	2	17780	0.000
06:00 - 07:00	2	17780	0.000	2	17780	0.000	2	17780	0.000
07:00 - 08:00	9	11155	0.015	9	11155	0.000	9	11155	0.015
08:00 - 09:00	9	11155	0.029	9	11155	0.002	9	11155	0.031
09:00 - 10:00	9	11155	0.025	9	11155	0.001	9	11155	0.026
10:00 - 11:00	9	11155	0.009	9	11155	0.002	9	11155	0.011
11:00 - 12:00	9	11155	0.008	9	11155	0.006	9	11155	0.014
12:00 - 13:00	9	11155	0.034	9	11155	0.041	9	11155	0.075
13:00 - 14:00	9	11155	0.045	9	11155	0.022	9	11155	0.067
14:00 - 15:00	9	11155	0.005	9	11155	0.017	9	11155	0.022
15:00 - 16:00	9	11155	0.005	9	11155	0.021	9	11155	0.026
16:00 - 17:00	9	11155	0.008	9	11155	0.020	9	11155	0.028
17:00 - 18:00	9	11155	0.006	9	11155	0.043	9	11155	0.049
18:00 - 19:00	9	11155	0.002	9	11155	0.016	9	11155	0.018
19:00 - 20:00	2	17780	0.000	2	17780	0.000	2	17780	0.000
20:00 - 21:00	2	17780	0.000	2	17780	0.000	2	17780	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.191			0.191			0.382

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/D - INDUSTRIAL ESTATE
MULTI-MODAL TOTAL PEOPLE
 Calculation factor: 100 sqm
 BOLD print indicates peak (busiest) period
 Total People to Total Vehicles ratio (all time periods and directions): 1.44

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	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	2	17780	0.104	2	17780	0.028	2	17780	0.132
06:00 - 07:00	2	17780	0.222	2	17780	0.059	2	17780	0.281
07:00 - 08:00	9	11155	0.710	9	11155	0.193	9	11155	0.903
08:00 - 09:00	9	11155	1.084	9	11155	0.395	9	11155	1.479
09:00 - 10:00	9	11155	0.769	9	11155	0.564	9	11155	1.333
10:00 - 11:00	9	11155	0.659	9	11155	0.540	9	11155	1.199
11:00 - 12:00	9	11155	0.519	9	11155	0.590	9	11155	1.109
12:00 - 13:00	9	11155	0.682	9	11155	0.767	9	11155	1.449
13:00 - 14:00	9	11155	0.699	9	11155	0.664	9	11155	1.363
14:00 - 15:00	9	11155	0.515	9	11155	0.678	9	11155	1.193
15:00 - 16:00	9	11155	0.432	9	11155	0.571	9	11155	1.003
16:00 - 17:00	9	11155	0.483	9	11155	0.826	9	11155	1.309
17:00 - 18:00	9	11155	0.342	9	11155	0.976	9	11155	1.318
18:00 - 19:00	9	11155	0.185	9	11155	0.435	9	11155	0.620
19:00 - 20:00	2	17780	0.202	2	17780	0.208	2	17780	0.410
20:00 - 21:00	2	17780	0.056	2	17780	0.124	2	17780	0.180
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			7.663			7.618			15.281

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.

TRAFFIC GROWTH CALCULATIONS

TRAFFIC GROWTH: 2023 to 2028

Traffic Growth factors to be applied to base traffic using factors derived from TEMPro v7.2c (NTEM Dataset 7.2) and NTM.

Traffic Analysis Guidance (TAG) Unit M4 identifies that NTM forecast growth factors should be adjusted using the ratio of the local TEMPro growth factors to the national average day car driver trip end growth derived using TEMPRO v7.2c. The calculation can be undertaken within the TEMPro software as identified in TAG Unit M4.

RTF - 2018 Scenario 1 - reference

Road Type: Minor

Local TempPro Zone: Eastleigh

TEMPro Local AM Peak Hour Factors

Weekday AM Peak Car Driver Trip End Growth for Eastleigh

Origin	1.0411	Average:	1.0397
Destination	1.0382		

TEMPro Local PM Peak Hour Factors

Weekday PM Peak Car Driver Trip End Growth for Eastleigh

Origin	1.0390	Average:	1.0400
Destination	1.0409		

Adjusted Local Peak Period AM Growth Factors to be applied to Base Traffic

2023 to 2028

1.0404

Adjusted Local Peak Period PM Growth Factors to be applied to Base Traffic

2023 to 2028

1.0407

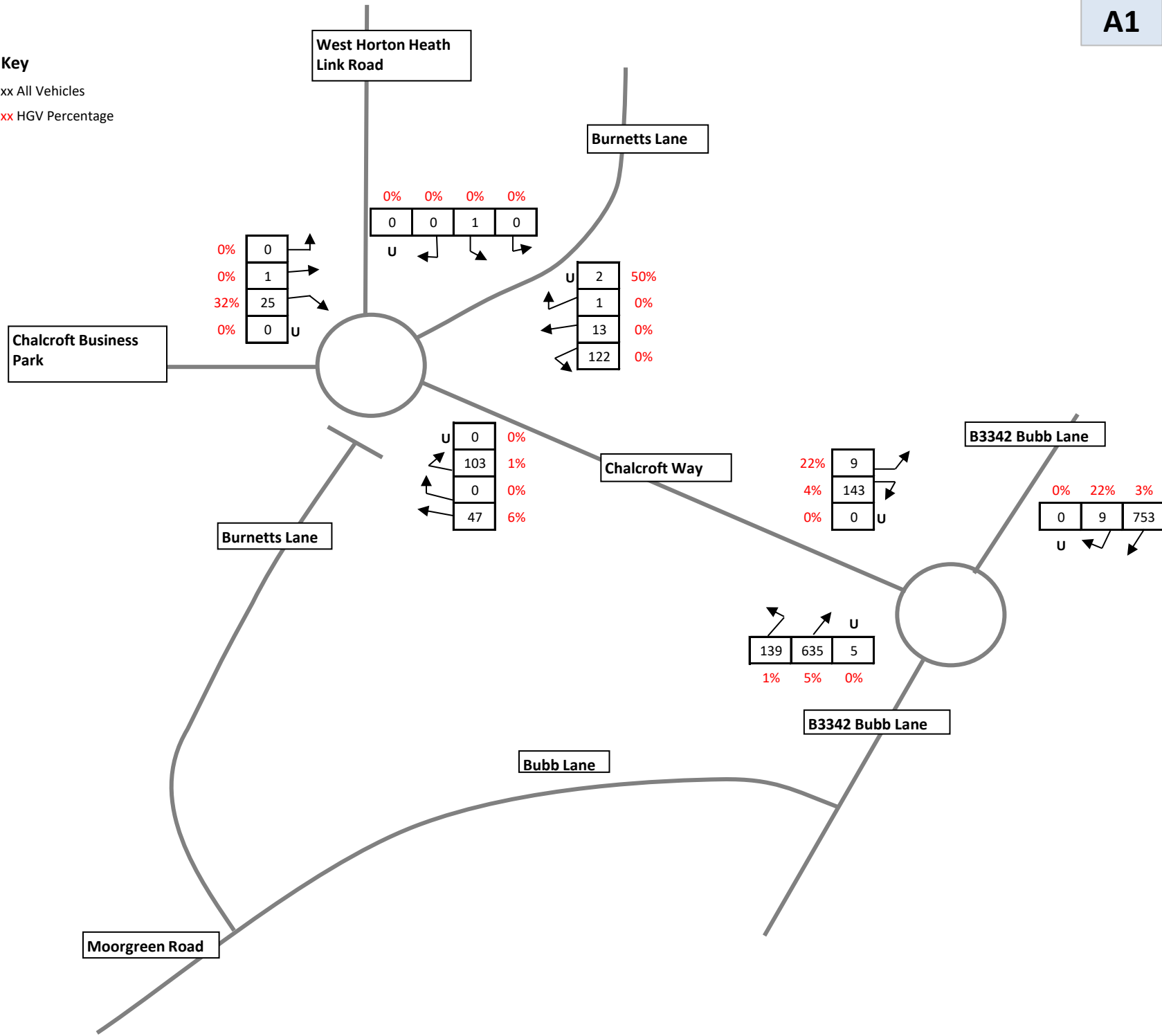
Chalcroft Business Centre
2023 Base Year (Scenario 1) AM Peak Base (07:30-08:30)



A1

Key

xx All Vehicles
xx HGV Percentage

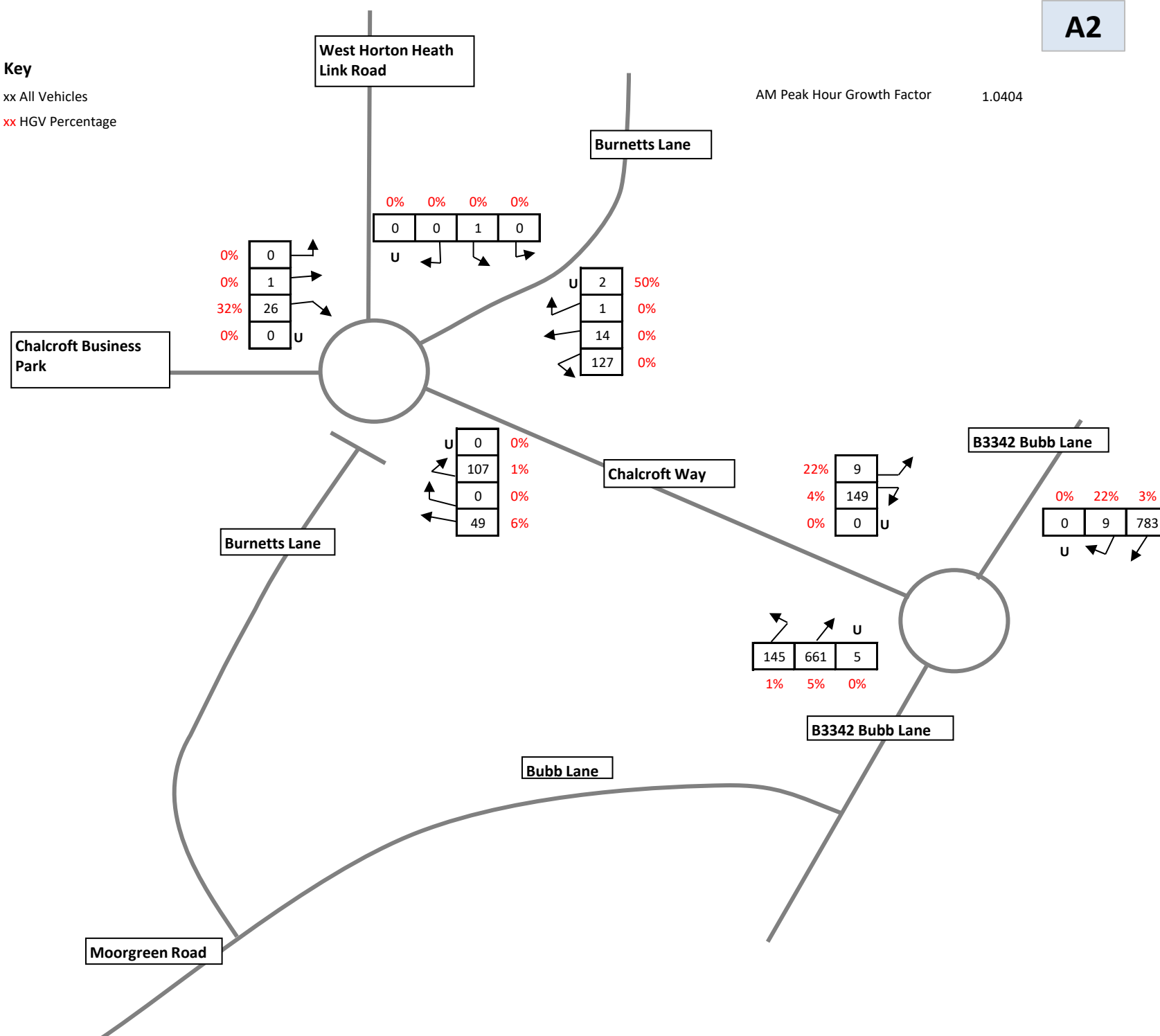


Notes

1 Peak hour based on peak traffic flow through assessed network

Key

AM Peak Hour Growth Factor 1.0404



1 Base traffic growthed to 2028 with TEMPro

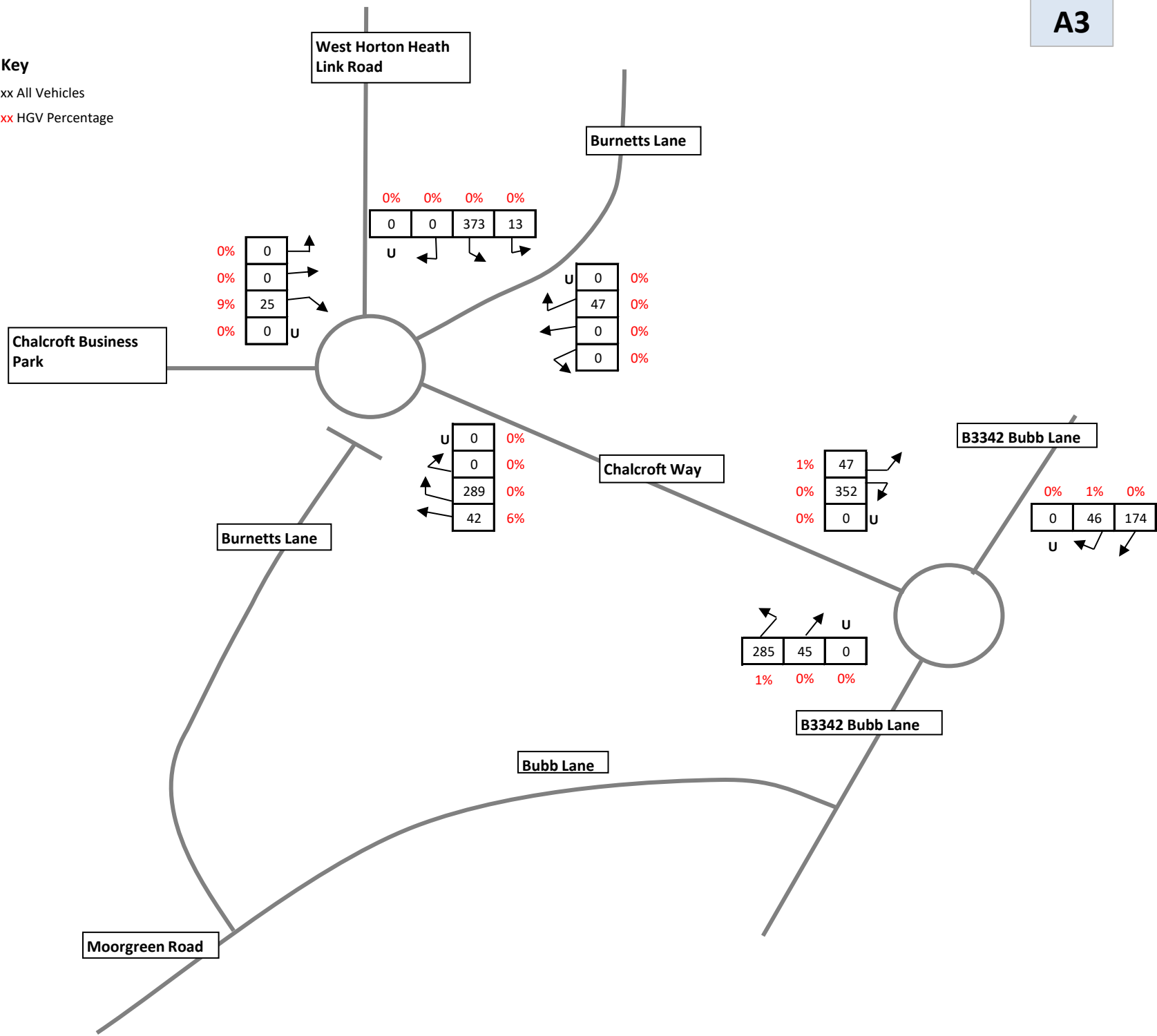
Chalcroft Business Centre
2023 Base Year (Scenario 1) AM Peak Base (07:30-08:30)



A3

Key

xx All Vehicles
 xx HGV Percentage



Notes

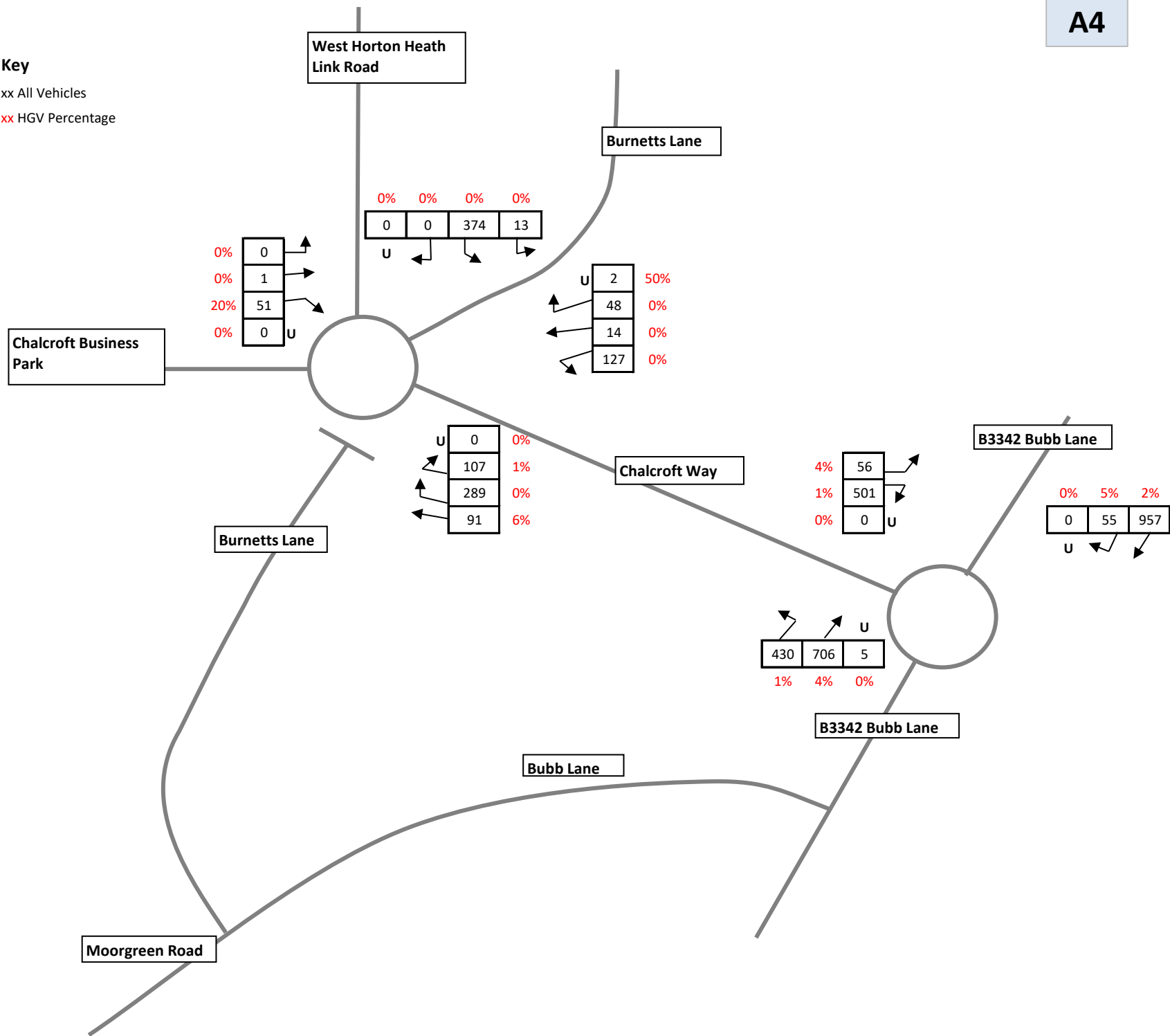
- 1 Committed development traffic for Boorley Gardens (O/15/75953), West Horton Heath (O/14/75375), and West Horton Heath (O/16/79354)
- 2 Committed development traffic for Chalcroft Business Park (F/18/83945) and (F/20/89518)
- 3 Includes traffic re-routing due to closure of Burnetts Lane (South)
- 4 Traffic data taken from i-Transport, Transport Assessment, dated October 2016, and Technical Note dates February 2017

Chalcroft Business Centre
2023 Base Year (Scenario 1) AM Peak Base (07:30-08:30)



A4

Key
xx All Vehicles
xx HGV Percentage

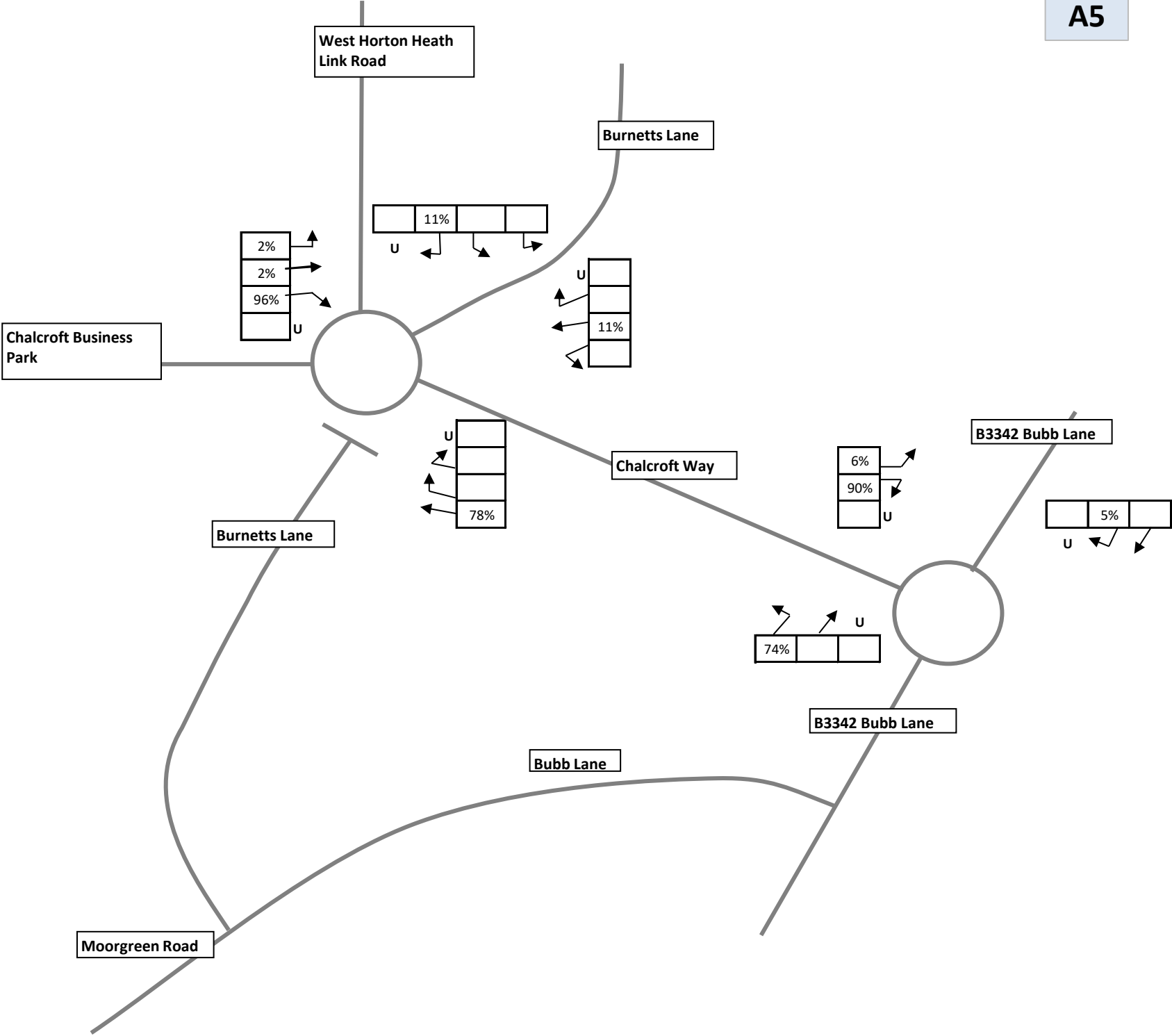


- Notes
- 1 Peak hour based on peak traffic flow through assessed network
 - 2 Includes committed development and TEMPro growth

Chalcroft Business Centre
2023 Base Year (Scenario 1) AM Peak Base (07:30-08:30)



A5



- Notes**
- 1 Based on existing turning movements for AM peak hour
 - 2 Burnetts Lane distribution adjusted to reassign 50% of trips to WH Heath Link Road
 - 3 Negligible HGV's during peak hours, and do not use Burnetts Lane or West Horton Heath Link Road
 - 4 Errors due to rounding

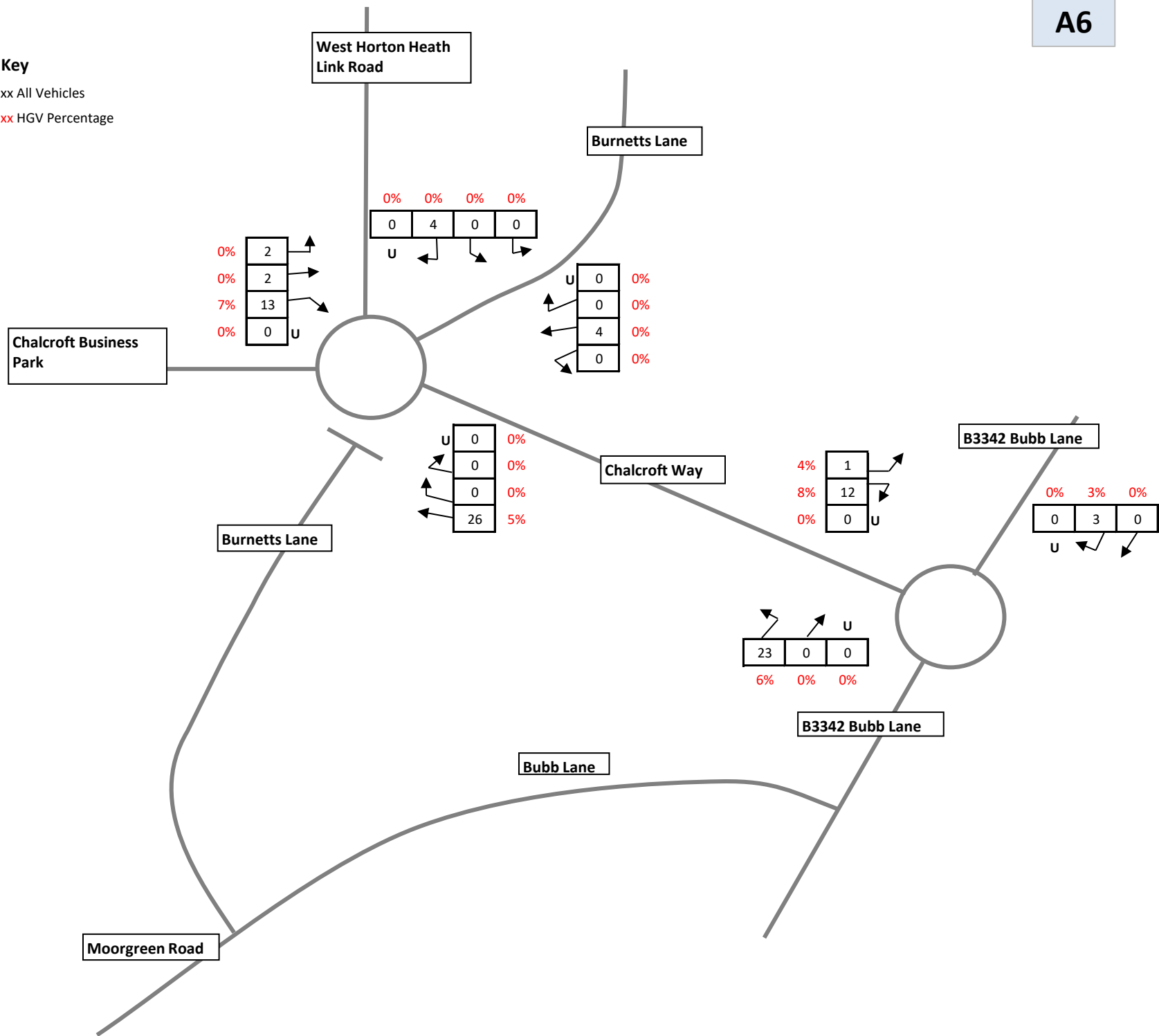
Chalcroft Business Centre
2023 Base Year (Scenario 1) AM Peak Base (07:30-08:30)



A6

Key

xx All Vehicles
xx HGV Percentage



Notes

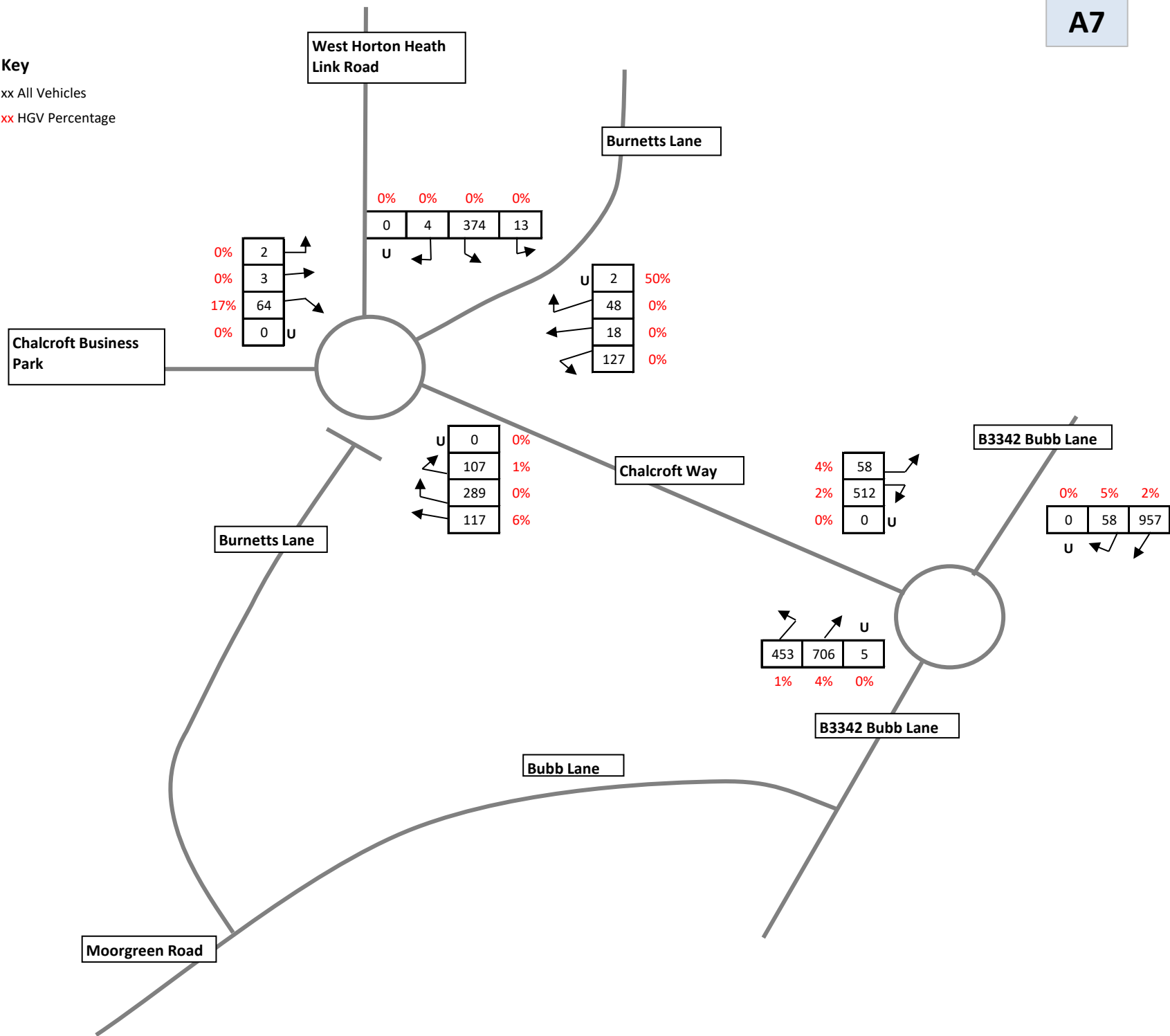
- 1 Distribution of farm shop traffic based on distribution in Mayer Brown TA, Diagram 6.1, dated October 2018
- 2 50% of Burnetts Lane trips reallocated to use WH Heath Link Road
- 3 New trips are to take account of potential new trips due to increase in floor area of propsoed farm shop
- 4 Errors due to rounding

Chalcroft Business Centre
2023 Base Year (Scenario 1) AM Peak Base (07:30-08:30)



A7

Key
xx All Vehicles
xx HGV Percentage



- Notes
- 1 Peak hour based on peak traffic flow through assessed network
 - 2 Includes committed development, TEMPro growth and proposed development.

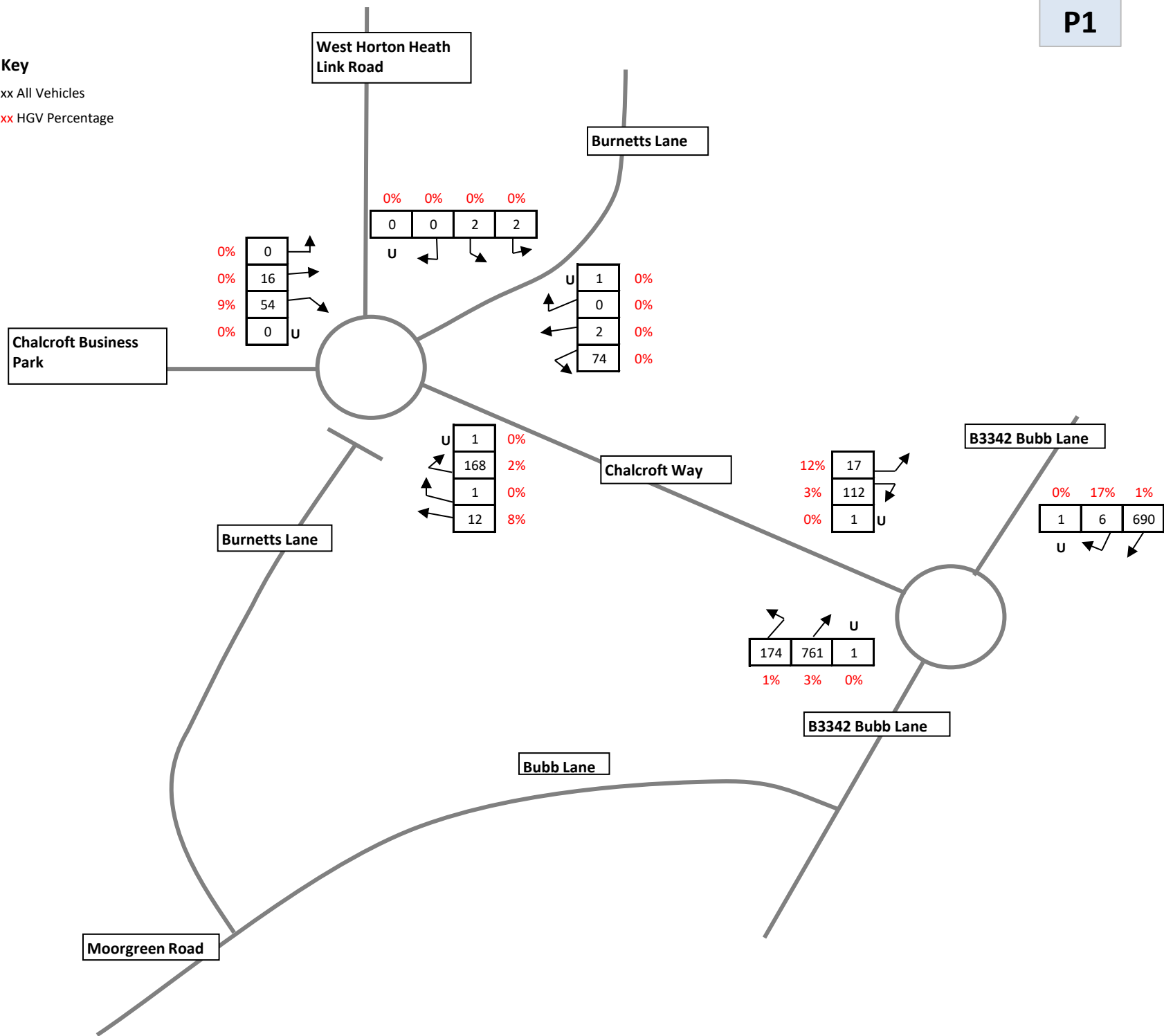
Chalcroft Business Centre
2023 Base Year (Scenario 1) PM Peak Base (16:30-17:30)



P1

Key

xx All Vehicles
xx HGV Percentage



Notes

1 Peak hour based on peak traffic flow through assessed network

Chalcroft Business Centre
2023 Base Year (Scenario 1) PM Peak Base (16:30-17:30)

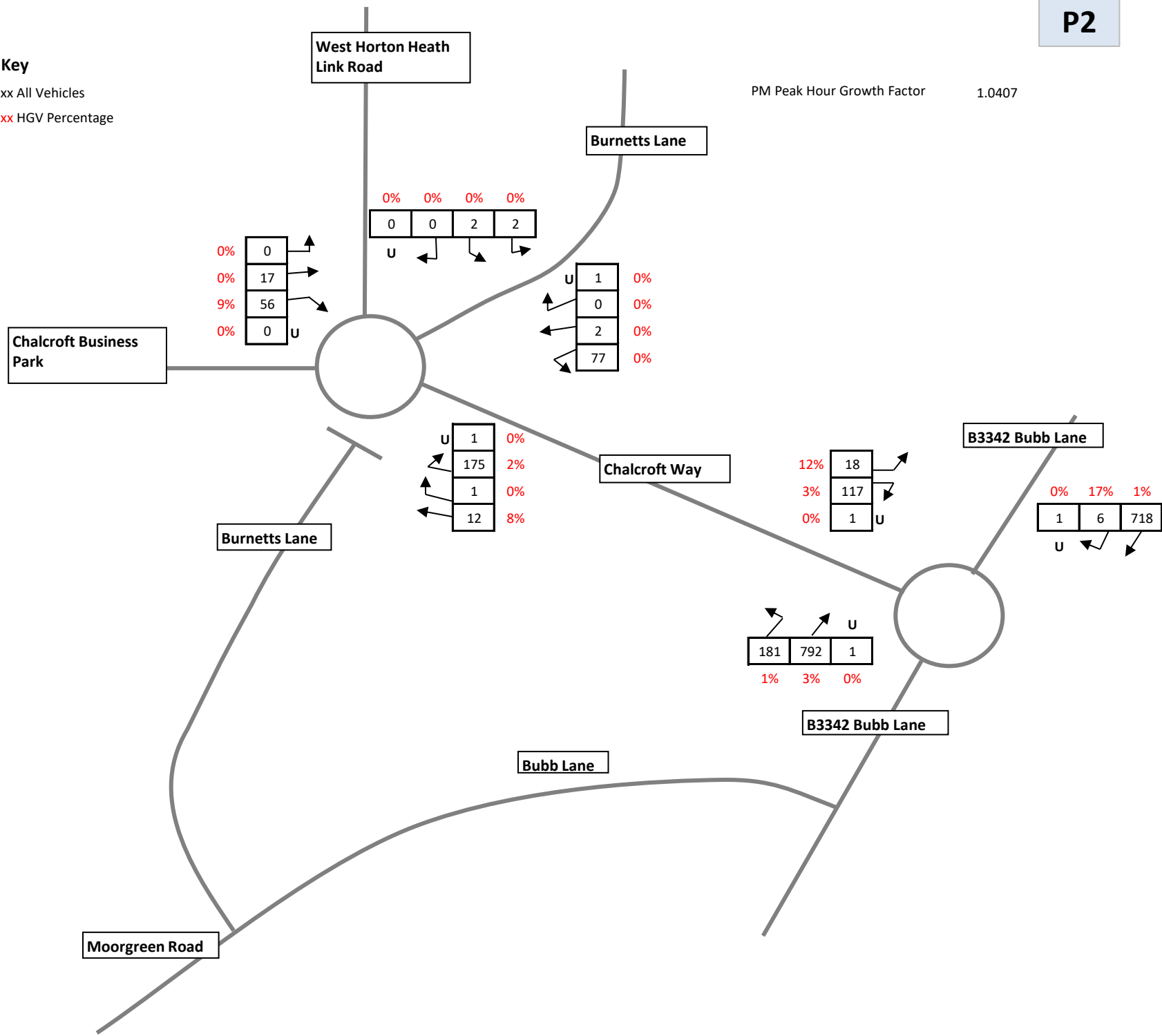


P2

Key

xx All Vehicles
xx HGV Percentage

PM Peak Hour Growth Factor 1.0407



Notes

1 Base traffic growthed to 2028 with TEMPro

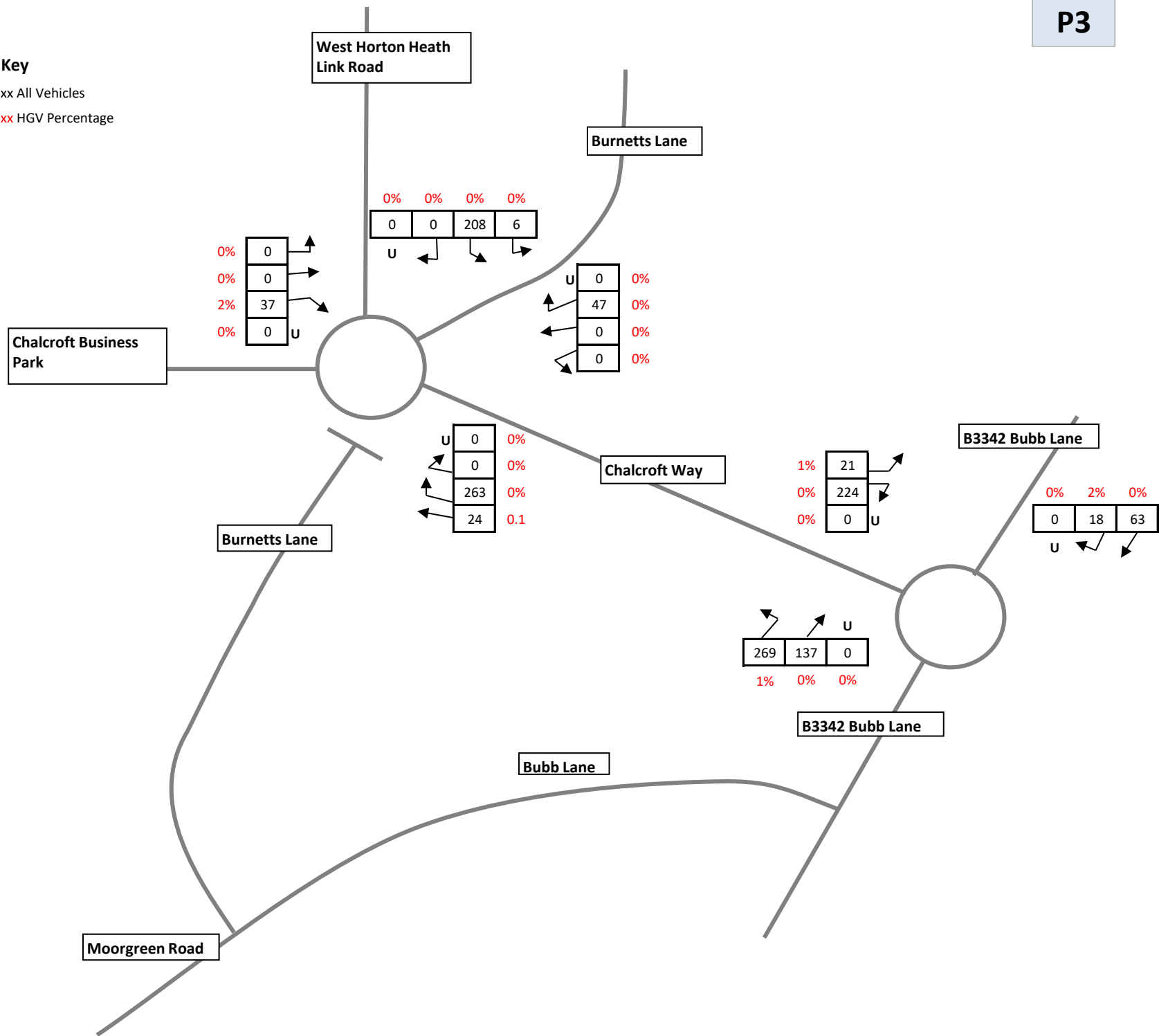
Chalcroft Business Centre
2023 Base Year (Scenario 1) PM Peak Base (16:30-17:30)



P3

Key

xx All Vehicles
 xx HGV Percentage



Notes

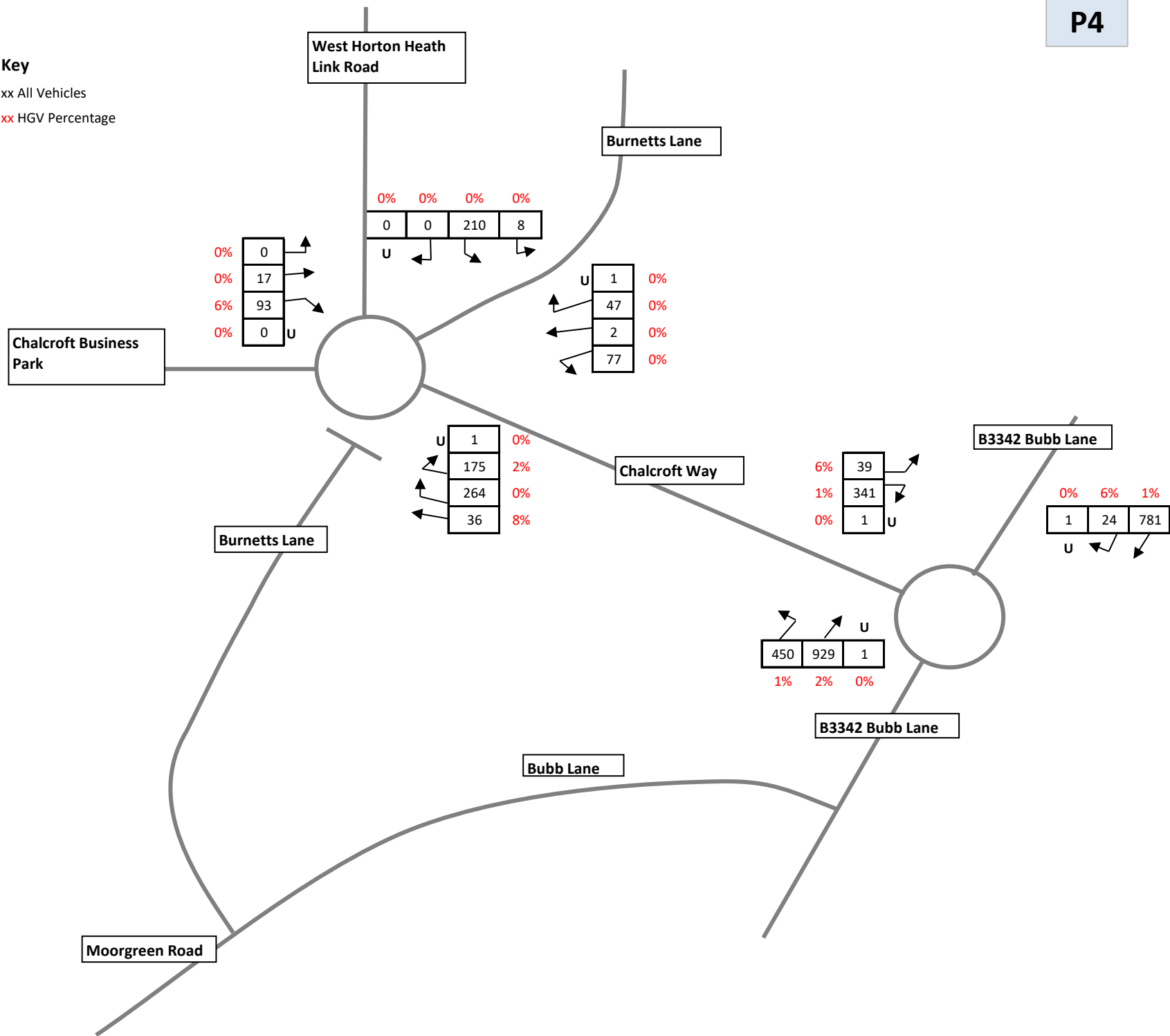
- 1 Committed development traffic for Boorley Gardens (O/15/75953), West Horton Heath (O/14/75375), and West Horton Heath (O/16/79354)
- 2 Committed development traffic for Chalcroft Business Park (F/18/83945) and (F/20/89518)
- 3 Includes traffic re-routing due to closure of Burnetts Lane (South)
- 4 Traffic data taken from i-Transport, Transport Assessment, dated October 2016, and Technical Note dates February 2017

Chalcroft Business Centre
2023 Base Year (Scenario 1) PM Peak Base (16:30-17:30)



P4

Key
xx All Vehicles
xx HGV Percentage

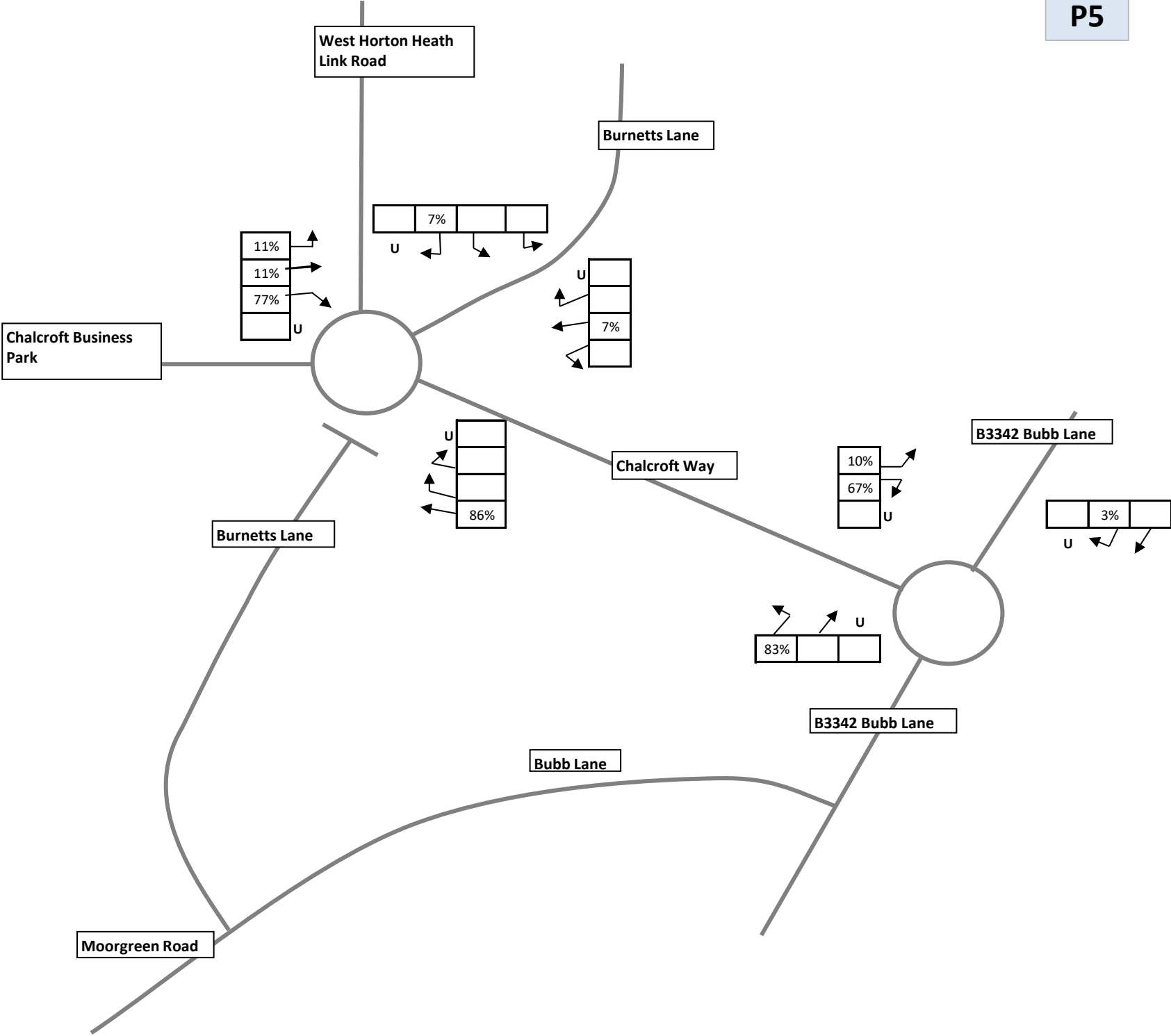


- Notes
- 1 Peak hour based on peak traffic flow through assessed network
 - 2 Includes committed development and TEMPro growth

Chalcroft Business Centre
2023 Base Year (Scenario 1) PM Peak Base (16:30-17:30)



P5



- Notes
- 1 Based on existing turning movements for PM peak hour
 - 2 Burnetts Lane distribution adjusted to reassign 50% of trips to WH Heath Link Road
 - 3 Negligible HGV's during peak hours, and do not use Burnetts Lane or West Horton Heath Link Road
 - 4 Errors due to rounding

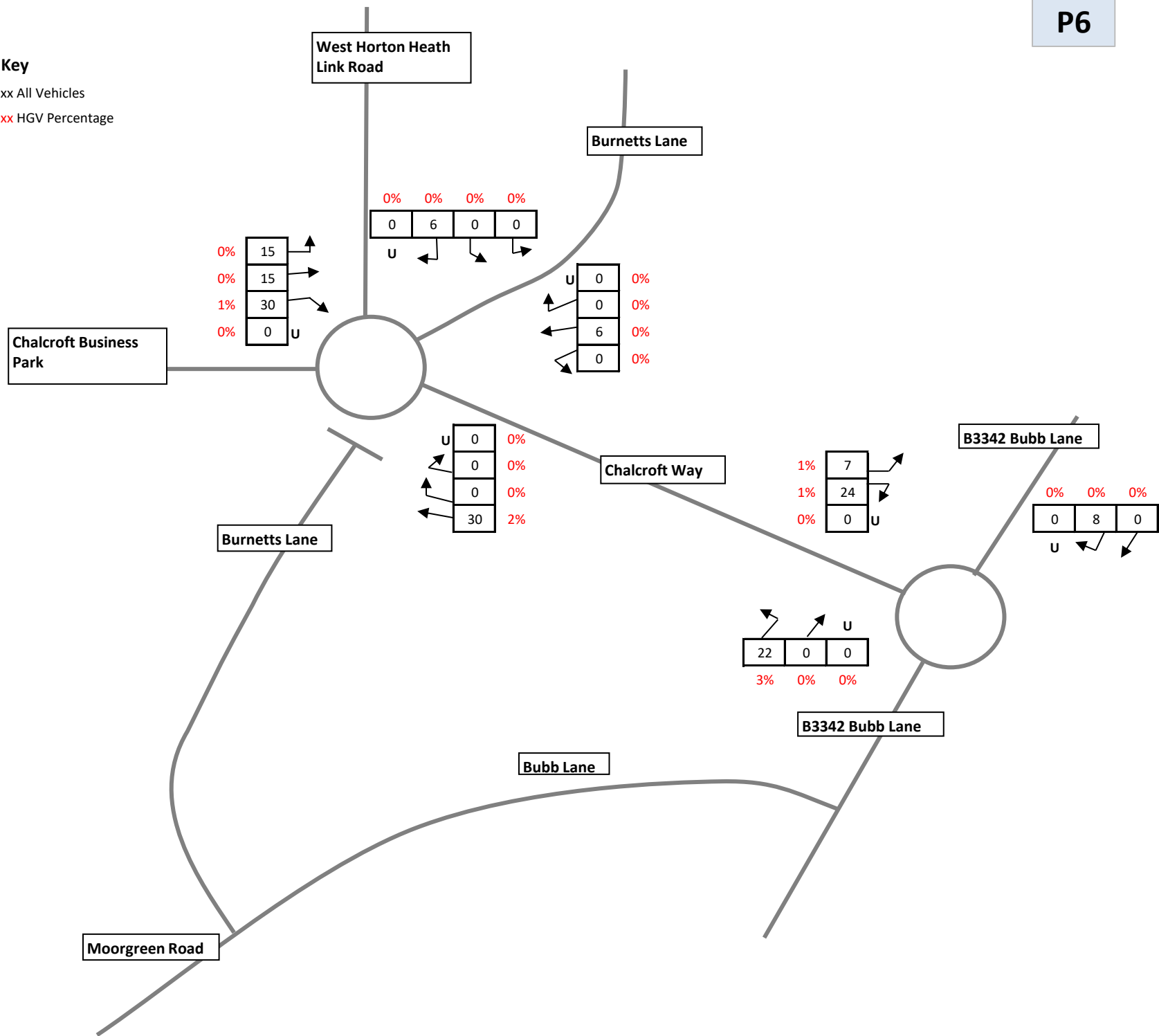
Chalcroft Business Centre
2023 Base Year (Scenario 1) PM Peak Base (16:30-17:30)



P6

Key

xx All Vehicles
 xx HGV Percentage



Notes

- 1 Distribution of farm shop traffic based on distribution in Mayer Brown TA, DiagrPM 6.1, dated October 2018
- 2 50% of Burnetts Lane trips reallocated to use WH Heath Link Road
- 3 New trips are to take account of potential new trips due to increase in floor area of propsoed farm shop
- 4 Errors due to rounding

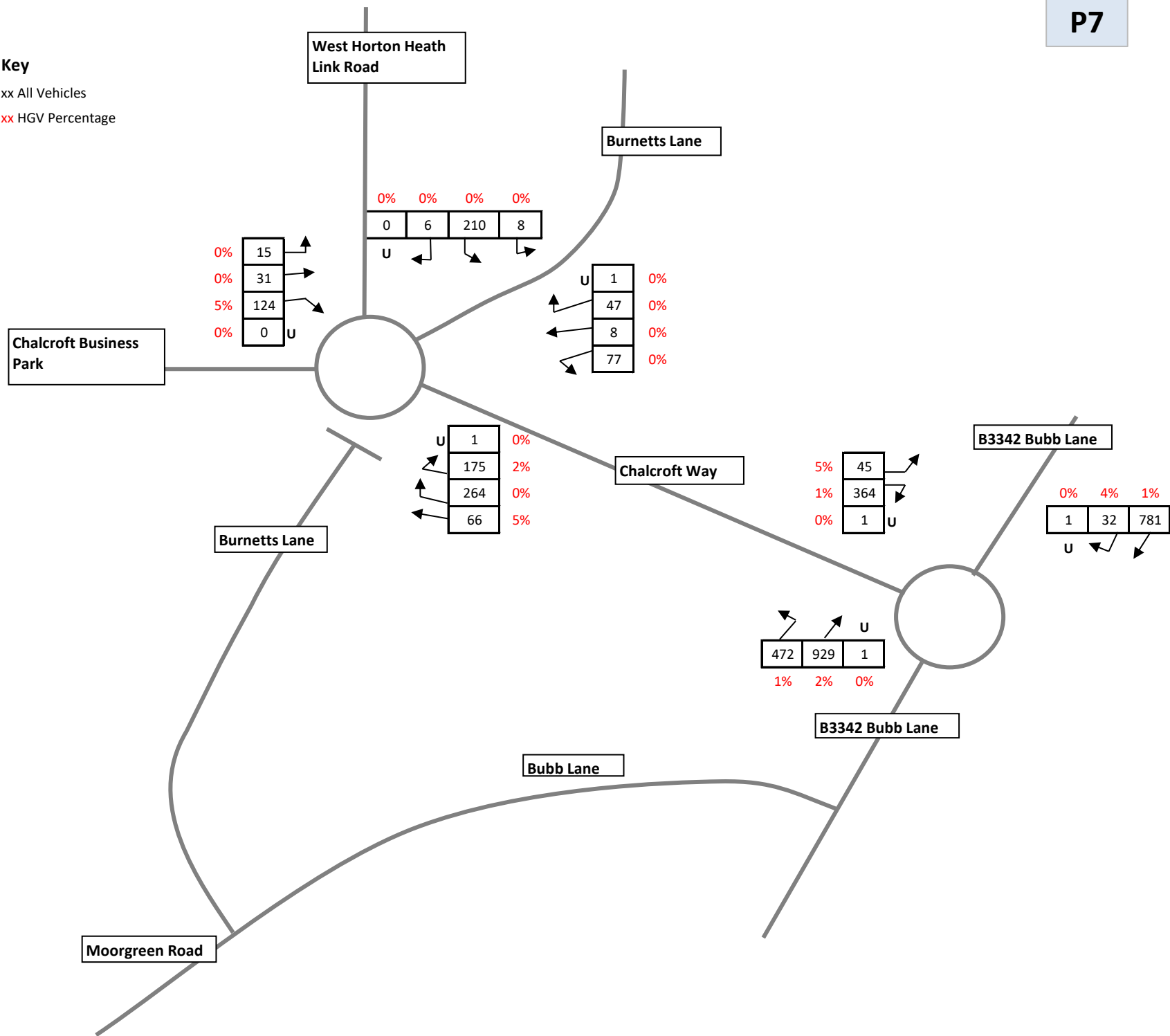
Chalcroft Business Centre
2023 Base Year (Scenario 1) PM Peak Base (16:30-17:30)



P7

Key

xx All Vehicles
xx HGV Percentage



Notes

- 1 Peak hour based on peak traffic flow through assessed network
- 2 Includes committed development, TEMPro growth and proposed development.

Appendix I

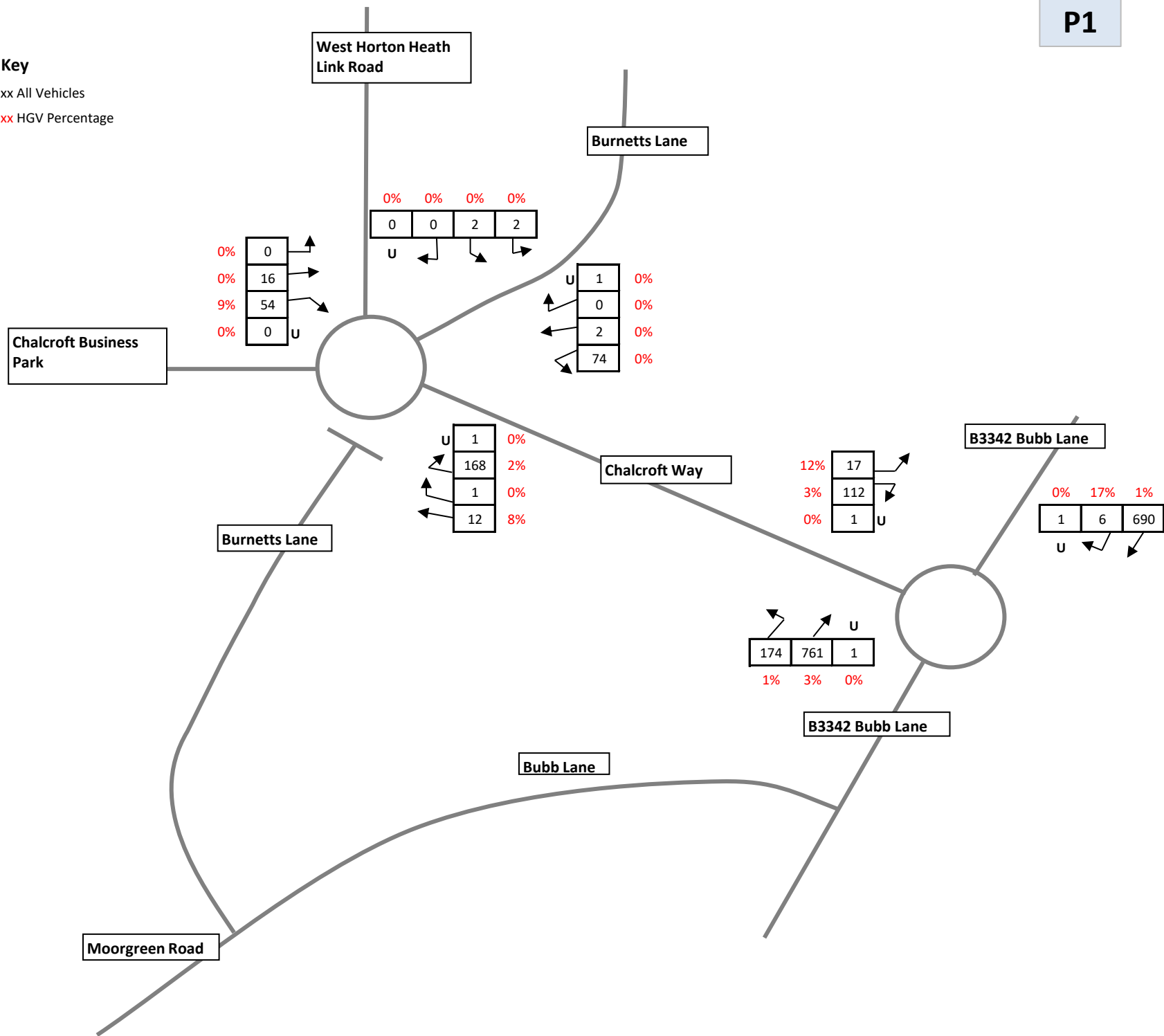
Chalcroft Business Centre
2023 Base Year (Scenario 1) PM Peak Base (16:30-17:30)



P1

Key

xx All Vehicles
xx HGV Percentage



Notes

1 Peak hour based on peak traffic flow through assessed network

Chalcroft Business Centre
2023 Base Year (Scenario 1) PM Peak Base (16:30-17:30)

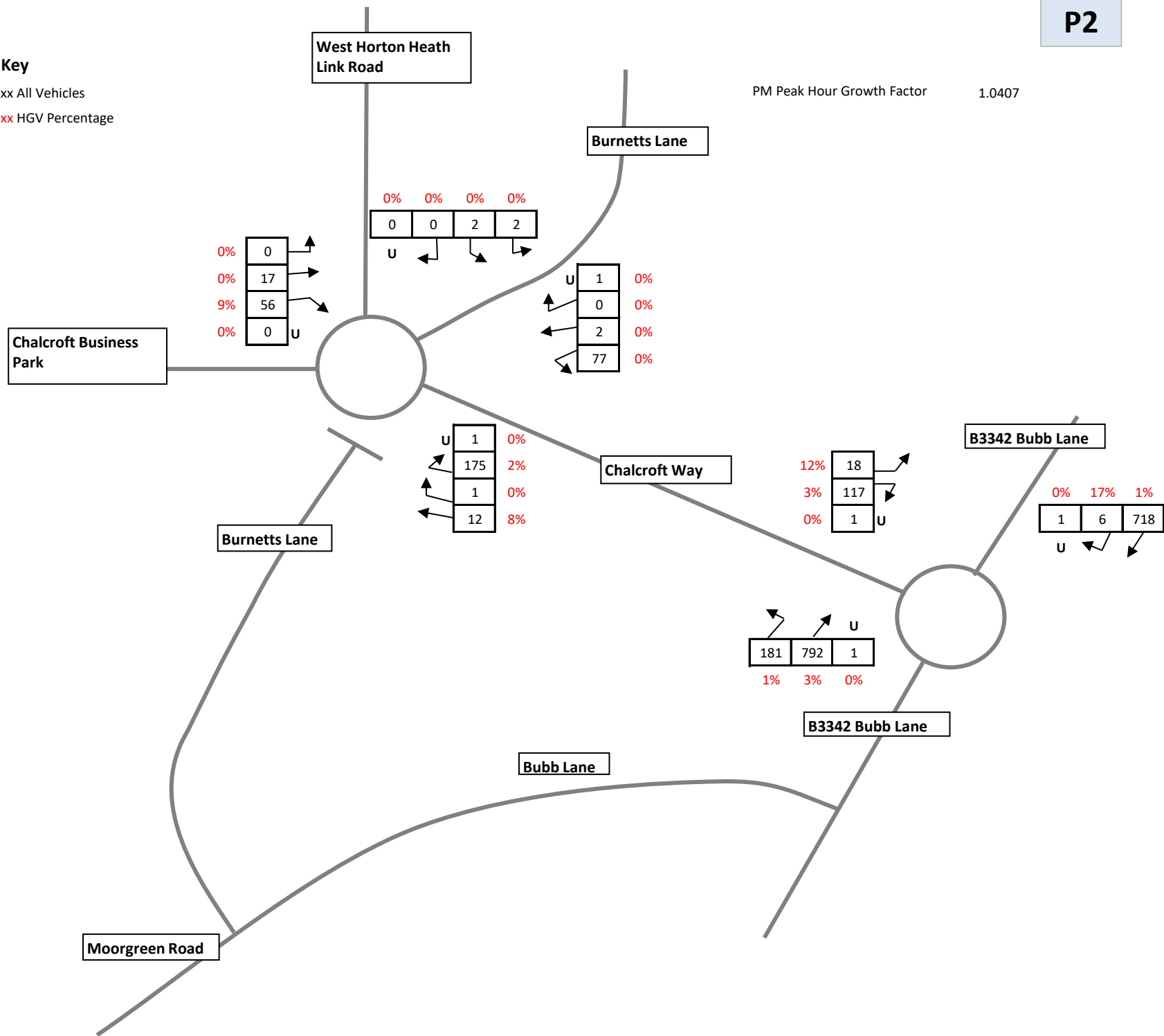


P2

Key

xx All Vehicles
xx HGV Percentage

PM Peak Hour Growth Factor 1.0407



Notes

1 Base traffic growthed to 2028 with TEMPro

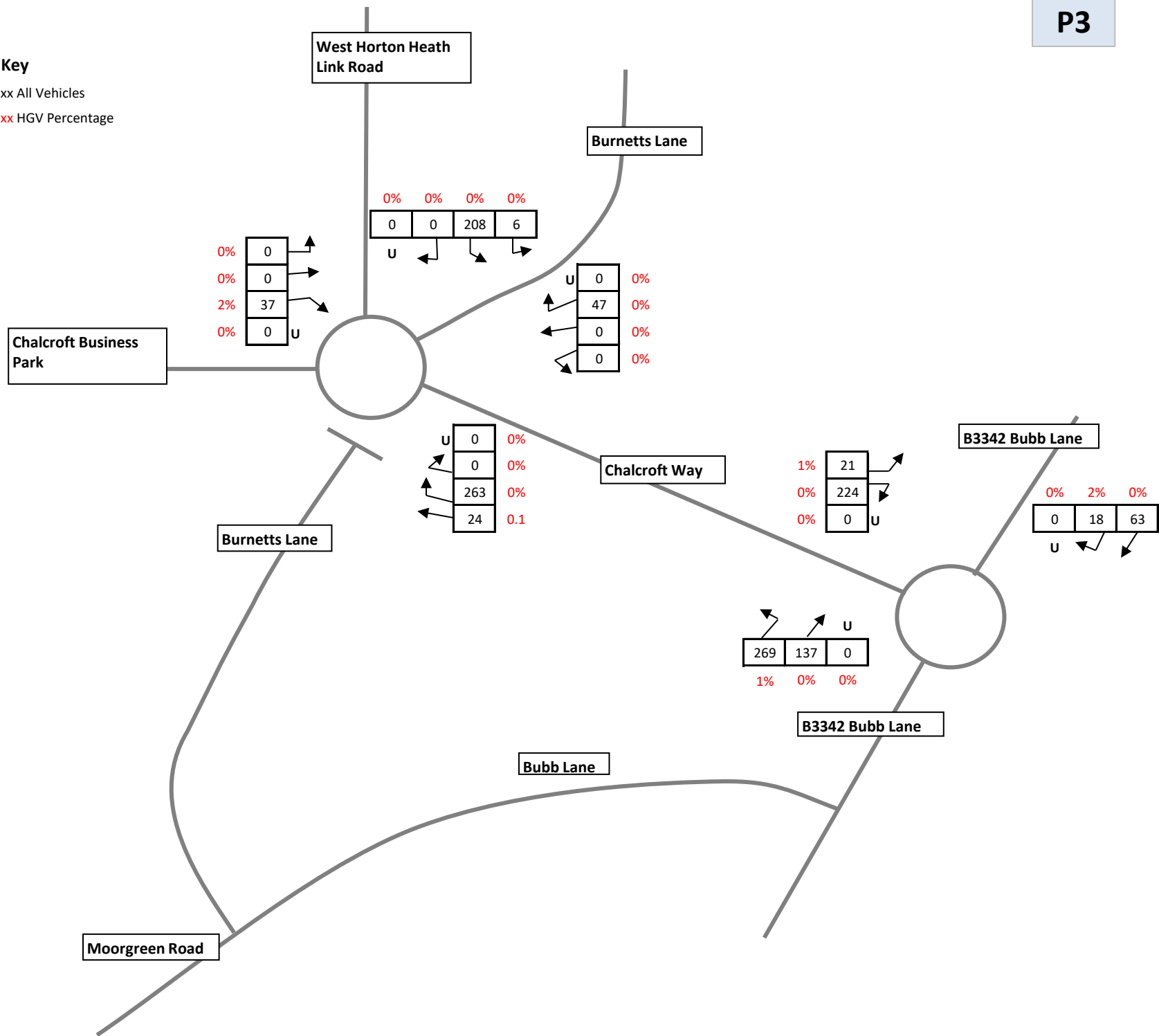
Chalcroft Business Centre
2023 Base Year (Scenario 1) PM Peak Base (16:30-17:30)



P3

Key

xx All Vehicles
 xx HGV Percentage



Notes

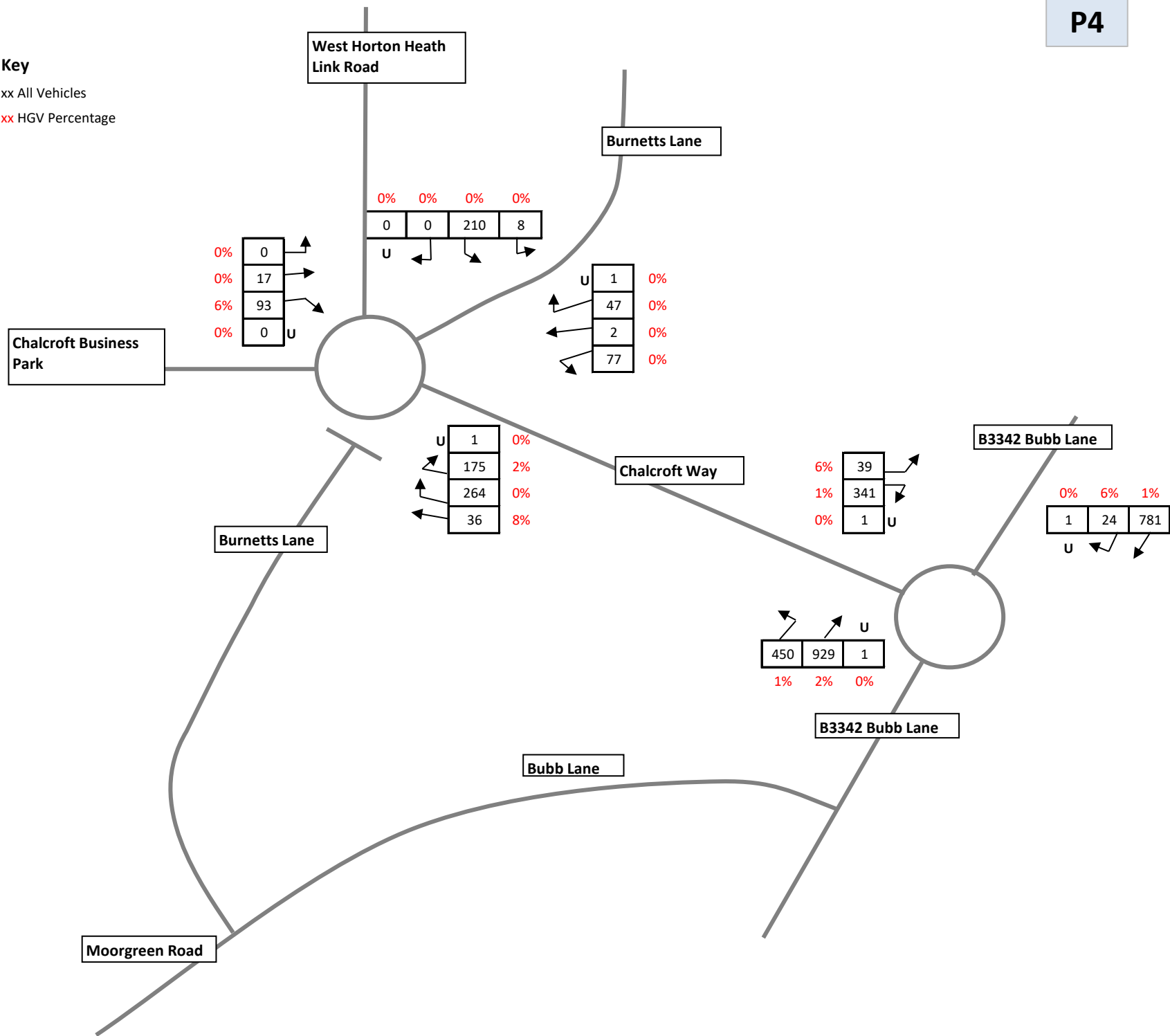
- 1 Committed development traffic for Boorley Gardens (O/15/75953), West Horton Heath (O/14/75375), and West Horton Heath (O/16/79354)
- 2 Committed development traffic for Chalcroft Business Park (F/18/83945) and (F/20/89518)
- 3 Includes traffic re-routing due to closure of Burnetts Lane (South)
- 4 Traffic data taken from i-Transport, Transport Assessment, dated October 2016, and Technical Note dates February 2017

Chalcroft Business Centre
2023 Base Year (Scenario 1) PM Peak Base (16:30-17:30)



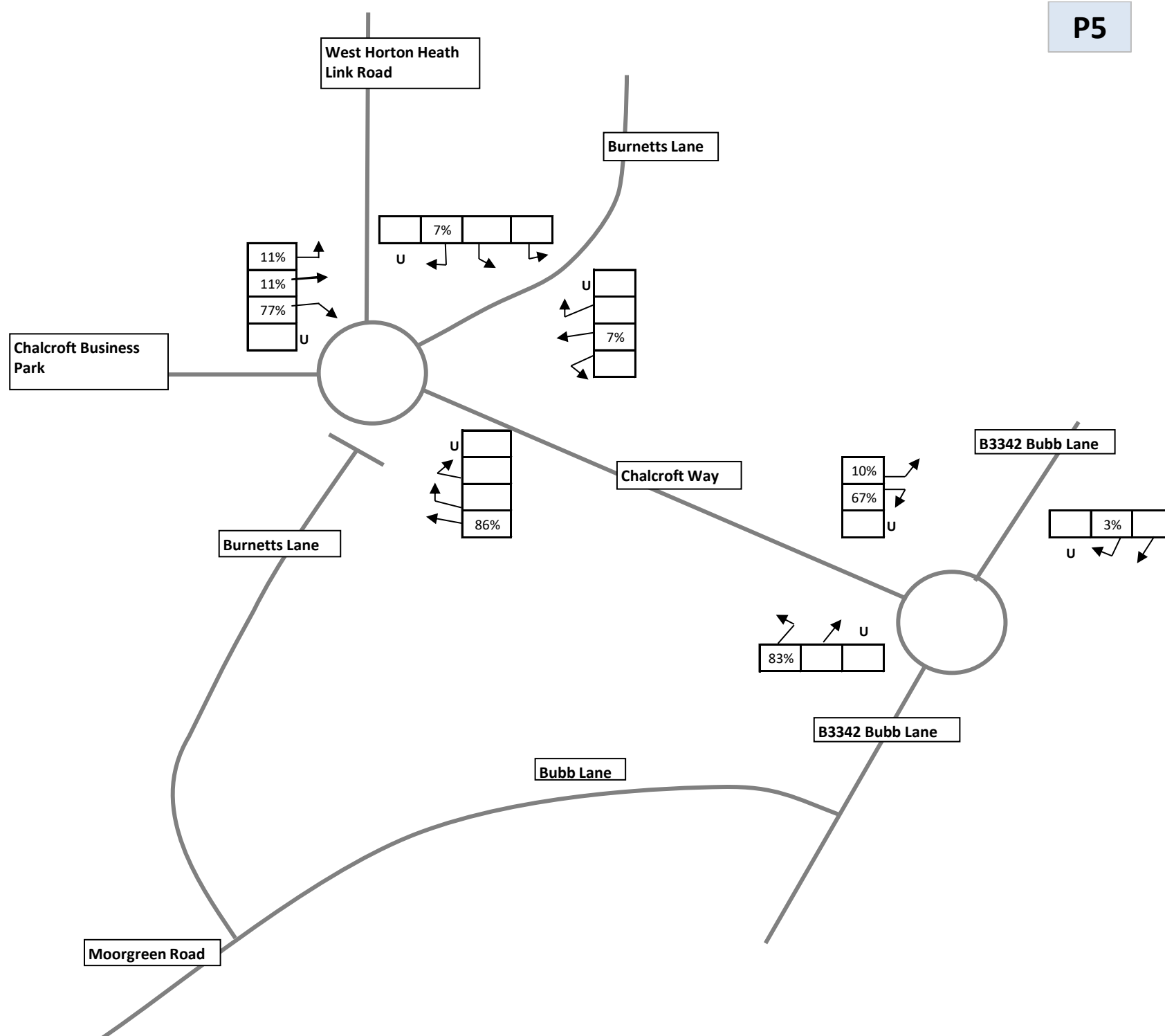
P4

Key
xx All Vehicles
xx HGV Percentage



- Notes
- 1 Peak hour based on peak traffic flow through assessed network
 - 2 Includes committed development and TEMPro growth

2023 Base Year (Scenario 1) PM Peak Base (16:30-17:30)

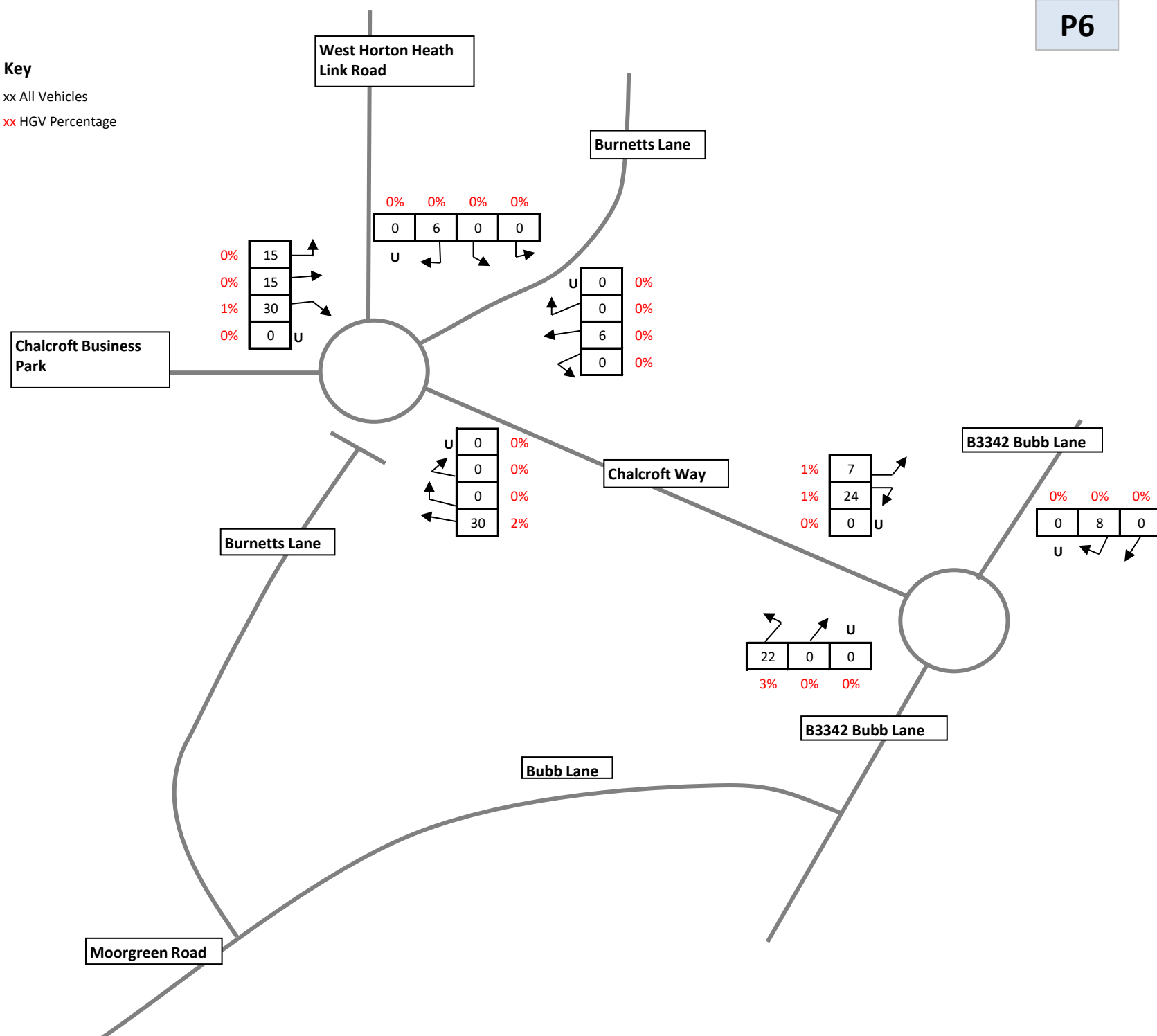


- 1 Based on existing turning movements for PM peak hour
- 2 Burnetts Lane distribution adjusted to reassign 50% of trips to WH Heath Link Road
- 3 Negligible HGV's during peak hours, and do not use Burnetts Lane or West Horton Heath Link Road
- 4 Errors due to rounding

Key

xx All Vehicles

xx HGV Percentage



1 Distribution of farm shop traffic based on distribution in Mayer Brown TA, DiagrPM 6.1, dated October 2018
2 50% of Burnetts Lane trips reallocated to use WH Heath Link Road
3 New trips are to take account of potential new trips due to increase in floor area of propsoed farm shop
4 Errors due to rounding

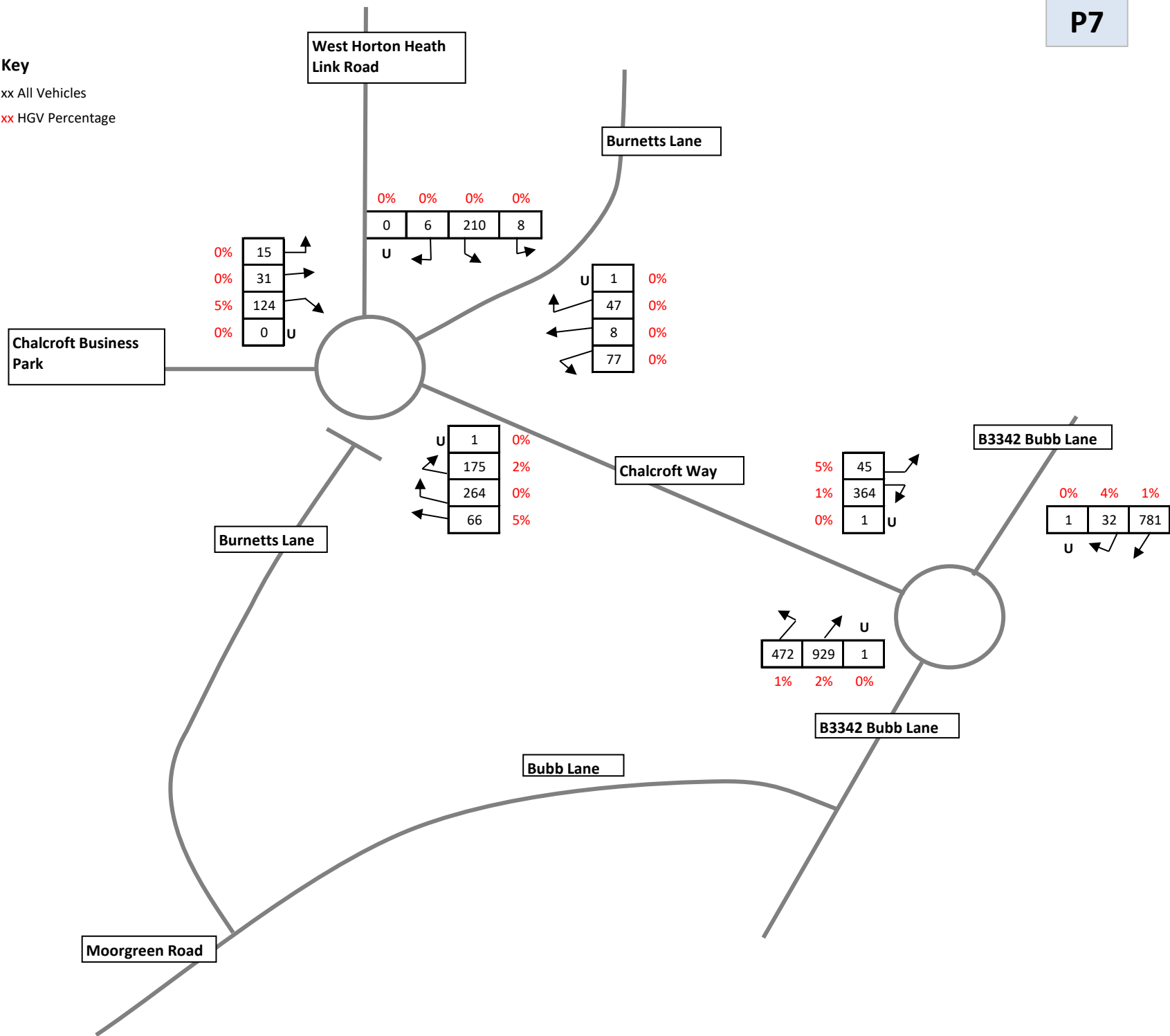
Chalcroft Business Centre
2023 Base Year (Scenario 1) PM Peak Base (16:30-17:30)



P7

Key

xx All Vehicles
xx HGV Percentage



Notes

- 1 Peak hour based on peak traffic flow through assessed network
- 2 Includes committed development, TEMPro growth and proposed development.

Junctions 10										
ARCADY 10 - Roundabout Module										
Version: 10.1.0.1820 © Copyright TRL Software Limited, 2023										
For sales and distribution information, program advice and maintenance, contact TRL Software: +44 (0)1344 379777 software@trl.co.uk trlsoftware.com										
The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution										

Filename: W638 - Burnetts Lane Roundabout.j10

Path: F:\Workfile\W638\Traffic Modelling

Report generation date: 11/10/2023 15:52:29

- »2023 Base, AM Peak Period
- »2023 Base, PM Peak Period
- »2028 with Committed Development, AM Peak Period
- »2028 with Committed Development, PM Peak Period
- »2028 with Committed Development and Proposed Development, AM Peak Period
- »2028 with Committed Development and Proposed Development, PM Peak Period

Summary of junction performance

	AM Peak Period					PM Peak Period				
	Set ID	Queue (Veh)	Delay (s)	RFC	LOS	Set ID	Queue (Veh)	Delay (s)	RFC	LOS
	2023 Base									
Arm A	D1	0.1	2.65	0.10	A	D2	0.1	2.53	0.06	A
Arm B		0.1	2.44	0.10	A		0.1	2.49	0.12	A
Arm C		0.0	3.14	0.02	A		0.1	2.73	0.06	A
Arm D		0.0	0.00	0.00	A		0.0	0.00	0.00	A
	2028 with Committed Development									
Arm A	D5	0.2	3.41	0.17	A	D6	0.1	2.97	0.10	A
Arm B		0.5	3.32	0.33	A		0.5	3.26	0.32	A
Arm C		0.1	3.46	0.05	A		0.1	3.27	0.10	A
Arm D		0.4	3.17	0.27	A		0.2	2.91	0.16	A
	2028 with Committed Development and Proposed Development									
Arm A	D7	0.2	3.46	0.17	A	D8	0.1	3.05	0.11	A
Arm B		0.5	3.44	0.35	A		0.5	3.38	0.34	A
Arm C		0.1	3.41	0.07	A		0.2	3.43	0.15	A
Arm D		0.4	3.22	0.28	A		0.2	3.00	0.17	A

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

File summary

File Description

Title	(untitled)
Location	Chalcroft Business Park
Site number	
Date	24/07/2023
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	W638
Enumerator	PFA\traffictteam
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	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use iterations with HCM roundabouts	Max number of iterations for roundabouts
5.75						0.85	36.00	20.00		500

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	2023 Base	AM Peak Period	ONE HOUR	07:45	09:15	15	✓
D2	2023 Base	PM Peak Period	ONE HOUR	16:45	18:15	15	✓
D5	2028 with Committed Development	AM Peak Period	ONE HOUR	07:45	09:15	15	✓
D6	2028 with Committed Development	PM Peak Period	ONE HOUR	16:45	18:15	15	✓
D7	2028 with Committed Development and Proposed Development	AM Peak Period	ONE HOUR	07:45	09:15	15	✓
D8	2028 with Committed Development and Proposed Development	PM Peak Period	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

2023 Base, AM Peak Period

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	Chalcroft Way/Burnetts Lane Roundabout	Standard Roundabout		A, B, C, D	2.60	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	2.60	A

Arms

Arms

Arm	Name	Description	No give-way line
A	Burnetts Lane (N)		
B	Chalcroft Way		
C	Chalcroft Business Park		
D	Link Road North		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
A	3.25	7.30	13.0	20.0	50.0	40.0		
B	3.38	7.30	13.5	25.0	50.0	25.0		
C	3.00	7.00	15.0	20.0	50.0	22.0		
D	3.38	7.00	15.0	27.5	50.0	28.0		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A	0.569	1544
B	0.613	1684
C	0.599	1606
D	0.610	1676

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	2023 Base	AM Peak Period	ONE HOUR	07:45	09:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	138	100.000
B		ONE HOUR	✓	150	100.000
C		ONE HOUR	✓	26	100.000
D		ONE HOUR	✓	1	100.000

Origin-Destination Data

Demand (Veh/hr)

From	To				
		A	B	C	D
	A	2	122	13	1
	B	103	0	47	0
	C	1	25	0	0
	D	0	1	0	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

From	To				
		A	B	C	D
	A	50	0	0	0
	B	0	0	6	1
	C	0	32	0	0
	D	0	0	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)
A	0.10	2.65	0.1	A	127	190
B	0.10	2.44	0.1	A	138	206
C	0.02	3.14	0.0	A	24	36
D	0.00	0.00	0.0	A	0	0

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
A	104	26	19	1519	0.068	104	80	0.0	0.1	2.544	A
B	113	28	12	1646	0.069	113	110	0.0	0.1	2.348	A
C	20	5	80	1192	0.016	20	45	0.0	0.0	3.070	A
D	0	0	98	1612	0.000	0	0.75	0.0	0.0	0.000	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
A	124	31	22	1516	0.082	124	95	0.1	0.1	2.585	A
B	135	34	14	1644	0.082	135	132	0.1	0.1	2.384	A
C	23	6	95	1184	0.020	23	54	0.0	0.0	3.100	A
D	0	0	118	1600	0.000	0	0.90	0.0	0.0	0.000	A

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
A	152	38	28	1512	0.100	152	117	0.1	0.1	2.646	A
B	165	41	18	1642	0.101	165	162	0.1	0.1	2.437	A
C	29	7	117	1174	0.024	29	66	0.0	0.0	3.141	A
D	0	0	144	1582	0.000	0	1	0.0	0.0	0.000	A

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
A	152	38	28	1512	0.100	152	117	0.1	0.1	2.646	A
B	165	41	18	1642	0.101	165	162	0.1	0.1	2.437	A
C	29	7	117	1174	0.024	29	66	0.0	0.0	3.141	A
D	0	0	144	1582	0.000	0	1	0.0	0.0	0.000	A

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
A	124	31	22	1516	0.082	124	95	0.1	0.1	2.588	A
B	135	34	14	1644	0.082	135	132	0.1	0.1	2.385	A
C	23	6	95	1184	0.020	23	54	0.0	0.0	3.102	A
D	0	0	118	1600	0.000	0	0.90	0.0	0.0	0.000	A

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
A	104	26	19	1519	0.068	104	80	0.1	0.1	2.546	A
B	113	28	12	1646	0.069	113	111	0.1	0.1	2.348	A
C	20	5	80	1191	0.016	20	45	0.0	0.0	3.071	A
D	0	0	99	1612	0.000	0	0.75	0.0	0.0	0.000	A

2023 Base, PM Peak Period

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	Chalcroft Way/Burnetts Lane Roundabout	Standard Roundabout		A, B, C, D	2.56	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	2.56	A

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	2023 Base	PM Peak Period	ONE HOUR	16:45	18:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	77	100.000
B		ONE HOUR	✓	182	100.000
C		ONE HOUR	✓	70	100.000
D		ONE HOUR	✓	4	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
	A	B	C	D	
From	A	1	74	2	0
	B	168	1	12	1
	C	16	54	0	0
	D	2	2	0	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To				
	A	B	C	D	
From	A	0	0	0	0
	B	2	0	8	0
	C	0	9	0	0
	D	0	0	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)
A	0.06	2.53	0.1	A	71	106
B	0.12	2.49	0.1	A	167	251
C	0.06	2.73	0.1	A	64	96
D	0.00	0.00	0.0	A	0	0

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
A	58	14	41	1518	0.038	58	139	0.0	0.0	2.464	A
B	137	34	2	1644	0.083	137	97	0.0	0.1	2.388	A
C	53	13	128	1429	0.037	53	11	0.0	0.0	2.615	A
D	0	0	180	1563	0.000	0	0.75	0.0	0.0	0.000	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
A	69	17	49	1513	0.046	69	166	0.0	0.0	2.492	A
B	164	41	3	1644	0.100	164	116	0.1	0.1	2.431	A
C	63	16	154	1414	0.044	63	13	0.0	0.0	2.663	A
D	0	0	216	1540	0.000	0	0.90	0.0	0.0	0.000	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
A	85	21	61	1506	0.056	85	204	0.0	0.1	2.532	A
B	200	50	3	1643	0.122	200	142	0.1	0.1	2.494	A
C	77	19	188	1395	0.055	77	15	0.0	0.1	2.731	A
D	0	0	264	1510	0.000	0	1	0.0	0.0	0.000	A

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
A	85	21	61	1506	0.056	85	204	0.1	0.1	2.532	A
B	200	50	3	1643	0.122	200	142	0.1	0.1	2.494	A
C	77	19	188	1395	0.055	77	15	0.1	0.1	2.731	A
D	0	0	264	1510	0.000	0	1	0.0	0.0	0.000	A

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
A	69	17	49	1513	0.046	69	166	0.1	0.0	2.492	A
B	164	41	3	1644	0.100	164	116	0.1	0.1	2.432	A
C	63	16	154	1414	0.045	63	13	0.1	0.0	2.663	A
D	0	0	216	1540	0.000	0	0.90	0.0	0.0	0.000	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
A	58	14	41	1518	0.038	58	139	0.0	0.0	2.465	A
B	137	34	2	1644	0.083	137	97	0.1	0.1	2.390	A
C	53	13	129	1429	0.037	53	11	0.0	0.0	2.616	A
D	0	0	181	1562	0.000	0	0.75	0.0	0.0	0.000	A

2028 with Committed Development, AM Peak Period

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	Chalcroft Way/Burnetts Lane Roundabout	Standard Roundabout		A, B, C, D	3.30	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	3.30	A

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	2028 with Committed Development	AM Peak Period	ONE HOUR	07:45	09:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	191	100.000
B		ONE HOUR	✓	487	100.000
C		ONE HOUR	✓	52	100.000
D		ONE HOUR	✓	387	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A	B	C	D
From	A	2	127	14	48
	B	107	0	91	289
	C	1	51	0	0
	D	13	374	0	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To				
	A	B	C	D	
From	A	50	0	0	0
	B	1	0	6	0
	C	0	20	0	0
	D	0	0	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)
A	0.17	3.41	0.2	A	175	263
B	0.33	3.32	0.5	A	447	670
C	0.05	3.46	0.1	A	48	72
D	0.27	3.17	0.4	A	355	532

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
A	144	36	319	1351	0.106	143	92	0.0	0.1	2.979	A
B	367	92	48	1633	0.225	365	414	0.0	0.3	2.838	A
C	39	10	335	1175	0.033	39	79	0.0	0.0	3.169	A
D	291	73	121	1597	0.182	290	253	0.0	0.2	2.753	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
A	172	43	382	1314	0.131	172	110	0.1	0.1	3.149	A
B	438	109	57	1627	0.269	437	496	0.3	0.4	3.027	A
C	47	12	401	1141	0.041	47	94	0.0	0.0	3.287	A
D	348	87	145	1581	0.220	347	303	0.2	0.3	2.917	A

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
A	210	53	468	1265	0.166	210	135	0.1	0.2	3.413	A
B	536	134	70	1619	0.331	536	607	0.4	0.5	3.322	A
C	57	14	491	1096	0.052	57	115	0.0	0.1	3.464	A
D	426	106	177	1560	0.273	425	371	0.3	0.4	3.172	A

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
A	210	53	468	1264	0.166	210	135	0.2	0.2	3.414	A
B	536	134	70	1619	0.331	536	608	0.5	0.5	3.324	A
C	57	14	491	1096	0.052	57	116	0.1	0.1	3.464	A
D	426	106	177	1560	0.273	426	371	0.4	0.4	3.173	A

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
A	172	43	382	1314	0.131	172	110	0.2	0.2	3.151	A
B	438	109	58	1627	0.269	438	497	0.5	0.4	3.032	A
C	47	12	401	1141	0.041	47	94	0.1	0.0	3.289	A
D	348	87	145	1581	0.220	348	303	0.4	0.3	2.921	A

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
A	144	36	320	1350	0.107	144	92	0.2	0.1	2.984	A
B	367	92	48	1632	0.225	367	416	0.4	0.3	2.845	A
C	39	10	336	1174	0.033	39	79	0.0	0.0	3.174	A
D	291	73	121	1597	0.182	291	254	0.3	0.2	2.759	A

2028 with Committed Development, PM Peak Period

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	Chalcroft Way/Burnetts Lane Roundabout	Standard Roundabout		A, B, C, D	3.14	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	3.14	A

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	2028 with Committed Development	PM Peak Period	ONE HOUR	16:45	18:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	127	100.000
B		ONE HOUR	✓	476	100.000
C		ONE HOUR	✓	110	100.000
D		ONE HOUR	✓	218	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
	A	B	C	D	
From	A	1	77	2	47
	B	175	1	36	264
	C	17	93	0	0
	D	8	210	0	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

From	To				
		A	B	C	D
	A	0	0	0	0
	B	2	0	8	0
	C	0	6	0	0
	D	0	0	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)
A	0.10	2.97	0.1	A	117	175
B	0.32	3.26	0.5	A	437	655
C	0.10	3.27	0.1	A	101	151
D	0.16	2.91	0.2	A	200	300

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
A	96	24	228	1412	0.068	95	151	0.0	0.1	2.735	A
B	358	90	38	1639	0.219	357	286	0.0	0.3	2.805	A
C	83	21	366	1319	0.063	83	29	0.0	0.1	2.912	A
D	164	41	215	1541	0.107	164	233	0.0	0.1	2.614	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
A	114	29	273	1386	0.082	114	181	0.1	0.1	2.831	A
B	428	107	45	1635	0.262	428	342	0.3	0.4	2.982	A
C	99	25	438	1277	0.077	99	34	0.1	0.1	3.054	A
D	196	49	258	1514	0.129	196	279	0.1	0.1	2.730	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
A	140	35	334	1350	0.104	140	221	0.1	0.1	2.974	A
B	524	131	55	1629	0.322	524	419	0.4	0.5	3.255	A
C	121	30	537	1221	0.099	121	42	0.1	0.1	3.273	A
D	240	60	316	1478	0.162	240	342	0.1	0.2	2.907	A

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
A	140	35	335	1350	0.104	140	221	0.1	0.1	2.974	A
B	524	131	55	1629	0.322	524	419	0.5	0.5	3.258	A
C	121	30	537	1220	0.099	121	42	0.1	0.1	3.274	A
D	240	60	316	1478	0.162	240	342	0.2	0.2	2.908	A

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
A	114	29	274	1385	0.082	114	181	0.1	0.1	2.834	A
B	428	107	45	1635	0.262	428	343	0.5	0.4	2.984	A
C	99	25	439	1277	0.077	99	34	0.1	0.1	3.056	A
D	196	49	258	1514	0.129	196	280	0.2	0.1	2.733	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
A	96	24	229	1411	0.068	96	151	0.1	0.1	2.736	A
B	358	90	38	1639	0.219	359	287	0.4	0.3	2.813	A
C	83	21	368	1318	0.063	83	29	0.1	0.1	2.917	A
D	164	41	216	1540	0.107	164	234	0.1	0.1	2.615	A

2028 with Committed Development and Proposed Development, AM Peak Period

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	Chalcroft Way/Burnetts Lane Roundabout	Standard Roundabout		A, B, C, D	3.37	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	3.37	A

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
D7	2028 with Committed Development and Proposed Development	AM Peak Period	ONE HOUR	07:45	09:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	195	100.000
B		ONE HOUR	✓	513	100.000
C		ONE HOUR	✓	69	100.000
D		ONE HOUR	✓	391	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
	A	B	C	D	
From	A	2	127	18	48
	B	107	0	117	289
	C	3	64	0	2
	D	13	374	4	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

From	To				
		A	B	C	D
	A	50	0	0	0
	B	1	0	6	0
	C	0	17	0	0
	D	0	0	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)
A	0.17	3.46	0.2	A	179	268
B	0.35	3.44	0.5	A	471	706
C	0.07	3.41	0.1	A	63	95
D	0.28	3.22	0.4	A	359	538

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
A	147	37	332	1343	0.109	146	94	0.0	0.1	3.005	A
B	386	97	54	1625	0.238	385	424	0.0	0.3	2.900	A
C	52	13	335	1214	0.043	52	104	0.0	0.0	3.098	A
D	294	74	132	1590	0.185	293	254	0.0	0.2	2.775	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
A	175	44	397	1306	0.134	175	112	0.1	0.2	3.184	A
B	461	115	65	1619	0.285	461	508	0.3	0.4	3.109	A
C	62	16	401	1179	0.053	62	125	0.0	0.1	3.221	A
D	351	88	158	1573	0.223	351	305	0.2	0.3	2.946	A

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
A	215	54	486	1254	0.171	214	137	0.2	0.2	3.463	A
B	565	141	79	1610	0.351	564	622	0.4	0.5	3.441	A
C	76	19	491	1133	0.067	76	153	0.1	0.1	3.406	A
D	430	108	194	1550	0.278	430	373	0.3	0.4	3.215	A

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
A	215	54	487	1254	0.171	215	137	0.2	0.2	3.464	A
B	565	141	79	1610	0.351	565	622	0.5	0.5	3.444	A
C	76	19	491	1132	0.067	76	153	0.1	0.1	3.406	A
D	430	108	194	1549	0.278	430	373	0.4	0.4	3.215	A

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
A	175	44	398	1305	0.134	176	112	0.2	0.2	3.186	A
B	461	115	65	1618	0.285	462	508	0.5	0.4	3.115	A
C	62	16	401	1179	0.053	62	125	0.1	0.1	3.222	A
D	351	88	158	1573	0.223	352	305	0.4	0.3	2.948	A

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
A	147	37	333	1343	0.109	147	94	0.2	0.1	3.010	A
B	386	97	54	1625	0.238	387	426	0.4	0.3	2.907	A
C	52	13	336	1213	0.043	52	105	0.1	0.0	3.100	A
D	294	74	133	1590	0.185	294	255	0.3	0.2	2.779	A

2028 with Committed Development and Proposed Development, PM Peak Period

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	Chalcroft Way/Burnetts Lane Roundabout	Standard Roundabout		A, B, C, D	3.27	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	3.27	A

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
D8	2028 with Committed Development and Proposed Development	PM Peak Period	ONE HOUR	16:45	18:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	133	100.000
B		ONE HOUR	✓	506	100.000
C		ONE HOUR	✓	170	100.000
D		ONE HOUR	✓	224	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A	B	C	D
From	A	1	77	8	47
	B	175	1	66	264
	C	31	124	0	15
	D	8	210	6	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To				
	A	B	C	D	
From	A	0	0	0	0
	B	2	0	5	0
	C	0	5	0	0
	D	0	0	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)
A	0.11	3.05	0.1	A	122	183
B	0.34	3.38	0.5	A	464	696
C	0.15	3.43	0.2	A	156	234
D	0.17	3.00	0.2	A	206	308

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
A	100	25	256	1395	0.072	100	161	0.0	0.1	2.778	A
B	381	95	47	1634	0.233	380	309	0.0	0.3	2.868	A
C	128	32	366	1337	0.096	128	60	0.0	0.1	2.977	A
D	169	42	249	1520	0.111	168	245	0.0	0.1	2.663	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
A	120	30	306	1366	0.088	119	193	0.1	0.1	2.886	A
B	455	114	56	1628	0.279	455	370	0.3	0.4	3.067	A
C	153	38	438	1295	0.118	153	72	0.1	0.1	3.151	A
D	201	50	298	1489	0.135	201	293	0.1	0.2	2.794	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
A	146	37	375	1326	0.110	146	236	0.1	0.1	3.050	A
B	557	139	68	1621	0.344	557	453	0.4	0.5	3.381	A
C	187	47	537	1237	0.151	187	88	0.1	0.2	3.426	A
D	247	62	365	1447	0.170	246	359	0.2	0.2	2.998	A

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
A	146	37	375	1326	0.110	146	237	0.1	0.1	3.050	A
B	557	139	68	1621	0.344	557	454	0.5	0.5	3.384	A
C	187	47	537	1237	0.151	187	88	0.2	0.2	3.427	A
D	247	62	366	1447	0.170	247	359	0.2	0.2	2.998	A

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
A	120	30	307	1366	0.088	120	194	0.1	0.1	2.890	A
B	455	114	56	1628	0.279	455	371	0.5	0.4	3.072	A
C	153	38	439	1294	0.118	153	72	0.2	0.1	3.154	A
D	201	50	299	1489	0.135	202	293	0.2	0.2	2.796	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
A	100	25	257	1395	0.072	100	162	0.1	0.1	2.780	A
B	381	95	47	1634	0.233	381	310	0.4	0.3	2.874	A
C	128	32	368	1336	0.096	128	60	0.1	0.1	2.980	A
D	169	42	250	1519	0.111	169	246	0.2	0.1	2.667	A

Appendix K

Junctions 10										
ARCADY 10 - Roundabout Module										
Version: 10.1.0.1820										
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The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution										

Filename: W638 - Bubba Lane Roundabout.j10

Path: F:\Workfile\W638\Traffic Modelling

Report generation date: 11/10/2023 15:55:15

- »2023 Base, AM Peak Hour
- »2023 Base, PM Peak Hour
- »2028 with Committed Development, AM Peak Hour
- »2028 with Committed Development, PM Peak Hour
- »2028 with Committed Development and Proposed Development, AM Peak Hour
- »2028 with Committed Development and Proposed Development, PM Peak Hour

Summary of junction performance

	AM Peak Hour					PM Peak Hour				
	Set ID	Queue (Veh)	Delay (s)	RFC	LOS	Set ID	Queue (Veh)	Delay (s)	RFC	LOS
	2023 Base									
Arm A	D3	1.0	4.45	0.51	A	D4	0.8	3.84	0.45	A
Arm B		1.0	4.35	0.51	A		1.5	5.28	0.60	A
Arm C		0.2	3.89	0.15	A		0.2	4.26	0.14	A
	2028 with Committed Development									
Arm A	D7	3.7	12.33	0.79	B	D8	1.5	6.18	0.60	A
Arm B		3.0	8.60	0.75	A		7.1	17.74	0.89	C
Arm C		1.4	8.28	0.59	A		0.9	7.40	0.46	A
	2028 with Committed Development and Proposed Development									
Arm A	D9	3.9	12.97	0.80	B	D10	1.4	5.76	0.59	A
Arm B		3.2	9.18	0.77	A		8.4	20.61	0.90	C
Arm C		1.5	8.75	0.60	A		1.0	7.90	0.50	A

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

File summary

File Description

Title	(untitled)
Location	Chalcroft Business Park
Site number	
Date	15/02/2018
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	W638
Enumerator	PFA\traffictteam
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	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use iterations with HCM roundabouts	Max number of iterations for roundabouts
5.75						0.85	36.00	20.00		500

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
D3	2023 Base	AM Peak Hour	ONE HOUR	07:45	09:15	15	✓
D4	2023 Base	PM Peak Hour	ONE HOUR	16:45	18:15	15	✓
D7	2028 with Committed Development	AM Peak Hour	ONE HOUR	07:45	09:15	15	✓
D8	2028 with Committed Development	PM Peak Hour	ONE HOUR	16:45	18:15	15	✓
D9	2028 with Committed Development and Proposed Development	AM Peak Hour	ONE HOUR	07:45	09:15	15	✓
D10	2028 with Committed Development and Proposed Development	PM Peak Hour	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

2023 Base, AM Peak Hour

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	Bubb Lane/Chalcroft Way Roundabout	Standard Roundabout		A, B, C	4.35	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	4.35	A

Arms

Arms

Arm	Name	Description	No give-way line
A	Bubb Lane North		
B	Bubb Lane South		
C	Link Road		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
A	3.65	7.00	23.1	30.0	40.0	33.0		
B	3.65	7.00	16.3	30.0	40.0	27.0		
C	3.38	7.00	11.0	30.0	40.0	34.0		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A	0.666	1810
B	0.663	1764
C	0.615	1562

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
D3	2023 Base	AM Peak Hour	ONE HOUR	07:45	09:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	762	100.000
B		ONE HOUR	✓	779	100.000
C		ONE HOUR	✓	152	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
	A	0	753	9
	B	635	5	139
	C	9	143	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To			
		A	B	C
	A	0	3	22
	B	5	0	1
	C	22	0	4

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)
A	0.51	4.45	1.0	A	699	1049
B	0.51	4.35	1.0	A	715	1072
C	0.15	3.89	0.2	A	139	209

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
A	574	143	111	1682	0.341	572	483	0.0	0.5	3.238	A
B	586	147	7	1687	0.348	584	676	0.0	0.5	3.260	A
C	114	29	480	1236	0.093	114	111	0.0	0.1	3.208	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
A	685	171	133	1668	0.411	684	578	0.5	0.7	3.660	A
B	700	175	8	1686	0.415	700	809	0.5	0.7	3.648	A
C	137	34	575	1176	0.116	137	133	0.1	0.1	3.463	A

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
A	839	210	163	1648	0.509	838	708	0.7	1.0	4.433	A
B	858	214	10	1685	0.509	856	991	0.7	1.0	4.340	A
C	167	42	704	1094	0.153	167	163	0.1	0.2	3.884	A

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
A	839	210	163	1648	0.509	839	709	1.0	1.0	4.448	A
B	858	214	10	1685	0.509	858	992	1.0	1.0	4.353	A
C	167	42	705	1093	0.153	167	163	0.2	0.2	3.888	A

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
A	685	171	133	1667	0.411	686	580	1.0	0.7	3.673	A
B	700	175	8	1686	0.415	702	811	1.0	0.7	3.663	A
C	137	34	576	1175	0.116	137	133	0.2	0.1	3.471	A

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
A	574	143	112	1681	0.341	574	485	0.7	0.5	3.253	A
B	586	147	7	1687	0.348	587	679	0.7	0.5	3.277	A
C	114	29	482	1235	0.093	115	112	0.1	0.1	3.216	A

2023 Base, PM Peak Hour

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	Bubb Lane/Chalcroft Way Roundabout	Standard Roundabout		A, B, C	4.64	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	4.64	A

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	2023 Base	PM Peak Hour	ONE HOUR	16:45	18:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	697	100.000
B		ONE HOUR	✓	936	100.000
C		ONE HOUR	✓	130	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
	A	B	C	
From	A	1	690	6
	B	761	1	174
	C	17	112	1

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To			
	A	B	C	
From	A	0	1	17
	B	3	0	1
	C	12	3	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)
A	0.45	3.84	0.8	A	640	959
B	0.60	5.28	1.5	A	859	1288
C	0.14	4.26	0.2	A	119	179

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
A	525	131	86	1732	0.303	523	584	0.0	0.4	2.975	A
B	705	176	6	1715	0.411	702	603	0.0	0.7	3.546	A
C	98	24	572	1152	0.085	98	136	0.0	0.1	3.414	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
A	627	157	102	1720	0.364	626	699	0.4	0.6	3.288	A
B	841	210	7	1714	0.491	840	721	0.7	1.0	4.116	A
C	117	29	685	1083	0.108	117	163	0.1	0.1	3.724	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
A	767	192	125	1705	0.450	766	856	0.6	0.8	3.833	A
B	1031	258	9	1713	0.602	1028	883	1.0	1.5	5.244	A
C	143	36	838	990	0.145	143	199	0.1	0.2	4.249	A

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
A	767	192	126	1704	0.450	767	858	0.8	0.8	3.841	A
B	1031	258	9	1713	0.602	1031	884	1.5	1.5	5.277	A
C	143	36	840	989	0.145	143	199	0.2	0.2	4.256	A

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
A	627	157	103	1720	0.364	628	702	0.8	0.6	3.297	A
B	841	210	7	1714	0.491	844	723	1.5	1.0	4.146	A
C	117	29	688	1082	0.108	117	163	0.2	0.1	3.732	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
A	525	131	86	1731	0.303	525	587	0.6	0.4	2.988	A
B	705	176	6	1715	0.411	706	605	1.0	0.7	3.573	A
C	98	24	575	1150	0.085	98	136	0.1	0.1	3.424	A

2028 with Committed Development, AM Peak Hour

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	Bubb Lane/Chalcroft Way Roundabout	Standard Roundabout		A, B, C	9.93	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	9.93	A

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
D7	2028 with Committed Development	AM Peak Hour	ONE HOUR	07:45	09:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	1012	100.000
B		ONE HOUR	✓	1141	100.000
C		ONE HOUR	✓	557	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
	A	B	C	
From	A	0	957	55
	B	706	5	430
	C	56	501	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To			
	A	B	C	
From	A	0	2	5
	B	4	0	1
	C	4	1	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)
A	0.79	12.33	3.7	B	929	1394
B	0.75	8.60	3.0	A	1047	1571
C	0.59	8.28	1.4	A	511	767

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
A	762	191	379	1522	0.501	758	571	0.0	1.0	4.688	A
B	859	215	42	1687	0.509	855	1096	0.0	1.0	4.305	A
C	419	105	533	1206	0.348	417	364	0.0	0.5	4.554	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
A	910	228	454	1473	0.618	908	684	1.0	1.6	6.345	A
B	1026	256	50	1682	0.610	1024	1312	1.0	1.5	5.453	A
C	501	125	638	1139	0.439	500	436	0.5	0.8	5.628	A

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
A	1115	279	555	1406	0.793	1107	835	1.6	3.6	11.706	B
B	1256	314	61	1674	0.750	1251	1601	1.5	2.9	8.393	A
C	613	153	779	1050	0.584	611	532	0.8	1.4	8.154	A

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
A	1115	279	557	1405	0.793	1114	839	3.6	3.7	12.331	B
B	1256	314	61	1674	0.750	1256	1610	2.9	3.0	8.603	A
C	613	153	783	1048	0.585	613	534	1.4	1.4	8.276	A

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
A	910	228	457	1471	0.619	918	689	3.7	1.7	6.610	A
B	1026	256	50	1681	0.610	1031	1325	3.0	1.6	5.585	A
C	501	125	643	1136	0.441	503	439	1.4	0.8	5.707	A

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
A	762	191	382	1520	0.501	765	575	1.7	1.0	4.782	A
B	859	215	42	1687	0.509	861	1105	1.6	1.0	4.372	A
C	419	105	537	1203	0.348	420	366	0.8	0.5	4.603	A

2028 with Committed Development, PM Peak Hour

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	Bubb Lane/Chalcroft Way Roundabout	Standard Roundabout		A, B, C	12.49	B

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	12.49	B

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
D8	2028 with Committed Development	PM Peak Hour	ONE HOUR	16:45	18:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	806	100.000
B		ONE HOUR	✓	1380	100.000
C		ONE HOUR	✓	381	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
	A	B	C	
From	A	1	781	24
	B	929	1	450
	C	39	341	1

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To			
	A	B	C	
From	A	0	6	1
	B	2	0	1
	C	6	1	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)
A	0.60	6.18	1.5	A	740	1109
B	0.89	17.74	7.1	C	1266	1899
C	0.46	7.40	0.9	A	350	524

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
A	607	152	257	1547	0.392	604	725	0.0	0.6	3.811	A
B	1039	260	19	1722	0.603	1033	842	0.0	1.5	5.178	A
C	287	72	697	1108	0.259	285	356	0.0	0.3	4.368	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
A	725	181	308	1514	0.478	724	868	0.6	0.9	4.544	A
B	1241	310	23	1720	0.721	1237	1008	1.5	2.5	7.385	A
C	343	86	834	1023	0.335	342	426	0.3	0.5	5.278	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
A	887	222	376	1471	0.603	885	1055	0.9	1.5	6.121	A
B	1519	380	29	1716	0.885	1503	1233	2.5	6.7	15.730	C
C	419	105	1014	912	0.460	418	517	0.5	0.8	7.263	A

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
A	887	222	378	1470	0.604	887	1066	1.5	1.5	6.177	A
B	1519	380	29	1716	0.885	1518	1236	6.7	7.1	17.738	C
C	419	105	1024	906	0.463	419	522	0.8	0.9	7.397	A

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
A	725	181	310	1513	0.479	727	883	1.5	0.9	4.590	A
B	1241	310	23	1720	0.721	1258	1013	7.1	2.7	8.091	A
C	343	86	849	1014	0.338	344	433	0.9	0.5	5.382	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
A	607	152	259	1546	0.393	608	733	0.9	0.7	3.845	A
B	1039	260	20	1722	0.603	1043	847	2.7	1.5	5.337	A
C	287	72	704	1104	0.260	287	359	0.5	0.4	4.412	A

2028 with Committed Development and Proposed Development, AM Peak Hour

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	Bubb Lane/Chalcroft Way Roundabout	Standard Roundabout		A, B, C	10.49	B

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	10.49	B

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
D9	2028 with Committed Development and Proposed Development	AM Peak Hour	ONE HOUR	07:45	09:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	1015	100.000
B		ONE HOUR	✓	1164	100.000
C		ONE HOUR	✓	570	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
From	A	0	957	58
	B	706	5	453
	C	58	512	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To			
		A	B	C
From	A	0	2	5
	B	4	0	1
	C	4	2	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)
A	0.80	12.97	3.9	B	931	1397
B	0.77	9.18	3.2	A	1068	1602
C	0.60	8.75	1.5	A	523	785

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
A	764	191	387	1514	0.505	760	572	0.0	1.0	4.750	A
B	876	219	43	1686	0.520	872	1104	0.0	1.1	4.398	A
C	429	107	533	1195	0.359	427	383	0.0	0.6	4.673	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
A	912	228	464	1463	0.624	910	685	1.0	1.6	6.476	A
B	1046	262	52	1681	0.623	1044	1322	1.1	1.6	5.637	A
C	512	128	638	1129	0.454	511	458	0.6	0.8	5.816	A

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
A	1118	279	567	1395	0.801	1109	837	1.6	3.8	12.237	B
B	1282	320	63	1673	0.766	1276	1612	1.6	3.1	8.920	A
C	628	157	779	1041	0.603	625	560	0.8	1.5	8.598	A

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
A	1118	279	569	1393	0.802	1117	841	3.8	3.9	12.966	B
B	1282	320	64	1673	0.766	1281	1622	3.1	3.2	9.183	A
C	628	157	783	1039	0.604	627	562	1.5	1.5	8.749	A

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
A	912	228	467	1461	0.625	921	691	3.9	1.7	6.775	A
B	1046	262	53	1680	0.623	1053	1336	3.2	1.7	5.789	A
C	512	128	643	1126	0.455	515	462	1.5	0.8	5.917	A

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
A	764	191	390	1512	0.505	767	577	1.7	1.0	4.846	A
B	876	219	44	1686	0.520	879	1113	1.7	1.1	4.470	A
C	429	107	537	1193	0.360	430	386	0.8	0.6	4.728	A

2028 with Committed Development and Proposed Development, PM Peak Hour

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	Bubb Lane/Chalcroft Way Roundabout	Standard Roundabout		A, B, C	14.04	B

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	14.04	B

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
D10	2028 with Committed Development and Proposed Development	PM Peak Hour	ONE HOUR	16:45	18:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	814	100.000
B		ONE HOUR	✓	1402	100.000
C		ONE HOUR	✓	410	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
From	A	1	781	32
	B	929	1	472
	C	45	364	1

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To			
		A	B	C
From	A	0	1	5
	B	2	0	1
	C	5	1	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)
A	0.59	5.76	1.4	A	747	1120
B	0.90	20.61	8.4	C	1286	1930
C	0.50	7.90	1.0	A	376	564

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
A	613	153	274	1607	0.381	610	730	0.0	0.6	3.603	A
B	1055	264	25	1718	0.614	1049	859	0.0	1.6	5.336	A
C	309	77	697	1109	0.278	307	378	0.0	0.4	4.481	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
A	732	183	328	1571	0.466	731	873	0.6	0.9	4.279	A
B	1260	315	31	1715	0.735	1256	1029	1.6	2.7	7.772	A
C	369	92	834	1024	0.360	368	452	0.4	0.6	5.479	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
A	896	224	402	1522	0.589	894	1060	0.9	1.4	5.711	A
B	1544	386	37	1710	0.903	1524	1258	2.7	7.7	17.664	C
C	451	113	1012	914	0.494	450	549	0.6	1.0	7.724	A

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
A	896	224	403	1521	0.589	896	1072	1.4	1.4	5.757	A
B	1544	386	37	1710	0.903	1541	1262	7.7	8.4	20.609	C
C	451	113	1023	907	0.498	451	555	1.0	1.0	7.897	A

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
A	732	183	330	1570	0.466	734	891	1.4	0.9	4.320	A
B	1260	315	31	1714	0.735	1282	1034	8.4	2.9	8.730	A
C	369	92	852	1013	0.364	370	461	1.0	0.6	5.612	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
A	613	153	276	1606	0.382	614	737	0.9	0.6	3.635	A
B	1055	264	26	1718	0.614	1060	864	2.9	1.6	5.519	A
C	309	77	704	1104	0.279	309	382	0.6	0.4	4.531	A