Vistry Homes Ltd

LAND AT BUNTINGFORD WEST

Transport Assessment

JULY 2023

PUBLIC

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Transport Assessment

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SITE ACCESS

1 INTRODUCTION

1.1 OVERVIEW

1.1.1. WSP has been engaged by Vistry Group to provide transport planning advice with regard to the proposed development at Buntingford West.

1.1.2. This Transport Assessment (TA) is to support an outline application on land east of the A10, Buntingford, Hertfordshire, SG9 ('Buntingford West'), the official scheme description is as follows:

Outline planning application (with all matters reserved except for access) for:

Development of 350 dwellings, with up to 4,400 sqm of commercial and services floorspace (Use Class E and B8), and up to 500 sqm of retail floorspace (Use Classes E) and other associated works including drainage, access into the site from the A10 and Luynes Rise (but not access within the site), allotments, public open space and landscaping.

1.1.3. The site is located to the west of Buntingford, Hertfordshire, and is bounded to the north and east by existing development and to the south and west by the A10.

1.1.4. The development proposals seek to deliver with sustainability at the heart of the design. The proposals provide a mixed-use development to promote trip internalisation, upgrade of existing footways through the site plus additional connections to improve the site's permeability. The design of the scheme is such that it adopts the Liveable Neighbourhood and 20 Minutes Homes concepts and uses hard measures to encourage sustainable travel.

1.2 REPORT OBJECTIVE

1.2.1. This TA has been prepared to accompany a planning application for the site and provide information with regard to all traffic and transportation matters associated with the proposed mixed-use development.

1.2.2. This report provides an appraisal which details the existing site and surrounding highway network, as well as reviewing the site location and accessibility to modes other than the private car. The report also includes an assessment of the travel demands of the proposed development and the potential impact on the local highway network.

1.3 PLANNING HISTORY

1.3.1. This site has previously been the subject of three previous planning applications:

- Reference 3/14/2304/OP (2014): **appeal against non-determination withdrawn**
  Outline: (all matters reserved except for access). i. Up to 400 dwellings (C3) ii. First school site. iii Formal and informal open spaces. iv. Children's playspace. v. Structural landscaping and internal roads. vi. Formation of a new junction on the A10. vii. surface and foul water drainage infrastructure.
- Reference 3/17/1811/OUT (2017): **appeal withdrawn**
  Outline application for all matters reserved except for access comprising: i. Up to 400 dwellings (C3). ii. 2.0 hectares of land for Use Class B1 employment. iii. Formal and informal open spaces including children's playspaces. iv. Structural landscaping and internal roads. v. Formation of a new junction on the A10. vi. Surface and foul water drainage infrastructure.

- Reference 3/22/1551/FUL (2022): **refused**
  Hybrid planning application comprising:
  (i) Full planning for the development of 350 residential dwellings (Use Class C3), a new highway junction from the A10 with associated works including drainage, access roads, allotments, public open space and landscaping; and
  (ii) Outline planning (with all matters reserved except for access) for up to 4,400 sqm of commercial and services floorspace (Use Class E and B8), and up to 500 sqm of retail floorspace (Use Classes E).

1.3.2. The core issues regarding the withdrawal and refusal of 3/14/2304/OP and 3/17/1811/OUT were centred around the development mix and limited opportunity for trip internalisation resulting in significant trips on the network.

1.3.3. Application 3/22/1551/FUL (2022) addressed the issue by providing a development mix which will see significant trip internalisation within the development and a shift towards sustainable transport within the immediate area by attracting trips to the non-residential element of the development which are likely to be undertaken by active means of transport due to the hard measures in place. Application 3/22/1551/FUL also proposed a more permeable scheme, in that it maintained and upgraded the existing footways within the site and provided walking and cycling connection between Aspenden and Buntingford via the proposed access on Luynes Rise which connects to the active travel infrastructure currently under construction on London Road/Station Road.

1.3.4. Following submission of 3/22/1551/FUL, HCC and EHDC provided responses which sets out the reasons for refusal. These are attached as Annex A and A.1 respectively of WSPs Response in **Appendix A** of this report.

1.3.5. The main issue raised was regarding the form of vehicular access as set out below:

> *Whilst this junction arrangement is supported by HCC Highways, having been recommended during pre-application, in order to address Policy 5f of HCC's Local Transport Plan (LTP4) the junction will require to be fully approved by the council's Strategic Transport Infrastructure Board (STIB) prior to a recommendation for approval. This application to STIB also requires to be supported by the Personal Injury Collision (PIC) analysis already completed by WSP'.*

1.3.6. In response to the above a Special Circumstances Report (SCR) was prepared and submitted to HCC on 05 December 2022 in relation to the signal control access proposed. However, prior to this, a roundabout option was proposed in the 2014 application (ref 3/14/2304/OP) which was also subject to a SCR, details of which was accepted as special circumstance with no objection.

1.3.7. The 2022 SCR was subsequently submitted to the Strategic Transport Infrastructure Board (STIB) and it was advised via email on 17th December 2022 (see Annex B of **Appendix A**) that the principles of the junction was accepted however issues regarding safety were raised and so additional information was requested and submitted to HCC to demonstrate that the design was safe in regards to vehicle speeds.

1.3.8. Following the submission of the safety considerations for STIB review a draft response from STIB was issued on 25 April 2023 (see Annex B.1 of **Appendix A**). Points raised include *vehicle speed, lack of lighting, visibility caused by deflection and capacity in the surrounding network*. STIB also recognised after exploring other access options that there are no clear suitable alternatives when considering an LTP compliant access strategy other than the options of Luynes Rise or direct A10 vehicle access.

1.3.9. STIB further suggested that *options exist for a roundabout or light controlled junction.* Further to the draft comments, a pre-application meeting was held with HCC and STIB representatives on 15 May 2023 to discuss the draft comments and the new application being brought forward. It was agreed that as part of the new application another SCR be submitted in response to the comments raised, setting out the special circumstances under which the access should be considered.

1.3.10. Following the above, a new SCR has been prepared to support the current application. This will be submitted to STIB for review.

1.4 CURRENT APPLICATION

1.4.1. The current application (resubmission of 3/22/1551/FUL) is an outline application with all matters reserved except for access for the same quantum of development as the previous application 3/22/1551/FUL (*350 dwellings, up to 4,400 sqm of commercial and services floorspace (Use Class E and B8), and up to 500 sqm of retail floorspace (Use Classes E) and other associated works including drainage, access roads, allotments, public open space and landscaping*).

1.4.2. As the quantum of development and access strategy (except access type) is not changing in the current application, it is considered reasonable to conclude that the effect of trip distribution and the impact of trips on the assessed junctions will not change, as such the conclusion of the report will not change.

1.5 REPORT FORMAT

1.5.1. The report will follow the format presented below:

- Section 2 details relevant national, regional and local policy;
- Section 3 sets out the existing conditions of the application site;
- Section 4 sets out the development proposals;
- Section 5 describes the associated trip generation, mode share and distribution;
- Section 6 describes the junction modelling undertaken and outlines the impact the development will have on the local transport network;
- Section 7 outlines the level of travel planning required; and
- Section 8 provides a summary and an overall conclusion as to the transport impact of the development proposal.

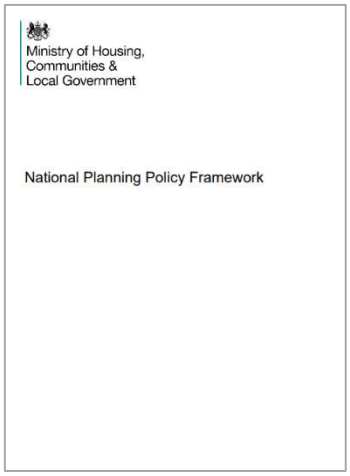
2 POLICY CONTEXT

2.1 INTRODUCTION

2.1.1. This section of the report will present the existing policy documents in place on a national, regional and local level, which will be evaluated in the Transport Assessment.

2.2 NATIONAL POLICY

NATIONAL PLANNING POLICY FRAMEWORK (NPPF, JULY 2021)



2.2.1. The Government published an update to the planning system in the UK the Revised National Planning Policy Framework (NPPF) in July 2018, which reaffirmed the step change in national planning policy that the 2012 policy had introduced (**a presumption in favour of sustainable development**) and the new framework is aimed at further streamlining the planning process, particularly with regards to housing. The NPPF 2018 was further amended in February 2019 and thereafter in July 2021, with minor changes to wording.

2.2.2. The NPPF emphasises **plan-making** and **decision-taking** within Local Planning Authorities (LPAs) and places responsibility on LPAs. This liability sets to establish plans which satisfy the housing requirement in their area. It particularly must demonstrate that there is a 5-year plan of deliverable sites and developable sites beyond for at least 6-10 years if not more.

2.2.3. Where **plan-making** is mentioned, the NPPF specifies that:

a) plans should positively seek opportunities to meet the development needs of their area, and be sufficiently flexible to adapt to the effects of climate change;

b) strategic policies should, as a minimum, provide for objectively assessed needs for housing and other uses, as well as any needs that cannot be met within neighbouring areas, unless:

- i. the application of policies in the Framework that protect areas or assets of particular importance provides a strong reason for restricting the overall scale, type or distribution of development in the plan area; or
- ii. Any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies of the Framework taken as a whole.

2.2.4. and **decision-taking** means:

approving development proposals that accord with an up-to-date development plan without delay; or

where there are no relevant development plan policies, or the policies which are most important for determining the application are out-of-date, granting permission unless:

- *i. the application of policies in the Framework that protect areas or assets of particular importance provides a clear reason for refusing the development proposed; or*
- *ii. Any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies of the Framework taken as a whole.*

2.2.5. Issues should be considered from the earliest stage of the **plan-making** process with regards to promoting sustainable transport, while policies should:

a) support an appropriate blend of uses across an area, and within larger scale sites, to minimise the number and length of journeys needed for employment, shopping, leisure, education and other activities;

b) be prepared with the active involvement of local highways authorities, other transport infrastructure providers and operators and neighbouring councils, so that strategies and investments for supporting sustainable transport and development patterns are aligned;

c) identify and protect, where there is robust evidence, sites and routes which could be critical in developing infrastructure to widen transport choice and realise opportunities for large scale development;

d) provide for high quality walking and cycling networks and supporting facilities such as cycle parking (drawing on Local Cycling and Walking Infrastructure Plans);

e) provide for any large-scale transport facilities that need to be located in the area, and the infrastructure and wider development required to support their operation, expansion and contribution to the wider economy. In doing so they should take into account whether such development is likely to be a nationally significant infrastructure project and any relevant national policy statements; and

f) recognise the importance of maintaining a national network of general aviation airfields, and their need to adapt and change over time – taking into account their economic value in serving business, leisure, training and emergency service needs, and the Government's General Aviation Strategy.

2.2.6. If setting local parking standards for residential and non-residential development, policies should consider:

- a) the accessibility of the development;
- b) the type, mix and use of development;
- c) the availability of and opportunities for public transport;
- d) local car ownership levels; and
- e) the need to ensure an adequate provision of spaces for charging plug-in and other ultra-low emission vehicles.

2.2.7. Maximum parking standards for residential and non-residential development should only be set where there is a clear and compelling justification that they are necessary for managing the local road network, or for optimising the density of development in city and town centres and other locations that are well served by public transport.

NATIONAL PLANNING PRACTICE GUIDANCE (NPPG, JULY 2021)

2.2.8. Following the issue of the first NPPF in March 2012, the Government produced specific guidance relating to the NPPF known as Planning Practice Guidance (PPG). The section 'Transport Evidence Bases in Plan Making and Decision Taking', March 2015 specifically address transportation planning issues and Paragraph 23 of the NPPF.

2.2.9. The ‘Transport Evidence Bases In Plan Making and Decision Taking’ section of the PPG places responsibility on Councils to prepare ‘off the shelf’ Transport Assessments to speed up the planning process and aid development. However, it does recognise that there will be instances when a ready-made plan is not available (‘Travel plans, transport assessments and statements in decision-taking’) and ‘it may also be useful in plan-making if local planning authorities are of the view that Transport Assessments can beneficially inform their Local Plans (for example, in order to facilitate the use of sustainable modes of transport).’

2.2.10. The section ‘Travel plans, transport assessments and statements in decision-taking’ in the PPG hence, expands slightly on the ‘Overarching Principles on Travel Plans, Transport Assessments’ and additionally expands on their content in subsequent sections of the document.

CYCLE INFRASTRUCTURE DESIGN LOCAL TRANSPORT NOTE (LTN 1/20, JULY 2020)

2.2.11. The Cycle Infrastructure Design LTN provides guidance on design standards for cycle infrastructure based on five overarching design principles and 22 summary principles. The LTN guidance is in support of the statutory Cycling and Walking Investment Strategy (CWIS) which has the ambition to further encourage the use of active travel modes as the natural choices for short journeys.

2.2.12. The five core design principles – which represent the necessary requirements to achieve an increase in active travel – specified in the LTN include the following:

- Coherent: cycle networks planned and designed to easily navigate along, such as through connected links;
- Direct: direct cycle routes with fewer stopping instances;
- Safe: perceived safety and actual safety in the design of cycle infrastructure;
- Comfortable: good quality, well-maintained, smooth surfaces, and adequate widths for cycling routes; and
- Attractive: well-designed and attractive cycle infrastructure that guides people towards public places and popular areas.

2.2.13. The guidance states that the design of cycle infrastructure should be inclusive and accessible as a result of the consideration of the five specified design principles.

GEAR CHANGE: A BOLD VISION FOR WALKING & CYCLING (JULY 2020)

2.2.14. The plan set out in Gear Change: A bold vision for cycling and walking looks to transform the role cycling and walking can have in England's transport system. It further emphasises the benefits of active travel on improving air quality, combatting climate change, improving health and wellbeing, addressing inequalities, and tackling congestion.

2.2.15. The plan has identified the main barriers and developed the following four themes to encourage the use of active travel modes:

- Theme 1: Better streets for cycling and people;
- Theme 2: Cycling at the heart of decision-making;
- Theme 3: Empowering and encouraging Local Authorities; and
- Theme 4: Enabling people to cycle and protecting them when they do

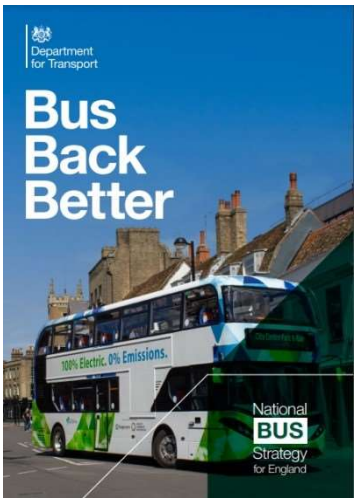
2.2.16. The first theme highlighted in the plan focuses on the construction of safe, continuous, physically separated, direct routes for cycling in towns and cities across England. It further targets the addition of cycle, bus and walking corridors through the closure of specific main roads to through traffic, the construction of more "Mini-Hollands", and the improvement of the National Cycle Network.

2.2.17. The second theme partly ensures that new housing and business developments are built with the sustainable transport modes in mind, with the provision of appropriately located cycle parking facilities.

2.2.18. The plan specified the third theme as the empowerment and encouragement of local authorities, which includes increased funding, and improved capacity and assistance for active travel projects.

2.2.19. The final theme mentioned in the Gear Change document looks to enable people to cycle, through factors such as the provision of cycle safety training to protect them when cycling.

BUS BACK BETTER (MARCH 2021)

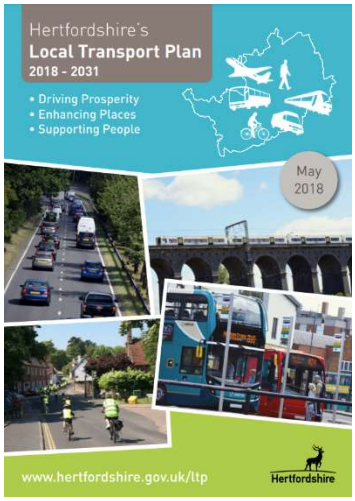


2.2.20. Bus Back Better is a long-term strategy for buses in England, outside of London. This new national bus strategy sets out the vision and opportunity to deliver better bus services for passengers across England, through ambitious and far-reaching reform of how services are planned and delivered. The strategy includes various ambitions, such as to "make buses more frequent, more reliable, easier to understand and use, better co-ordinated", and with "simple, cheap flat fares … with daily and weekly price capping across operators.".

2.2.21. The new strategy challenges councils to give buses greater priority at traffic lights, reallocate road-space for bus lanes, create bus gates, and manage their roads with bus reliability in mind. It recommends looking carefully at street design and locations of bus stops, parking and loading bays and developing 'Bus Service Improvement Plans' (BSIPs). Hertfordshire's BSIP was published in October 2021 and is discussed in the regional policy section.

2.3 REGIONAL POLICY

HCC LOCAL TRANSPORT PLAN (LTP4, MAY 2018)



2.3.1. This document sets out a new transport vision for Hertfordshire. The plan accelerates the transition from a previous transport strategy that was largely car based to a more balanced approach which caters for all forms of transport and seeks to encourage a switch from the private car to sustainable transport (e.g. walking, cycling and passenger transport) wherever possible.

2.3.2. In relation to the WY1 allocation, Figure 3.2 of the LTP4 shows the site as one that has been included in the countywide transport model (COMET) forecasts featured in the January 2017 Forecasting Report, which forms part of the LTP evidence base.

2.3.3. The site sits within the Stevenage to Luton corridor. The corridor is well served by road connections, but the LTP4 seeks to improve the non-car connections in the key corridors.

2.3.4. In terms of policies, the following are considered most pertinent to this site.

Policy 1: Transport User Hierarchy

To support the creation of built environments that encourage greater and safer use of sustainable transport modes, the county council will in the design of any scheme and development of any transport strategy consider in the following order:

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

Policy 5: Development Management

The county council will to work with development promoters and the district and borough councils to:

a) Ensure the location and design of proposals reflect the LTP Transport User Hierarchy and encourage movement by sustainable transport modes and reduced travel demand.

b) Ensure access arrangements are safe, suitable for all people, built to an adequate standard and adhere to the county council's Highway Design Standards.

c) Consider the adoption of access roads and internal road layouts where they comply with the appropriate adoption requirements and will offer demonstrable utility to the wider public. Where internal roads are not adopted the county council will expect suitable private management arrangements to be in place.

d) Secure developer mitigation measures to limit the impacts of development on the transport network, and resist development where the residual cumulative impact of development is considered to be severe.

e) Require a travel plan for developments according to the requirements of 'Hertfordshire's Travel Plan Guidance'.

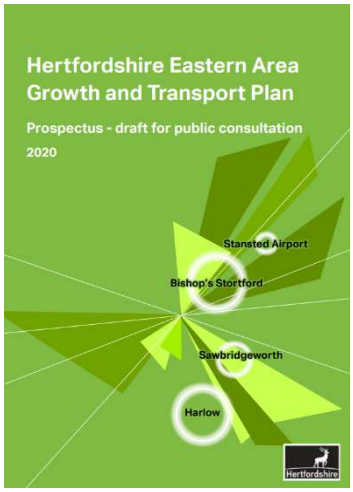
f) Only consider new accesses onto primary and main distributor roads where special circumstances can be demonstrated in favour of the proposals.

g) Resist development that would either severely affect the rural or residential character of a road or other right of way, or which would severely affect safety on rural roads, local roads and rights of way especially for vulnerable road users. This should include other routes which are important for sustainable transport or leisure.

h) Ensure that any new parking provision in new developments provides facilities for electric charging of vehicles, as well as shared mobility solutions such as car clubs and thought should be made for autonomous vehicles in the future.

EASTERN AREA GROWTH AND TRANSPORT PLAN (EAGTP, 2021)

2.3.5. The Eastern Area Growth and Transport Plan (NCGTP) is currently being developed and follows on from the LTP4 to provide more detail on specific measures associated with growth and transport within Eastern Hertfordshire (including Stansted Airport, Bishop's Stortford, Sawbridgeworth and Harlow). The EAGTP proposes measures within this area under the following themes:



- Improved walking links within towns including new crossings on busy roads;
- Improved road junctions to reduce delays on key roads and reduce rat-running on quieter roads;
- Improved bus services and priority for buses at junctions;
- Improved cycle links within and between towns, and cycling parking facilities at key locations; and
- Improved walking, cycling and bus connections to railway stations..

SUSTAINABLE HERTFORDSHIRE STRATEGY (2020)

2.3.6. Following its Climate Emergency Declaration in July 2019, Hertfordshire County Council started developing a Sustainable Hertfordshire Strategy to set out initial policies and strategies needed to embed sustainability across all its council operations and services throughout the county. The strategy has the aim of enabling environmental action across the county; from delivering net zero carbon to preparing for extreme weather.

2.3.7. The strategy identifies that increasing mode-shift away from car towards walking and cycling will help achieve the county's plans for fighting climate change. The document sets out targets, and what is required in order to achieve these.

INTALINK BUS STRATEGY (2020)

2.3.8. The Intalink Hertfordshire Bus Strategy sets out in greater detail the plans to grow the local bus network to support the shift towards more sustainable transport within Hertfordshire (as shown in LTP4).

2.3.9. The strategy states that there is clear potential for growth in bus travel in Hertfordshire, noting that only 3% of journeys to work in Hertfordshire are made by bus, which is less than half the national average. It also notes the large numbers of residents who make multi-modal trips to London on the train and the LTP4 declaration that "with 175,000 additional residents by 2031, it will not be acceptable in environmental, economic or social terms to continue to depend on cars."

2.3.10. The strategy's plans include giving greater priority to bus services in traffic, making sure bus information is easy to access and raising standards of operation across the county.

BUS SERVICE IMPROVEMENT PLAN (2018)

2.3.11. The Hertfordshire Bus Service Improvement Plan (BSIP) acts as the vision for how bus services will be developed and enhanced across Hertfordshire County in the coming years.

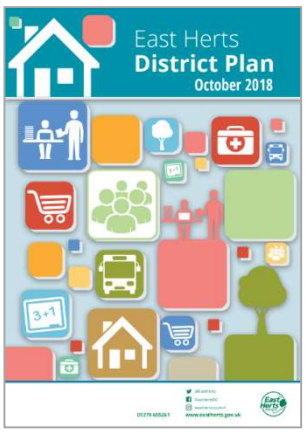
2.3.12. HCC is one of 31 local authorities that has been successful with their Bus Service Improvement Plan (BSIP) submission to the Department for Transport and have been offered an indicative amount of £29.7 million to deliver passenger transport schemes and initiatives through the Intalink Enhanced Partnership.

2.3.13. Based on a review of the potential strategic core network of services and the designation of primary, secondary, and tertiary towns identified by HCC, there are a range of potential missing links, including Harpenden–Hemel Hempstead, Harpenden– Stevenage and Stevenage–Buntingford.

2.3.14. For Buntingford the BSIP highlighted under the Rural Mobility Fund, that the Demand Responsive Transport (DRT) scheme 'HertsLynx' serving North and East Herts, will primarily focus on Buntingford and surrounding areas.

2.4 LOCAL POLICY

EAST HERTS DISTRICT PLAN (2018)



2.4.1. The East Herts District Plan sets out the Council's planning framework for the district. It identifies how East Herts will grow and develop to become an even more desirable and prosperous place to live, work and visit. It covers the period 2011–2033 and replaces the policies in the Local Plan 2007.

2.4.2. The document identifies the key issues and challenges facing the district, including:

- **Economy** – Supporting a vibrant local economy and responding to the needs of businesses is another key issue. This means getting the

balance right between the delivery of new housing on previously developed sites and ensuring there is enough employment land to meet current and future needs.

- **Housing** – There is a pressing need for more affordable housing in the District. Achieving housing development that responds to local needs, whilst recognising the environmental and other constraints in East Herts, is a significant challenge.
- **Transport** – The District is predominantly rural with a dispersed population which creates challenges in providing a comprehensive public transport network. Many local communities are reliant on the private car as their only transport option. This impacts on carbon dioxide emissions, air quality, noise, public safety and the quality of the environment in towns and villages. The challenge is to ensure that development is directed to sustainable locations, to reduce the need to travel and, where journeys need to be made, the distance of those trips.

2.4.3. Chapter 6 of the document details the development strategy for Buntingford, which includes:

- **Housing -** additional homes will be provided which will consist of a mix of dwelling types and sizes, including bungalows and specialist retirement accommodation, to ensure that Buntingford's population is able to access a balanced housing market catering for all life stages. The provision of affordable housing as part of new residential and mixed-use development schemes will allow emerging households to be able to remain living in Buntingford in accommodation suited to their needs.
- **Transport** - as part of development proposals for the town, bus services will be enhanced to support travel around the town and to provide links to neighbouring towns. Financial contributions towards the implementation of a Community Transport project have been secured from some of the approved development schemes in the town which will, once established, provide a valuable service to the residents of the town and neighbouring villages. New developments will encourage the use of sustainable travel modes through the enhancement of walking and cycling links around the town. The impact of development on the local road network will be mitigated through upgrades to existing junctions, including widening of the exit links at the A10/London Road roundabout.
- **Employment and Retail -** the large rural hinterland surrounding the town makes Buntingford an ideal base for small businesses that have links to the town itself rather than those that rely on a proximity to major road networks.

2.4.4. Policy ED1 ‘Employment’ states:

The provision of new employment uses will be supported in principle, where they are in a suitable location where access can be achieved by a choice of sustainable transport and do not conflict with other policies within this Plan.

2.4.5. Policy ED4 ‘Flexible Working Practices’ states:

Proposals for the use of part of a dwelling for small-scale business purposes will be supported in principle provided:

- *that the premises has sufficient parking for all uses in line with the Council’s Vehicle Parking in New Developments SPD; and*
- *that the amenity of neighbouring properties is not adversely affected.*

2.4.6. Policy TRA1 ‘Sustainable Transport’ states:

To achieve accessibility improvements and promotion of sustainable transport in the district, development proposals should:

- *Primarily be located in places which enable sustainable journeys to be made to key services and facilities to help aid carbon emission reduction;*
- *Where relevant, take account of the provisions of the Local Transport Plan;*
- *Ensure that a range of sustainable transport options are available to occupants or users, which may involve the improvement of pedestrian links, cycle paths, passenger transport network (including bus and/or rail facilities) and community transport initiatives.*
- *Ensure that site layouts prioritise the provision of modes of transport other than the car (particularly walking, cycling and, where appropriate, passenger transport) which, where feasible, should provide easy and direct access to key services and facilities;*
- *In the construction of major schemes, allow for the early implementation of sustainable travel infrastructure or initiatives that influence behaviour to enable green travel patterns to become established from the outset of occupation; and*
- *Protect existing rights of way, cycling and equestrian routes (including both designated and non-designated routes and, where there is evidence of regular public usage, informal provision).*

2.4.7. Policy TRA2 'Safe and Suitable Highway Access Arrangements and Mitigation' states:

Development proposals should ensure that safe and suitable access can be achieved for all users. Site layouts, access proposals and any measures designed to mitigate trip generation produced by the development should:

- *Be acceptable in highway safety terms;*
- *Not result in any severe residual cumulative impact; and*
- *Not have a significant detrimental effect on the character of the local environment.*

2.4.8. Policy TRA3 'Vehicle Parking Provision' states:

Vehicle parking provision associated with development proposals will be assessed on a site-specific basis and should take into account the provisions of the District Council's currently adopted Supplementary Planning Document 'Vehicle Parking Provision at New Development'.

Provision of sufficient secure, covered and waterproof cycle and, where appropriate, powered two-wheeler storage facilities should be made for users of developments for new residential, educational, health, leisure, retail, employment and business purposes (to be determined on a site-specific basis). These should be positioned in easily observed and accessible locations.

Car parking should be integrated as a key element of design in development layouts to ensure good quality, safe, secure and attractive environments.

Where a private car park for non-domestic use is proposed, the Council will assess whether it should also be available for shared public use having particular regard to the needs of the primary user.

For proposals involving residential development: public car parks (including those for Park and Ride facilities) are proposed, or where car parks are to be provided associated with major development involving educational, health, leisure, retail, employment and business uses, provision should be made for charging points for low and zero carbon vehicles which will be assessed on a site-specific basis taking into account the provisions of the District Council's currently adopted Supplementary planning Document 'Vehicle Parking Provision at New Development'.

2.4.9. Parking standards relevant to the land uses of the development site are provided in Section 4.6.

EAST HERTS SUSTAINABILITY SPD (2021)

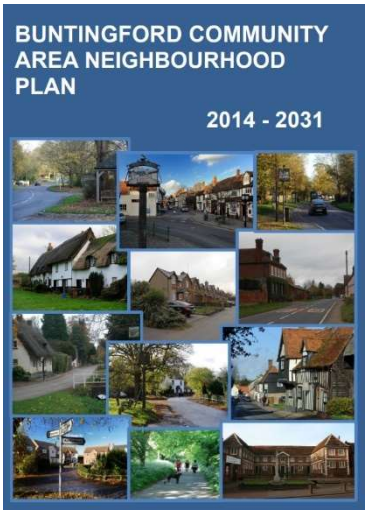
2.4.10. As part of the East Herts District Plan, The Sustainability Supplementary Planning Document (SPD) was established to help implement policies into new housing and employment developments in order to promote sustainability.

2.4.11. In order to help promote the policies within the district plan, a Sustainability checklist is established with criteria required to help outline how a development is likely to impact the local area. Separate sustainability checklists area outlined for:

- Energy and Carbon Reduction
- Climate Change Adaption
- Water Efficiency
- Pollution
- Biodiversity
- Sustainable Transport
- Waste Management

2.4.12. The Criteria for sustainable transport outlines focus on promoting reduced car usage and increased public transportation and active travel which is at the core of the sustainable transport strategy of the proposed development.

BUNTINGFORD COMMUNITY AREA NEIGHBOURHOOD PLAN (BCANP, 2014)



2.4.13. The Buntingford Community Area Neighbourhood Plan (BCANP) provides a vision for the future of the BCA and sets out clear policies and objectives to realise this vision.

2.4.14. The plan highlights the issues that have influenced the development of this plan, which include:

- Protection of the heritage, biodiversity, community, leisure, business and natural assets of the Buntingford Community;
- Ensuring development is appropriate to meet local needs for:
  - Employment and leisure facilities as part of mixed use developments to make the most effective use of the land available.
  - High quality design of all new development that adds to the existing rural nature of the quality of life for people and organisations in the BCA.
  - Housing, in terms of overall numbers, type, design and mix.
- Reduce the role of the settlements in the BCA as “dormitory” to enable them to be more sustainable in term of travel and more self-sufficient in terms of their local economies; and
- Enhance and improve the infrastructure that supports the people and business of the BCA for education, health, transport and leisure to reap the benefits of any development and growth in population.

2.4.15. In relation to transport, the plan’s objectives focus on minimising traffic impacts on the Buntingford Community area, while increasing the number of journeys undertaken by walking, cycling and public transport. The policies included in the document relevant to this TA are detailed below.

2.4.16. Policy T2 - The provision of car and cycle parking should as far as possible allow for:

- Off street vehicle and cycle parking to be contiguous with, and part of, each property, rather than provided as part of a shared arrangement.
- Shared parking areas may be acceptable provided they are built to Secured by Design standards and each space is clearly visible from the property it serves.

2.4.17. Policy T3 - Existing rights of way will be protected from development that adversely impacts on accessibility within and between settlements within the BCA.

2.4.18. Policy T4 - Proposals for new development will be required to take advantage of opportunities to make appropriate connections to existing footpaths, urban alleyways, cycle paths, rights of way and bridleways in the BCA to improve connectivity between and within settlements.

2.4.19. Policy T5 - Development proposals that result in a loss of public parking provision will not be supported unless it is replaced with a comparable provision within reasonable distance of its former location.

2.4.20. Policy T6 - Where possible, new development within the BCA should be served by a regular bus service to Buntingford Town Centre. Where existing routes do not already serve the proposed development, new development may be expected to contribute to an expanded service and associated infrastructure such as all-weather bus stops with seating.

3 EXISTING CONDITIONS

3.1 INTRODUCTION

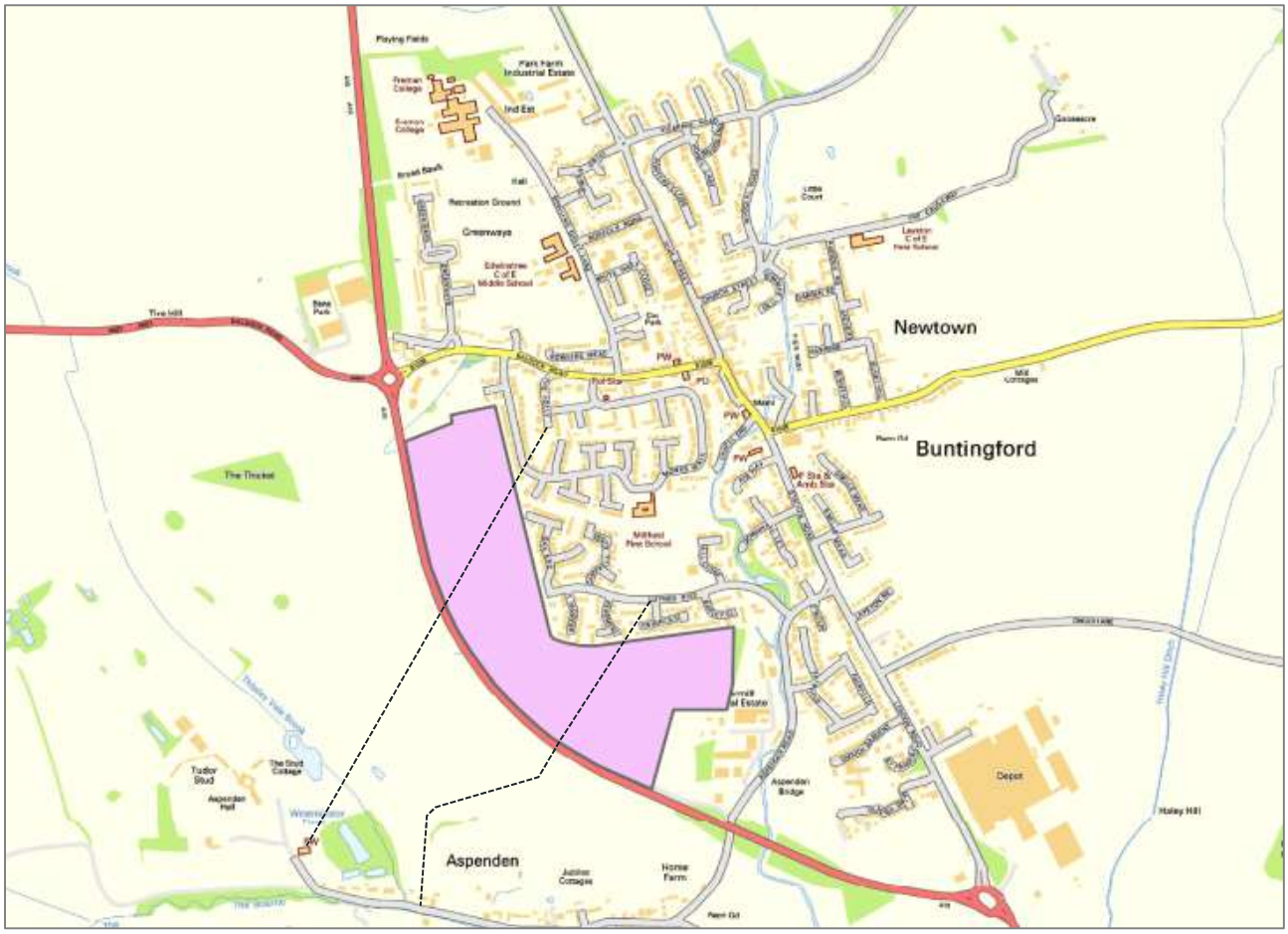
3.1.1. This section of the report provides information on site location, travel statistics and the local area in terms of transport infrastructure and facilities. It provides context for the assessment of transport impacts of the development.

3.2 SITE CONTEXT

3.2.1. The site is located to the west of Buntingford, Hertfordshire, and is bounded to the north and east by existing development and to the south and west by the A10. At present, the site is in agricultural use, and is currently accessed via a field access from the A10 and also from an access through the Watermill Industrial Estate.

3.2.2. The site is crossed by two public footpaths, both of which cross diagonally from northeast to southwest. The north-westerly of the two footpaths provides a link from the site to Monks Walk and The Folly, providing a direct route between the site and Buntingford town centre. This footpath crosses the A10 at a footbridge. The south-eastern footpath connects to Luynes Rise/ Knight Close and crosses the A10 at grade. The location of the application site and public footpaths can be seen in **Figure 3-1**.

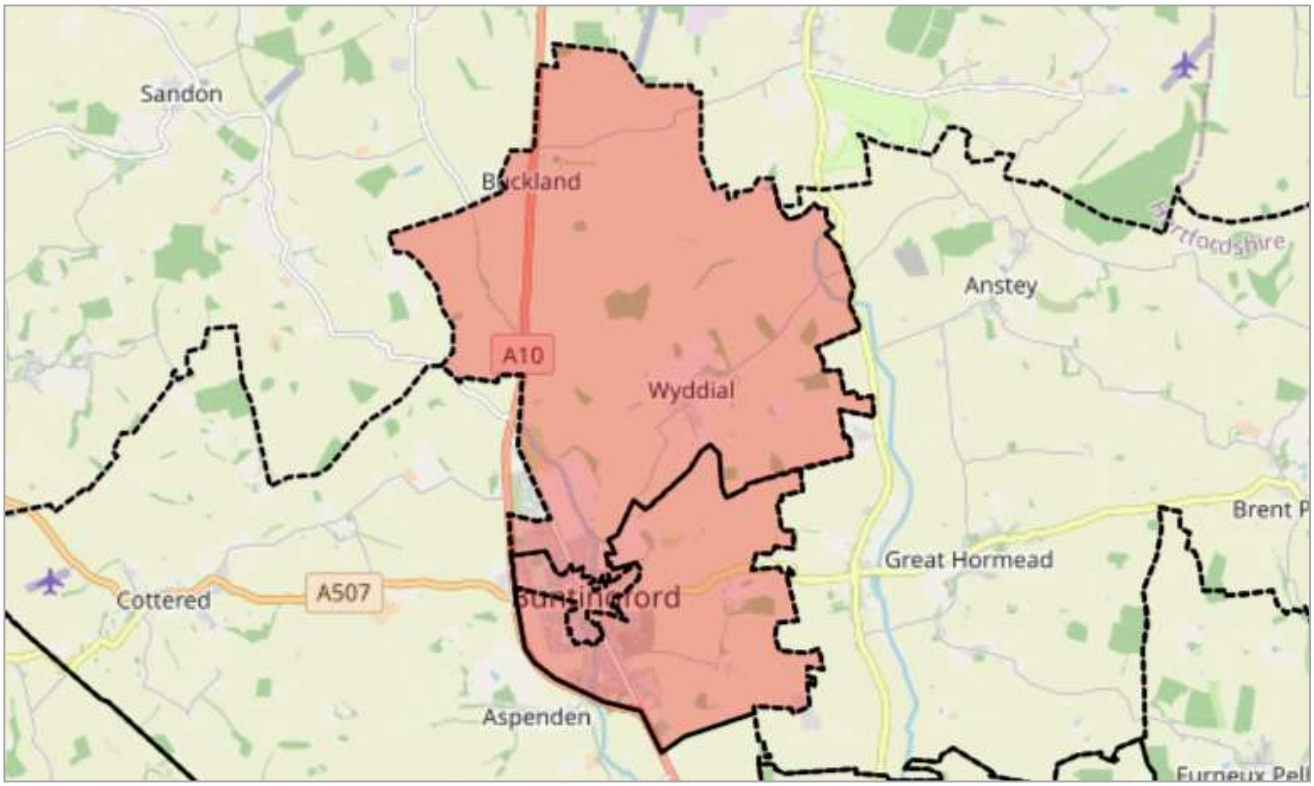
Figure 3-1 – Site Location



3.3 LOCAL STATISTICS

3.3.1. The site is located in the East Hertfordshire District within Hertfordshire County, specifically in the 2011 medium super output area (MSOA) of East Hertfordshire 001. Due to the size of this MSOA in relation to Buntingford, lower super output areas (East Hertfordshire 001B, 001C and 001D), as shown in **Figure 3-2** below have been considered.

Figure 3-2 – East Hertfordshire 001B, 001C, 001D



POPULATION / HOUSEHOLD

3.3.2. Buntingford has a population of approximately 3,620 people living in 2,129 households, resulting in a population/household ratio of 1.70. This is notably less than the East Hertfordshire ratio, which has a population of 137,687 people living in 56,577 homes, which leads to a household ratio of 2.43.

CAR OWNERSHIP

3.3.3. Car ownership within the Output Area has been benchmarked against East Hertfordshire and England and Wales, this is set out within **Table 3-1** below. This shows that the level of car ownership in Buntingford is higher than both East Herts and England & Wales.

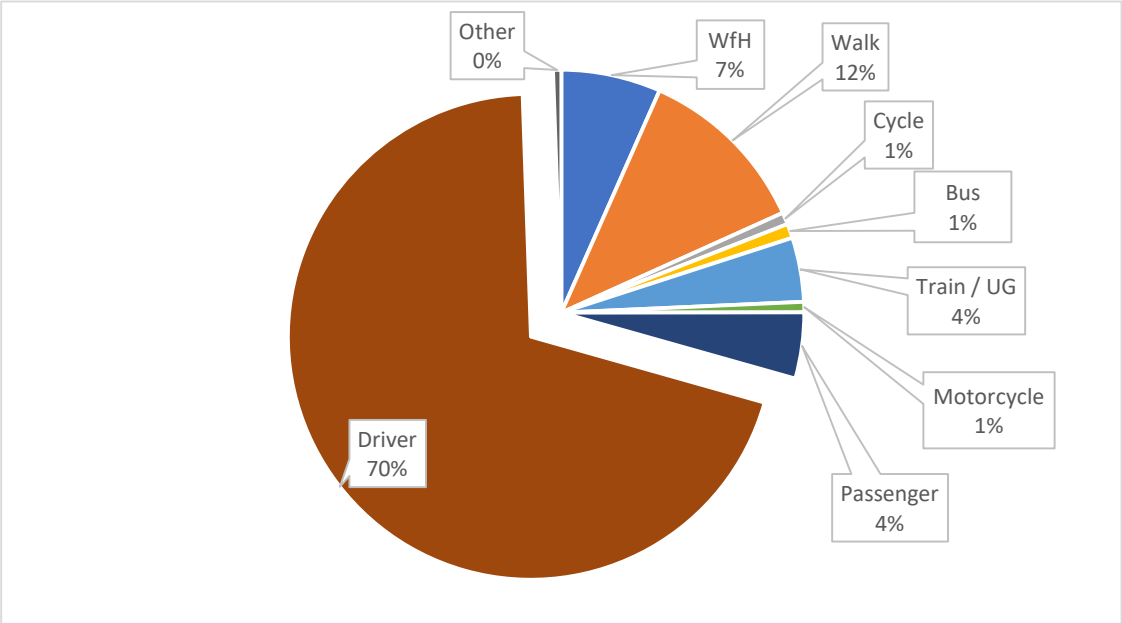
Table 3-1 – Car Ownership Levels – Selected Benchmarking

	East Herts 1B, 1C & 1D	East Hertfordshire	England & Wales
Households	2,129	56,577	23,366,044
No. of Cars	3,514	84,258	27,294,656
Cars per HH	1.65	1.49	1.17

EXISTING TRAVEL PATTERN

3.3.4. 2011 Census journey to work data for East Hertfordshire 001D and 001B has been collected and a weighted average has been generated. As shown below, 70% of trips are by car, 12% walking, 1% cycling and 1% bus.

Figure 3-3 – Existing Travel Pattern, Buntingford



3.4 LOCAL ROAD NETWORK

3.4.1. The A10 bypasses Buntingford to the west, where it is a single carriageway principal road with a derestricted speed limit. The A10 connects Buntingford to Royston and Cambridge to the north and Hertford, Ware, Broxbourne and eventually London to the south. There are currently three junctions to the A10 from Buntingford, namely:

- A10/ Ermine Street priority junction, to the north of Buntingford;
- A10/ A507/ B1038 roundabout, to the west of Buntingford; and
- A10/ London Road roundabout to the south of Buntingford.

3.4.2. The A507 is a two-way principal road located to the west of Buntingford, which provides a link towards the towns of Baldock, Hitchin, Letchworth and Stevenage.

3.4.3. The market town layout of Buntingford is dominated by two main roads, one running from north to south (connecting to the A10 at either end via Ermine Street to the north and London Road to the south) and one running from east to west (connecting the A10 to the villages to the west of Buntingford via Baldock Road).

3.4.4. The north-south road through Buntingford broadly follows the route of Ermine Street (a former Roman Road) and was the route of the A10 until the Buntingford Bypass was constructed. The southern end of the north-south route through Buntingford is London Road, which is subject to a 40mph speed limit between the A10 and Downhall Ley (off Station Road). To the north of Aspenden Road, London Road becomes Station Road, and then High Street as it enters Buntingford town centre. The northern end of this road is still known as Ermine Street.

3.4.5. The B1038 runs from east to west through Buntingford, passing through the town centre, and is subject to a 30mph speed limit.

3.4.6. To the east of the application site, Luynes Rise is currently a cul-de-sac serving a residential development. The street layout of Luynes Rise includes a road stub that was constructed by Bovis Homes in the early 1990s so that the road could be extended into the application site at some point in the future.

3.5 PUBLIC TRANSPORT

BUS

3.5.1. The nearest bus stops are located on Baldock Road to the north of the site, and Station Road to the east of the application site.

3.5.2. There are a number of local bus routes which provide north-south and east-west connections. A summary of the regular bus services is shown in **Table 3-2** below.

Table 3-2 – Local Bus Services (As of January 2022)

Bus Stop	Bus Number	Route	Frequency		
			Mon - Fri	Saturday	Sunday
Buntingford, opp Greenways	18	Royston - Buntingford	5 per day	4 per day	No Service
		Buntingford - Royston	6 per day	4 per day	No Service
Buntingford, opp Greenways	331	Buntingford – Hertford	Hourly	Hourly	No Service
		Hertford – Buntingford	Hourly	Hourly	No Service
Buntingford, opp Greenways	386	Buntingford – Bishops Stortford	4 per day	5 per day	No Service
		Bishops Stortford - Buntingford	4 per day	5 per day	No Service
Buntingford, opp Greenways	386	Buntingford – Stevenage	4 per day	4 per day	No Service
		Stevenage - Buntingford	4 per day	4 per day	No Service

3.5.3. Two further bus stops are located on Hare Street Road, northeast of the site. A number of infrequent shopper services towards Cambridge and Bishops Stortford stop here. Real time bus information is provided at town centre stops.

HERTSLYNX DRT

3.5.4. The HertsLynx - on-demand transport lunched in September 2021 has already outperformed it's first year target and proven to be very popular.

3.5.5. HertsLynx enables users to travel anywhere in its Free-Floating Operating Zone (shown in green on the map overleaf). There are no fixed routes on the service, instead passengers are able to be picked up and dropped off at a vast number of stops within the zone.

3.5.6. Passengers are also able to travel from the Free-Floating Operator Zone to designated locations in the Key Hub Towns; Stevenage, Bishop's Stortford, Royston, Baldock, Hitchin, Letchworth and Buntingford which is the central hub.

3.5.7. The service operates from 0700 – 1900 Monday to Saturday and 1000 – 1600 on Sundays and bank holidays. Journeys can be booked in real-time or booked in advance for future journeys

RAIL

3.5.8. The closest railway station to the application site is located 13km away in Royston. Royston train Railway is equipped with 525 vehicle spaces (9 of which are accessible) and 178 wheel rack cycle parking spaces, which are sheltered and monitored via CCTV. These facilities encourage mix-mode travel for onward journeys. Stations are also available in Baldock, Hitchin, Letchworth and Stevenage to the west and Bishops Stortford to the east. Destinations from all nearby stations include London Kings Cross and Cambridge apart from Bishop's Stortford which allows for southbound connections to Liverpool Street and northbound connections to Cambridge.

3.5.9. A summary of all nearby rail lines / services in the area is available in **Table 3-3**.

Table 3-3 – Local Rail Services

Station	Direction	First Service	Last Service	Frequency
Royston	Northbound	05:59	00:59	Up to 3 / hour
	Southbound	05:09	00:09	Up to 6 / hour
Baldock	Northbound	05:51	00:49	Up to 3 / hour
	Southbound	05:17	00:17	Up to 6 / hour
Hitchin	Northbound	05:42	01:21	Up to 3 / hour
	Southbound	04:11	00:28	Up to 8 / hour
Letchworth Garden City	Northbound	05:48	00:46	Up to 3 / hour
	Southbound	04:56	00:21	Up to 6 / hour
Stevenage	Northbound	05:34	01:13	Up to 3 / hour
	Southbound	04:17	00:34	Up to 8 / hour
Bishops Stortford	Northbound	05:59	00:14	Up to 2 / hour
	Southbound (Liverpool Street)	05:16	00:39	Up to 4 / hour

3.6 WALKING & CYCLING ACCESSIBILITY TO LOCAL FACILITIES

3.6.1. Pedestrian facilities within Buntingford are good, with wide footways, particularly along the High Street and through the town centre. There are dedicated pedestrian crossing facilities in Buntingford, in the form of zebra crossings in the town centre.

3.6.2. In line with planning policy, sites should be accessible by a variety of transport modes, allowing a reduction in reliance on the private car. Day-to-day facilities and services in the vicinity of the application site include:

- Two first schools (ages 4-9), a middle School (ages 9-14) and an upper school with sixth form (ages 14-18);
- Supermarket facilities, including a mid-sized Cooperative supermarket, a Sainsbury's Local and a Nisa Local / One Stop (which also contains the local Post Office);
- Employment opportunities at the Buntingford Business Park and Watermill Industrial Estate as well as town centre shops and services;

- A number of health facilities (doctor, dentist); and
- Local town centre shops.

3.6.3. While the shops and facilities in Buntingford would cater for most day to day needs of residents, larger comparison shops (which people use less frequently) are not available in the town, and consequently residents would need to travel to nearby towns such as Stevenage, Bishops Stortford or Cambridge to access these shops. It is also likely that most residents of the new development would travel outside Buntingford for work.

WALKING ACCESSIBILITY

3.6.4. The Institution of Highways and Transportation (IHT) 'Guidelines for Providing Journeys on Foot' (2000) suggests 'acceptable' and 'desirable' walking distances. **Table 3-4** contains the suggested acceptable walking distances for pedestrians without mobility impairment for some common trip purposes.

Table 3-4 – Suggested Acceptable Walking Distances (metres)

	Town Centres	Commuting/ Schools	Elsewhere
Desirable	200	500	400
Acceptable	400	1,000	800
Preferred Maximum	800	2,000	1,200

3.6.5. **Table 3-5** summarises the main facilities located within a 25-minute walk of the centre of the application site.

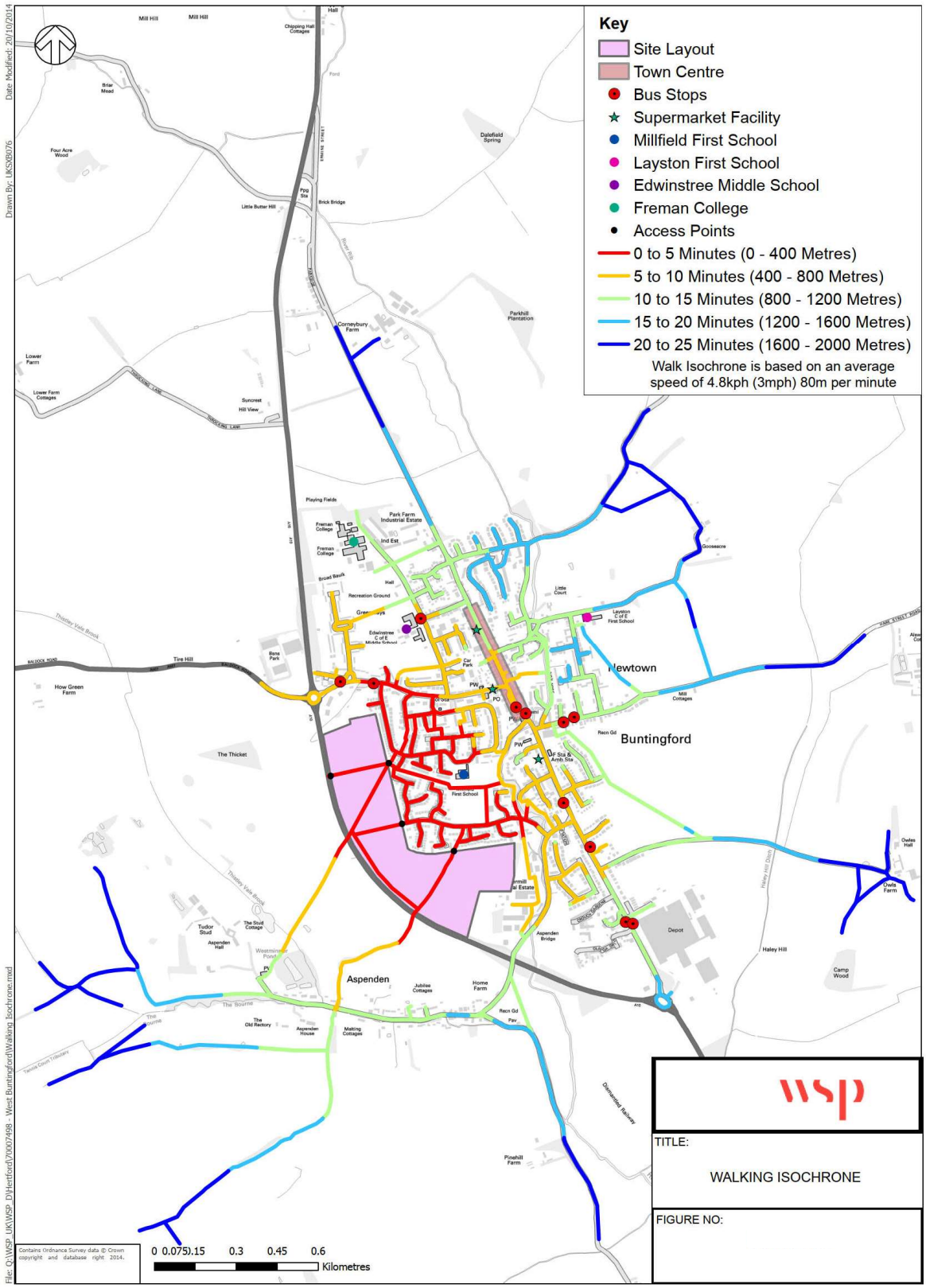
Table 3-5 – Facilities located within a 20-minute walk of the application site

Facility	Approx. Distance (m)	Approx. Walking Time (mins)
Bus Stops	400-750	5-10
Town centre, supermarket	700-1000	10-15
Primary School (Millfield School)	250	5-10
Primary School (Layston School)	1200	15-20
Middle School (Edwinstree)	800	10-15
Upper School (Freman College)	1200	15-20

3.6.6. This analysis indicates that there are a number of key day-to-day facilities that are within walking distance of the site including access to bus stops and the local school.

3.6.7. GIS mapping has been used to establish walk distances to local facilities. The resulting plan is provided in **Figure 3-4** below and at **Appendix B**.

Figure 3-4 – Walking Isochrone



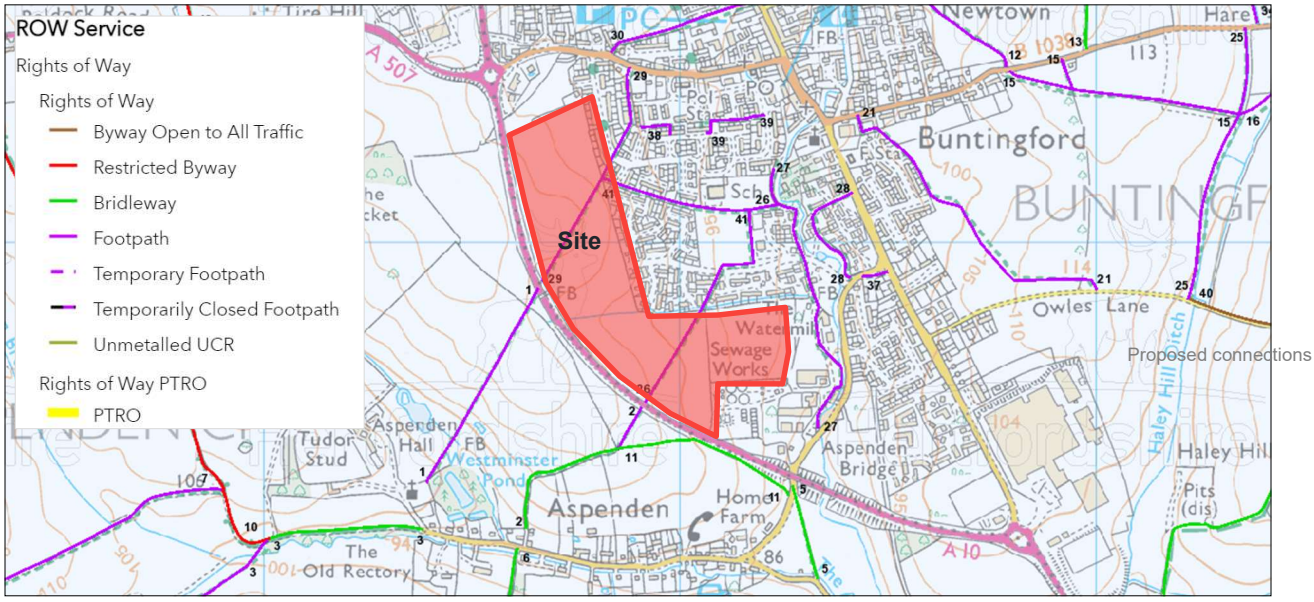
3.6.1. As shown in **Figure 3-4**, there are two existing PROWs traversing the site, footpath 29 and footbath 26. These provide connections onto the existing footways via:

- Monks Walk (allowing direct access to Millfield First School); and
- Knights Close (Accessing Luynes Rise and the Seth Ward Community Centre).

3.6.2. In addition to the two existing connections, there are proposals for an additional connection to enhance the permeability of the site as discussed in Chapter 4. These connections will be via Luynes Rise.

3.6.3. Currently, the public footpaths (29 and 26) through the site allow for connection from Aspenden and Buntingford. These two footpaths cross the A10, with footpath 29 provided with a raised foot bridge, whilst footpath 26 has no crossing at all. In addition, there is a public footpath located to the east of the site, running through the Watermill Industrial Estate and linking to Luynes Rise which can be easily accessed from the site as shown in **Figure 3-4**.

Figure 3-5 – Connections to Existing Active Travel infrastructure



3.6.4. The site is circa 400m-800m (6-10mins) walk via PROW 29 to Bus Stops on Baldock Road and via Luynes Rise is 850m-1km (10-12mins) walk from bus stops on Station/ London Road.

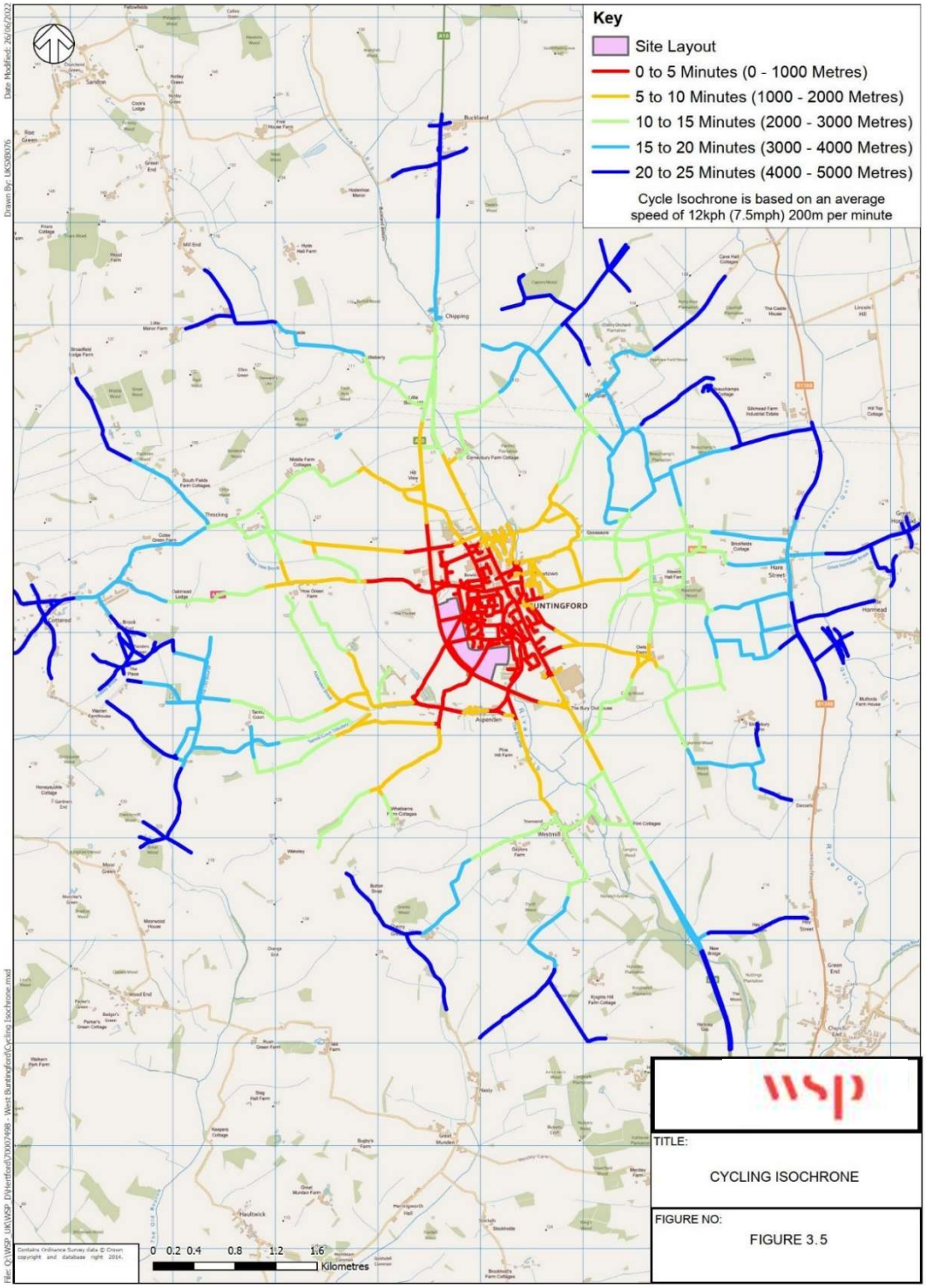
CYCLING ACCESSIBILITY

3.6.5. There are no national or dedicated cycle routes in Buntingford, however there are a number of on and off-road cycleways, bridleways and Byways Open to All Traffic (BOATs) within Buntingford and the surrounding countryside, providing connections to local villages and leisure routes. It is also noted that local traffic levels and topography are not sufficiently onerous as to prevent the use of cycling as a viable mode of travel within Buntingford and the surrounding areas. A cycle shop is available in the town.

3.6.6. Cycle parking is available at the Cooperative supermarket in the town centre, in Bowling Green Lane Pay and Display Car Park (located just off of the high street), and in the town centre, outside the Black Bull Pub, where B1038 High Street becomes B1038 Baldock Road.

3.6.7. A cycling isochrone has been produced, see **Figure 3-6** below and attached at **Appendix B.1**, that demonstrates cyclists can access the local facilities and employment opportunities in the centre of Buntingford within a 10-minute cycle time.

Figure 3-6 – Cycling Isochrone



ACTIVE TRAVEL INFRASTRUCTURE

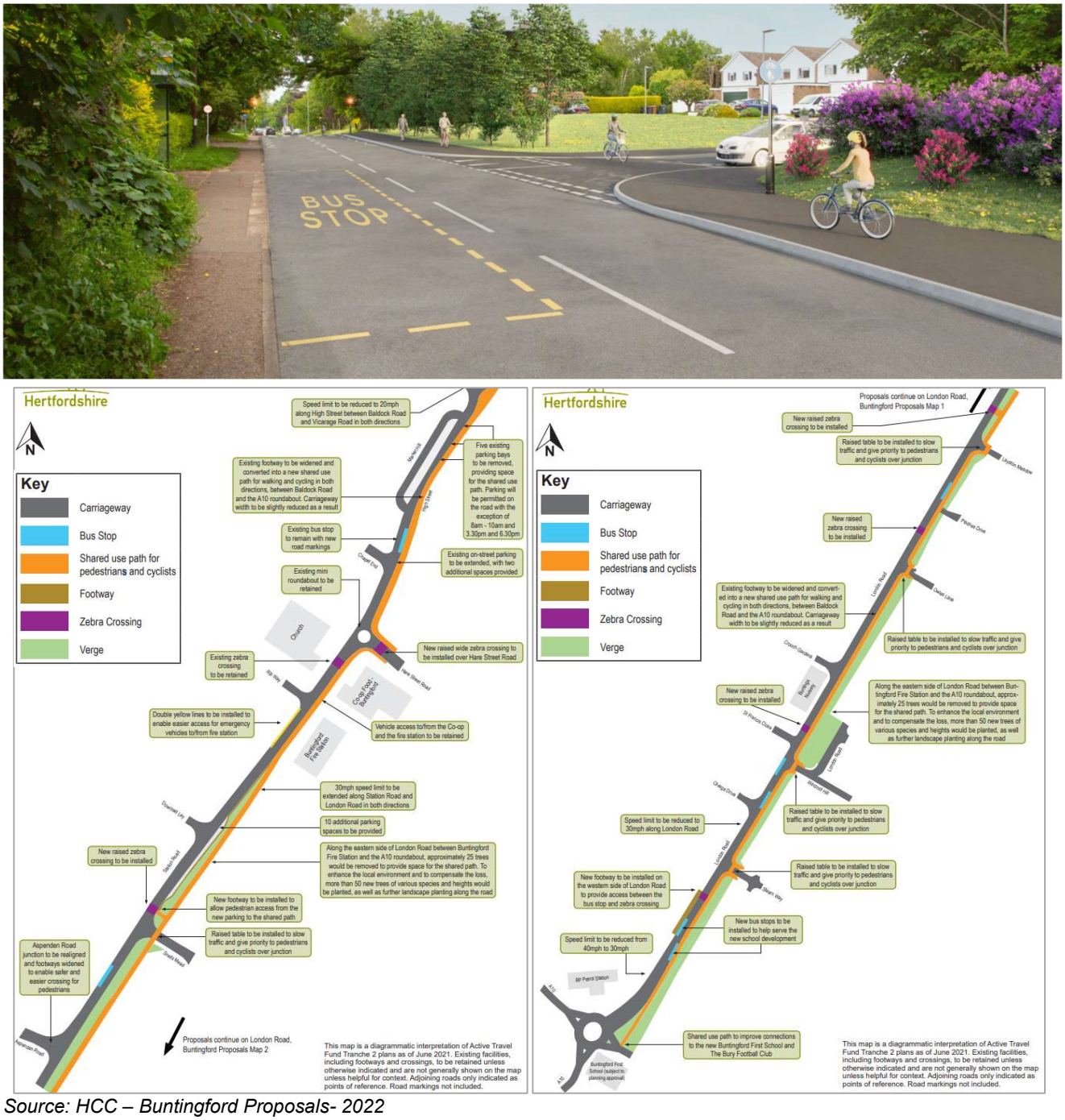
3.6.8. Active travel improvements are proposed along London Road as part of the HCC Active Travel Fund. The planned works are proposed on London Road, Station Road, extending to High Street. The proposed development will connect to this infrastructure through the active travel/bus only access proposed via Luynes Rise.

3.6.9. The Improvements include:

- New Shared use path to the standards outlined in LTN 1/20.
- Traffic Calming Measures including parking restrictions and speed limit restrictions
- Several Junction Improvements with New crossings (Aspenden Rd Junction and Hare Road roundabout)
- New Bus Stop Facilities.

3.6.10. An Illustration of the improvements planned is visible in **Figure 3-7.**

Figure 3-7 – Planned London Road Improvements



Source: HCC – Buntingford Proposals- 2022

3.7 PERSONAL INJURY COLLISIONS

3.7.1. Personal Injury Collision (PIC) data for a 5-year period between 2017 and 2021 has been obtained from Hertfordshire Council for the road network in the immediate vicinity of the proposed development.

3.7.2. PIC accidents are classified into three severity categories: slight, serious and fatal, a definition of which is provided below:

- **Slight Injury**: Injuries of a minor nature, such as sprains, bruises, or cuts not judged to be severe, or slight shock requiring only roadside attention (medical treatment is not a prerequisite for an injury to be defined as slight);
- **Serious Injury**: Injuries for which a person is detained in hospital, as an in-patient, or any of the following injuries, whether or not a person is detained in hospital; fractures, concussion, internal injuries, severe cuts and lacerations, severe general shock requiring medical treatment and injuries which result in death after 30 days of the accident. The serious category, therefore, covers a very broad range of injuries; and
- **Fatal Injury**: Injuries which cause death either immediately or any time up to 30 days after the accident.

3.7.3. **Table 3-6** provides a summary of the recorded collisions over the 5-year period. A plot showing the location of each PIC is provided in **Appendix C**.

Table 3-6 – PICs Recorded

Year/Severity	Slight	Serious	Fatal	Total
2017	1	0	0	1
2018	3	3	0	6
2019	3	0	0	3
2020	1	0	0	1
2021	1	1	0	2
Total	9	4	0	13

3.7.4. It is evident from the data presented above that there is a low occurrence of collisions in proximity to the site, with 13 accidents recorded, an average of 2.6 collisions recorded per year. Of those recorded, 69% were classified as slight and 31% serious. No fatal accidents were recorded in this timeframe.

3.7.5. There were two clusters of accidents observed. The larger of the two was the A10 / London Road roundabout, where four collisions (three slight, one serious). Having reviewed the detailed collision report, it has been found that these collisions occurred as a result of driver error (poor observation, dangerous driving), therefore it is not believed the carriageway design or condition contributed to these collisions.

3.7.6. A similar collision was also observed on Baldock Road (in proximity to the post office), where three collisions occurred: two slight and one serious. These three collisions occurred as a result of dangerous driving and driver error (lack of observation, lack of concentration and use of mobile phone). Therefore, there are no concerns that the carriageway design/condition contributed to these collisions.

4 DEVELOPMENT PROPOSALS

4.1 INTRODUCTION

4.1.1. This chapter describes the existing land use of the site before outlining the development proposals in terms of the site layout, access arrangements and parking provision.

4.2 EXISTING LAND USE

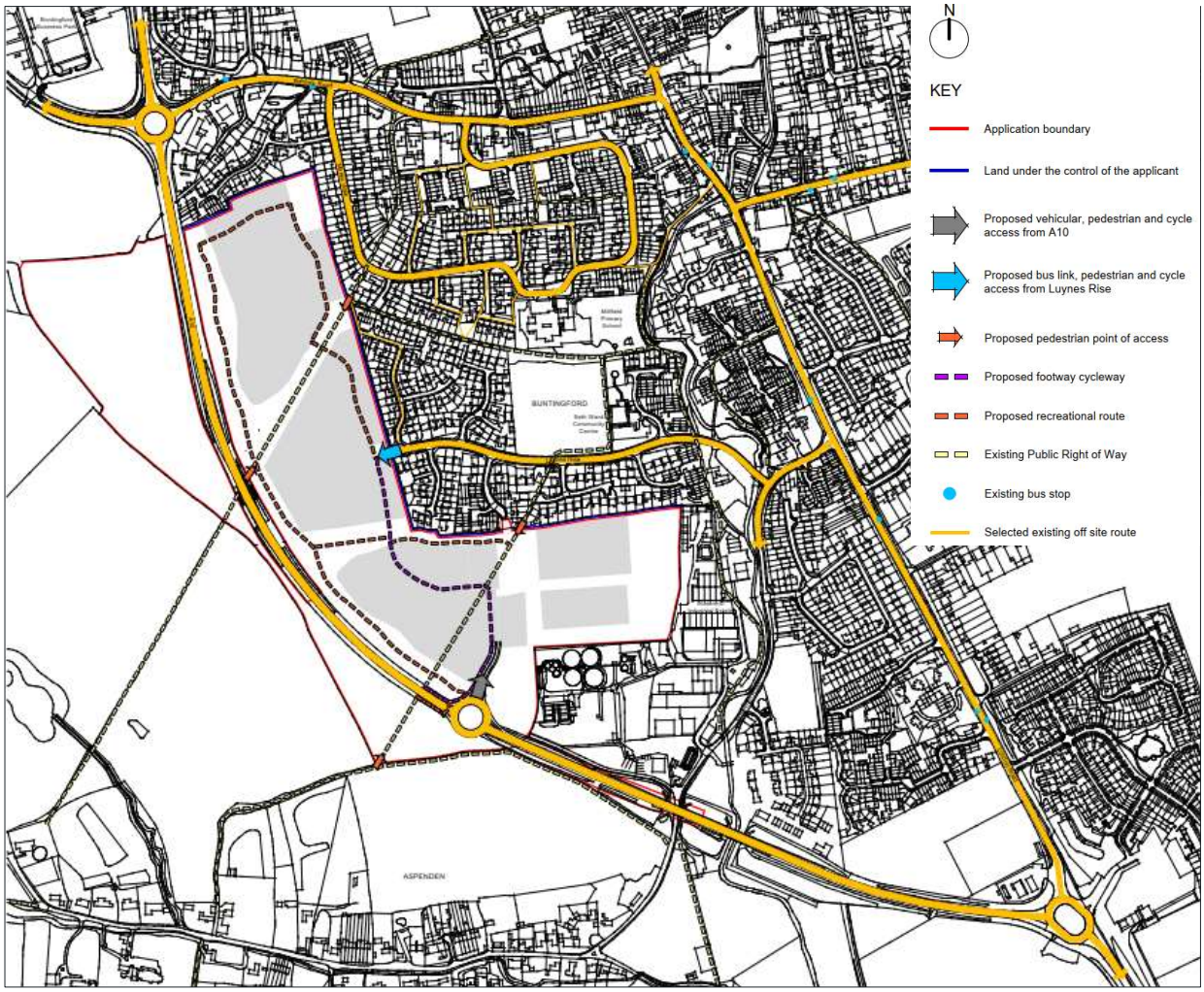
4.2.1. The proposed development site lies within the administrative boundary of East Herts District Council (EHDC) with HCC operating as the Local Highway Authority (LHA) charged with maintaining the roads and footways (subject to use) and safeguarding Highway Rights.

4.2.2. The site is currently a vacant greenfield site, located to the west of Buntingford, Hertfordshire, and is bounded to the north and east by existing development and to the south and west by the A10.

4.3 PROPOSED DEVELOPMENT

4.3.1. The indicative masterplan is shown in **Figure 4-1** below. This can be viewed in greater detail in **Appendix D**.

Figure 4-1 – Indicative Masterplan



4.3.2. The following land uses are proposed:

- 350 residential dwellings (Use Class C3);
- Up to 4,400 sqm of commercial and services floorspace likely to comprise (Use Class E and B8): and,
- Up to 500 sqm of retail floorspace (Use Class E).

4.3.3. The vision of the proposed development and its supporting Transport Strategy are designed to enable and encourage maximum trip internalisation and take-up of sustainable low carbon travel modes.

RESIDENTIAL

4.3.4. A breakdown of the accommodation schedule, which has been assessed within this TA, is provided in **Table 4-1**.

Table 4-1 – Accommodation schedule

Accommodation	Quantity
1 bedroom	28
2 bedrooms	97
3 bedrooms	167
4+ bedrooms	58
Total	350

COMMERCIAL FLOORSPACE

4.3.5. The commercial area (circa 4, 400sqm) and retail (circa 500sqm) provide the opportunity for a variety of uses which could include a convenience store, café, a doctors' surgery, home working hub, gym and small business units. As this is in outline, the uses and floor areas will be detailed at the reserved matters stage.

4.3.6. **Table 4-2** sets out the up to development quanta which has been considered for assessment.

Table 4-2 – Employment schedule

Land Use	Total GFA (m^2)
E(a and b)	500
E(g)iii	1,600
E(e)	1,300
B8	1,500

4.4 SUSTAINABLE TRANSPORT STRATEGY

4.4.1. In July 2020 the Government published "Gear Change" which lays out their vision for making cycling the natural first choice for many journeys, especially short journeys in towns/cities.

4.4.2. The accompanying design standards for cycling that are required to implement the vision are laid out in another document known as "Cycle Infrastructure Design Local Transport Note 1/20" (LTN 1/20).

4.4.3. This is the design guidance that local authorities must follow when making any changes to the highway, including new highway construction and new or improved cycle facilities.

4.4.4. The key design principle set out within the LTN 1/20 is that cycling is or will become mass transit and must be treated as such. Routes must therefore be designed for larger numbers of cyclist, for users of all abilities and disabilities.

4.4.5. Key focus of consideration as discussed with HCC is to ensure a sustainable transport strategy for the site. This includes the implementation of suitable walking and cycling links to connect to the wider area, alongside encouraging public transport use through integration with services such as HertsLynx to enhance the public transport accessibility of the site.

4.4.6. Other sustainable transport initiatives proposed at the site include:

- Improving existing footways throughout the development;
- Providing a 3.0m shared walking/cycling route connecting Luynes Rise to the PROW Buntingford 26 via the A10 to Aspenden 2, which connect to the Bridleway Aspenden 11;
- Providing a mobility hub to include Wayfinding points, electric vehicle rapid charging point, community lockable storage;
- Public transport pick up point (HertsLynx);
- Internal footways along carriageways;
- A mixed use development including a local centre potentially comprising of a GP surgery, retail space, and employment land uses including E(G) and B8 uses.
- Reduced parking based on operational (parking accumulation), commercial advice, the sustainable nature of the development and considerations in relation to EHDC parking standards.

4.4.7. The location of the site affords it a rare opportunity to encourage sustainable travel to the non-residential elements of the development and also for residents to travel to locations within acceptable walking and cycling distances.

4.4.8. With the proposed non-vehicular connection to the site from the immediate vicinity, vehicular trips which could be attracted to the development could now be shifted to active travel or micro mobility alternatives, thereby providing a positive impact on the existing network.

20 MINUTE NEIGHBOURHOOD PRINCIPLE

4.4.9. In order to promote sustainable travel patterns for the site, the approach of a 20 Minute neighbourhood is taken and incorporated in the development design where feasible. The 20 Minute neighbourhood aims to promote a local living approach, with all services and necessities being with a 20 Minute walking / cycling journey of the proposed development. The Town and Country Planning Association (TCPA) outlines the key features of a 20-minute neighbourhood as the following:

4.4.10. The development aims to fulfil each feature by producing a local approach, giving residents easy access to a range of services within close proximity and without the need for private vehicles.

Table 4-3 – Features of a 20-Minute Neighbourhood (TCPA key Features)

Feature	Development
Diverse and Affordable Homes	A wide range of housing along with affordable provision (up to 40%) will be available to residents, to fit the needs of the different users.
Well Connected paths, Streets and Spaces	As part of the proposal, existing footways through the development will be maintained and upgraded. 2.0m wide footways ways will be provided on both sides of the carriageway and a 3.0m wide shared walking and cycling facility will be provided to connect Luynes Rise via the mobility hub to PROW Buntingford 26 via the A10 to Aspenden 2, which connects to the Bridleway Aspenden 11. This route will provide an east west connection through the site and will provide a direct link to the active travel route on London Road / Station Road. PROW Buntingford 26 via the A10 footbridge will be upgraded to enhance the northern connection of the site. As illustrated within **Figure 4-1** and **Appendix B**, the site is well connected internally and connects very well with the existing infrastructure within the area.
Schools at the Heart of Communities	As shown in the GIS plot at **Appendix B** a total of four schools are within at least a 20-minute walk from the site, with two primary schools, a middle school and an upper school. This allows of educational services for students aged 4-18 within close proximity to the development. The schools are easy to commute to by foot / bicycle, with the proposed active travel improvements throughout Buntingford also helping to improve access.
Good green spaces in the right places	Areas of green space are proposed for the development, allowing for easy access for the residents of the site. Other green spaces are provided within Buntingford, allowing more opportunity for residents to enjoy outdoor space.

Local Food Production	An allotment is provided within the curtilage of the site to encourage local food production
Keeping Jobs and money local	Dedicated employment areas and a local centre are proposed as part of the development. This allows for local employment to the site, allowing residents to access employment locally. The inclusion employment opportunities on site as well as easy access to existing employment within the area allows for local cash circulation, where money is earned and spent in the area.
Community health and Wellbeing facilities	The potential for a GP surgery on site allows for local healthcare access for local residents, without the need for vehicular or public transport access. There are also existing medical centres within Buntingford as well as several chemists. In addition to providing medical services, new active travel improvements provide green spaces, which create opportunities for healthy active lifestyles.
A place for all ages	The development is planned to ensure local access to all potential services that different residents may require including healthcare, education, retail, employment and leisure. All services are offered within local walking and cycling access.

4.4.11. In addition to the ideas outlined by the TCPA, Sustrans also notes several features required within a 20-minute neighbourhood. These services, including retail, employment and healthcare are all included within a 20-minute roundtrip walking distance from the development. There are also several planned on the site location itself.

4.4.12. Local transportation services can also be easily accessed from the site, bus routes 18 and 386 are accessible within 400m of the northern part of the site on Baldock Road. Bus stops on Station Road are within approximately 700m walk (8 minutes) via Luynes Rise. The proposal to proposal to route HertsLynx through the site via Luynes Rise will further improve the public transport accessibility of the site and the immediate vicinity (as a pickup point will be provided within the development).

LIVEABLE NEIGHBOURHOODS

4.4.13. Transport for London (TfL) initiated the Liveable Neighbourhood programme, to help promote healthy and sustainable developments throughout London. The aims of a liveable neighbourhood as outlined in TfL's guidance are:

- Increasing the number of trips made by walking, cycling and public transport, and improving local connections by these modes
- Reducing car dominance, and increasing the active use of streets and public spaces
- Creating safer neighbourhood environments, including reducing road danger and improving personal security
- Improving the efficiency and safety of freight movement
- Improving air quality and green infrastructure to create more attractive neighbourhoods for people
- Improving the quality and resilience of the public realm
- Ensuring neighbourhoods have good connections to public transport
- Delivering outcomes across a wider area rather than individual streets or junctions, creating vibrant streets that help local businesses to thrive and provide places for the community to come together and interact

4.4.14. The criteria of a liveable neighbourhood are applicable to the development through the range of improvements and infrastructure which is offered to the residents. The reduction in car parking and

promotion of walking and cycling to help reduce the overall amount of car usage is supported with both the provision of local services and implementation of accessible walking and cycling paths. This makes the use of active travel attractive to local residents within the development, reducing the need for a private car as well as reducing potential accidents resulting from fast moving vehicles.

4.4.15. The inclusion of attractive green spaces and active travel links also help to create areas of clean air quality throughout the development, contributing to improved quality of life for local residents. Areas for leisure and exercise will be available for people of all ages within the development.

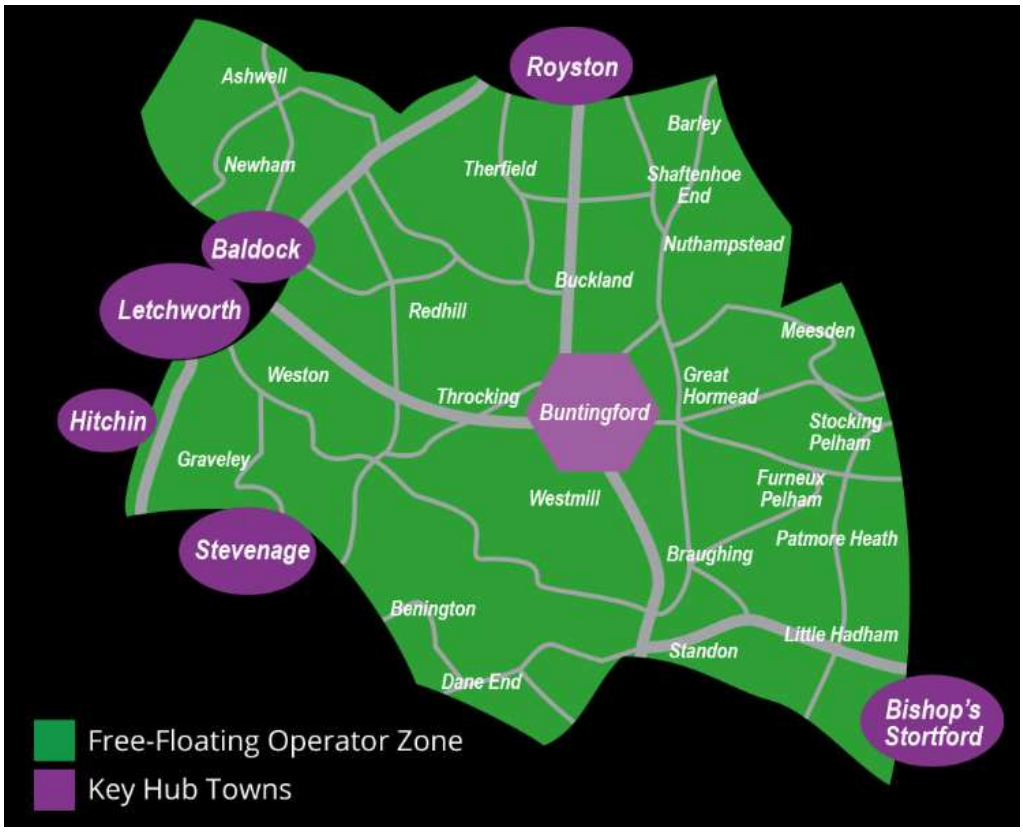
4.4.16. The inclusion of the mobility hub as well as the enhancement of existing pathways through the development will allow for easy access to surrounding towns and villages through sustainable means. Access to nearby rail stations is also possible by existing bus services or by the Herts Lynx DRT system, which will integrate into the proposed mobility hub.

PUBLIC TRANSPORT

4.4.17. Demand Responsive Transportation (DRT) is a generally modern form of public transportation being trialled throughout the world to help promote a sustainable and commercially viable form of public transportation.

4.4.18. The launch of HertsLynx creates a new on-demand bus service serving villages in North and East Herts. Passengers are able to travel from Free-Floating Operator Zones to designated locations in the Key Hub Towns; Stevenage, Bishop's Stortford, Royston, Baldock, Hitchin, Letchworth and Buntingford which is the central hub as shown in **Figure 4-2**.

Figure 4-2 – HertsLynx Operating Zones and Key Hub Towns



4.4.19. The HertsLynx service is designed to improve connections between rural areas and town centres, as well as expand access to employment, education, healthcare and shopping.

4.4.20. Travel is permitted between Key Hub Towns but not available for journeys between multiple designated locations in one Key Hub Town.

4.4.21. As the service serves Buntingford, future occupants of the development can access the service from the Buntingford Hub. The proposed development is seeking to establish a pick-up point within the development.

4.4.22. Further to this, the option of existing traditional bus services on London Road diverting into the development from the A10 has also been discussed.

4.4.23. Contributions are planned towards these services via S106 to serve the site.

ACTIVE TRAVEL

4.4.24. The site is well placed to promote active modes of travel. The use of Luynes Rise for sustainable transport only will support best practise guidance surrounding the use of active travel modes by reducing intensification and potential safety issues at Luynes Rise/Aspenden Road junction and Aspenden Road/Station Road junction.

4.4.25. Luynes Rise offers the quickest and shortest opportunity for active travel modes to several key services within the Buntingford town centre, including Healthcare services, Shopping Facilities and primary / secondary schools.

4.4.26. The walking isochrone in **Figure 3-3** highlights the available services which can be accessed by walking.

4.4.27. The cycling isochrone in **Figure 3-5** highlights the available services which can be accessed by cycling.

4.4.28. As part of the proposed development, there are alternative facilities to that existing within the local area that neighbouring residents could access within 0-10 minutes' walk. This means that the development itself will provide closer alternatives away from the High Street traffic, resulting in a net beneficial impact on the existing local highway network as these trips are likely to be shifted to sustainable travel options to the site.

4.4.29. The location of the site makes it possible to use the sole vehicular connection via the A10 as a hard measure to encourage mode shifts towards sustainable travel. Vehicles can still access the site howbeit with a longer journey time, making the active travel option preferable.

4.5 SITE ACCESS BY ALL MODES

4.5.1. The increase in population associated with the development proposals will inevitably be accompanied by an additional demand for travel. In light of current policy guidance (as discussed earlier), it is no longer considered sustainable to simply provide road capacity to accommodate additional demand.

4.5.2. An alternative approach is to manage the demand for travel using measures that minimise the journeys made and that encourage travel by means other than the car.

4.5.3. The access strategy for the site has therefore been reviewed holistically with a key focus on active travel modes to include the necessary infrastructure required to connect with existing infrastructure and ultimately provide access to Buntingford.

ACCESS VIA THE A10

4.5.4. The main motorised vehicular access will be via a roundabout access following STIB advice. Similar to the signalised access previously proposed, the roundabout will create a platooning effect on the A10 (depending on right turn demand into the site) to create gaps that will allow vehicles to exit London Road at the southeastern roundabout. Currently vehicles on London Road struggle to access the A10, leading to significant queuing into Buntingford.

4.5.5. The roundabout will incorporate an uncontrolled crossing of the A10 to connect the PROW Buntingford 26 to Aspenden 2, which after 100m connects to the Bridleway Aspenden 11.

4.5.6. The proposed access is subject to a STIB review. As discussed in Chapter 1, a special circumstances report has been prepared in support of this application. This sets out the special circumstances under which the access should be considered for approval onto the A10 trunk road.

4.5.7. The special circumstances report will be submitted separately to the HCC Design Review Panel and will be subsequently approved by STIB.

4.5.8. The proposed design is provided at **Appendix D.1**.

ACCESS VIA LUYNES RISE

4.5.9. The proposals on Luynes Rise includes a bollard-controlled bus gate and a 3.5m shared walking/cycling route connecting Luynes Rise to the PROW Buntingford 26 via the A10 to Aspenden 2, which connect to the Bridleway Aspenden 11 to the west. To the east, the route will continue on Luynes Rise and Aspenden Road which are lightly trafficked with 24 hour flows well below 2,000 vehicles.

4.5.10. From a sustainable transport perspective, a sole vehicular access via the A10, enhancement of the existing PROW's plus walking, cycling and public transport access to the site puts active travel and sustainable travel at the heart of the development. This affords the development the opportunity to conform with current policy headlines at national and local governmental tiers in a push towards site sustainability.

4.6 PARKING PROVISION

4.6.1. Whilst the EHDC Local Plan was adopted in 2018 (with parking SPD updated in 2015), the Neighbourhood Plan (2017) would have been completed in the context of the 2015 Parking SPD, as such the neighbourhood plan requirements take priority.

4.6.2. The Neighbourhood Plan has minimum provision requirements unless there is a clear justification to provide lower levels of parking. The proposed scheme has been developed with sustainability as a core element. The scheme design adopts principles from the 20-minutes neighbourhood concept as well as the Liveable Neighbourhood concept as discussed in **Section 4.4**. It promotes active travel by incorporating elements that reduces the need to travel by car and encourages active travel by providing a mixed-use development including a local centre and transport hub.

4.6.3. Provision has been made to route the HertsLynx DRT via the development by providing a pickup point at the transport hub and the provision of ample cycle parking. Overproviding car parking will defeat the purpose of the sustainable initiative of the site.

4.6.4. The sustainable transport strategy and Framework Travel Plan (FTP) for the site sets out the justification why a lower level of parking is required for this site. In that regard the EHDC SPD[1] updated 2015 (parking standards) will be applied. The parking standards are subject to zonal provision. Within Zone 4, 75-100% of parking could be provided. In the context of this scheme, 79% of the maximum standards will be applied for the residential element.

4.6.5. Likewise for the non-residential element, the Neighbourhood Plan has no standards set out. As such, the EHDC SPD updated 2015 parking standards has been utilised. Regarding cycle parking, the Neighbourhood Plan does not provide clear standards for cycle parking. As such the EHDC SPD updated 2015 (parking standards) has been utilised.

EAST HERTS SPD VEHICLE PARKING PROVISION AT NEW DEVELOPMENT (UPDATED 2015).

4.6.6. The provision of vehicle and cycle parking is in-line with those set out in *East Herts SPD Vehicle Parking Provision at New Development (Updated 2015).*

4.6.7. The minimum standards expected for residential, employment and local centre developments are outlined in **Table 4-4**, **Table 4-5** and **Table 4-6** respectively.

Table 4-4 – C3 Residential Parking Standards

Accommodation	Car Parking Standard	Cycle Parking Standard
1 bedroom	1.5 (noted that the number of spaces should be rounded up if necessary – i.e. 3 dwellings should provide 5 spaces.)	1 long term cycle space per unit if no garage or shed is provided.
2 bedrooms	2	1 long term cycle space per unit if no garage or shed is provided.
3 bedrooms	2.5 (noted that the number of spaces should be rounded up if necessary – i.e. 3 dwellings should provide 8 spaces.)	1 long term cycle space per unit if no garage or shed is provided.
4+ bedrooms	3	1 long term cycle space per unit if no garage or shed is provided.
Disabled spaces	1 space for every dwelling built to mobility standards	N/A

Table 4-5 – Employment Parking Standards

Class	Car Parking Standard	Cycle Parking Standard
E(G)II previously B1(b)	1 space per 40m2 gfa	1 short term space per 500m2 gfa and 1 long term space per 10 full time staff.
E(G)III previously B2	1 space per 40m2 gfa	1 short term space per 500m2 gfa and 1 long term space per 10 full time staff.

[1] Updated EHDC Vehicle Parking Standards (2015) https://cdn-eastherts.onwebcurl.com/s3fs-public/documents/Updated_Vehicle_Parking_Standards.pdf

Class	Car Parking Standard	Cycle Parking Standard
B8	1 space per 40m2 gfa	1 short term space per 500m2 gfa and 1 long term space per 10 full time staff.
Disabled spaces	If under 200 spaces to be provided (4000m2/40 = 100 spaces) then Individual spaces for each disabled employee plus 2 spaces or 5% of total capacity, whichever is greater	N/A

Table 4-6 – Local Centre Parking Standards

Accommodation	Car Parking Standard	Cycle Parking Standard
Retail	Ranges from 1 space per 15m2 gfa – 40m2.	Dependant on what retail is proposed
Doctors Surgery	3 spaces per consulting room plus 1 space per employee other than doctor/dentist/vet.	1 short term space per consulting room and 1 long term space per 10 staff.
Nursery	1 space per 9m² gfa plus 1 space per full time staff member of equivalent.	1 s/t space per 200 m² gfa plus 1 l/t space per 10 staff on duty at any one time
Disabled spaces	3 spaces or 6% of total capacity, whichever is greater	N/A

RESIDENTIAL PARKING PROVISION

4.6.8. The parking standards set out above are subject to zonal provision such that new development in certain areas are likely to be more accessible to key services or facilities and opportunities for public transport than other areas. Therefore, in certain instances a reduced level of parking provision maybe appropriate as illustrated within the table below (extracted from EH vehicle parking standards).

Table 1: Accessibility Zones.	
Zone[1]	**Level of Car Parking Provision (excluding disabled parking)**
2	25 – 100%
3	50 – 100%
4	75 – 100%

4.6.9. The site is located in zone 4, meaning 75% to 100% of the required spaces could be provided.

4.6.10. In line with the sustainable travel initiative for the site, the level of parking will be around the lower threshold (75% level of provision) as a hard measure to encourage sustainable travel at the site. An estimate of 79% provision has been set out in **Table 4-7**.

4.6.11. As this is an outline application, **Table 4-7** has been provided indicatively to demonstrate the level of parking that could be accommodated at the site. The actual proposed level of parking will be provided as part of any subsequent reserved matters applications for the site.

Table 4-7 – C3 Residential Car Parking Provision

Accommodation	Dwellings	Car Parking Standard per dwelling type	EHC Parking Provision - Standards (100%)	Proposed level of Parking	Proposed Parking (% of standards)
1 bedroom	28	1.5	42	28	0.67
2 bedrooms	97	2	194	165	0.85
3 bedrooms	167	2.5	418	339	0.81
4+ bedrooms	58	3	174	120	0.69
Total	**350**		**828**	**652**	**0.79**

Cycle parking

4.6.12. Additional resident cycle parking is not provided in line with EHDC Vehicle Parking Standards as each dwelling will comprise either a garage and/or shed.

NON- RESIDENTIAL PARKING PROVISION

4.6.13. The EHDC Parking Standards point 6 sets out that *"Where mixed use, residential or commercial developments are proposed, the parking requirements for each element should be calculated individually using the relevant standards".*

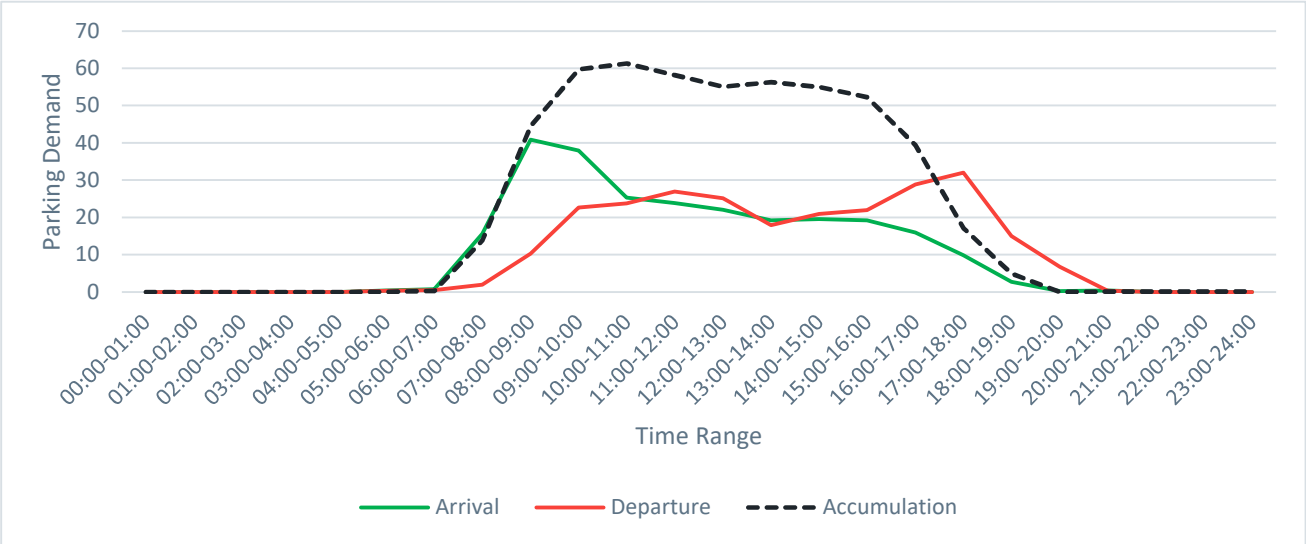
4.6.14. Point 4 also sets out that "….. *Developers proposing car parking above or below these levels should provide robust evidence to support their case"*.

4.6.15. Considering linked trips to the site and the fact that time profiles of car parking demand will vary depending on use, over-provision could ensue. Research for the TRICS consortium (Transport Characteristics of Non-Food Retail Parks, TRICS Report 97/1) showed that trip rates for retail parks can be significantly lower than the totality of the individual land uses. The research demonstrated that linked trip-making can reduce parking demand by up to 50% and a reduction of 25% appears readily attainable.

4.6.16. Except for deliveries, the retail element is considered ancillary to the development and is not expected to attract vehicular trips in its own right. Any such trips will be very minimal and will not require the level of parking set out within the standards, it is therefore a fair assumption that any potential car trips will be accommodated within the parking demand for the other land uses.

4.6.17. To estimate the level of parking appropriate for the non-residential element, the agreed non-residential trip rates have been utilised in a parking accumulation assessment to estimate the potential peak demand. **Figure 4-3** below shows the combined time profile for arrival/departure pattern and parking demand. The calculation sheet showing the pattern and parking demand for each land use is provided at **Appendix E**.

Figure 4-3 – Non Residential Parking Demand Profile



4.6.18. As illustrated above the parking accumulation shows the need for up to 61 parking spaces. From the TRICS report highlighted above a minimum of 75% could be considered adequate (thus 46 spaces). Given the outline nature of the application and 'up to' quantum, the final level of parking provision will be set out at the reserved matters stage.

4.6.19. In addition, there is also potential that a number of trips could be transferred to other forms of transport other than the car, particularly those that may want to access the retail and health element of the development, considering the approach taken by Vistry Homes to make the site accessible by sustainable means.

4.7 DELIVERY AND SERVICING

4.7.1. Servicing vehicles are expected to comprise of the following vehicle types:

- refuse vehicle;
- supermarket/ home delivery vehicles;
- box van deliveries to the retail
- post vans;
- removals vehicles
- lorries to the B8 land use; and
- emergency service vehicles

4.7.2. The street network has been designed so that it can accommodate the largest vehicle that needs regular access to the development.

DELIVERY AND SERVICING STRATEGY

4.7.3. Whilst the application only seeks outline planning permission for the local centre and employment areas, consideration has already been given to these elements' design. Servicing bays will be provided close to the commercial land uses to allow service vehicles to park while undertaking deliveries.

4.7.4. It is expected that most deliveries will be made by LGVs and a limited number of HGVs.

4.7.5. The residential element will be serviced on- street along the internal road network.

BIN COLLECTION

4.7.6. Bin stores will be located near the land uses with clear access routes to pick up points along the internal road.

4.7.7. Refuse vehicles will access the bin collection locations along the internal road network. Bins will be wheeled to the kerbside on collection days for easy access.

4.1 ROAD SAFETY AUDIT

4.1.1. A Stage 1 Road Safety Audit (RSA) has been undertaken by HCC to identify any issues which may have a bearing on the existing highway layout/features, where the new access ties into the existing highway.

4.1.2. Six problems were identified of which three were general issues. These are summarised below with Designers Response to the comments:

- **Problem 1**: *Restricted forward visibility may increase the risk of collisions between road users*
  - **Recommendation**: *Ensure sufficient forward visibility is provided and maintained*
    - **Response**: The area required for verge clearance within the visibility splay has been clearly indicated on the drawing and is within the applicant's ownership, thus the vegetation will be removed as well as any future planting will be outside the required visibility splays.
- **Problem 2**: *Restricted intervisibility may increase the risk of crossing users being struck by road users.*
  - **Recommendation**: *Ensure sufficient intervisibility is provided and maintained*
    - **Response**: Existing vegetation will be removed and proposed vegetation will be outside the visibility splays to ensure sufficient visibility.
- **Problem 3**: *Limited entry/ roundabout deflection may increase the risk of speed related collisions between road users*
  - **Recommendation**: *Provide appropriate deflection between the northern and eastern arms of the junction for road users exiting the development site and travelling east*
    - **Response**: In line with DMRB CD116, all entry path deflections on drawing 7498-GA-02 REV F have been kept below 100m. Drawing 7498-GA-02 REV G has been updated to show the deflection to the east.
- **Problem 4**: *Restricted visibility to signage may increase the risk of collisions between road users*
  - **Recommendation**: *Ensure all signage is visible to approaching road users*
    - **Response**: Most of the land along the A10 within the scheme area is within the ownership of the client (see redline boundary at Appendix B), appropriate space can therefore be made available to accommodate signage as necessary. At the detailed design stage all necessary signage will be appropriately situated to ensure they are visible to approaching road users.

- **Problem 5**: *Shared route connections may increase the risk of collisions involving non-motorised users*
  - **Recommendation**: *Ensure the shared route connections do not encourage unsafe non-motorised user behaviour*
    - **Response**: At the detailed design stage sufficient warning will be provided by way of signages. To ensure non-motorised road users cross at the dedicated crossing point, the grass verge has been provided as a buffer to deter illicit crossing. Further to this, deterrent paving will be provided along the grass verge to provide added deterrence as shown on the drawing 7498-GA-02 REV G.
- **Problem 6**: *Absence of maintenance areas may increase the risk of collisions between maintenance users and other highway users*
  - **Recommendation**: *Ensure maintenance areas, that do not pose highway safety concerns, are provided throughout the junction*
    - **Response**: Most of the area around the proposed junction is within the applicant's control, suitable maintenance areas, that do not pose highway safety concerns will therefore be provided throughout the junction. Details will be provided at the detailed design stage.

4.1.3. The full RSA Report and Designers Response is included at **Appendix D.2**.

4.1.4. This will be submitted separately as part of the SCR (discussed in Chapter 1) to HCC Design Review Panel and STIB for approval.

5 TRIP GENERATION, MODE SHARES & DISTRIBUTION

5.1 INTRODUCTION

5.1.1. This section of the report considers the likely traffic generation in relation to the development proposal.

5.1.2. Trip generation for the proposed development has been determined using the latest version of the TRICS database (v7.8.4) for the residential and commercial elements.

5.2 TRIP GENERATION: RESIDENTIAL

TRIP RATE

5.2.1. The trip rates from comparable sites within the TRICS database were compared with trip rates from first principle derived from surveys undertaken on the Luynes Rise cul-de-sac. The trip rates from first principles were considered more robust however higher trip rates were recommended by HCC via pre-application response which are set out within **Table 5-1** below. These have been utilised for the impact assessment.

Table 5-1 – Residential Trip Rates (per dwelling)

Period	Trip Type	Arrivals	Departures	Total
AM (08:00-09:00)	Total Person Trips Rate	0.201	0.738	0.939
	Total Vehicle Trip Rate	0.141	0.517	0.658
PM (17:00-18:00)	Total Person Trips Rate	0.584	0.266	0.850
	Total Vehicle Trip Rate	0.409	0.186	0.595
Trip Generation (350 dwellings)				
AM (08:00-09:00)	Total Person Trips	70	258	329
	Total Vehicle Trip	49	181	230
PM (17:00-18:00)	Total Person Trips	204	93	298
	Total Vehicle Trip	143	65	208

MODE SPLIT

5.2.2. 2011 Census journey to work data for East Hertfordshire 001D and 001B has been collected and a weighted average has been generated to predict the multimodal trip generation for the development. **Table 5-2** below provides the mode shares recommended by HCC.

Table 5-2 – Census 2011 Mode Shares

Mode Split	E01023466 : East Hertfordshire 001D	E01023464 : East Hertfordshire 001B	Weighted Average
WfH	6.24%	6.90%	6.62%
Walk	15.61%	8.65%	11.64%
Cycle	0.81%	0.79%	0.80%
Bus	1.16%	0.79%	0.95%

Mode Split	E01023466 : East Hertfordshire 001D	E01023464 : East Hertfordshire 001B	Weighted Average
Train / UG	3.47%	4.89%	4.28%
Motorcycle	0.46%	0.87%	0.70%
Passenger	5.09%	3.84%	4.38%
Driver	66.47%	72.84%	70.10%
Other	0.69%	0.44%	0.55%
Total	100.00%	100.00%	100.00%

5.2.3. The mode shares in **Table 5-2** have been applied to the total people trip generation in **Table 5-1**. The resulting trip generation by mode is set out in **Table 5-3** below.

Table 5-3 – Total Multimodal Trip Generation

Mode	AM Peak (08:00-09:00)			PM Peak (17:00-18:00)		
	Arr.	Dep.	Two-Way	Arr.	Dep.	Two-Way
Work from home	5	17	22	14	6	20
Walk	8	30	38	24	11	35
Cycle	1	2	3	2	1	2
Bus, minibus	1	2	3	2	1	3
Train	3	11	14	9	4	13
Motorcycle/ scooter	0	2	2	1	1	2
Passenger car/van	3	11	14	9	4	13
Driver car/van	49	181	230	143	65	209
Other	0	1	2	1	1	2
Total	70	258	329	204	93	298

5.3 TRIP ATTRACTION: EMPLOYMENT

TRIP RATE

5.3.1. As this is an outline application, the following likely non-residential land use breakdown has been considered for assessment purposes:

- 4,400 sqm employment and 500sqm local centre;
  - 500 sqm of E(a) retail sale of goods
  - 1,600 sqm of E(g) Offices to carry out any operational or administrative functions
  - 1,300 sqm of E(e) Provision of medical or health services
  - 1,500 sqm of B8 storage and distribution

5.3.1.1 The TRICS land use definition subcategories for use class E (g) is most closely related to 02/B - Business Park, however TRICS advises the inclusion of 02/A – office if there is only one building hosting a number of separate organisations. 02/A – office generally has higher trip rates during peak hours as such this has been considered for the E (g) land use for robustness.

5.3.1.2 For the B8, TRICS sub-category 02/F - Warehousing (commercial) (use class B8) has been considered.

5.3.2. The following selection parameters have been applied:

- Land Use: Employment (02)
- Sub Land Use: A – Office and F – Warehousing (commercial)
- Multi-Modal Trip Rates;
- Sites in England Only excluding Greater London;
- Location Type: Edge of Town / Suburban Area
- Date Range: 8 Years Cut-Off; and
- Day of week: weekdays

5.3.3. For the employment element the 02/A – Office category (include a number of different organisations within the same building) in TRICS has been considered based on the area of employment proposed.

5.3.4. The trip rates from the comparable sites selected are set out within **Table 5-4** and **Table 5-5** below. The detailed TRICs report is also available in **Appendix F** and **F.1** for office and B8 respectively.

Table 5-4 – Office Trip Rates/ per 100sqm

Period	Trip Type	Arrivals	Departures	Total
AM (08:00-09:00)	Total Vehicle Trip Rate	1.188	0.216	1.404
	Total Person Trips Rate	1.950	0.271	2.221
PM (17:00-18:00)	Total Vehicle Trip Rate	0.160	1.078	1.238
	Total Person Trips Rate	0.204	1.845	2.049
Trip Attraction (1,600sqm)				
AM (08:00-09:00)	Total Vehicle Trip Generation	19	3	22
	Total Person Trips Generation	31	4	36
PM (17:00-18:00)	Total Vehicle Trip Generation	3	17	20
	Total Person Trips Generation	3	30	33

Table 5-5 – B8 Trip Rates/100sqm

Period	Trip Type	Arrivals	Departures	Total
AM (08:00-09:00)	Total Vehicle Trip Rate	0.136	0.046	0.182
	Total Person Trips Rate	0.223	0.062	0.285
PM (17:00-18:00)	Total Vehicle Trip Rate	0.016	0.094	0.11
	Total Person Trips Rate	0.023	0.154	0.177
Trip Attraction (1,500sqm)				
AM (08:00-09:00)	Total Vehicle Trip Generation	2	1	3
	Total Person Trips Generation	3	1	4
PM (17:00-18:00)	Total Vehicle Trip Generation	0	1	2
	Total Person Trips Generation	0	2	3

MODE SHARES

5.3.5. The employment mode shares have been based on 2011 census data based on the East Hertfordshire 001 MSOA as an employment destination. This includes data of how people within England (which includes the MSOA) travel to employment destinations within the MSOA which contains the site. The mode shares are set out in **Table 5-6** below.

5.3.6. For employment it is assumed that the last leg of train and underground (added to train) journeys will be via bus (route 18 or HCC Herts Lynx).

Table 5-6 – Census 2011 Employment Mode Shares

Travel Mode	2011 Census	2011Census (%)	Adjusted Mode Share (Train and underground redistribution) *
Work from home	0	0.0%	-
Underground, rail	5	0.3%	-
Train	8	0.6%	-
Bus, minibus	20	1.4%	2%
Taxi	0	0.0%	0%
Motorcycle/scooter	10	0.7%	1%
Driving car/van	1,021	70.7%	71%
Passenger car/van	54	3.7%	4%
Bicycle	25	1.7%	2%
On foot	301	20.8%	21%
Other	0	0.0%	0%
Total	1,444	100%	100%

**Train and underground included in bus.*

Office Multimodal Trip Attraction

5.3.7. The mode shares in **Table 5-6** have been applied to the total people trip generation in **Table 5-4**. The resulting trip generation by mode is set out in **Table 5-7** below.

Table 5-7 – Total Multimodal Trip Generation (Office)

Mode	AM Peak (08:00-09:00)			PM Peak (17:00-18:00)		
	Arr.	Dep.	Two-Way	Arr.	Dep.	Two-Way
Work from home	0	0	0	0	0	0
Train	0	0	0	0	0	0
Bus, minibus	0	0	0	0	0	0
Taxi	0	0	0	0	0	0
Motorcycle/scooter	0	0	0	0	0	0
Driving car/van	22	3	25	2	21	23
Passenger car/van	1	0	1	0	1	1
Bicycle	1	0	1	0	1	1

On foot	7	1	7	1	6	7
Other	0	0	0	0	0	0
Total	31	4	36	3	30	33

B8 Multimodal Trip Attraction

5.3.8. The mode shares in **Table 5-6** have been applied to the total people trip attraction in **Table 5-5**. The resulting trip generation by mode is set out in **Table 5-8** below.

Table 5-8 – Total Multimodal Trip Generation (B8)

Mode	AM Peak (08:00-09:00)			PM Peak (17:00-18:00)		
	Arr.	Dep.	Two-Way	Arr.	Dep.	Two-Way
Work from home	0	0	0	0	0	0
Train	0	0	0	0	0	0
Bus, minibus	0	0	0	0	0	0
Taxi	0	0	0	0	0	0
Motorcycle/scooter	0	0	0	0	0	0
Driving car/van	2	0	2	0	2	2
Passenger car/van	0	0	0	0	0	0
Bicycle	0	0	0	0	0	0
On foot	1	0	1	0	0	0
Other	0	0	0	0	0	0
Total	3	1*	4	0	2	3*

**Arithmetic errors due to rounding*

5.4 LOCAL CENTRE

5.4.1. Ancillary retail and community facilities are proposed with the development. These have been included in the proposal to help deliver a more sustainable site by internalising trips as much as possible and reducing the need to travel. The proposed quanta are set out below:

- 500 sqm comprising Use Classes E (a, b, c)
- 1,300 sqm Health GP surgery (Class E (e))

ANCILLARY USES

5.4.2. The small **retail** element proposed is considered ancillary and is expected to serve the proposed development and immediate surroundings. Trips to the retail facility are expected to be linked, diverted or pass-by trips which are already on the network. The facility is not expected to attract new trips in its own right.

Health GP Surgery

5.4.3. There are healthcare facilities within 10 minutes' walk of the site, at the town centre including Buntingford Medical Centre and private clinics.

5.4.4. These facilities are located at the town centre and easily accessible via driving. A proportion of existing healthcare trips could be diverted to the site due to the proximity of the new facility within the site, howbeit with the proposed non-vehicular connection to the site from the immediate vicinity, the existing vehicular trips to the health care facility could potentially be accessed via foot or by the Herts Lynx service, so the trip generation presented in **Table 5-9** are a robust assumption. The location of the site makes it possible to use the sole vehicular connection via the A10 as a hard measure to encourage mode shifts towards sustainable travel. This element of the development is therefore expected to have a net beneficial impact on the local network.

Trip Rate

5.4.5. For robustness however, the TRICS database has been resorted to in order to derive trip rates for a GP Surgery. The following selection parameters have been applied within TRICS:

- Land Use: Health (05)
- Sub Land Use: (G) GP Surgery
- Multi-Modal Trip Rates;
- Sites in England Only excluding Greater London;
- Location Type: Edge of Town / Suburban Area
- Date Range: 8 Years Cut-Off; and
- Trip Rate Parameter: Gross Floor Area

5.4.6. The resulting trip rates from the comparable sites selected are set out within **Table 5-9** below. The detailed TRICs report is also available in **Appendix F.2**.

Table 5-9 – Health Care Trip Rates (100sqm)

Period	Trip Type	Arrivals	Departures	Total
AM (08:00-09:00)	Total Vehicle Trip Rate	1.526	0.471	1.997
	Total Person Trips Rate	2.312	0.696	3.008
PM (17:00-18:00)	Total Vehicle Trip Rate	0.539	1.033	1.572
	Total Person Trips Rate	1.077	2.379	3.456
Trip Generation (1,300sqm)				
AM (08:00-09:00)	Total Vehicle Trip Generation	20	6	26
	Total Person Trips Generation	30	9	39
PM (17:00-18:00)	Total Vehicle Trip Generation	7	13	20
	Total Person Trips Generation	14	31	45

MULTIMODAL TRIP ATTRACTION

5.4.7. Census data is unlikely to paint the right picture for trips related to this land use as these are not entirely journey to work related trips. TRICS mode share is considered to be a more viable option as this will comprise of all journey purposes. The TRICS mode shares are set out below in **Table 5-10**.

Table 5-10 – TRICS Mode Shares

Travel Mode	Census 2011 Mode Share	AM Peak (08:00-09:00)			PM Peak (17:00-18:00)		
		Arr.	Dep.	Two-Way	Arr.	Dep.	Two-Way
Bus	4.4%	1	0	2	1	1	2
Single vehicle occupant	35.5%	11	3	14	5	11	16
Car passenger	28.3%	9	3	11	4	9	13
Cyclist	1.3%	0	0	1	0	0	1
Pedestrians	30.5%	9	3	12	4	9	14
Total	100%	30	9	39	14	31	45

5.5 TOTAL MULTI-MODAL TRIP GENERATION

5.5.1. The multi-modal trip generation assessment for each land use has been totalled in **Table 5-11** below.

Table 5-11 – Multi-Modal Trip Generation Assessment

Travel Mode	AM		PM	
	Arrival	Departure	Arrival	Departure
Work from home	5	17	14	6
Train	3	11	9	4
Bus, minibus	2	3	3	3
Taxi	0	0	0	0
Motorcycle/scooter	1	2	1	1
Driving car/van	84	187	151	99
Passenger car/van	13	14	13	14
Bicycle	2	2	2	2
On foot	25	34	29	27
Other	0	1	1	1
Total	135	272	222	156

5.5.2. **Table 5-11** predicts that the proposed development will generate up to 407 two-way trips in the morning peak and 378 two-way trips in the afternoon peak.

5.5.3. The methodology of how these trips have been distributed on the local network is discussed below and the impact of these trips on the local highway network is discussed in **Chapter 6**.

5.6 TRIP DISTRIBUTION

5.6.1. The trip distribution of the proposed residential development has been estimated based on the journey to work data from the 2011 census. The main destinations of trips from Buntingford are:

- East Hertfordshire towns – Bishops Stortford, Buntingford, Hertford, Ware (33%);
- Stevenage (11%);

- Welwyn Garden City/ Hatfield (9%);
- North Hertfordshire towns – Baldock, Hitchin, Royston (8%);
- Broxbourne/ Cheshunt (6%);
- Enfield (3%);
- Harlow (3%);
- South Cambridgeshire district (3%);
- Epping Forest district (3%); and
- Elsewhere (21%).

5.6.2. Trips from the development have been assigned to the destinations listed above based on the most likely route from Buntingford to their destination. The trip assignment is shown in **Table 5-12** overleaf.

Table 5-12 – Trip Assignment

Route	% Assigned
A10 (N)	8.5%
A10 (S)	59.9%
A507 Baldock Road	22.8%
B1038 Hare Street Road (E)	2.1%
High Street	6.9%
Total	100%

5.7 EMPLOYMENT TRIP DISTRIBUTION AND ASSIGNMENT

5.7.1. The trip distribution for the proposed employment land use is based upon the Origin-Destination data contained in WU03EW "Location of Usual Residence and Place of Work by Method of Travel to Work (MSOA Level)" from the 2011 census. The distribution based on car trips from East Hertfordshire 001 MSOA (which contains Buntingford and the villages to the east of Buntingford). **Table 5-13** summarises the predicted origins of trips to the proposed development.

Table 5-13 – Car/Motorcycle Driver Trips to East Hertfordshire 001 MSOA (2011, WU03EW)

Trip Origin	People in Census	% Trips
East Hertfordshire	491	47.6%
Rest of Hertfordshire	269	26.1%
Cambridgeshire	86	8.3%
Essex	69	6.7%
East of England (remainder)	49	4.7%
England and Wales (remainder)	68	6.6%
Total	1032	100%

5.7.2. It is evident from the census that nearly 75% of current employment trips to Buntingford originate within Hertfordshire, with nearly 90% originating in Hertfordshire, Essex or Cambridgeshire.

5.7.3. For the trips originating in East Hertfordshire, the main origins in the 2011 census are as set out in **Table 5-14** below

Table 5-14 – Car/Motorcycle Trips to East Hertfordshire 001 from East Herts District

Trip Origin	People in Census	% Trips
Buntingford and villages	222	21.5%
Bishops Stortford and Cottered, Dane End	69 +65	6.7% + 6.3
Thundridge, Puckeridge, Standon	34	3.3%
Hertford and Ware	24 + 39	2.3% + 3.8
Other	38	3.7%

5.7.4. Overall, it is likely that just over a fifth of trips to the development would originate within Buntingford and the surrounding villages. **Table 5-15** summarises the likely assignment of these trips to the highway network.

Table 5-15 – Employment Site Percentage Trip Assignment

Route	% Assigned
A10N	16.1%
A10S	33.8%
B1038	15.1%
High Street	10.8%
A507	24.1%
Total	100.0%

6 TRAFFIC IMPACT ASSESSMENT

6.1 INTRODUCTION

6.1.1. This section considers the effects of the proposed development on the operation of the future baseline transport network.

6.2 TRAFFIC SURVEYS

6.2.1. Following traffic survey scope agreed with HCC, Manual Classified Counts (MCC) and Automated Traffic Counters (ATC) were undertaken in January 2022 (blue) and April 2022 (red) to inform the junction assessment, as shown in **Figure 6-1** below.

Figure 6-1 – Survey Locations

MCCs

6.2.2. Six MCC surveys were undertaken as part of the assessment, at the following locations:

- A10 / London Road Junction;
- A10 / Baldock Road Junction;
- Luynes Rise / Aspenden Road Junction;
- Aspenden Road / London Road Junction;
- Station Road / Hare Street Road Junction; and

- Baldock Road / High Street.

6.2.3. The MCCs provide turning count data collected in 15-minute intervals for the AM and PM peak periods (07:00 – 10:00 and 16:00 – 19:00). In addition, queue counts record the maximum queue length for each 5-minute interval for the AM and PM peak periods.

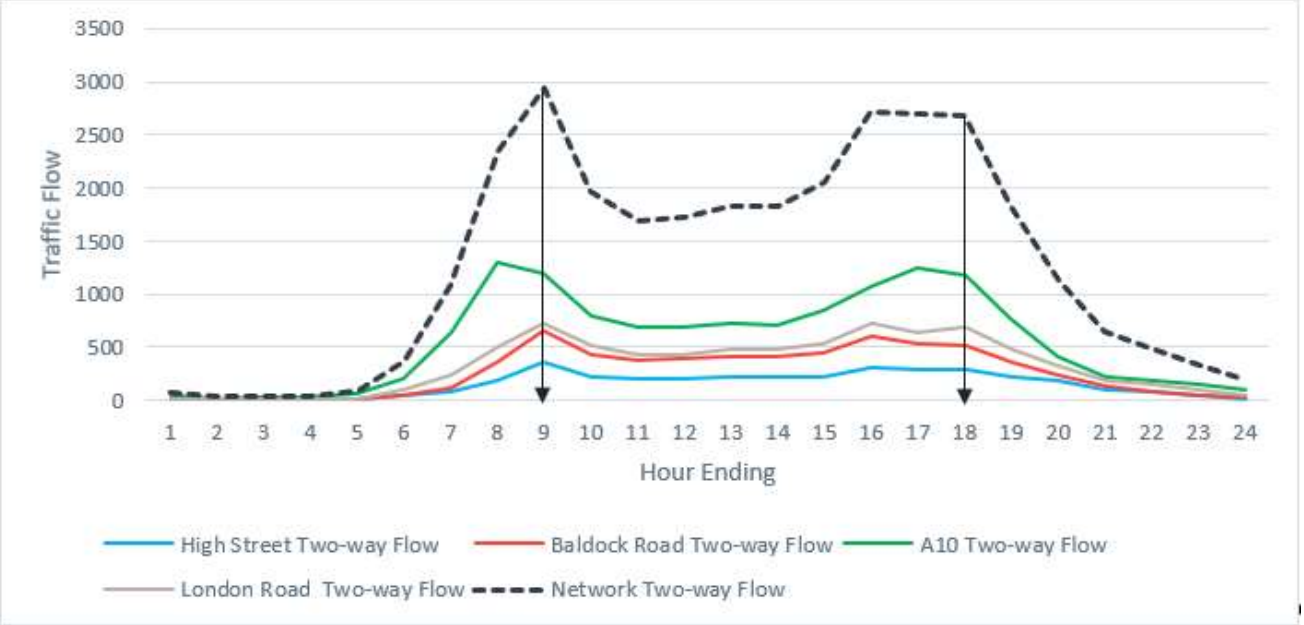
ATCs

6.2.4. Four ATC surveys were undertaken, at the following locations:

- A10 (north of the A10/London Road roundabout);
- London Road (south of Owles Lane);
- Baldock Road (east of Bowling Green Lane); and
- High Street (between Baldock Road and Church Street).

6.2.5. The ATC provides information about traffic volumes by hour of the day. The current traffic flow profile for the area is shown in **Figure 6-2** below. The network flows shows where the network peak occurs, as illustrated, the morning peak occurs at 0800 – 0900 and the afternoon peak at 1700 – 1800. These peak hours have therefore been utilised in the junction modelling assessment.

Figure 6-2 – Existing Traffic Flow



6.3 ASSESSMENT PARAMETERS

6.3.1. The following parameters are proposed as a basis for the development impact assessment.

ASSESSMENT YEARS

6.3.2. Any potential future impact the development may have in terms of capacity will be assessed for a future year scenario when it will be assumed the development is fully complete and occupied. The following scenarios have been set out for the modelling assessments:

- Scenario 1: Base year 2022
- Scenario 2: Base year 2024 (scenario 1 plus TEMPRO growth to 2024);
- Scenario 3: Future 2029 (Scenario 2 plus TEMPRO growth factors + committed development).

- Scenario 4: Scenario 3 plus development traffic flows.

6.3.3. The Traffic Flow Diagrams for the scenarios can be found at **Appendix G**.

ASSESSMENT PERIODS

6.3.4. The proposed development is expected to generate the greatest demand for travel during the AM and PM peak hours. As such, the assessment of impacts will consider the two main time periods identified as network peaks for the base traffic (illustrated in **Figure 6-2**):

- Weekday AM peak period (08:00 – 09:00); and
- Weekday PM peak period (17:00 – 18:00).

TRAFFIC GROWTH

6.3.5. To assess any future impacts the development may have on the capacity of the local road network TEMPRO growth factors will be applied to the base year traffic flows. These growth factors have been derived from the most recent version of TEMPro (V7.2c) can be seen in **Table 6-1** below.

Table 6-1 – TEMPRO Growth Factor

Location	Year From	Year To	Time Period	Local Growth Figure
East Hertfordshire 001	2022	2024	AM Peak	1.0285
			PM Peak	1.0294
East Hertfordshire 001	2024	2029	AM Peak	1.0333
			PM Peak	1.0361

6.3.6. While much of the committed development in the area will be included in the TEMPRO growth factors, two sites have been manually added to gain a more accurate finite analysis through particular junctions in proximity to the site, these are:

- 3/18/2457/FUL – 65 residential dwellings; and
- 3/21/1576/OUT – expansion of Silkmead Farm industrial estate to 20,590sqm.

6.3.7. Analysis completed by HCC found that traffic is still approximately 10% lower than pre-pandemic levels, therefore the 2022 base flows have been uplifted accordingly. However the DfT Road Traffic Estimate for Great Britain (April 2021) sets out that:

"All motor vehicle types saw a decrease in traffic levels during 2020. Car and bus traffic were most heavily impacted, decreasing by 24.7% and 32.0% respectively. Although van and lorry traffic experienced a smaller fall in vehicle miles, they still saw decreases of 9.1% and 5.7%, respectively…

As restrictions were eased throughout the summer months of 2020, van and lorry vehicle traffic returned to similar levels seen in 2019. In September 2020, van and lorry traffic was at 91% and 99% of the September 2019 levels, respectively. Car traffic also recovered during this time but remained below 2019 levels."

6.3.8. Following DfT's assessment, traffic was almost at pre-pandemic levels in September 2020 following the easing of restrictions. After almost a year and half, one would expect that traffic will be fully back to pre-pandemic levels. However, the 10% uplift requested by HCC has been applied to the base data, also the 2022 base year traffic has been uplifted to 2024 by applying local growth factors as requested by HCC. The future year following this is now 2029 (instead of 2027). It should be noted that though

this presents a robust case for assessment, the additional growth assumptions included may result in the base model operating over or very near to capacity though not the case on ground.

6.4 JUNCTIONS ASSESSED

6.4.1. Using the trip generation and distribution approach set out previously, junction assessments have been undertaken for the following based on the scenarios described previously:

- J1: A10 / A507 / B1038;
- J2: Station Road / B1038;
- J3: Luynes Rise / Aspenden Road;
- J4: Aspenden Road / London Road / Station Road;
- J5: London Road / A10;
- J6: Baldock Road / High Street / B1038; and
- J7: A10 / Site Access.

6.5 MODEL SOFTWARE

6.5.1. The Assessment of Roundabout Capacity and Delay (ARCADY) and the Priority Intersection Capacity and Delay (PICADY) module of Junctions 10 was used to assess junctions 1-6 listed above.

6.5.2. The Ratio of Flow to Capacity (RFC) model output is typically used to assess the performance of each arm. The Design Manual for Roads and Bridges (DMRB) industry-standard 0.85 RFC threshold is generally accepted for new junctions, with an RFC of up to 1.00 generally accepted for the operation of existing junctions in peak periods.

6.5.3. The traffic flows have been entered as vehicles for all junctions and the Heavy Goods Vehicle (HGV) percentage for each movement has been calculated using the traffic data collected.

6.5.4. Intercept adjustments have been applied where necessary to validate the models against the observed queues. As demonstrated within **Appendix H**, the difference in queues between the observed and modelled are within ± 5 PCUs.

6.6 JUNCTION CAPACITY ASSESSMENT

JUNCTION 1: A10 / A507 / B1038

6.6.1. **Table 6-2** is an extract of the Junctions 10 assessment summary table which indicates the model results for the AM and PM peak hours. The full results are provided at **Appendix I.1**.

Table 6-2 – Junction 1 Results

Arms	Base year 2022		Base plus growth (2024)		Future 2029 + growth & comm dev		Future 2029 + growth, comm dev, dev flows	
	Max Queue (VEH)	RFC	Max Queue (VEH)	RFC	Max Queue (VEH)	RFC	Max Queue (VEH)	RFC
AM Peak								
A - A10 (N)	2	0.66	3.8	0.8	4.8	0.84	7.1	0.9
B - B1038 (Baldock Road)	1.9	0.65	3.8	0.8	4.9	0.85	6.2	0.88
C - Access Road	0	0	0	0	0	0	0	0
D - A10 (S)	0.8	0.44	1.1	0.5	1.1	0.52	1.5	0.59

Arms	Base year 2022		Base plus growth (2024)		Future 2029 + growth & comm dev		Future 2029 + growth, comm dev, dev flows	
	Max Queue (VEH)	RFC	Max Queue (VEH)	RFC	Max Queue (VEH)	RFC	Max Queue (VEH)	RFC
E - A507 (Baldock Road)	3.1	0.75	7.2	0.89	10.2	0.93	48.1	1.11
PM Peak								
A - A10 (N)	1	0.49	1.4	0.57	1.5	0.6	1.9	0.65
B - B1038 (Baldock Road)	0.4	0.3	0.6	0.36	0.6	0.38	1	0.49
C - Access Road	0	0.03	0	0.04	0	0.04	0	0.04
D - A10 (S)	0.8	0.42	1	0.48	1	0.5	1.2	0.54
E - A507 (Baldock Road)	1	0.49	1.4	0.59	1.6	0.62	2.2	0.69

6.6.2. **Table 6-2** shows that the junction operates satisfactorily in the base scenario, the future base (2024) sees Arm E i.e. A507 operating near capacity in the AM peak. In 2029, the A507 arm is predicted to operate very close to the theoretical capacity.

6.6.3. Post development, the junction is predicted to operate above its theoretical capacity on the A507 Arm in the AM peak.

6.6.4. As discussed earlier, the traffic flow assumed in the future baseline is significantly overestimated as current traffic levels are expected to be back to pre-covid levels, ergo the 10% increase in traffic should be applied as sensitivity.

6.6.5. The 10% increase in traffic on this arm results in additional 54 vehicles in the AM peak on the A507 approach, adding growth to 2024 results in additional 71 vehicles. The proposed development results in 20 vehicles in the AM peak. In the context of these numbers, the additional traffic from the development in the AM peak is not expected to bring the junction overcapacity.

6.6.6. The modelling has also been completed considering 0% covid factor, the results are shown in **Table 7-2** below.

Table 6-3 – Junction 1 Results (without Covid Factor Applied)

Arms	Base year 2022		Base plus growth (2024)		Future 2029 + growth & comm dev		Future 2029 + growth, comm dev, dev flows	
	Max Queue (VEH)	RFC	Max Queue (VEH)	RFC	Max Queue (VEH)	RFC	Max Queue (VEH)	RFC
AM Peak								
A - A10 (N)	2	0.66	2.3	0.69	2.6	0.72	4.2	0.81
B - B1038 (Baldock Road)	1.9	0.65	2.1	0.68	2.5	0.72	3.3	0.78
C - Access Road	0	0	0	0	0	0	0	0
D - A10 (S)	0.8	0.44	0.9	0.45	0.9	0.47	1.2	0.54
E - A507 (Baldock Road)	3.1	0.75	3.6	0.78	4.3	0.82	15.7	0.98
PM Peak								
A - A10 (N)	1	0.49	1	0.51	1.2	0.53	1.4	0.58

Arms	Base year 2022		Base plus growth (2024)		Future 2029 + growth & comm dev		Future 2029 + growth, comm dev, dev flows	
	Max Queue (VEH)	RFC	Max Queue (VEH)	RFC	Max Queue (VEH)	RFC	Max Queue (VEH)	RFC
B - B1038 (Baldock Road)	0.4	0.3	0.5	0.32	0.5	0.33	0.8	0.43
C - Access Road	0	0.03	0	0.03	0	0.03	0	0.04
D - A10 (S)	0.8	0.42	0.8	0.43	0.8	0.45	1	0.49
E - A507 (Baldock Road)	1	0.49	1.1	0.51	1.2	0.54	1.6	0.61

6.6.7. As demonstrated in **Table 6-3**, the A507 arm will operate with RFC under 1.0, as an existing junction this is considered acceptable.

JUNCTION 2: STATION ROAD / B1038A10

6.6.8. **Table 6-4** is an extract of the Junctions 10 assessment summary table which indicates the model results for the AM and PM peak hours. The full results are provided at **Appendix I.2.**

Table 6-4 – Junction 2 Results

Arms	Base year 2022		Base plus growth (2024)		Future 2029 + growth & comm dev		Future 2029 + growth, comm dev, dev flows	
	Max Queue (PCU)	RFC	Max Queue (PCU)	RFC	Max Queue (PCU)	RFC	Max Queue (PCU)	RFC
AM Peak								
A	0.9	0.48	1.2	0.55	1.3	0.57	2.3	0.7
B	0.4	0.3	0.5	0.34	0.6	0.36	0.7	0.39
C	1.3	0.56	1.8	0.64	1.9	0.66	2.6	0.73
PM Peak								
A	0.8	0.43	1	0.49	1	0.51	1.2	0.55
B	0.3	0.22	0.3	0.25	0.4	0.27	0.6	0.38
C	0.9	0.46	1.1	0.53	1.2	0.55	1.4	0.59
A - High Street, B - Hare Street, C- Station Rd								

6.6.9. **Table 6-4** shows that the junction is operating adequately with no issues of queuing experienced in any of the scenarios.

JUNCTION 3: LUYNES RISE / ASPENDEN ROAD

6.6.10. **Table 6-5** is an extract of the Junctions 10 assessment summary table which indicates the model results for the AM and PM peak hours. The full results are provided at **Appendix I.3.**

Table 6-5 – Junction 3 Results

Arms	Base year 2022		Base plus growth (2024)		Future 2029 + growth & comm dev		Future 2029 + growth, comm dev, dev flows	
	Max Queue (PCU)	RFC	Max Queue (PCU)	RFC	Max Queue (PCU)	RFC	Max Queue (PCU)	RFC
AM Peak								
B-AC	**0.1**	**0.11**	0.1	0.12	0.1	0.13	0.1	0.13
C-AB	**0.1**	**0.09**	0.1	0.1	0.2	0.11	0.2	0.11
PM Peak								
B-AC	0.1	0.07	0.1	0.08	0.1	0.09	0.1	0.09
C-AB	0.2	0.13	0.2	0.15	0.2	0.16	0.2	0.16
A - Aspenden Road S , B - Luynes Rise , C- Aspenden Road N								

6.6.11. **Table 6-5** shows that the junction is operating adequately with no issues of queuing experienced in any of the scenarios.

JUNCTION 4: ASPENDEN ROAD / LONDON ROAD / STATION ROAD

6.6.12. **Table 6-6** is an extract of the Junctions 10 assessment summary table which indicates the model results for the AM and PM peak hours. The full results are provided at **Appendix I.4.**

Table 6-6 – Junction 4 Results

Arms	Base year 2022		Base plus growth (2024)		Future 2029 + growth & comm dev		Future 2029 + growth, comm dev, dev flows	
	Max Queue (PCU)	RFC	Max Queue (PCU)	RFC	Max Queue (PCU)	RFC	Max Queue (PCU)	RFC
AM Peak								
B-AC	0.9	0.47	1.2	0.55	1.4	0.58	1.8	0.64
C-AB	0.4	0.19	0.5	0.23	0.5	0.24	0.6	0.25
PM Peak								
B-AC	0.5	0.31	0.6	0.37	0.6	0.39	0.7	0.41
C-AB	0.3	0.17	0.4	0.2	0.4	0.22	0.5	0.24
A - London Road, B - Aspenden Road, C- Station Road								

6.6.13. **Table 6-6** shows that the junction is operating adequately with no issues of queuing experienced in any of the scenarios.

JUNCTION 5: LONDON ROAD / A10;

6.6.14. **Table 6-7** is an extract of the Junctions 10 assessment summary table which indicates the model results for the AM and PM peak hours. The full results are provided at **Appendix I.5.**

Table 6-7 – Junction 5 Results

Arms	Base year 2022		Base plus growth (2024)		Future 2029 + growth & comm dev		Future 2029 + growth, comm dev, dev flows	
	Max Queue (VEH)	RFC	Max Queue (VEH)	RFC	Max Queue (VEH)	RFC	Max Queue (VEH)	RFC
AM Peak								
A - London Road	15.2	0.98	72.4	1.22	92.2	1.29	119.3	1.34
B - Sainsburys Access	0	0	0	0	0	0	0	0
C - A10 (S)	0.9	0.45	1.1	0.51	1.1	0.52	1.2	0.55
D - A10 (N)	4.3	0.81	10.6	0.93	15.6	0.96	39.1	1.04
PM Peak								
A - London Road	0.4	0.27	0.5	0.32	0.5	0.33	0.5	0.34
B - Sainsburys Access	0	0.02	0	0.03	0	0.03	0	0.03
C - A10 (S)	1.4	0.57	1.9	0.65	2.1	0.67	2.6	0.72
D - A10 (N)	3.2	0.76	7.4	0.89	11	0.94	20.5	1

6.6.15. **Table 6-7** indicates that in the AM peak base scenario, the London Road and the A10 (N) approaches operate near capacity. In the future base (2024 and 2029) the A10 (N) is predicted to continue to operate near capacity (RFC 0.93 and 0.96 respectively) whilst the London Road Arm is predicted to operate above capacity (RFC 1.22 and 1.29 respectively).

6.6.16. In the PM peak, the London Road arm experiences no capacity issues due to contra flow ie the A10 (S) arm sees a higher RFC in the PM peak compared with the AM peak but within theoretical capacity. The A10 (N) however operates similarly in the PM peak as in the AM peak with RFCs increasing from 0.89 to 0.94 in the projected base (2024) and future base (2029) scenarios respectively.

6.6.17. In Scenario 4 (with development) AM peak, London Road (already above capacity in the base and future base) continues to operate above capacity with 1.35 RFC post development. The A10 (N) also operates above capacity with 1.04 RFC.

6.6.18. In the PM peak post development, London Road operates within theoretical capacity but the A10 (N) operates at capacity with an RFC of 1.

6.6.19. The proposed development in both the AM and PM peaks results in a maximum of 0.08 uplift in RFC which is considered insignificant. The impact of the proposed development at the junctions is therefore minor.

6.6.20. However, as previously discussed, the level of growth in traffic is over estimated, as such the impact at the junction has been reassessed based on the actual base traffic growth without the 10% covid factor adjustment. The results are set out within **Table 6-8**.

Table 6-8 – Junction 5 Results (without Covid Factor Applied)

Arms	Base year 2022		Base plus growth (2024)		Future 2029 + growth & comm dev		Future 2029 + growth, comm dev, dev flows	
	Max Queue (VEH)	RFC	Max Queue (VEH)	RFC	Max Queue (VEH)	RFC	Max Queue (VEH)	RFC
AM Peak								
A - London Road	15.2	0.98	23.7	1.03	37.8	1.09	59.1	1.17
B – Sainsburys Access	0	0	0	0	0	0	0	0
C - A10 (S)	0.9	0.45	0.9	0.47	1	0.48	1	0.5
D - A10 (N)	4.3	0.81	5	0.83	6.2	0.87	11.9	0.94
PM Peak								
A - London Road	0.4	0.27	0.4	0.28	0.4	0.3	0.4	0.31
B - Sainsburys Access	0	0.02	0	0.02	0	0.02	0	0.03
C - A10 (S)	1.4	0.57	1.5	0.59	1.6	0.61	2	0.66
D - A10 (N)	3.2	0.76	3.7	0.79	4.6	0.83	6.8	0.88

6.6.21. **Table 6-8** shows that all arms with the exception of London Road is expected to operate within theoretical capacity (RFC 1) in all scenarios and peaks. However, the A10 (N) arm operate near theoretical capacity in the AM peak in the future base and with development scenarios.

6.6.22. **Table 6-8** clearly shows that there are existing issues at the junction. The proposed development results in less than 0.1 rise in RFC on individual arms, impact of the development at this junction is therefore minor.

6.6.23. The London Road arm is the most impacted due to heavy southbound flow on the A10 (N). This reduces the opportunity for vehicles on London Road to enter the roundabout circulatory resulting in queuing on London Road. To help mitigate this, the proposed development access as the main vehicular access onto the A10 will help provide gaps on the A10 (N) arm to ease the impact on London Road. This is further discussed in the next section.

JUNCTION 6: BALDOCK ROAD / HIGH STREET /B1038

6.6.24. **Table 6-9** is an extract of the Junctions 10 assessment summary table which indicates the model results for the AM and PM peak hours. The full results are provided at **Appendix I.6.**

Table 6-9 – Junction 6 Results

Arms	Base year 2022		Base plus growth (2024)		Future 2029 + growth & comm dev		Future 2029 + growth, comm dev, dev flows	
	Max Queue (PCU)	RFC	Max Queue (PCU)	RFC	Max Queue (PCU)	RFC	Max Queue (PCU)	RFC
AM Peak								
B-AC	0.9	0.48	1.2	0.56	1.4	0.58	2.2	0.7
C-AB	1.4	0.49	2.1	0.58	2.4	0.61	3.2	0.68
PM Peak								
B-AC	0.5	0.35	0.7	0.41	0.7	0.43	1	0.5
C-AB	1	0.42	1.4	0.5	1.6	0.52	2.3	0.61
A - Baldock Road, B - High Street, C- B1038								

6.6.25. **Table 6-9** shows that the junction is operating adequately with no issues of queuing experienced in any of the scenarios.

JUNCTION 7: A10 / SITE ACCESS

6.6.26. Table 6-9**Table 6-10** is an extract of the Junctions 10 assessment summary table which indicates the model results for the AM and PM peak hours. The full results are provided at **Appendix I.7.**

Table 6-10 – Junction 7 Site Access Results

Arms	Future 2029 + growth, comm dev, dev flows	
	Max Queue (VEH)	RFC
AM Peak		
C - Site Access	0.2	0.18
B – A10 (S)	1.4	0.59
A – A10 (N)	1.8	0.65
PM Peak		
C - Site Access	0.1	0.08
B – A10 (S)	1.6	0.62
A – A10 (N)	0.9	0.47

6.6.27. For the site access junction, there is little concern for road capacity constraints as 2029 scenario year forecasts with development flows indicates no issues of queuing or delay on all arms of the junction. Maximum RFC is estimates to reach approximately 0.65 on the A10 northern arm in the AM peak and 0.62 on the A10 southern arm on the PM peak.

6.7 MITIGATION

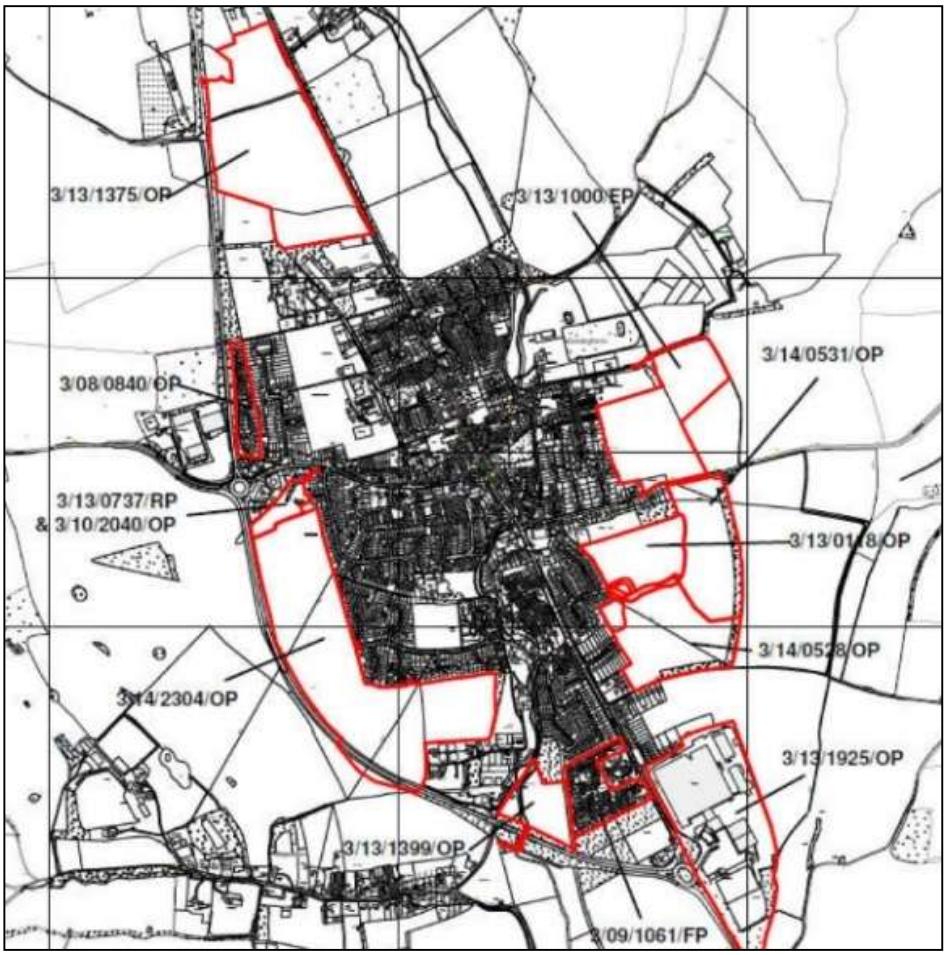
6.7.1. Mitigation is proposed for Junction 5 (London Road/A10 roundabout) where in both the with and without Covid uplift scenarios, the junction still operates above its theoretical capacity.

6.7.2. In August 2015 East Hertfordshire Council appointed Steer Davies Gleave to provide traffic modelling work that will inform the Plan-making process of the District Plan. The work, involved two main tasks:

- Creation of a VISSIM micro-simulation model of the existing operation of the road network in and around Buntingford
- Use of the above model to test various development scenarios, and determine any mitigation measures (if required)

6.7.3. The scenarios covered the developments set out withing **Figure 6-3**.

Figure 6-3 – Plan of Proposed Development Sites



6.7.4. The scenarios included the proposed development with full access via Luynes Rise (scenario 5A) and a separate scenario with full access via the A10 (Scenario 5). The assessment revealed that Scenario 5 delivered more favourable results for the local road network however, there were capacity issues at the A10/London Road roundabout in both scenarios though worse in scenario 5A.

6.7.5. The key issue identified at the roundabout was that there was a high volume of traffic heading on the A10 towards Hertford. This resulted in traffic blocking back on London Road as far as High Street. Consequently, as traffic volumes increase on the A10 (N) approach, it becomes more difficult for traffic on London Road to enter the roundabout circulatory.

6.7.6. Two mitigation measures were developed to alleviate the issues, thus:

- **Mitigation Measure 1** involves local widening in the southbound direction at the A10/London Road roundabout, which results in a significant improvement in operation across all future Scenarios in the AM peak period.
- **Mitigation Measure 2** provides AM peak part-time signal control operation of the A10 (west) approach, which provides an improvement in operation in the southbound direction. However, a road safety issue is created on the northbound section of the circulatory, with insufficient space to accommodate the queue of vehicles at the circulatory stopline heading for the London Road exit link.

6.7.7. Consequently, it was recommended that Mitigation Measure 1 be taken forward for implementation, however, this does not solve the problem.

6.7.8. The proposed roundabout access to the development will act as a mitigating measure by creating gaps in the A10 southbound flow. This will allow traffic on London Road to enter the roundabout circulatory, this however has not been quantified at this stage due to limitations in the standalone junctions 10 software to model this particular situation.

6.7.9. It is expected that the combination of Mitigation 1 and the site access will deliver a better measure in mitigating the capacity issue at the junction.

7 TRAVEL PLANNING

7.1 INTRODUCTION

7.1.1. Transport policy guidance at all levels encourages new development, where appropriate in scale and form, to implement Travel Plans as a means of mitigating the potential impacts associated with new vehicular traffic.

7.1.2. This section sets out the key principles of the Travel Plan for the proposed development. Framework Travel Plans for the residential land use has been prepared as part of this application (ref 70088938-WSP-FTP-002).

7.2 THE FORM OF TRAVEL PLAN

7.2.1. A Travel Plan (TP) is a package of practical measures aimed at reducing car use. The TP is intended to encourage site users to choose alternative modes of travel over single occupancy car use and where possible reduce the need to travel at all. The plan should be tailored to an individual site and include a range of measures that are likely to have a positive impact at that site.

7.2.2. As Travel Plan measures, targets and requirements for management and review are specific to the end user it is expected that a Full Travel Plan will be secured through a condition and/or an obligation imposed subject to planning permission approval.

7.2.3. The Framework TP is the first stage of a Travel Planning process. It includes a list of potential measures that could be implemented to affect modal choice and a management strategy for producing a full TP.

7.2.4. This document includes indicative targets which will need to be amended within the full TP following surveys once the site is fully occupied with a monitoring schedule set out within the Framework TP of when surveys could occur.

8 SUMMARY & CONCLUSION

8.1 SUMMARY

8.1.1. WSP has been appointed by Vistry Group to prepare a TA to support an outline application with all matters reserved for a development of up to 350 dwellings, 4,400 sqm of employment space and a local centre.

8.1.2. This TA demonstrates that:

- The proposals are in line with both national and local policy objectives. Most specifically relating to HCC LTP Policy 1 & NPPF paragraph 112a, as both local design and active travel provision is provided as part of the proposal.
- Connections to off-site active travel infrastructure are being implemented, with the existing bridleways being reworked.
- A new active travel connection from the site onto Luynes Rise will be added to the Eastern section of the development, to facilitate active travel connections towards the centre of Buntingford.
- The site is demonstrated to be closely located to numerous services all within acceptable walking distances, indicating that the development meets the proposals of a “20-minute neighbourhood”. In addition, several services are proposed on site to help alleviate the need for a private vehicle.
- The connecting active travel improvements relating to the development also link to the ideas of creating a liveable neighbourhood as outlined in TfL guidance.
- Several Public transport options are available, including both standard bus services as well as a Demand Rapid Transit (DRT) service in the form of HertsLynx. This offers sustainable alternatives to private car travel to access surrounding local settlements as well as other transport services (E.G. Local train stations).
- A review of local collisions within the surrounding area highlighted little concern of traffic accidents with no notable accident patterns relating to the site access location on the A10.
- Proposed vehicular site access is via a roundabout onto the A10. No through traffic route is proposed through the development, thus eliminating any issues of “rat-running”. The proposed roundabout will help with “platooning” traffic queues along the A10, to help alleviate queuing on the London Road roundabout.
- A Stage 1 RSA has been undertaken by HCC RSA team. The issues raised have been addressed via a Designer's Response. This will accompany a Special Circumstances Report which will be submitted to the HCC Design Review Panel and subsequently to the Strategic Infrastructure Board for approval.
- Capacity assessment results of the surrounding junctions (as well as the proposed site access) has indicated that the development and future growth is unlikely to have any impact on current local traffic conditions except at Junctions 1 (A10/A507 roundabout) in the AM peak where the A507 arm

sees RFC over 1 in the with 10% covid factor scenario and 5 (London Road/A10 roundabout) where London Road records RFC over 1 in the AM peak. The roundabout proposed on the A10 is expected to create gaps that will alleviate some of the queueing on London Road.

- As the TA is for an outline application, details regarding parking will be confirmed at a later stage. It is envisaged that the car parking, including EV infrastructure, and cycle parking will be provided in line with the Local Planning Authority's standards and compliant with Policy 5 of the HCC LTP and paragraphs 107 and 112(e) of the NPPF.

- The internal highway designs and layout will be provided at the reserved matters stage and will be designed to be compliant with NPPF paragraphs 112(c,d) and Roads in Hertfordshire: Highways Design Guide Standards for highway design and refuse/emergency vehicle access.

- A Travel Plan has been produced which aims to assist in reducing the number of single occupancy vehicle trips generated by the site. A number of hard and soft travel plan measures are proposed alongside mode share targets. This will be supported through a TP monitoring and evaluation planning obligation.

8.1.3. The proposals meet the requirements of NPPF, in that they provide safe and enhanced access for all users and do not negatively impact on the operation of the local highway or sustainable network. The residual transport impact is not considered severe in the context of NPPF.

8.2 CONCLUSION

8.2.1. The proposed development has been planned in accordance with national, regional and local transport policies.

8.2.2. This Transport Assessment demonstrates that the proposed development will not have a significant adverse effect on the operation of the highway, public transport or pedestrian and cycle networks in the vicinity of the site or on road safety.

8.2.3. In conclusion, it is considered that the development proposals are reasonable and appropriate for the location and that there are no reasons why the development proposal should not be granted planning permission on traffic and transport grounds.

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Appendix A

WSP RESPONSE TO HCC AND EHDC COMMENTS

TECHNICAL NOTE 1

DATE:	21 June 2023	**CONFIDENTIALITY:**	Confidential
SUBJECT:	Response to HCC Comments		
PROJECT:	70094210 - Land at Buntingford West	**AUTHOR:**	Gideon G
CHECKED:	Mehmet A	**APPROVED:**	Mehmet A

INTRODUCTION

This Technical Note has been prepared by WSP on behalf of Vistry Home Group in response to comments raised regarding the Buntingford West application (ref EH/13371/2022):

Hybrid planning application comprising:

- Full planning for the development of 350 residential dwellings (Use Class C3), a new highway junction from the A10 with associated works including drainage, access roads, allotments, public open space and landscaping; and
- Outline planning (with all matters reserved except for access) for up to 4,400 sqm of commercial and services floorspace (Use Class E and B8), and up to 500 sqm of retail floorspace (Use Classes E).

Hertfordshire County Council (HCC) as Highway Authority (HA) and East Herts District Council (EHDC) as Local Planning Authority (LPA) have recommended that permission be refused for the reasons discussed below to which WSP has provided responses accordingly. The full response to the Planning Application from HCC and EHDC is included as Annex A and A.1 respectively in this report.

Following the above, the report follows the structure below:

HCC

- Response to comments on Access
- Response to comments on Bus Access
- Response to comments on Travel Plans
- Response to comments on Transport Modelling
- Response to comments on Contributions

EHDC

- Response to EHDC comments

Following receipt of the responses from HCC and EHDC, WSP held a meeting with HCC on 22nd November 2022 to discuss the comments raised. Minutes of the meeting can be provided on request.

TECHNICAL NOTE 1

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RESPONSE TO COMMENTS ON ACCESS

VEHICULAR ACCESS

The main motorised vehicular access to the site in the current proposal is via a signal controlled junction with the A10 which incorporates a signal controlled crossing that connects more safely the PROWs BUNTINGFORD 26 (east of the A10) and ASPENDEN 2 (the west of the A10). The junction arrangement has been subject to a stage 1 Road Safety Audit (RSA1) which has confirmed that it can operate safely for road users and the Transport Assessment (TA) prepared by WSP in support of the application has demonstrated that the junction will also operate with significant spare capacity during the network peak hours (Practical Reserve Capacity, PRC of circa 400-450%) and queuing will be minimal (2 Passenger Cars equivalents at maximum). Whilst this junction arrangement is supported by HCC Highways, having been recommended during pre-application, in order to address Policy 5f of HCC's Local Transport Plan (LTP4) the junction will require to be fully approved by the council's Strategic Transport Infrastructure Board (STIB) prior to a recommendation for approval. This application to STIB also requires to be supported by the Personal Injury Collision (PIC) analysis already completed by WSP.

RESPONSE

In response to the above a Special Circumstances Report (SCR) was prepared and submitted to HCC on 05 December 2022. It is worth noting that prior to this, a roundabout option was proposed in the 2014 application (ref 3/14/2304/OP) which was also subject to a SCR, details of which was accepted as special circumstance with no objection.

The 2022 SCR was submitted to the Strategic Transport Infrastructure Board (STIB) and it was advised via email on 17th December 2023 (attached at Annex B) that the principles of the junction was accepted however issues regarding safety were raised and so additional information was requested and submitted to HCC to demonstrate that the design was safe.

Following the submission of the safety considerations for STIB review, a draft response from STIB was issued on 25 April 2023 (attached at Annex B.1). Points raised include *vehicle speed, lack of lighting, visibility caused by deflection and capacity in the surrounding network*. STIB also recognised after exploring other access options that there are no clear suitable alternatives when considering an LTP compliant access strategy other than the options of Luynes Rise or direct A10 vehicle access.

STIB further suggested that *options exist for a roundabout or light controlled junction.* Further to the draft comments, a pre-application meeting was held with HCC and STIB representatives on 15 May 2023 to discuss the draft comments and the new application being brought forward. It was agreed that as part of the new application another SCR be submitted in response to the comments raised, setting out the special circumstances under which the access should be considered.

Following the above, a third SCR has been prepared on a roundabout access option to support the current application. This will be submitted to STIB for review.

TECHNICAL NOTE 1

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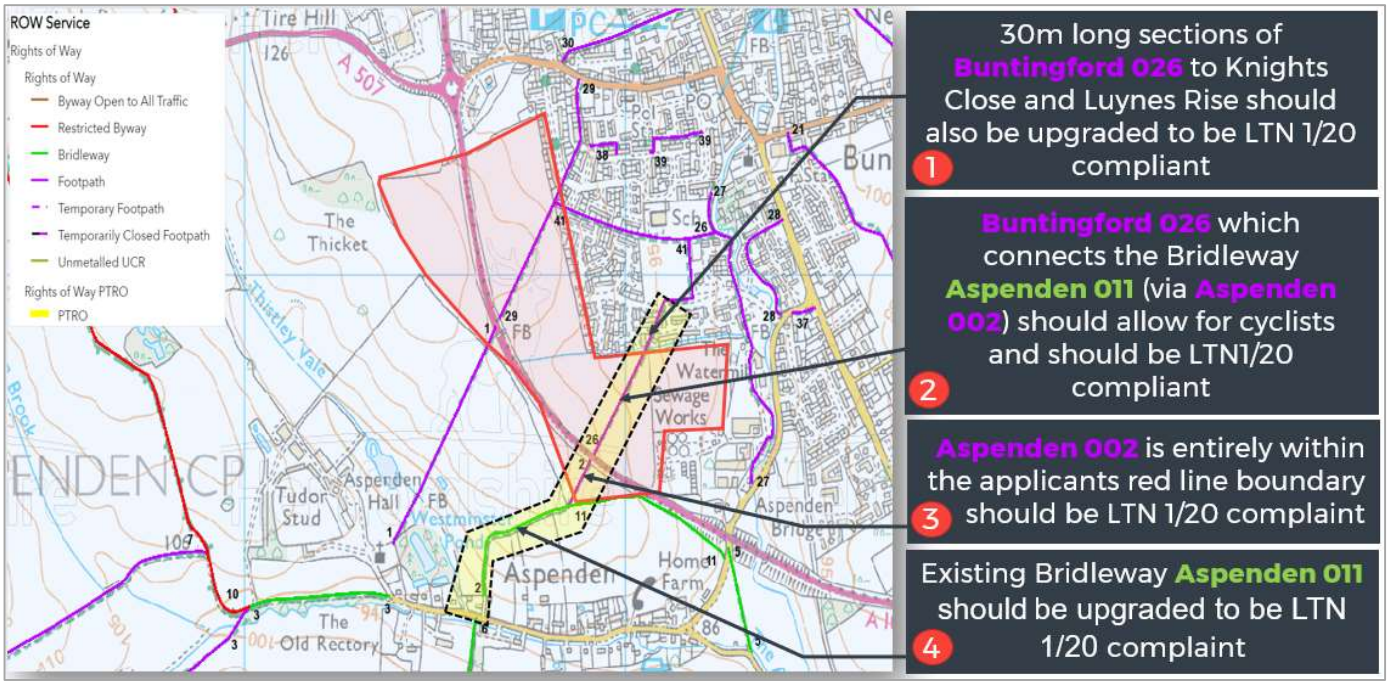
A bollard controlled emergency vehicles/bus/pedestrian/cyclist access is proposed between the site and Luynes Rise. The existing PROW's (Buntingford 026 and 029) through the site will be upgraded and provide further sustainable access. It is envisaged that the Buntingford 026 which connects the Bridleway Aspenden 011 (via Aspenden 002) should allow for cyclists and should be LTN1/20 compliant. It is noted that Aspenden 002 is entirely within the applicants red line boundary and at a minimum should be upgraded to this standard also. It is also considered that to complete the link the existing Bridleway Aspenden 011 and the short 30m long sections of Buntingford 026 to Knights Close and Luynes Rise should also be upgraded to be LTN 1/20 compliant.

It is considered that this access arrangement in conjunction with the aforementioned upgrades of Aspenden 011, 002 and 026 will ensure that the development will promote sustainable travel in line with national policies and those contained in LTP4.

RESPONSE

The comments above are put in context in **Figure 1**.

Figure 1 – Comments in Context of PROWs



Point 1 (Figure 1)

The 30m section of Aspenden 026 being referred to under **Point 1** has width restrictions (existing property garden fence on both sides) and as such cannot be widened to 3.0m (recommended minimum widths for shared use routes carrying up to 300 pedestrians per hour and up to 300 cyclist per hour – LTN 1/20) See **Image 1** below. However, the footfall along the route is expected to be minimal as such the existing width

is considered adequate, and is provided with lighting in line with LTN 1/20 recommendations. See **Image 1** below.

Image 1 – Existing Footway Connecting the Site with Luynes Rise via Kings Close

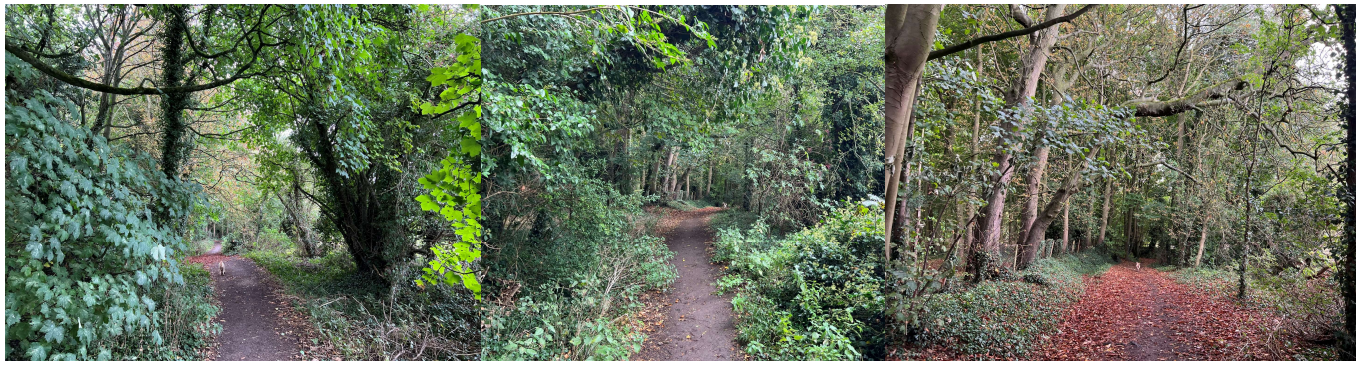
Point 2

At the November meeting it was agreed that a 3.5m wide route be provided from Luynes Rise though the site to connect with Aspenden PROW 002. With this proposed, there will be no need to upgrade Buntingford 026 to LTN 1/20 through the site.

Point 3 & 4 (Figure 1)

In **Point 3 & 4** HCC requires Aspenden 002 and 011 to be upgraded to LTN 1/20 standards. Aspenden 002 goes through the development's net gain biodiversity area and crosses a meadow towards Aspenden Village. Aspenden 011 and the further section of Aspenden 002 outside of the red line boundary connecting with Aspenden 011 is of a very rural character and a woodland walk (See **Image 2** below).

Image 2 – Aspenden 002 towards Aspenden Village



TECHNICAL NOTE 1

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Further to the above, Aspenden 011 was originally a footpath which was upgraded to a bridleway in 2018 following an agreement between HCC and the Poulton family who offered their land in the knowledge it would help the new development scheme and give better connectivity to the Aspenden recreation ground. It seems excessive to now resurface the bridleway, given the rural character of the area given the Poulton's prior agreement for this to be upgraded from a footpath.

It was agreed at the November meeting that the on-site route (Aspenden 002) be upgraded to LTN 1/20 and standards relaxed off-site (Aspenden 011).

RESPONSE TO COMMENTS ON BUS ACCESS

The site is circa 500m-800m (6-10mins) walk via PROW 29 to Bus stops on Baldock Road and via Luynes Rise is 850m-1km (10-12mins) walk from bus stops on Station/ London Road; and bus services to these stops though are limited, with the hourly number 331 service being the most frequent and no services operating on a Sunday. As discussed in scoping and accepted in the WSP "the site was not policy compliant with regards to public transport".

WSP have indicated that they plan to overcome this through contributions to the HertsLynx service and the establishment of a mobility hub on site. However, given the size of the development HCC's public transport team have indicated that contributions to the HertzLynx service is not appropriate at this time and has indicated that full commitment to the running of a two vehicle dedicated service for five years (circa £1.7) is required before they can recommend approval of the site.

The establishment of a Mobility Hub on site as promoted by WSP within their TA is still considered appropriate.

RESPONSE

The comment regarding the provision of the mobility hub is welcomed. However, the level of contribution sought is considered excessive given the size and the anticipated level of patronage directly attributed to the development.

WSP reviewed the request for £1.7 million for HertsLynx and carried out a logic test to demonstrate £403,117 contribution.

This was raised at the November meeting and was agreed that a traditional bus service diversion into the site will be more beneficial as HertzLynx is designed for specific travel. It was noted that the bus operator is ready to divert from the A10 into the Redrow scheme to the north of the site and other service improvements are planned. It was agreed that the cumulative impact of S106 funds and new developments will see an improvement to bus services.

TECHNICAL NOTE 1

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The various bus routes, contributions and services were discussed. It was agreed that a good compromise is a £400,000 contribution to local bus services (to divert on site) plus £200,000 towards HertsLynx.

RESPONSE TO COMMENTS ON TRAVEL PLANS

The travel plan in its current form is not acceptable. The plan should be separated into individual plans concerning the residential, commercial and retail elements of the proposed development. Whilst there may be merit in combining the plans to achieve 'economies of scale' with regards to promotional events, elements overarching plan must be clearly defined as each land use requires measures specific to each. As stated in HCC's scoping response a separate monitoring fee would be applied to the residential element and each unit individually as they come forward. All TP's would be secured via a Section 106 and support fee contribution of £1,200 P.A. from first occupation until 5 years post full occupation would also be required for each.

As the application for the residential element is in full at this stage a number of issues need addressed before consent can be granted.

- No baseline data had been considered. It is normally Census 2011;
- Monitoring and travel plan monitoring must happen annually, but nothing had been considered;
- No mode shift target had been set up. HCC require minimum of 10% modal shift to active travel; and
- Residential travel pack contributions of £100 per house and £50 per flat is missing.

RESPONSE

The Travel Plan at this stage is a framework as the commercial and retail elements are in outline. Measures and targets have been provided for the various land uses and as such does not require separating into individual Travel Plans. At the reserved matters stage, when there is more details on the outline element a more detailed Travel Plan will be provided. Nonetheless, the Travel Plan has been split by land use for resubmission with the new outline application.

Please note that all the information (with the exception of contributions) considered missing were provided in the Framework Travel Plan submitted as demonstrated below.

- No baseline data had been considered. It is normally Census 2011

Base line data was provided in **Table 3-2** of the Travel Plan. 2011 Census journey to work data for East Hertfordshire 001D and 001B was used to establish the baseline.

- Monitoring and travel plan monitoring must happen annually, but nothing had been considered

TECHNICAL NOTE 1

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Chapter 7 of the Travel Plan provides information on the Travel Plan's management, monitoring and review. Further to this Table 7-1 sets out the implementation plan of the Travel Plan which shows the trigger points and timescales for monitoring.

- No mode shift target had been set up. HCC require minimum of 10% modal shift to active travel

This has been set out in the updated travel plans

Residential travel pack contributions of £100 per house and £50 per flat is missing.

The travel plans have been updated to reference Residential travel pack contributions of £100 per house and £50 per flat. This will be submitted with the new outline application.

RESPONSE TO COMMENTS ON TRANSPORT MODELLING

The TA indicates that the development will have is unlikely to have any impact on current local traffic conditions except at Junctions 1 (A10/A507 roundabout) in the AM peak where the A507 arm sees RFC over 1 in the with 10% covid factor scenario and 5 (London Road/A10 roundabout) where London Road records RFC over 1 in the AM peak. The signal T-junction proposed on the A10 is expected to create gaps that will alleviate some of the queuing on London Road.

HCC mostly agree with this however, in the scenario where no covid factor has been applied at the A10/A507 roundabout the junction is within operational capacity during the peak of the peak in 2029 with a maximum RFC of 0.82 on the A507, Baldock Road (ie less than 0.85), however the development causes the junction to operate above operational capacity and close to absolute capacity, with an RFC of 0.98 on the A507 approach and the queue could possibly increase four fold.

This stresses the importance to mitigate these junctions through the aforementioned measures to sustainable transport alternatives.

RESPONSE

The A10 / A507 / B1038 roundabout operates with ample spare capacity on all arms in both peaks except in the AM peak on the A507 arm where the RFC increases to 0.98. As stated, the future baseline 2029 shows an RFC of 0.82, thus operating close to design capacity. The proposed development results in an additional RFC of 0.16 on this particular arm which is not considered significant.

Also, it is worth noting that the Design Manual for Roads and Bridges (DMRB) industry-standard 0.85 RFC threshold is generally accepted for new junctions, with an RFC of up to 1.00 generally accepted for the operation of existing junctions in peak periods.

The 0.98 RFC is still below the design capacity and as such the impact on the single arm of the junction is not considered detrimental and does not require any mitigation (full public transport funding is therefore not required) as suggested.

DATE:	21 June 2023	**CONFIDENTIALITY:**	Confidential
SUBJECT:	Response to HCC Comments		
PROJECT:	70094210 - Land at Buntingford West	**AUTHOR:**	Gideon G
CHECKED:	Mehmet A	**APPROVED:**	Mehmet A

Also, HCC planned an experimental weight limit Traffic Regulation Order (attached at Annex C) on the A 507 via Cottered Village following representation to the Highway Cabinet Panel by Local Communities. A 507 from Cottered Village connects to Buntingford via the A10 / A507 / B1038 roundabout. This TRO was experimented for 18 months after which the feedback received have been reviewed and HCC will be advertising a permanent traffic regulation order (attached at Annex C.1). This means the HGV traffic using the A507 will be removed to provide additional capacity on the arm in the future.

To estimate the potential additional capacity, the junction model has been updated to remove the HGVs flows on the A507 arm and the flows redistributed onto the remaining arms of the junction based on their turning movement. This results in a reduction in RFC on the A507 from 0.98 to 0.92, keeping the arm further below the design capacity.

RESPONSE TO COMMENTS ON CONTRIBUTIONS

As indicated in scoping HCC Highways operate two levels of S106 agreements, with items directly mitigating the impact of a development agreed through Strand 1 S106 agreement and those items mitigating the wider cumulative impact of development on non-car networks being addressed in a Strand 2 S106 agreement.

In the first instance (Strand 1) HCC would envisage that agreed improvements and the travel plan support and monitoring fees (£1,200pa for 5 years, indexed via the RPI from May 2014) are delivered via a Strand 1 S106 agreement.

In the second instance (Strand 2) HCC calculate an appropriate headline figure based on the findings of HCC's adopted Developers Planning Obligation Toolkit. For 350 residential units the Appendix 1 of the toolkit suggests a headline figure of £2,389,100. For the commercial element of the site the TRICS database estimates that circa 104 employees would be on site which suggests that a contribution of up to £43,888 would be expected. Both of which in accordance with the Toolkit would be index linked to SPONS Jan 2019.

As well as directly mitigating the development the requested improvements to the PROW's outside the proposed development's 'red line' boundary will also serve a wider community good and as a result the residential contribution would be reduced to £2m.

RESPONSE

As stated above HCC operates 2 levels of S106 agreement, the first directly mitigating the impact of a development and the second the wider cumulative impact of development on non-car networks.

The first strand is geared towards the delivery of the Travel Plan, this is accepted and the Travel Plan has been updated to include the contributions required. Also, the public transport is expected to be charged under strand 1 which the level of contribution has been recalculated as **£600,000**.

The second instance based on the HCC tool kit is accepted.

TECHNICAL NOTE 1

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RESPONSE TO EHDC COMMENTS

1.3 The site does not perform well in sustainability terms. The addition of the 350 dwellings proposed in a town where there is limited employment opportunity and residents are heavily reliant on the private car to access employment, main food shopping and comparison shopping elsewhere would adversely impact on the sustainability of the town contrary to the National Planning Policy Framework.

1.6 The application is likely to have a severe impact on the surrounding highway network.

1.8 The provision of employment land is a positive aspect of the development.

RESPONSE

Section 4.4 (Sustainable Transport Strategy) of the Transport Assessment sets out how the development proposals seek to deliver with sustainability at the heart of the design. The strategy demonstrates how:

- the proposals provide a mixed-use development to promote trip internalisation.
- the design of the scheme aligns with the Transport for London (TfL) Liveable Neighbourhood concept and 20 Minutes neighbourhood concept.
- the site uses hard measures to encourage sustainable travel by the upgrade of existing footways through the site plus additional connections to improve the site's permeability and restricting vehicular access via Luynes Rise and providing a sustainable travel access only.

The proposals demonstrate how the development satisfies local and national sustainability policy headlines (P1, P5, P12 of the LTP4 and Chapter 9 of the NPPF)

Section 5.2.2 of the TA sets out the mode shares utilised in calculating the level of anticipated vehicular trips. The mode share were recommended by HCC. Though onerous, this was utilised to provide a robust estimation of the level of impact on the local transport network.

The results of the modelling demonstrated that the development will not result in a significant impact on the existing highway network. The Local Highway Authority reviewed the modelling and had concerns only for the A507 arm of the A10 / Baldock Road roundabout. This has been responded to in this report and as such there are no anticipated adverse issues regarding the network performance but rather a net beneficial effect on London Road and the London Road/A10 roundabout.

TECHNICAL NOTE 1

DATE:	21 June 2023	**CONFIDENTIALITY:**	Confidential
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CHECKED:	Mehmet A	**APPROVED:**	Mehmet A

Annex A

HCC COMMENTS

Mark Youngman
Development Management Group Manager
Hertfordshire County Council
Postal Point CH0242
County Hall
Pegs Lane
Hertford
SG13 8DE

Response to Planning application from Hertfordshire County Council (T and CP GDP Order 2015)

Director of Planning
East Herts District Council
Wallfields
Pegs Lane
Hertford
Hertfordshire
SG13 8EQ

District ref: 3/22/1551/FUL
HCC ref: EH/13371/2022
HCC received: 10 August 2022
Area manager: James Dale
Case officer: Adrian McHale

Location
Land East Of The A10 Buntingford Hertfordshire

Application type
Full Application

Proposal
Hybrid planning application comprising:
(i) Full planning for the development of 350 residential dwellings (Use Class C3), a new highway junction from the A10 with associated works including drainage, access roads, allotments, public open space and landscaping;
and
(ii) Outline planning (with all matters reserved except for access) for up to 4,400 sqm of commercial and services floorspace (Use Class E and B8), and up to 500 sqm of retail floorspace (Use Classes E).

Recommendation
Notice is given under article 22 of the Town and Country Planning (Development Management Procedure) (England) Order 2015 that Hertfordshire County Council as Highway Authority recommends that permission be refused for the following reason:

INSERT REASON

Hertfordshire County Council (HCC) Highways currently considers that there is insufficient information supplied with this application to enable the Highway Authority to reach a recommendation. In the absence of the necessary information, the Highway Authority recommends refusal due to doubt over possible implications for highway safety and sustainability.

COMMENTS

The proposal site is located within greenfields to the west of the residential area of Luynes Rise Buntingford, Hertfordshire, and is bounded to the north and east by existing residential development, to the southeast by the Watermill Industrial Estate and to the south and west by the A10 (Buntingford Bypass). The site is bisected by two Public Rights of Way (PROWs), foot paths BUNTINGFORD 029 and BUNTINGFORD 026 respectively.

The site has previously been the subject of two previous applications for a larger 400 homes development; the first application which included a first school being withdrawn by the proposed developer (3/14/2304/OP, 2014) and the 2nd application which replaced the school with 2Ha of employment land having refused by East Herts District Council (EHDC, 3/17/1811/OUT, 2017).

The current application 3/22/1551/FUL is a 'hybrid' planning application comprising: (i) Full planning for the development of 350 residential dwellings (Use Class C3), a new highway junction from the A10 with associated works including drainage, access roads, allotments, public open space and landscaping; and (ii) Outline planning (with all matters reserved except for access) for up to 4,400 sqm of commercial and services floorspace (Use Class E and B8), and up to 500 sqm of retail floorspace (Use Classes E).

Access

The main motorised vehicular access to the site in the current proposal is via a signal controlled junction with the A10 which incorporates a signal controlled crossing that connects more safely the PROWs BUNTINGFORD 26 (east of the A10) and ASPENDEN 2 (the west of the A10). The junction arrangement has been subject to a stage 1 Road Safety Audit (RSA1) which has confirmed that it can operate safely for road users and the Transport Assessment (TA) prepared by WSP in support of the application has demonstrated that the junction will also operate with significant spare capacity during the network peak hours (Practical Reserve Capacity, PRC of circa 400-450%) and queuing will be minimal (2 Passenger Cars equivalents at maximum). Whilst this junction arrangement is supported by HCC Highways, having been recommended during pre application, in order to address Policy 5f of HCC's Local Transport Plan (LTP4) the junction will require to be fully approved by the council's Strategic Transport Infrastructure Board (STIB) prior to a recommendation for approval. This application to STIB also requires to be supported by the Personal Injury Collision (PIC) analysis already completed by WSP.

A bollard controlled emergency vehicles/bus/pedestrian/cyclist access is proposed between the site and Luynes Rise. The existing PROW's (Buntingford 026 and 029) through the site will be upgraded and provide further sustainable access. It is envisaged that the Buntingford 026 which connects the Bridleway Aspenden 011 (via Aspenden 002) should allow for cyclists and should be LTN1/20 compliant. It is noted that Aspenden 002 is entirely within the applicants red line boundary and at a minimum should be upgraded to this standard also. It is also considered that to complete the link the existing Bridleway Aspenden 011 and the short 30m long sections of Buntingford 026 to Knights Close and Luynes Rise should also be upgraded to be LTN 1/20 compliant.

It is considered that this access arrangement in conjunction with the aforementioned upgrades of Aspenden 011, 002 and 026 will ensure that the development will promote sustainable travel in line with national policies and those contained in LTP4.

Bus Access

The site is circa 500m-800m (6-10mins) walk via PROW 29 to Bus stops on Baldock Road and via Luynes Rise is 850m-1km (10-12mins) walk from bus stops on Station/ London Road; and bus services to these stops though are limited, with the hourly number 331 service being the most frequent and no services operating on a Sunday. As discussed in scoping and accepted in the WSP "the site was not policy compliant with regards to public transport".

WSP have indicated that they plan to overcome this through contributions to the HertsLynx service and the establishment of a mobility hub on site. However, given the size of the development HCC's public transport team have indicated that contributions to the HertzLynx service is not appropriate at this time and has indicated that full commitment to the running of a two vehicle dedicated service for five years (circa £1.7) is required before they can recommend approval of the site.

The establishment of a Mobility Hub on site as promoted by WSP within their TA is still considered appropriate.

Travel Plans

The travel plan in its current form is not acceptable. The plan should be separated into individual plans concerning the residential, commercial and retail elements of the proposed development. Whilst there may be merit in combining the plans to achieve 'economies of scale' with regards to promotional events, elements overarching plan must be clearly defined as each land use requires measures specific to each. As stated in HCC's scoping response a separate monitoring fee would be be applied to the residential element and each unit individually as they come forward. All TP's would be secured via a Section 106 and support fee contribution of £1,200 P.A. from first occupation until 5 years post full occupation would also be required for each.

As the application for the residential element is in full at this stage a number of issues need addressed before consent can be granted.

- No baseline data had been considered. It is normally Census 2011;
- Residential travel pack contributions of £100 per house and £50 per flat is missing;
- Monitoring and travel plan monitoring must happen annually, but nothing had been considered;
- No mode shift target had been set up. HCC require minimum of 10% modal shift to active travel;
- No baseline data had been considered. It is normally Census 2011;
- Residential travel pack contributions of £100 per house and £50 per flat is missing;
- Monitoring and travel plan monitoring must happen annually, but nothing had been considered; and
- No mode shift target had been set up. HCC require minimum of 10% modal shift to active travel

https://www.hertfordshire.gov.uk/media-library/documents/highways/developmentmanagement/travel-plan-guidance.pdf.

Transport Modelling

The TA indicates that the development will have is unlikely to have any impact on current local traffic conditions except at Junctions 1 (A10/A507 roundabout) in the AM peak where the A507 arm sees RFC over 1 in the with 10% covid factor scenario and 5 (London Road/A10 roundabout) where London Road records RFC over 1 in the AM peak. The signal T-junction proposed on the A10 is expected to create gaps that will alleviate some of the queuing on London Road.

HCC mostly agree with this however, in the scenario where no covid factor has been applied at the A10/A507 roundabout the junction is within operational capacity during the peak of the peak in 2029 with a maximum RFC of 0.82 on the A507, Baldock Road (ie less than 0.85), however the development causes the junction to operate above operational capacity and close to absolute capacity, with an RFC of 0.98 on the A507 approach and the queue could possibly increase four fold. This stresses the importance to mitigate these junctions through the aforementioned measures to sustainable transport alternatives.

Contributions

As indicated in scoping HCC Highways operate two levels of S106 agreements, with items directly mitigating the impact of a development agreed through Strand 1 S106 agreement and those items mitigating the wider cumulative impact of development on non car networks being addressed in a Strand 2 S106 agreement.

In the first instance (Strand 1) HCC would envisage that agreed improvements and the travel plan support and monitoring fees (£1,200pa for 5 years, indexed via the RPI from May 2014) are delivered via a Strand 1 S106 agreement.

In the second instance (Strand 2) HCC calculate an appropriate headline figure based on the findings of HCC's adopted Developers Planning Obligation Toolkit. For 350 residential units the Appendix 1 of the toolkit suggests a headline figure of £2,389,100. For the commercial element of the site the TRICS database estimates that circa 104 employees would be on site which suggests that a contribution of up to £43,888 would be expected. Both of which in accordance with the Toolkit would be index linked to SPONS Jan 2019.

As well as directly mitigating the development the requested improvements to the PROW's outside the proposed development's 'red line' boundary will also serve a wider community good and as a result the residential contribution would be reduced to £2m.

Signed
Adrian McHale

30 August 2022

TECHNICAL NOTE 1

DATE:	21 June 2023	**CONFIDENTIALITY:**	Confidential
SUBJECT:	Response to HCC Comments		
PROJECT:	70094210 - Land at Buntingford West	**AUTHOR:**	Gideon G
CHECKED:	Mehmet A	**APPROVED:**	Mehmet A

Annex A.1

EHDC COMMENTS

Application Number	3/22/1551/FUL
Proposal	Hybrid planning application comprising: (i) Full planning for the development of 350 residential dwellings (Use Class C3), a new highway junction from the A10 with associated works including drainage, access roads, allotments, public open space and landscaping; and (ii) Outline planning (with all matters reserved except for access) for up to 4,400 sqm of commercial and services floorspace (Use Class E and B8), and up to 500 sqm of retail floorspace (Use Classes E).
Location	Land East Of The A10 Buntingford Hertfordshire
Applicant	Vistry Homes Ltd and Wattsdown Developments Ltd c/o agent
Parish	Buntingford
Ward	Buntingford

Date of Registration of Application	10.08.2022
Target Determination Date	09.11.2022
Case Officer	Amit Patel

RECOMMENDATION

That planning permission be **REFUSED**, for the reasons set out at the end of this report.

1.0 **Summary**

1.1 The proposal represents an inappropriate form of development in the Rural Area beyond the Green Belt. However, the Council can currently demonstrate a five year housing supply and, in such circumstances, national planning policy requires that planning permission be granted for sustainable development unless there are significant adverse impacts that would outweigh the benefits of the proposal or where specific policies of the NPPF indicate that development should be restricted.

1.2 This report considers the positive weight that can be attached to the provision of housing, including affordable housing against the negative aspects that would result from the development.

1.3 The site does not perform well in sustainability terms. The addition of the 350 dwellings proposed in a town where there is limited employment opportunity and residents are heavily reliant on the private car to access employment, main food shopping and comparison shopping elsewhere would adversely impact on the sustainability of the town contrary to the National Planning Policy Framework.

1.4 The application proposes the provision of up to 4,400 sqm of commercial and services floorspace (Use Class E and B8), and up to 500 sqm of retail floorspace (Use Classes E).

1.5 The proposal would encroach into the rural area beyond the settlement boundary to the detriment of the character, appearance, and distinctiveness of the area.

1.6 The application is likely to have a severe impact on the surrounding highway network.

1.7 The site adjoins the A10 and is regarded as a noisy environment. However, it has not been demonstrated that mitigation measures could be employed to provide satisfactory internal and external noise levels.

1.8 The provision of employment land is a positive aspect of the development.

1.9 The layout and design of the proposal would raise concerns on the future residential amenities of the occupiers and delivery of the commercial space. The useability of the green infrastructure is a concern as most of it is adjacent to the A10 or the sewage works.

1.10 There are concerns over the residential amenity of some future occupiers as their gardens are shallow in depth and face east or north and would not provide a useable and functional amenity space.

2.0 Site Description

2.1 The application site comprises 28.95 hectares of agricultural arable land on the west side of Buntingford to the west of Luynes Rise and existing residential development. The site is bounded to the north and east by the built up area of Buntingford, partially to lower part of the site on the eastern boundary is the employment site of Watermill Industrial Estate, to the south by Buntingford Waste Water Treatment Works (WWTW), and to the west by the A10. The site lies outside the settlement boundary of Buntingford within the Rural Area Beyond the Green Belt, in the current District Plan.

2.2 There are two public footpaths running across the site, one from Luynes Rise (RoW 026) towards the A10 and beyond and one from Monks Walk (RoW 029) towards the A10 and beyond.

2.3 The site slopes gently down from the northwest to southeast, towards the valley of the River Rib.

3.0 Background to Proposal

3.1 The application is submitted in hybrid form with the residential part being in full and the commercial aspect being outline with all matters Reserved apart from access.

3.2 A total of 350 dwellings are proposed, of which 40% are to be affordable homes. The density of the proposed residential development would be 36dph.

3.3 The application proposes the development of 2.0ha of land to the north of the existing WWTW for employment in the form of up to 4,400 sqm of commercial and services floorspace (Use Class E and B8), and up to 500 sqm of retail floorspace (Use Classes E).

3.4 Vehicular access to the development is initially proposed from Luynes Rise with a new access to the A10 to follow after the commencement of the development.

A spine road would run through the development linking Luynes Rise with the new roundabout junction on A10. Part of the proposal also includes land to the west of the A10, which shows a biodiversity area and green fields.

3.5 The application follows two previous application with 3/14/2304/OP Outline: Up to 400 dwellings (C3), first school site, formal and informal open spaces, playspace, landscaping and internal roads, new junction on the A10 and drainage infrastructure. Full: Phase 1 dwellings including affordable housing access roads, car parking, children's playspace, open space and drainage infrastructure. This application was appealed for non-determination. Hoowever, the Council refused the development on the following grounds:

1. The proposals represent an unsustainable form of development and residents would be heavily reliant on the private car to access employment, main food and comparison shopping elsewhere and the harm demonstrably and significantly outweighs the benefits. The proposal would be contrary to Policy INT1 of the emerging East Herts District Plan (November 2016) policy HD1 of the Buntingford Community Area NP and the National Planning Policy Framework.

2. The proposal would encroach into the rural area beyond the settlement boundary to the detriment of the character, appearance, and distinctiveness of the area contrary to Policy ENV1 and GBC14 of the East Herts Local Plan Second Review April 2007, Policy DES1 of the emerging East Herts District Plan (November 2016), Policy ES1 of the Buntingford Community Area Neighbourhood Plan and the National Planning Policy Framework.

3. The proposed layout and design of phase 1 of the development would not serve to provide a visually attractive development or a strong sense of place. The development would not amount to high quality sustainable design or promote health communities through safe well promoted walking and cycling routes as envisaged by Policies ENV1, ENV2 and TR1 of the East Herts Local Plan April 2007, Policies DES2, DES3 and CFLR9 of the emerging East Herts District Plan (November 2016), Policy HD4 of the Buntingford Community Area Neighbourhood Plan and the National Planning Policy Framework.

4. The proposal fails to make adequate financial provision for infrastructure improvements to support the proposed development. The proposal would thereby be contrary to Policies IMP1 of the East Herts Local Plan Second Review April 2007, Policies DEL2, CFLR1, CFLR7 and CFLR9 of the emerging East Herts District Plan (November 2016), Policy T6 of the Buntingford Community Area Neighbourhood Plan and the National Planning Policy Framework.

3.6 The second application reference 3/17/1811/OUT, was for Outline application for all matters reserved except for access comprising: i. Up to 400 dwellings (C3). ii. 2.0 hectares of land for Use Class B1 employment. iii. Formal and informal open spaces including children's playspaces. iv. Structural landscaping and internal roads. v. Formation of a new junction on the A10. vi. Surface and foul water drainage infrastructure. This application was refused on the following grounds:

1. The proposal would encroach into the rural area beyond the settlement boundary to the detriment of the character, appearance, and distinctiveness of the area contrary to Policy ENV1 and GBC14 of the East Herts Local Plan Second Review April 2007, Policy DES1 of the emerging East Herts District Plan (November 2016), Policy ES1 of the Buntingford Community Area Neighbourhood Plan and the National Planning Policy Framework.

2. The proposals represent an unsustainable form of development and residents would be heavily reliant on the private car to access employment, main food and comparison shopping elsewhere and the harm demonstrably and significantly outweighs the benefits. The proposal would be contrary to Policy INT1 of the emerging East Herts District Plan (November 2016) policy HD1 of the Buntingford Community Area NP and the National Planning Policy Framework.

3. The proposal fails to make adequate financial provision for infrastructure improvements to support the proposed development. The proposal would thereby be contrary to Policies IMP1 of the East Herts Local Plan Second Review April 2007, Policies DEL2, CFLR1, CFLR7 and CFLR9 of the emerging East Herts District Plan (November 2016), Policy T6 of the Buntingford Community Area Neighbourhood Plan and the National Planning Policy Framework.

3.7 The application is supported with the following documents:

- Badger Survey
- Bat Activity Survey Report
- Biodiversity Net Gain Calculations
- Breeding Bird Survey
- Updated Reptile Survey
- UK Power Networks
- Agricultural Land Classification
- Arbouricultural Assessment
- Cable Utilities
- Design Review
- East Herts 5 Year Housing Land Supply
- Economic Impact Assessment
- Electric Utilities
- Energy and Sustainability Statement
- Flood Risk Assessment
- Framework Travel Plan
- Geo-Environmental and Geotechnical Preliminary Risk Assessment
- Industrial Land Use
- Landscape and Visual
- Landscape Strategy
- Local Centre
- Noise Assessment
- Preliminary Ecological Appraisal
- Statement of Community Involvement
- Sustainability Appraisal
- Design and Access Statement
- Planning Statement

- Travel Assessment
- Final Travel Plan

4.0 Key Policy Issues

4.1 These relate to the relevant policies in the National Planning Policy Framework (NPPF), the adopted East Herts Local Plan 2007, the emerging District Plan and the made (adopted) Buntingford Community Neighbourhood Plan (NP):

Key Issue	**NPPF**	**District Plan policy**	**NP Policy**
The principle of the development including sustainability and housing land supply, provision of employment land	Section 1 Section 2 Section 5 Section 6	INT1 GBR2 DPS1 DPS2 DPS3 DPS6 BUNT1 BUNT3 ED1	HD1 BE2
Landscape character	Section 11 and 12	DES1	ES1 HD2
Layout and design	Sections 5, 6 7.	HOU2 DES2 DES3 DES4 CFLR9	HD4
Housing and affordable housing	Section 5	HOU1 HOU2 HOU3 HOU7 HOU8	HD1 HD7
Highways and parking	Section 9	TRA1 TRA2 TRA3	T1 T2 T4
Noise impact	Section 12	EQ2	
Flood risk, water and climate change	Section 14	WAT3 WAT5 WAT6 CC1 CC2	INFRA4 INFRA5 HD3
Natural environment	Section 15	NE2 NE3 NE4	ES7
Planning obligations and infrastructure delivery	Paras 55 to 57	DPS4 DEL1 DEL2 CFLR1 CFLR3 CFLR7	T6

		CFLR9	

Other relevant issues are referred to in the 'Consideration of Relevant Issues' section below.

5.0 Summary of Consultee Responses

5.1 HCC Highway Authority insufficient information and has doubts over highway safety and sustainability.

5.2 Lead Flood Risk Authority (LLFA) previously commented that the Flood Risk Assessment demonstrates a feasible surface water drainage strategy. Detailed surface water run-off calculations have been provided which ensures that the site has the capacity to accommodate all rainfall events up to 1:100 year (+40% Climate Change). The Authority advise that permission could be granted, subject to conditions requiring the submission and approval of a detailed surface water drainage scheme based on the FRA and phasing details.

5.3 EHDC Engineer previously advised that the indicative drainage strategy shows a large balancing pond and linking swale allowing flows to bypass the existing culverted water course. The detailed SuDS are of medium to high quality and include green infrastructure SuDS. Green roofs are encouraged for the proposed industrial units. Details will be required.

5.4 Environment Agency has no comments.

5.5 Waste Services no objection subject to general advice regarding bin collection.

5.6 HCC Historic Environment Unit previously commented that the assessment of archaeological potential of this development site should be considered in the wider context of the results of recent archaeological evaluations in the area. The advisor therefore considers that the application site has significant archaeological potential and may contain heritage assets of archaeological interest. The applicant has submitted a satisfactory Written Scheme of Investigation and an initial archaeological evaluation and no objection is raised, subject to a condition.

5.7 EHDC Landscape advisor considers that the scale of the proposed development will have significant impact on the landscape character and local distinctiveness of the area. The identity of the locality is that of existing housing development set well back from A10 ring road and looking out onto a landscape that is rural in character. The proposal to expand the town up to the A10 will result in the permanent loss of this identity. The housing development in the higher parts of the site will be prominent in the landscape and the overall sensitivity of the site to the proposals is high. The degree of landscape change and landscape effects will be high with significant adverse visual effects for the properties along the eastern edge of the site, where open, rural views would be lost to the development. There will also be high adverse visual impact on the users of the two public footpaths crossing the site.

5.8 Herts Ecology previously recommended conditions requiring a landscape and ecological mitigation plan, a lighting design strategy, and a reptile and badger mitigation strategy.

5.9 Natural England has no comments objection.

5.10 HCC Development Services seek financial obligations towards education, library and youth services to minimise the impact of the development on HCC services for the local community.

5.11 Housing the 140 units for affordable is acceptable. Tenure of the units should be provided and the inclusion of flats is not identified need. Full details of the tenure and plots needs to be provided for the Housing Team to make a full comment.

5.12 HCC Minerals and Waste refer to the HCC Waste Core Strategy and Development Management Policies Development Plan Document 2012 and NPPF waste request that due account be taken in determination of the application to ensure that waste management objectives are met.

5.13 EHDC Environmental Health Advisor (noise) recommends refusal on the grounds that outdoor amenity space would be protected from noise, unclear as to the data used for the noise modelling and domestic ventilation will play an important role in design and therefore needs to be designed prior to the assessment.

5.14 EHDC Environmental Health Advisor (Contamination) Does not wish to restrict the grant of planning permission subject to conditions relating to contamination and air quality.

5.15 CPRE objects to the planning application on the ground of conflicting information within the application relating to land constraints, poor design, not in conformity with the Local Plan, Design review panel not being local and inappropriate and unsustainable development.

5.16 NHS England comment that the proposed development is likely to result in around 960 new registrations for general medical services, and that the existing surgeries in Buntingford do not have sufficient capacity to absorb this additional requirement. Section 106 contributions are therefore requested to support Buntingford Health Centre to extend its clinical capacity in line with plans previously sent to the Council. They request a contribution of £620.88 per dwelling,

5.17 The East and North Herts Clinical Commissioning Group (CCG) comment that they do not know the exact increase in population that this development would create but estimate that the increase could be around 960 residents. This is significant, and when combined with other developments around Buntingford, will have an effect on healthcare. They raise concerns that the development will impact on already overstretched community services and comment that the CCG is in its final stages of developing its five year primary care strategy which will guide the changes needed to deliver higher quality and more accessible care for local people. The CCG would like to work with the Council and NHS England to map out additional health infrastructure and request financial contributions. However, further to this initial response they advised that they are unable to provide details of the proposed investment at this time to justify the contributions requested.

5.18 Thames Water comments that the infrastructure of sewage and fowl water infrastructure is inadequate for the new development but suggest conditions to overcome this.

5.19 Affinity Water advise that the developer to contact the development services and not to use piling as a method for construction. In addition if pollutants are found then to seek proper advice and be constructed in accordance with the British Standards.

5.20 Hertfordshire Constabulary does not fully support the application but recommends conditions and informatives should the application be permitted.

5.21 Herts and Middlesex Wildlife Trust objection due to lack of information regarding Biodiversity Net Gain, mitigation and compensation strategy, integrated bat and bird boxes and buffer.

5.22 East Herts Planning Policy have commented that the site is a speculative development. This site is not an allocated site after an assessment of delivering growth at Buntingford through the District Plan Process due to it being unsustainable. The current proposals therefore represent a clear departure from the development strategy set out in Policy DPS2 of the District Plan and reiterated in Policy BUNT1. DPS2 does not include an urban extension to Buntingford as part of the District's housing supply and the scale of the proposed development does not accord with the definition of development to be included as part of the windfall allowance (less than 10 homes).

There is no evidence that the sustainability reasons for limiting further growth in the District Plan are not still relevant. The inclusion of employment and retail floorspace in the proposed application could have a positive impact on local service provision. However, as this part of the scheme relates to outline permission, there is insufficient detail to assess if any positive impacts will outweigh wider concerns. There is also reference to the potential for a doctor's surgery but no evidence that this is a clear commitment or that there is support or funding from the Integrated Care Board (new name for the Clinical Commissioning Group).

Buntingford does not have good choice of comparison shopping whereby residents already travel outside of town to carry this out. The Highways find the submitted Travel Plan unacceptable as 5 year funding for the Lynx service has not been secured.

For applications involving the provision of housing, policies can be out of date in situations where the local planning authority cannot demonstrate a five year housing land supply; or where the Housing Delivery Test indicates that the delivery of housing is substantially below the housing requirement over the previous three years. This is not the case in East Herts. The Council can demonstrate a 5-year housing land supply and the most recent housing delivery test (2021) result was 130%, clearly demonstrating the Council is delivering housing effectively and that the District Plan is up to date.

The site does not comply with policy GBR2 and should be considered strategically through the plan making process.

The council can demonstrate a 5 year housing land supply.

The proposal is a departure from the neighbourhood plan.

5.23 Conservation and Urban Design have commented that there is an objection to the scheme due to the proposal not following the masterplan process, not in a sustainable location, contribution for sustainable travel improvements to the wider area should be secured, the layout of the development raises issues especially a local centre being at the core of the development, the urban grain and density is more akin to the surrounding town rather than the fringes of the town, the proximity to the sewage works for the southern part of the development, the green infrastructure is mainly to the land adjacent to A10 rather than the site, design of apartment blocks, depths of gardens, sustainable development, cycle storage and some plots do not have passive surveillance

(Note: EHDC, East Herts District Council; HCC, Hertfordshire County Council)

6.0 Town Council Representations

6.1 Buntingford Town Council object to the proposal on grounds summarised as:

- Little has changed since the previously two refused applications.
- The proposal is contrary to specific policies contained within the Neighbourhood Plan and the District Plan.
- Most versatile agricultural land and should be safe guarded for food production.
- Loss of open Public Rights of Way through estates
- Impact of surface water flows to the River Rib must meet quality parameters as designated by the Environment Agency for Chalk Streams
- Lack of Parking
- There is inadequate infrastructure and Thames Water have commented on impacts if the Sewage Treatment Works were to be extended to take account of the development, as the plant cannot cope at present.
- Poor public transport serving the town.
- Should the proposal be permitted against the above reasoning serious consideration should be given to obligations that would benefit the town. The new access from the A10 should also be provided before the development takes place to avoid inconvenience to residents of Luynes Rise.

6.2 Aspenden Parish Council

- Not in accordance with the approved local plan
- Sufficient supply of housing within the Local Plan
- No masterplan
- No details on community uses
- Suitability of the commercial uses
- Inadequate parking
- Affordable housing mainly near the A10
- Area between Aspenden and Buntingford should be open and preserved

- Access to the A10 should be used for construction

6.3 Westmill Parish Council

- Unsustainable location
- No infrastructure provision
- Additional traffic on the A10 will lead to highway safety

7.0 Summary of Other Representations

7.1 1061 letters of objection have been received summarised as:-

- Scale of development. Over-development of historic market town which is turning into a New Town.
- Environmental Impact Assessment is required
- Spoil setting of the town.
- The site allocation for Buntingford has already been met and exceeded
- Not in accordance with the Development Strategy or Neighbourhood Plan
- Unsustainable development due to restricted infrastructure in town.
- All local schools are at capacity and children are being placed in schools out of town.
- No capacity in doctors surgeries.
- Increased traffic in and around town which the roads cannot sustain.
- Particular danger in Luynes Road that supports children's activities;
- Poor transport links – residents are reliant on private cars, public transport is inadequate and not fit for purpose.
- Increased congestion at Aspenden Road/London Road/Luynes Road junctions.
- New roundabout to the A10 would be dangerous.
- New roundabout to the A10 should be a priority.
- Luynes Rise should not become a rat run to the A10 so measures are needed to prevent this.
- Adverse impact on existing homes.
- Impact on Listed Building and Conservation Area
- Adverse impact on landscape character.
- Loss of countryside outlook.
- Impact on local wildlife.
- Loss of productive farmland.
- Sewage and water systems cannot cope with all the proposed new developments.
- Location of employment site will impact on existing houses.
- Noise, pollution and health impacts.
- Increase flooding.
- No renewables proposed and will impact the climate.
- Unaffordable house prices.
- High level of commuting as businesses not locating in Buntingford
- Need proper level of expertise from highways and East Herts to determine this application
- Poor design and layout and highly dense
- Overlooking and loss of privacy

- Increase in crime and no policing
- Lack of open and play space
- Loss of walking and air ambulance landing space
- No master planning process
- Council have a 5 year housing land supply
- Additional Community facility not required
- Increase in allotment sizes
- Public Rights of Way should be retained and enhanced including crossings
- The commercial space would not be taken up and utilised
- Boundary dispute with surrounding land owners
- Travel Assessment incorrect in regards to population numbers
- Existing access for cycling are too narrow
- Bus routes not fit for the growth

1 Neutral comment:

Benefit to the profits of landowners and housing numbers and UK economy. Land ownership issue and outside of settlement boundary

One letters of support for the proposal have been received commenting that it is positive to see the development of land for business.

8.0 Planning History

Ref	Proposal	Decision	Date
3/14/2304/OP	Outline: Up to 400 dwellings (C3), first school site, formal and informal open spaces, playspace, landscaping and internal roads, new junction on the A10 and drainage infrastructure. Full: Phase 1 dwellings including affordable housing access roads, car parking, children's playspace, open space and drainage infrastructure.	Appeal lodged Reported to DM Committee Sept 2017	Inquiry arranged for April 2018 – Withdrawn
3/17/1811/OUT	Outline application for all matters reserved except for access comprising: i. Up to 400 dwellings (C3). ii. 2.0 hectares of land for Use Class B1 employment. iii. Formal and informal open spaces including children's playspaces. iv. Structural landscaping and internal roads. v. Formation of a new junction on the A10. vi. Surface and foul water	6th Dec 2017	Refused – Appeal withdrawn

	drainage infrastructure.		

9.0 Consideration of Relevant Issues

The principle of the development and housing land supply

9.1 The site lies outside the settlement boundary of Buntingford and within the Rural Area beyond the Green Belt wherein policy GBR2 of the current Local Plan states that permission will not normally be granted for residential development. Therefore in respect of the 2018 Local Plan, the proposals represent inappropriate development in principle. Since the previous application the Council have adopted a new District Plan and therefore is considered up to date and in accordance with the NPPF.

9.2 The East Herts District Plan 2018 was adopted on the 23rd October 2018, as well as identifying a strategy for development and growth, the District Plan also sets out the housing requirement for East Herts. This is contained in policies DPS2. It sets out that housing growth, and other growth can be accommodated by directing development to (in order of hierarchy) sustainable brownfield sites, the urban areas of defined settlements (including Buntingford), urban extensions of defined settlements (not including Buntingford) and limited development in the villages. This strategy shows how the necessary growth in the District can be accommodate in a planned and sustainable fashion. Furthermore policy BUNT1 and BUNT3 set out site allocations and locations for housing growth and employment growth respectively. Neither of these include the application site. Therefore, as long as the development strategy is being delivered, and the Council is providing housing and can show a 5 year housing land supply, the proposal would be contrary to up to date policies on housing and sustainable locations for growth. The NPPF and the PPG set out that the housing requirement figures are identified through adopted strategic policies where the plan was adopted in the last 5 years. Therefore, the housing requirement is prescribed at the level of 839 dwellings per year as set out in Policy DPS2 of the District Plan, alongside this is the adopted method of addressing shortfall.

9.3 The Housing Delivery Test (HDT) measures whether planned housing requirements have been met over the last 3 years. The most recent test results are the 2021 results, these were published in January 2022 and demonstrate that East Herts has met 130% of its housing requirement, clearly demonstrating the Council is delivering housing effectively against its needs and subsequently setting out the need to use a 5% additional buffer.

9.4 Taking into account the established need, the appropriate method for addressing shortfall and the additional buffer. The Council can demonstrate a five-year supply of deliverable housing sites against the requirements set out in the District Plan. This position is set out in the November 2022 Land Supply Position Statement.

9.5 The applicants argue that the council cannot demonstrate a 5 Year Housing Land Supply. The Council have undertaken the exercise for an update to this and can now demonstrate that they have a 5.8 Year Housing Land Supply. As such, the Council is of the opinion that the proposal is contrary to up to date policies on growth and housing growth.

9.6 The NPPF states that if Paragraph 11 of the NPPF which sets out a presumption in favour of sustainable development, where no relevant development plan policies or the more important policies for determining the application are out of date, grant permission unless:

i. the application of policies in this Framework that protect areas or assets of particular importance provides a clear reason for refusing the development proposed; or
ii. any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole.

9.7 Footnote 8 of paragraph 11 relating to determining applications with out of date policies explains that this includes, for applications involving the provision of housing, situations where the local planning authority cannot demonstrate a five year supply of deliverable housing sites (with the appropriate buffer, as set out in paragraph 74); or where the Housing Delivery Test indicates that the delivery of housing was substantially below (less than 75% of) the housing requirement over the previous three years. As this is a housing led development and the applicants are testing the 5 Year Housing Land Supply paragraph 74 of the NPPF is also relevant. Paragraph 74 states "Local planning authorities should identify and update annually a supply of specific deliverable sites sufficient to provide a minimum of five years' worth of housing against their housing requirement set out in adopted strategic policies, or against their local housing need where the strategic policies are more than five years old." This is not the case in East Herts and the council are delivering 130% of the housing delivery as acknowledged by Central Governments Housing Delivery Test.

9.7 In addition to the previous application, there is a material change in policy with the adoption of The Buntingford Neighbourhood Plan and can be given weight. Paragraph 29 states that the Neighbourhood Plans should not promote less development than set out in the strategic policies for the area, or undermine those strategic policies. Policy BUNT1 sets out the housing number of 1074 for the Plan period of 2011 – 2033. The Buntingford Neighbourhood Plan in Appendix 3 shows that post 2011 a total of 1270 dwellings have been approved. Although further analysis shows that the total of 1270 has not reached yet there are large schemes already approved and built and being built.

9.8 However, case law (Crane v Secretary of State DCLG (2015) EWHC 425 (Admin) has indicated that where policies for the supply of housing are out of date, restrictive policies in respect of housing cannot be judged to carry less weight or be disregarded. The weight to be given to conflict with the development plan remains a matter of planning judgement.

9.9 At this point then the Council is able to demonstrate a sufficient supply of land for housing and deliver its need. Whilst the Councils current housing land supply policies are considered up to date, the Buntingford Community Area Neighbourhood Plan (CANP) is also a recent up to date policy document. Whilst housing delivery can be given significant positive weight, some harm in this respect would be caused if the development proceeded as proposed, as the Buntingford CANP indicates that this area should be protected from development

and other policies in the Development Plan indicate that the required growth can be accommodated without this site being developed.

9.10 With regards to policy GBR2 the application site lies outside of a settlement boundary of Buntingford, in the Rural Area Beyond the Green Belt, where the principle of residential development relies upon either rural exception housing, of which this proposal does not qualify, or item (e) limited infilling or the partial or complete redevelopment of previously developed sites (brownfield land), whether redundant or in continuing use (excluding temporary buildings) in sustainable locations, where appropriate to the character, appearance and setting of the site and/or surrounding area.

9.11 Therefore, the principle of development relies on compliance with three factors of Policy GBR2, those being:
Development being compatible with the setting, character and appearance of the rural area (1), whether the parcel of land can be described as an infill plot or the land being 'previously developed land' (1.e) and part c new employment generating uses where there are sustainably located. With regards to point 1 the proposal does not share any characteristics with the rural agricultural setting. The Conservation and Urban Design and Landscape officer have commented that the proposal is more akin to urbanisation of the site rather than reflecting the setting. It is noted that the site would be adjacent to the edge of Buntingford, but outside of the boundary. However, even if you take this to be part of the setting, the proposal is more of an extension to this rather than a transiting form of development from the urban setting to the rural setting and therefore would not be considered acceptable, this is discussed further in the design section below.

9.12 With regards to the redevelopment of the site, it cannot be considered that this proposal would be considered as infilling. The proposal if for 350 homes and 2ha of commercial land and as stated above is more akin to an extension of the Buntingford, which is not included in Policy DPS2. In terms of Previously Developed Land the NPPF defines this as being 'Land which is or was occupied by a permanent structure, including the curtilage of the developed land (although it should not be assumed that the whole of the curtilage should be developed) and any associated fixed surface infrastructure.' The definition sets out what should be excluded "This excludes: land that is or has been occupied by agricultural or forestry buildings; land that has been developed for minerals extraction or waste disposal by landfill purposes where provision for restoration has been made through development management procedures; land in built-up areas such as private residential gardens, parks, recreation grounds and allotments; and land that was previously-developed but where the remains of the permanent structure or fixed surface structure have blended into the landscape in the process of time." This therefore would not be considered as Previously Developed Land.

9.13 Turning to the employment uses, these are considered appropriate only where they are sustainably located (and are compatible with the character and appearance of the rural area). As is set out below, the site is not considered to be sustainably located and so this element of the proposal is also contrary to GB2.Policy ED2 is also relevant regarding rural employment. Policy ED2 supports the principle of employment generating uses, subject to other policies within the plan. Part III of the policy specifies that loss of an agricultural use in a rural area or a change of use to a non-employment generating uses evidence will

be required to demonstrate that the current agricultural use is no longer required. There are no details submitted as the need of the agricultural land not being required but have submitted an Agricultural Land Classification which shows that the land is within 2 and 3a which is classified as very good quality and good quality agricultural land.

9.14

9.15 With regards to policy DPS2 of the East Herts District plan (2018) outlines a hierarchy of development locations which ensure that development takes place in the most sustainable locations. Sustainable brownfield sites are at the top of the development hierarchy. Furthermore, the site was not brought forward in a recent call for development sites and is not identified within the Buntingford Neighbourhood Plan as a site that is appropriate for housing allocation. Policy DPS2 furthermore, adds that sites within the urban area of Buntingford and other towns are appropriate which is not the case here and urban extensions are permissible in certain other towns and Buntingford is not one of them and therefore there is an in principle objection to the proposal.

9.16

9.17 To conclude it is considered that the proposal is not acceptable in principle and would be contrary to policies GBR2, DSP2, BUNT1 and ED2.

Sustainability

9.18 Notwithstanding the 5YHLS position of the council, the NPPF states that if the housing policy was out of date then presumption in favour of sustainable development should be assessed and a tilted balance approached. Whilst the Council is confident that it can demonstrate a 5 Year Housing Land Supply, for the avoidance pf doubt, a consideration is made of these issues. Paragraph 8 sets out the three strands of sustainable development, being economic, social and environmental.

9.19 Taking the economic strand, it is noted that the site would be for 350 homes, this would lead to economic benefits during construction and from the future occupiers, who would use the existing facilities in town and wider area by buying goods for construction, provide jobs and would add to the overall economy of the area. The proposal also adds some employment land which would have positive benefits in terms of job creation. It is noted that the commercial aspect of the development is in outline stage and therefore difficult to assess how many jobs would be created and whether there would be any take up of these spaces, especially due to its location, which is discussed below and therefore overall it is considered to have some moderate weight.

9.20 With regards to the social strand, the proposal will provide a range of properties and commercial space. However, there are significant concerns regarding the layout and design of the scheme with the local centre located away from the north of the site, some dwellings not having sufficient amenity space and lack of infrastructure provision, such as additional car movements, lack of facilities, for doctors, dentist and school places makes the proposal have a significant harmful weight.

9.21 The Environmental objective the site is considered an arable agricultural land.

This will mainly be lost over to the development. It is noted that there would be green spaces created and a biodiversity strip created within the site. However, the site is already a open field whereby biodiversity would thrive and flourish. The applicants have submitted a report relating to ecology and Net Biodiversity Gain. There will be open spaces and green infrastructure proposed within the site. However, as noted previously, the town, over all suffers from outward commuting due to the lack of jobs and with the increase of population of a scheme this large this would add to this. In addition, there will be some employment land, but there is no full details in regards to the number of jobs created but it is highly unlikely that this would offset the problem of outward commuting. In addition the lack of infrastructure provision, would mean that the majority of the population within the estate are likely to use motor vehicles to do their day to day activities, such as shopping, leisure etc Although there is a clear objective that vehicle are to be more sustainable in terms of the reduction in use of fossil fuels but there are no guarantees that the new population would have these vehicles and this is considered to be moderate to significant harmful weight in the planning balance.

9.22 Following the above, concerns are raised about the sustainability of the site, the previous applications had raised the same concerns. The applicants have provided a number of reports relating to the employment suitability of the site. The Council commissioned the 2014 Buntingford Employment Study as an independent assessment of the town with regard to the quantity and quality of employment provision and the implications for the sustainability of planning proposals. The 2014 study has been used to inform the emerging District Plan. However, since 2014 a significant number of new residential developments have been approved and a further report was commissioned in 2016 as an update. The consultants Wessex Economics (WE) were asked to consider the Employment implications of planning proposals in Buntingford.

9.23 In that report, it is estimated that there are about 2,000 jobs in the town. However, most of the population, 72%, worked outside the town in 2011. Furthermore, most of those working in the town, around 65%, were from outside the town. In 2011 only 790 people out of a resident working population of 2,680 lived and worked in the town. Only 29% of working residents worked in the town. As a result, it was concluded that Buntingford has a low self-containment ratio and that this is likely to have fallen since 2011.

9.24 The table below sets out planning approvals for residential development in Buntingford since 2009:

Reference	**Location**	**Units**	**Status**
3/08/0840/OP 3/11/1033/RP	Land off Tylers Close, West of Greenways	50	Outline approved Sept 2010 Reserved Matters approved Sept 2011 Completed and occupied
3/09/1061/FP	Land adjacent to London Road	149	Approved November 2009 Completed and occupied
3/10/2040/OP 3/13/0737/RP	Land off Longmead	26	Outline approved Oct 2011 Reserved Matters approved Jul 2011 Under construction, part occupied

3/1131000/FP	Land north of Hare Street Road	160	Allowed on appeal Jan 2014 Under construction, part occupied
3/13/0118/OP	Land south of Hare Street Road (Area 1)	100	Allowed on appeal Jan 2014 Under construction
3/13/1399/OP	Land off Aspenden Road	56	Allowed on appeal Nov 2015
3/13/1379/OP	Land north of Park Farm Industrial Estate	180	Approved Oct 2015
3/14/0528/OP	Land south of Hare Street (Area 2)	100	Allowed on appeal March 2016
3/14/0531/OP	Land south of Hare Street (Area 3)	80	Allowed on appeal March 2016
3/15/0300/OUT 3/14/1717/FP	Former Sainsbury's Depot	316 Phase 1 82	Approved Mar 2016 Approved Sept 2015
3/13/0823/OP 3/16/1392/REM	Land north of Hare Street Road	13	Approved March 2017
3/16/1391/FUL	Land north of Park Farm Industrial Estate	43	Allowed on appeal August 2017
3/20/1950/FUL	Land East Of Aspenden Road	23	Approved 2022
Potential total		1,296	

9.25 The above total of 1,296 dwellings granted permission would, when built, represent a 59% increase over the 2,200 dwellings in the town in 2011 and an estimated population increase of around 3,000 people (based on the Buntingford average household of 2.44 in 2011), from around 4,950 people in 2011 to 7,950.

9.26 This application for 350 dwellings would increase the population by around a further 854 people. Some 800 jobs were lost in Buntingford between 2004 and 2012. There is currently 6.55ha of employment land in the town either allocated or with planning permission, with a further 3ha is allocated at Buntingford Business Park in the District Plan, This gives 9.55ha in total. However, approximately 1ha has been lost by the approval on appeal of a residential development on land north of Park Farm Industrial Estate (3/16/1391/FUL) and employment land at London Road will be lost if the proposals for a new school here come to fruition.

9.27 Full capacity on the existing employment sites within the town would create some 1,110 jobs. However, there is no guarantee of ensuring the scale of development and these figures are merely measures of capacity, not the likelihood of delivery. The appeal of sites and state of the development industry will have a major

bearing on actual delivery of employment floorspace and jobs. Wessex Economics (WE) advised that the market for new build industrial floorspace is limited, and that there is unlikely to be an appetite for speculative development.

9.28 It is also necessary to consider to what extent an increase in the population of the town will stimulate job creation in the service sector. In 2011 there were around 1,400 jobs in the town and WE estimate that around 800 of these (57%) were likely to be directly linked to serving the needs of the population of the town and its immediate hinterland. They consider that assuming that the relationship between population and jobs observed in 2011 continues to apply, a significant number of additional jobs will be created in the service sector. WE estimate a reasonable expectation of around 460 additional jobs might be created once all the approved developments since 2011 are completed. It would be anticipated that this site, if developed, would generate some further service employment.

9.29 There is no evidence that prevailing patterns of commuting from the town have changed or that they are likely to change in the immediate future. Therefore by implication the substantial level of outward commuting from the town, mainly by car, can be expected to increase substantially as a result of population growth in the town, in the absence of a definitive uplift in local job availability. Although forming part of these proposals, there can be no certainty with regard to the number of jobs which may actually be created.

9.30 Even if the full capacity of jobs on existing employment sites within the town were to be achieved this would not match the increased demand for employment from the increase in population resulting from approved schemes for residential development. Buntingford already has a low self-containment ratio and it is considered that further residential development beyond that already approved without certainty of accompanying growth in employment provision would lead to an increase in out-commuting from the town by car. It is considered that this would not be an environmentally sustainable outcome. It is acknowledged that the scheme includes the provision of just below 5,000m2 of employment land. However the Council has doubts as to the suitability of this element of the scheme, as set out in the design section below, and whether or not occupiers could be found for these units. As such, without a better employment offer, the proposal would contribute to out-commuting from the town by car and so would not be an environmentally sustainable outcome.

9.31 Taking all of the above into account and only if the council would not be able to establish its 5 Year Housing Land Supply the tilted balance would be negative in the presumption in favour of sustainable development.

Landscape character

9.32 It is considered that the scale of the proposed development will have a significant impact on the landscape character and local distinctiveness of the area. As the landscape officer has commented, the identity of the locality is that of existing housing development that is set well back from A10 ring road and looking out onto a landscape that is rural in character. The proposal to expand the town up to the A10 will result in the permanent loss of this identity.

9.33 The housing development in the higher parts of the site will be prominent in the

landscape and the overall sensitivity of the area to the proposals is high. The degree of landscape change will be high, significant and harmful. Therefore impact on the Rib Valley will also be significant having regard to policy DES3 of the East Herts District Plan (2018) and policy ES1 of the Neighbourhood Plan.

Design and layout

Residential

9.34 The proposal is in hybrid form. The residential aspect of the development is in full permission and the commercial aspect is to the south eastern corner of the site. There are concerns raised over the overall design of the scheme in terms of its impact. It is noted that the site is outside of the boundary of Buntingford. The area is characterised of a semi-rural and rural setting. The proposal would introduce built form that would urbanise the area rather than forming a transition between the built up area of Buntingford and the rural area setting. Furthermore, the Urban Design Team have commented that the urban grain of the development does not respect its setting of the rural character.

9.35 In addition, the Urban Design team have commented that a scheme of this size and scale should have engaged policy DES1 and been through a master planning process. It is noted that community engagement was done but this also highlighted that the scheme was not supported but no engagement with other stakeholders was carried out. The NPPF advocates the use of Design Review Panels as a tool for ensuring high quality designs. The developer appears to have commissioned a review of the scheme, albeit not from the Herfordshire Design Review Panel, which is aware of the local context and policies. More importantly. It would appear that the scheme reviewed was different from that submitted, with the Panel commenting on a local hub which appears to be different from the local centre proposals currently submitted in outline.

9.36 Although the form and scale of the dwellings would be two storey and the apartment blocks 3 storey in height, it is not considered these are against the general heights of buildings in the surrounding area. Concerns are raised regarding the architectural quality of the apartment buildings. These form focal points within the development and the proposed buildings are considered to lack the interest, articulation and architectural quality for such buildings.

9.37 Although the addition of green infrastructure is welcomed, however, as noted by the Urban Design Team this is mainly along the A10 boundary rather than being integrated into the design of the proposal. The south eastern parts of the green infrastructure would be adjacent to the commercial element of the development and the sewage works and it is not considered that this would provide a high quality and functional green space.

Out line commercial

9.38 The application is submitted in outline and the layout and design of the development is reserved for later consideration. However, an indicative layout has been submitted showing employment development in the southeast corner of the site to the north of the existing WWTW (Waste Water Treatment Works). The area adjacent the WWTW, to its immediate north and west, would be allocated to open space. A spine road through the development would link

Luynes Rise with a new roundabout junction to the A10 sited to the southwest of the WWTW.

9.39 As the submission is made in outline form, the proposals have not been scrutinised in detail in this respect. It is anticipated that, if the principal of development were acceptable and/ or the Council was minded to support the proposals in other respects, then it is possible to achieve a form of development that is acceptable in urban design terms and delivers the required number of units on the site. No conclusion is reached on that matter at this stage then and any endorsement of the matter in principle gives no indication that the submitted indicative proposals are acceptable. However, it can be made clear that the provision of open space land located immediately north of the WWTW is not considered to be acceptable if it is proposed that the land is to fulfil an amenity and/or public open space purpose.

9.40 There is question marks over the commercial space in this location as it will be adjacent to the WWTW. Even the applicants marketing statement suggests that there may be other factors on whether this space would achieve the demand required. They confirm that market forces have had an impact upon retail, paragraph 4.6 of the marketing report shows that due to changes in the market, retail will be lost. Although some of the uses would be welcomed there are concerns over how these uses would be serviced in the future as they would have the access through the residential part of the estate. There has been no analysis on the existing commercial spaces and the impact of this development would have on this. However, if the application had been approved a viability and vitality statement would be required with full details.

9.41 There are residential properties proposed near the commercial part of the development. There are likely to be concerns depending on the uses proposed and this will need to be thought through carefully. Overall, it is considered that provision of a local centre is welcomed its position is not fully integrated into the development and proposed uses for the commercial aspect will need careful consideration in regards to whether the demand for the space in this location would materialise and servicing of these through the residential part of the development.

9.42 Finally, regarding the outline section of the scheme, the Parish Council have indicated that they believe that the neighbouring WWTW may need to be extended, and this is supported by Thames Water having commented that there is insufficient capacity in the local network, for both this scheme and others. Whilst Thames Water have indicated that with conditions this scheme could ameliorate its impact, there is a concern that the proposal may impact on future infrastructure delivery in the form of upgrades to the existing WWTW. Should this need to expand, the scheme would present difficulties in this respect. Policy INFRA4 of the Buntingford CANP requires that there is adequate infrastructure both on and off site. This does not appear to have happened and the Council is concerned that the proposed layout would negatively impact on the potential delivery of future infrastructure.

Housing type and mix and affordable housing

9.43 Policy HOU3 seeks provision of 40% of affordable housing on sites proposing 15

or more dwellings. The application proposes housing and affordable housing provision in accordance with the District Plan policy. The submitted Planning Statement indicates that a mix of unit sizes will be provided in accordance with the Councils Strategic Housing Market Assessment and that up to 40% of units will be provided as affordable housing. The Housing Team have welcomed the provision of 40% affordable housing, however, they do raise concerns over the use of flats and the tenure mix for this aspect. If the principle of development had been accepted then further negotiations would have taken place and a Section 106 agreement would have secured the need for the authority.

9.44 As above, the delivery of housing is given positive weight, along with the delivery of affordable housing in line with the Councils policy requirements.

9.45 Policy HOU8 is relevant to the proposal regarding self-build homes. No details for self build have been provided and therefore the proposal would be contrary to policy HOU8 of the East Herts District Plan (2018). This issue could not be overcome through the provision of conditions as potential end-users should be included in the design process.

Education

9.46 Hertfordshire County Council Growth and Infrastructure Unit have commented that the proposal is likely to have an increased demand on schools and other public services. They have requested that a section 106 is entered into to provide monies for Primary, Middle and Upped education, as well as Library and Youth services. In addition to this a monitoring fee would be required and this would all need to be secured via a Section 106 agreement.

9.47 The forecast at first school level has let the County Council to the conclusion that it need to pursue the provision of a new school. Policy BUNT2 has allocated land for a new First School at land at London Road to enable the delivery of a school. The demand generated by these proposals may be accommodated at either the existing first schools in the town, or at the new provision, once it is made available.

9.48 In terms of the education provision, had the application not had an in principle concern and subject to a section 106 agreement the proposal would be acceptable and in accordance with policy BUNT2 of the East Herts District Plan (2018).

Waste

9.49 The HCC Waste and Mineral team have commented that the that developments of this nature has to ensure that the proposal will minimise waste through construction and future occupiers. The Waste Authority have commented that concerns may exist regarding the proposed development in close proximity to the Waste Water Treatment Plant and recycling centre and the District Council would need to take this on board, which has already been discussed above.

9.50 In regards to minerals the applicants is encouraged to utilise minerals on site for the construction of development.

Highways and Public Right of Way

9.51 A Transport Assessment (TA), a framework Travel Plan (TP) and Technical Papers have been submitted with the application.

9.52 The site is bounded to the west by the A10 and to the east by residential roads. The majority of residential roads are unclassified local access roads and are subject to a 30mph speed limit.

9.53 The application proposes two points of access onto the wider network. Firstly via the small end stub section of Luynes Rise at a point where it turns 90 degrees and becomes Oak End. Secondly a proposed access onto the A10 towards the southern end of the site through the provision of a new roundabout.

9.54 The Highway Authority have commented on the submitted plans and do not raise concerns relating to the accesses. The Public Transport Team have raised concerns over the applicants request to make contributions to the HertzLynx service as a commitment will be needed from the applicants that this would require a minimum of a 5 year commitment. In addition to this the Travel Plan for the site is considered unacceptable due to the lack of clear separation between the commercial, retail and residential aspect of the development.

9.55 The Highways also raise concerns over the Transport Modelling as this has the potential for creating additional congestion to an already at capacity on A507, Baldock Road.

9.56 Paragraph 111 of the NPPF advises that development should only be refused on transport grounds where the residual cumulative impacts of development are severe. In the light of paragraph 111, it is considered that the proposal will have an unacceptable impact upon highway safety and the cumulative impact on the road network would be severe.

9.57 The residential aspect of the development is in full. It is clear that all the properties would have off street car parking. A car parking master plan is provided as part of the submission. It shows that there would be a total of 698 car parking spaces would be provided. Although details of how many of each units there will be it appears that the car parking provision would be acceptable and the Highways have not raised any concerns regarding this.

9.58 The commercial element is in outline stage and therefore car parking should be provided in full details at reserved matters and would depend upon the use.

9.59 The submitted master plan shows that the public right of way Buntingford 026 would be partially lost due to the positioning of the local centre. No details of an agreement have been reached that this would be acceptable. However, it is clear that the Highway Authority accept that the betterment of the access within and outside the site is acceptable.

9.60 The requested planning obligations in respect of highway works are detailed in the ‘Planning obligations’ section below.

Residential Amenity

9.61 A Noise Impact Assessment has been submitted as part of the application which details the noise contours across the site and the mitigation measures that could be employed to provide satisfactory internal and external noise levels.

9.62 Environmental Health raised concerns in regards to whether the Noise Assessment has fully considered the impact of noise on the future residents as the noise assessment has not confirmed whether the bund along the A10 is sufficient to meet the level of noise in amenity spaces close to the A10, it is unclear whether the entryways have been included in the assessment as commercial vehicle traffic would have an impact upon noise and ventilation strategies should be designed at an early stage as this has the potential to impact noise for future occupiers.

9.63 As detailed above there are aspects of the layout that raises concerns, with regard to the amenity of these, the applicants acknowledge that some garden spaces are not in conformity with the Design Code in the Neighbourhood Plan and the urban design team have also raised concerns over sizes of gardens being shallow. It would appear that a small number of units are not in accordance with the Design Code in terms of separation distances for habitable room windows. Gardens facing East and North especially hard up on the gardens with the existing settlement raises concerns regarding the impact of development to the neighbouring occupiers. These gardens are shallow and therefore the built form would be perceived as dominating within the rear gardens.

Future Occupiers

9.64 As stated above some gardens do not meet the standard for provision of amenity space. In addition to this, some gardens are shallow in depth and either face east or north and would be overshadowed most of the day and would not be considered a high quality design.

9.65 In addition to this some properties are close to the commercial space and would be exposed to noise and disturbance. As the commercial aspect of this development is in outline stage and close to the WWTW and recycling centre some concerns are raised as to the potential impact of this, and Waste Authority have also raised this.

9.66 The layout of the development also raises concerns regarding the impact upon noise and disturbance to other residential occupiers. The proposed flats have a courtyard of car parking adjacent to gardens. This raise concerns over the impact of traffic noise and disturbance to the adjacent occupiers and further exacerbates the concerns over the proposals design.

Flood Risk

9.67 The site is located within Flood Zone 1 and the Environment Agency previously raised no objection to the proposals. The LLFA were also satisfied with the submitted Flood Risk Assessment and that a condition can be imposed to address surface water drainage requirements had the application been for approval.

Impact on Infrastructure - planning obligations

9.68 Herts CC have requested financial contributions towards nursery, first, middle and upper education, library and youth services. In accordance with the Council's Planning Obligations SPD, contributions may also be sought towards open space, sport and recreation, community centres/village halls and healthcare facilities. The detailed plans show the proposals indicate that the development will include onsite provision of a Local Equipped Play Area (LEAP), a Neighbourhood Equipped Play Area (NEAP) and open space.

9.69 Although the application is recommended for refusal, the following S.106 obligations have been requested:

- Strand 1 of HCC monitoring £1,200p.a for 5 Years.
- Strand 2 in accordance with the Developers Planning Obligation Toolkit of £2,389,100 for the residential and £43, 888 for the commercial element. The upgrading of the PROW outside of the red line boundary would reduce the residential element to £2 million.
- 40% affordable dwellings in accordance with the accommodation in a mix of 75% socially rented 25% shared ownership.
- A financial contribution towards Nursery, First, Middle and Upper Education, Library Services and Youth Services in accordance with the approved residential type and mix and the Planning Obligations Guidance – Toolkit for Hertfordshire 2008 - (Three tier version of Table 2) (index linked to PUBSEC 175).
- As part of the open space and leisure SPD contributions would be sought for play space, parks and gardens, natural and semi-natural play space and allotments.

10.46 Financial contributions to be index linked.

10.47 Required Highway improvements, including a new roundabout on the A10 would be addressed via a S278 Highways Act Agreement with HCC as Highways Authority.

10.48 As the application is being refused should an appeal subsequently be submitted, Officers would reconsider the requirements for infrastructure funding and provision through that process.

Other matters

10.49 Herts Ecology previously commented that the indicative layout retains all linear feature habitats (apart from one tree). They raise no objection to the application subject to the mitigation measures being secured by the imposition of a conditions

10.50 HCC Historic Environment Unit advise that the application site has significant archaeological potential and may contain heritage assets of archaeological interest. The applicant has submitted a satisfactory Written Scheme of Investigation and an initial archaeological evaluation and no objection is raised, subject to a condition.

10.51 Climate Change mitigation, including reductions in carbon below the Building Regulations, control of water resource use and other matters could be secured by condition.

10.0 Conclusion – The balance of considerations

11.1 It is acknowledged that the Council can currently demonstrate a five year housing land supply. The proposal would provide 350 units of additional housing. This weighs positively in the balance, and it is acknowledged that housing targets are not totals or limits. However, as this is not a site identifief in the plan for a scheme of this nature and the Council is delivering housing and has an identified housing land supply, only limited positive weight must be attached to this consideration.

11.2 The development would provide 40% affordable housing provision as required by Policy HOU3 attracting positive weight.

11.3 The proposal would encroach into rural area, where by the development would have a harmful impact upon the rural character and would not

11.4 The provision of employment land attracts positive weight but this is only limited given concerns about occupation and non-compliance with this element of GBR2.

11.5 It is considered that circumstances have changed the balance of sustainability considerations since previous residential development appeal decisions. Cumulatively, sufficient residential development has now been approved to support the town. Lack of employment opportunity in the town persists. Residents rely heavily on the private car to access employment elsewhere.

11.6 Notwithstanding the proposal to provide employment land as part of the application, there is no positive indication that this position will change in the immediate future. It is therefore considered that significant negative weighed should be assigned to the sustainability of the proposal in general terms, and particularly with regard to the consequences of lack of employment opportunity and the potential of the proposal to increase out-commuting by private car.

11.7 There is a need for a new first school in the town. Hertfordshire CC have committed to pursuing the development of a first school at London Road, which would meet that requirement, subject to contributions being made.

11.8 The application has a negative highway impact but satisfactory level of parking provision is proposed.

11.9 The site adjoins the A10 and is regarded as a noisy environment. In addition, the layout and design of some residential properties would be close to incompatible uses, such as the Waste Treatment Plant and recycling centre and commercial area, which has the potential to impact the future occupiers. Some residential properties do not have sufficient garden space, which is shallow and face east and north which would be overshadowed and not provide a high quality living environment.

11.10 The site lies in flood Zone 1. The LLFA and the Council's Engineer are satisfied that the proposal satisfactorily addresses flood risk.

11.11 Overall however, whilst it is acknowledged that the development would deliver a significant contribution to housing land supply, including affordable housing, it is considered that the adverse sustainability impacts and the adverse impacts on the character and distinctiveness of the area, impact upon the highway and residential amenities of the adjoining and future occupiers would significantly outweigh its benefits. The proposal is considered therefore to be unsustainable and contrary to the Development Plan, without material considerations which outweigh the Plan.

RECOMMENDATION

That planning permission be **REFUSED**, for the reasons set out below:

1. The proposal would encroach into the rural area beyond the settlement boundary to the detriment of the character, appearance, and distinctiveness of the area contrary to Policies DES1, DES4, GBR2 of the East Herts District Plan (2018), Policy ES1 of the Buntingford Community Area Neighbourhood Plan and the National Planning Policy Framework.

2. The proposals represent an unsustainable form of development and residents would be heavily reliant on the private car to access employment, main food and comparison shopping elsewhere and the harm demonstrably and significantly outweighs the benefits. The proposal would be contrary to Policies DSP2, INT1, BUNT1 and TRA1 of the East Herts District Plan (2018) policy HD1 of the Buntingford Community Area NP and the National Planning Policy Framework.

3. The proposal due to its design and layout, especially the shallow gardens on the eastern edge, would have an adverse impact upon the adjoining occupiers through overbearingness and would also not provide a useable and functional private amenity space, due to its position either north or east of the dwelling. In addition, the layout of the car parking courtyards adjacent to the private gardens. The compatibility of the uses is a concern, especially the open space and residential as well as commercial would raise concerns over the potential noise and disturbance to the future occupiers, in addition the layout would mean that commercial servicing would be done through the estate which has the potential to create further noise and disturbance to future occupiers and would not be considered as a high-quality design contrary to policies DES4 and EQ2 of the East Herts District Plan (2018) and guidance in the NPPF.

4. The proposal raises concerns over the layout of the development, in respect of compatible uses of residential and open space adjacent to Waste Water Treatment and A10 as well as the commercial element which would give rise to poor quality spaces which would suffer from odour and general function of these uses which would not provide a good quality useable space contrary to policy DES4,

5. The proposed uses adjacent to the Waste Water Treatment and recycling centre raises concerns over the delivery of the employment land and residential on the

southern part of the site and the impact this will have on the future occupiers contrary to policies DES4, ED2 and EQ2 of the East Herts District Plan (2018) and guidance in the NPPF.

6. The proposal would give rise to severe impact upon the local highway network contrary to policy TRA1 of the East Herts District Plan (2018) and NPPF.

7. The proposal fails to make adequate financial provision for infrastructure improvements to support the proposed development. The proposal would thereby be contrary to Policies DEL2, TRA1, TRA2, CFLR1, CFLR7,CFLR9 and CFLR10 of the East Herts District Plan (2018), Policies of the Buntingford Community Area Neighbourhood Plan and the National Planning Policy Framework.

8. The proposal would not allocate any self-build plots. This would be contrary to policy HOU8 of the East Herts District Plan (2018).

Summary of Reasons for Decision

In accordance with the Town and Country Planning (Development Management Procedure) (England) Order 2015. East Herts Council has considered, in a positive and proactive manner, whether planning objections to this application could be satisfactorily resolved within the statutory period for determining the application. However, for the reasons set out in the decision notice, the proposal is not considered to achieve an acceptable and sustainable development in accordance with the Development Plan and the National Planning Framework.

AUTHORISING OFFICER:

Richard Freeman
Interim Team Leader
09/11/2022

TECHNICAL NOTE 1

DATE:	21 June 2023	**CONFIDENTIALITY:**	Confidential
SUBJECT:	Response to HCC Comments		
PROJECT:	70094210 - Land at Buntingford West	**AUTHOR:**	Gideon G
CHECKED:	Mehmet A	**APPROVED:**	Mehmet A

Annex B

Email Requesting for Additional Information (17th Dec 2023)

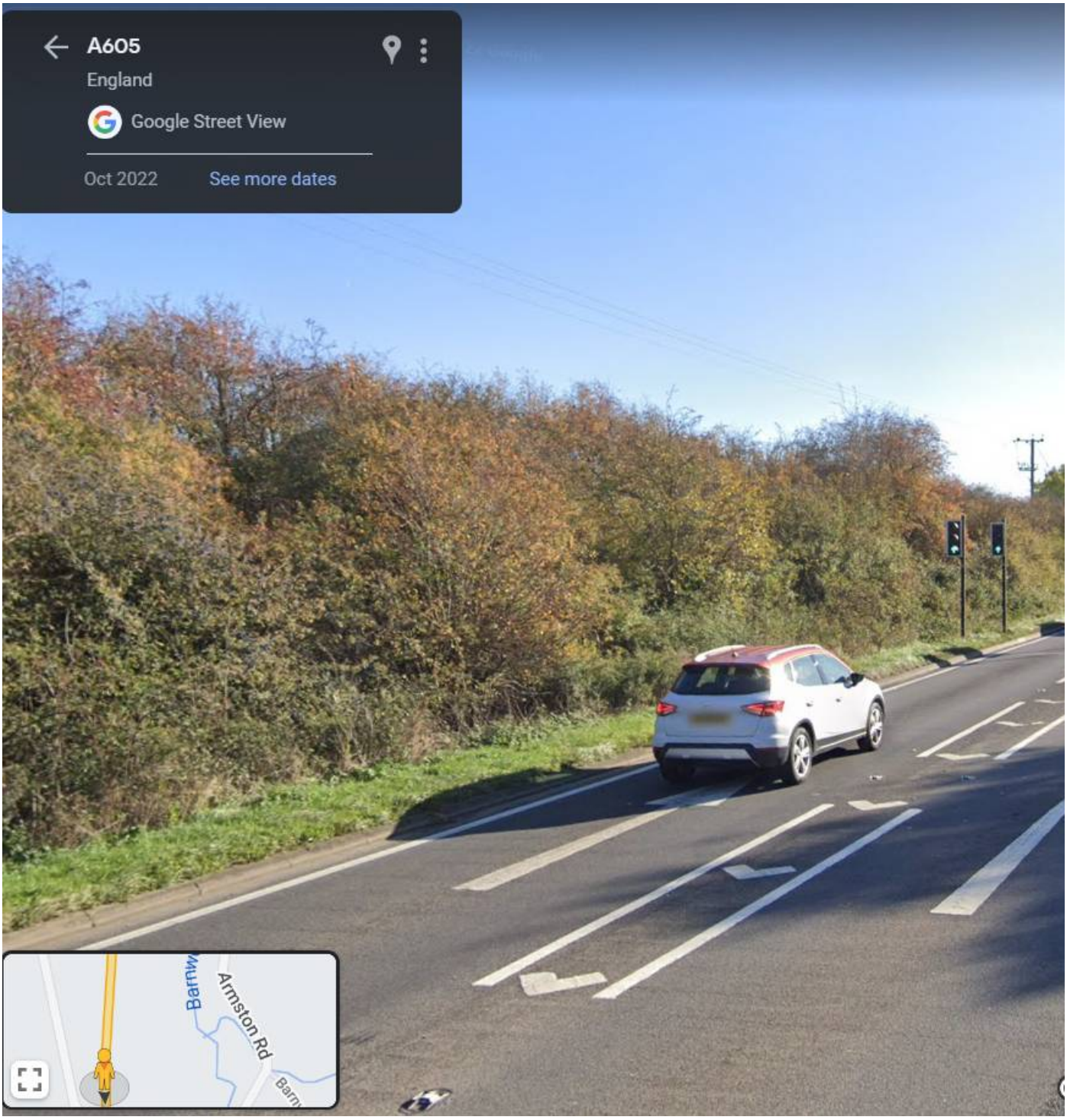
From: Adrian McHale <Adrian.McHale@hertfordshire.gov.uk>
Sent: 17 December 2022 23:14
To: Gasinu, Gideon <Gideon.Gasinu@wsp.com>
Cc: Ahmet, Mem <Mehmet.Ahmet@wsp.com>; Roger Flowerday <Roger.flowerday@hertfordshire.gov.uk>; Cuthbertson, Paula <Paula.Cuthbertson@wsp.com>
Subject: RE: Strategic Infrastructures Board Meeting (STIB)_ Buntingford West Scheme

Hi Gideon,

We're having strange email issues. This only arrived today Saturday yet you sent it on Friday morning by the looks of it :-/

The proposals were reported to STIB and I believe the principle was accepted there was some concern as to a junction on to the busy A10. I remember a similar existing junction the A10 at Waterbeach (and there is proposals to signalise another to support the Waterbeach New Town) where the speed limit has been lowered. Paula led for the WSP Cambridge office and it would be good if we could get data on accidents, traffic flow, traffic speeds and anything else you think will support this proposal.

I've also remembered the Barnwell junction on the busy A605 in Northamptonshire south of Oundle (the long standing Oundle bypass) it's a signalised junction directly onto a National Speed limit road. https://goo.gl/maps/zDqqGZWezjPiNAFv6 That might help your case.



Kind Regards,

Adrian

From: Gasinu, Gideon <Gideon.Gasinu@wsp.com>
Sent: 16 December 2022 09:10
To: Adrian McHale <Adrian.McHale@hertfordshire.gov.uk>
Cc: Ahmet, Mem <Mehmet.Ahmet@wsp.com>
Subject: RE: Strategic Infrastructures Board Meeting (STIB)_ Buntingford West Scheme

Gasinu, Gideon

From: Gasinu, Gideon
Sent: 05 January 2023 18:09
To: Adrian McHale
Cc: Ahmet, Mem; Roger Flowerday; Cuthbertson, Paula
Subject: RE: Strategic Infrastructures Board Meeting (STIB)_ Buntingford West Scheme
Attachments: RE: Waterbeach - A10 Traffic Signals

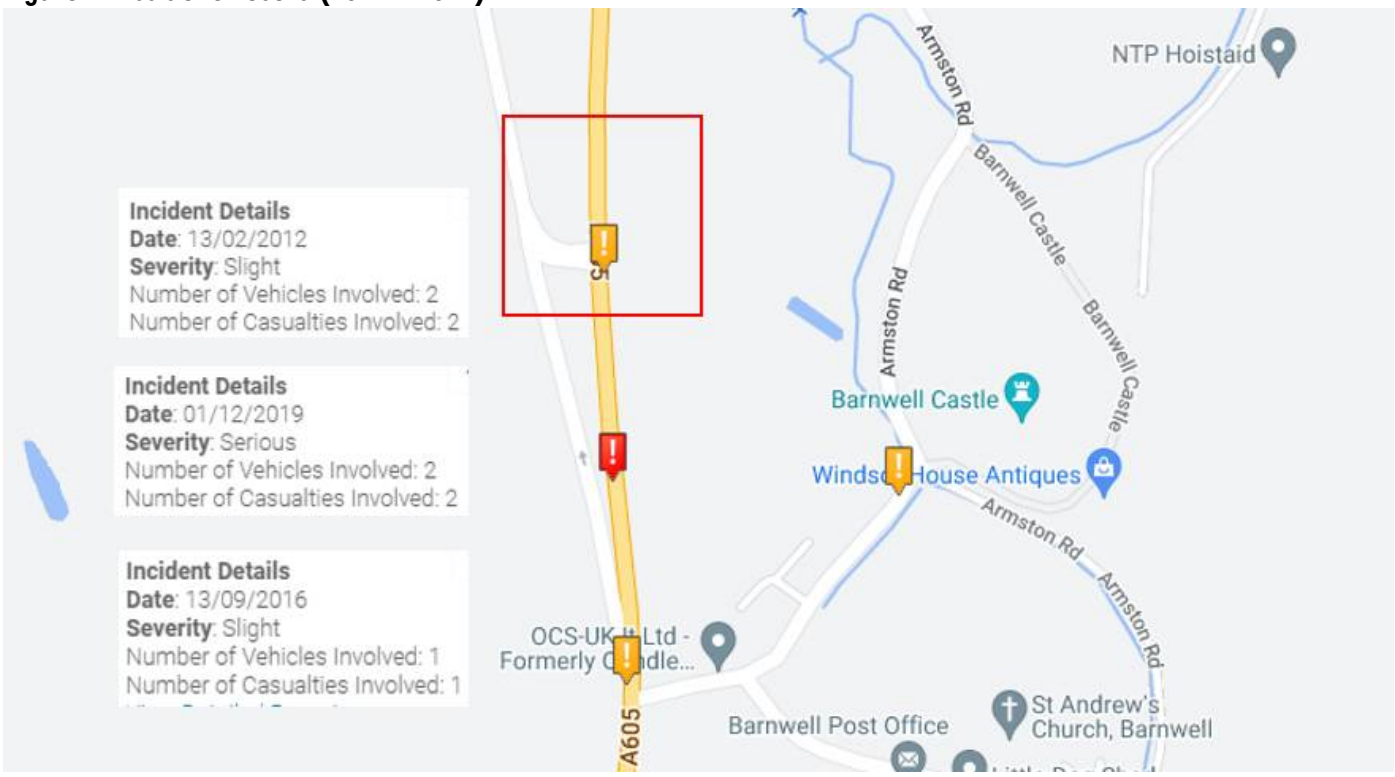
Hi Adrian,

Following your email and the subsequent follow up email from Paula regarding Waterbeach (attached) we have assessed the Barnwell A605 junction and the Hauxton Meadows A10/St Edmonds Way signal junction as examples to support the Buntingford A10 signal junction.

BARNWELL ROAD / A605 SIGNAL JUNCTION, BARNWELL (Nottinghamshire)

The past 10 years (2012 – 2021) of accident data reveals that the junction has seen one slight accident in 2012 and two accidents to the south of the junction, one serious (2019) and the other slight in 2016.

Figure 2: Accident Record (2012 – 2021)



Based on Google Streetview images, it appears that the signals were installed around 2019. The Northamptonshire road issue report website had reports of residents requesting an advance traffic light warning sign to be installed to warn drivers.
As shown in **Figure 2**, in the same year (2019) a serious accident occurred involving two vehicles, vehicle 2 hitting the back of vehicle 1 on a wet road surface and dark conditions (17:40). The exact causation factor of the accident is unclear ergo cannot be attributed to the signal installation but the weather, road surface, road speed limit and dark conditions may have contributed. It is unknown if the advance signage was installed prior to the incident but it would have been beneficial to help drivers prepare in advance to stop.

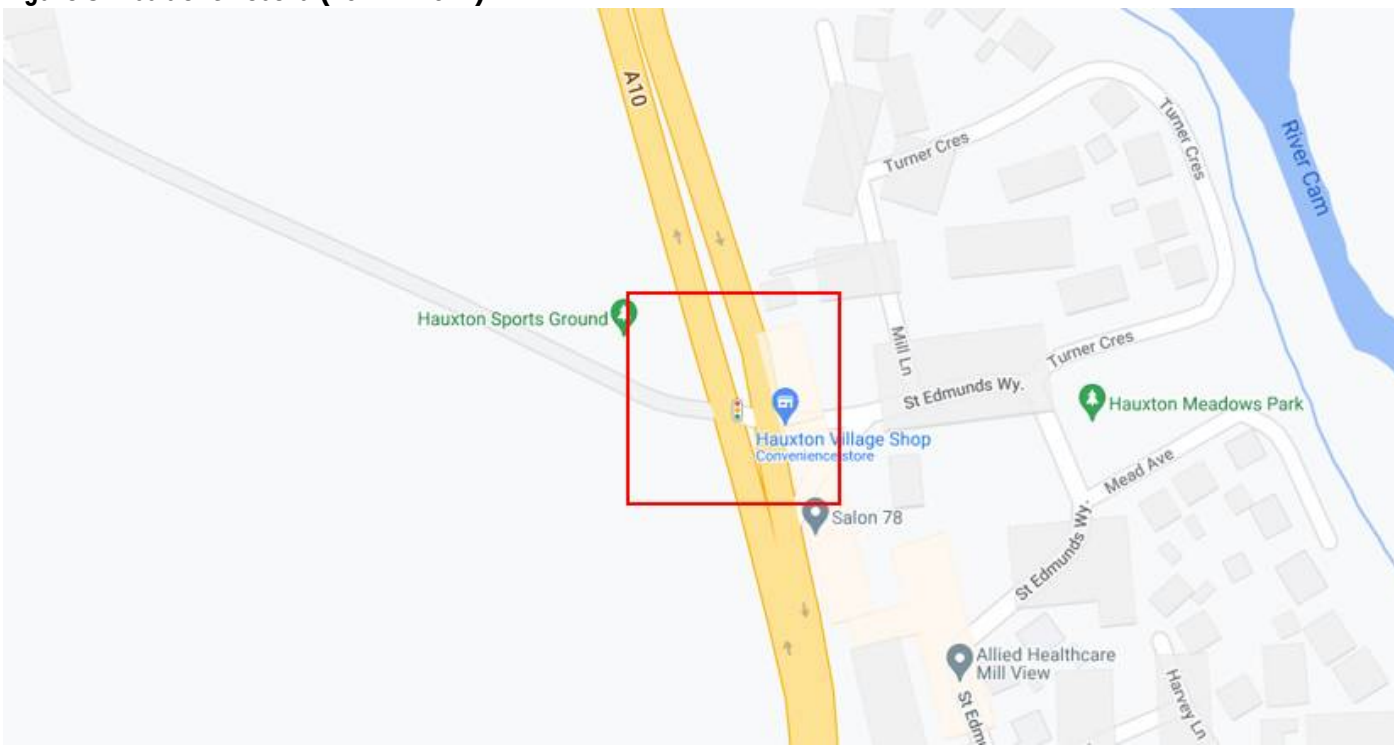
AADF data has been extracted from the DfT Count point (2019 manual count) for the A605. The nearest count point (37397) is located approximately 5.6 km north of the junction. The 2019 AADF for the point is 22,512 two-way flows (all vehicles).
The A605 is 60mph with advance signal warning sign at 200yards.

Figure 2: A605 Before and After Signal Installation

HAUXTON MEADOWS A10/ST EDMUNDS WAY SIGNAL JUNCTION, CAMBRIDGE

Accident data for the past 10 years revealed that no accident has occurred at or near the junction in the last 10 years.

Figure 3: Accident Record (2012 – 2021)



The junction was upgraded around 2015 to provide access to the Redrow development (circa 200 homes). The before and after images from Google Streetview are shown below.
AADF data has been extracted from the DfT road traffic statistics (2019 manual count) for the A1309 (the nearest count point (37397) to the A10) located approximately 2 km north of the junction. The 2019 AADF for the point is 31,233 two-way flows (all vehicles).
The speed limit on the road is 40mph this was not changed after signalising the access junction.

Figure 4: Before and After

CONCLUSION

The two examples identified above, shows the operation of a busy A- Road with circa 20,000 to 30,000 two-way flows a day. In comparison with the A10 where the site access is proposed, the one week 24-Hour ATC recorded an average daily flow of 12,124 two-way total vehicle flow, which is relatively low compared to the examples given above.

In terms of accidents, the above examples shows one accident in the approach queue; however, this may not necessarily be associated with the signal at the junction. Such rear shunt collisions could be prevented or severity reduced by providing a skid resistance surface treatment in advance of the junction, advance traffic light warning signs, reducing the speed limit from 60mph to 50mph and providing ample visibility to the signal heads can help drivers prepare to respond to and stop at the junction if necessary. These measures are all proposed as part of the Buntingford site access design, with the advance traffic light signage to be provided at the detail design stage.

In the two examples above, the speed limits were 60mph (Barnwell-A605) and 40mph (Hauxton – A10). It is unclear if the 2019 serious accident on the A605 was speed related, however as discussed above, other factors including lack of care may also have played a part in the collision. As stated earlier, there were no accidents records on the A10 (Hauxton) before/after the junction was signalised.

For the Buntingford A10 (site access location), ATCs installed on the A10 revealed that average speeds (52mph) were below the stipulated speed limit (60mph) in both directions and 85th %ile speeds of 59mph in both directions. Though the 85th ile speed is just below the stipulated speed limit, a few vehicles could be travelling above the speed limit. This issue was picked up by the Road Safety Audit.
The RSA recommended that sufficient forward visibility to the signal heads based on the geometric characteristics of the road is provided along with the appropriate length of skid resistance carriageway surfacing on the approaches to the proposed stop lines to prevent risk of rear-end shunt type collisions.

The recommendation was accepted and an updated drawing was provided showing SSD to the primary signal head up to a design speed of 50mph (It was suggested that the speed limit on the A10 be reduced to operate safely for pedestrians). However for completeness, the SSD was shown for 60mph.

In terms of collisions, personal Injury Collision (PIC) data for a 5-year period between 2016 and 2021 was obtained from Hertfordshire County Council. The results show two serious accidents north of the site access: the first accident (occurred 400m south of the A507/A10 /Baldock Road roundabout) was a southbound vehicle which stopped in the road to help a pedestrian lying down in the carriageway, causing the following vehicle to run over the pedestrian. This occurred near the footbridge and it is unclear why the pedestrian didn't use the bridge but chose to cross the road at grade, unless they had a form of mobility impairment which left them no choice. The proposed junction will help alleviate such issues by providing a safe crossing point for non-motorised road users and people with disability. The second was a motor cyclist who lost control and fell off the bike 80m south of the A507/A10 /Baldock Road

roundabout. Again, the proposals to provide appropriate length of skid resistance surfacing will help alleviate such occurrences.

Consequently, it is considered that the proposed signal junction that would be provided to give access to the proposed development is not expected to result in additional accidents given the proposed mitigation but rather improve safety for non-motorised users crossing the A10.
I hope the above provides some additional information to support the access proposals.

If you require anything further, please let me know.

Thanks

Kind Regards

Gideon Gasinu
Principal Transport Planner
BSc MSc MCIHT GMICE CMILT
T+ 44 (0)1992 526 051

TECHNICAL NOTE 1

DATE:	21 June 2023	**CONFIDENTIALITY:**	Confidential
SUBJECT:	Response to HCC Comments		
PROJECT:	70094210 - Land at Buntingford West	**AUTHOR:**	Gideon G
CHECKED:	Mehmet A	**APPROVED:**	Mehmet A

Annex B.1

Draft STIB Response

Tuesday 11th of April 2023

Highways Design Review Panel – A10 Buntingford new site access

Attendance

- Paul Lidher
- Rupert Thacker
- David Burt
- Robert Surridge
- Stuart Pearce
- Terry Bedding
- Chris Gladwyn
- Anthony Collier

Policy departure brought forward by Adrian McHale –

Context

New development site, residential with other uses mix, seeking new vehicle access onto A10 east of Buntingford, situated between the Buntingford south and Buntingford west (*A10, A507*) junctions. *(See plans supplied)*

For clarification

- **Is the principle of a new access onto the A10 acceptable**

It remains unclear if any form of access from the A10 is deliverable. Most of the issues remain around vehicle speed, lack of lighting, visibility caused by deflection and capacity in the surrounding network. Existing RSA recognised visibility.

Further discussion, exploring other access points including Luynes Rise, southern industrial area, Monks Walk, route to existing A507/A10 roundabout. No clear suitable alternative when considered an LTP compliant site access strategy found other than the options of Luynes Rise or direct A10 vehicle access.

The principle of a new access is not agreed at this stage. Further work would be required to demonstrate an LTP compliant scheme looking at wider strategic measures to enhance the sustainable access of the site and a fully acceptable A10 junction to be agreed by safety team. This could include an LTP compliant access solution (LTN1/20 connection from site to the ATF scheme), enhanced connectivity within Buntingford and to external settlements.

Safety team remain very concerned with a new access onto the A10, and despite considerable exploration it remains unclear if a scheme is possible due to the discussed constraints.

- **Options exist for a roundabout of light controlled junctions, discussion around preferred/deliverable form.**

Reduction in speed limit would be unlikely, sclae of intervention would be very large including lighting and possible realignment of A10.

Roundabout junction is likely the most deliverable when considering land ownership.

May also be opportunity for other access solutions, such as left in only, or left in/out, with options onto Luynes Rise.

TECHNICAL NOTE 1

DATE:	21 June 2023	**CONFIDENTIALITY:**	Confidential
SUBJECT:	Response to HCC Comments		
PROJECT:	70094210 - Land at Buntingford West	**AUTHOR:**	Gideon G
CHECKED:	Mehmet A	**APPROVED:**	Mehmet A

Annex C

EXPERIMENTAL TRO CONSULTATION LETTER

Hertfordshire

To Residents / Businesses
5
TANNERY HOUSE
23
HIGH STREET
BALDOCK
SG7 6BE

Highways & Environment
Hertfordshire County Council
Highway Improvements Group
County Hall
Pegs Lane
Hertford, Herts SG13 8DF
www.hertfordshire.gov.uk

Tel: 0300 123 4040
Email: *CSCHighways@hertfordshire.gov.uk*
My ref: *G-I180012-B A507 Weight Limit ETRO*
Your ref: A507 Weight Limit
Date: 14 October 2022

Dear Sir/Madam,

A507 Weight Limit Experimental Traffic Regulation Order - Consultation

Hertfordshire County Council (HCC) has been exploring options to reduce the impact of Heavy Goods Vehicles (HGV) through traffic using the A507 in Cottered Village following representations to the Highways Cabinet Panel by local communities. HCC is proposing to implement a weight limit ban affecting the A507 and part of the B1037 in Cottered as an experimental scheme under an Experimental Traffic Regulation Order (ETRO) for up to 18 months. The purpose is to understand the effectiveness of the weight limit ban before making any decision to make the Traffic Regulation Order permanent.

The weight limit ban will restrict access within the ban area to HGVs in excess of 7.5T. The weight limit ban area extends from the western approach of the A507 into Cottered to the eastern outskirts of Cottered and the B1037 in Cottered from the junction with the A507 to the junction with Warren Lane. The weight limit ban will connect with existing weight limit ban currently at the top of Warren Lane in Cottered. Signage is proposed in advance of the ban to deter vehicles from approaching the restricted areas, in addition to signage at the ban start locations.

The proposal can be viewed on the consultation drawing enclosed with this letter.

The key expected benefits of this proposal are:

- HGV through traffic will be rerouted to more suitable routes, reducing overall HGV traffic in Cottered and along the A507.
- The HGV ban in Cottered is anticipated to reduce HGV through traffic in Baldock due to the weight limit restricting flows for vehicles over 7.5T between the A1 and A10 on this route.
- The A507 will be a safer route.
- The ETRO will allow HCC to determine if a permanent TRO is justified before the permanent TRO is applied.
- The ETRO will allow HCC to make amendments to the scheme as seen necessary before it is made permanent.

The proposed alternative routes for HGVs to avoid the A507 for eastbound and westbound traffic is to utilise the A602 and A505. These routes are slightly longer than the A507 as an east-west/ west-east connection but are both more suitable routes for HGV traffic. To avoid HGVs rerouting to minor roads, HGV rerouting signage and weight limit ban warning signs will be implemented at key locations.

To accommodate for deliveries and the operational needs of businesses and farms in the proposed ban area, access will be maintained with the use of an "Except for Access" clause in the weight limit ban. The terms of access will be set out in the ETRO and will allow for access to any property or land within the restricted ban area. "Except for Access" signs will be installed with the ban warning signs.

Implementation of an ETRO will enable HCC to monitor whether a weight limit ban will be effective in removing adequate numbers of HGVs from the A507 before a permanent Traffic Regulation Order (TRO) is implemented. To determine the reduction in HGV numbers, traffic surveys will be undertaken before the scheme implementation and during the time the ETRO is in place. We are looking for the experimental scheme to achieve a minimum 10% reduction in HGVs above 7.5T but hoping to see a reduction of 30% or more. This level has been set based on the expected reduction in HGV through traffic, recognising that HGVs accessing properties in the weight limit ban area will not be affected by the TRO.

Next Steps

Following this period of consultation, a decision will be taken as to whether or not to proceed with the ETRO. If a decision is taken to proceed, a Public Notice of Making will be published in The Comet and The Hertfordshire Mercury at least 7 days prior to the Order coming into effect. It is anticipated that the experimental scheme would likely commence in early 2023 and will remain in effect for up to 18 months.

For the first 6 months of the experiment, there will be an opportunity to object to the Orders becoming permanent and details will be set out in the Public Notice of Making.

Adjustments to the scheme can be made in the first 12 months, after which HCC will decide whether to make the weight limit ban permanent.

Have your say
During this consultation, we would like to invite you to provide feedback you may have specific to the outlined proposal. This can be done via an online survey tool using the following link: https://surveys.hertfordshire.gov.uk/s/A507WeightLimitETRO/ . We ask that it is submitted by **Sunday 13 November 2022.**
Alternatively, if you would like a paper copy of the online survey, please make a request using the details provided above.

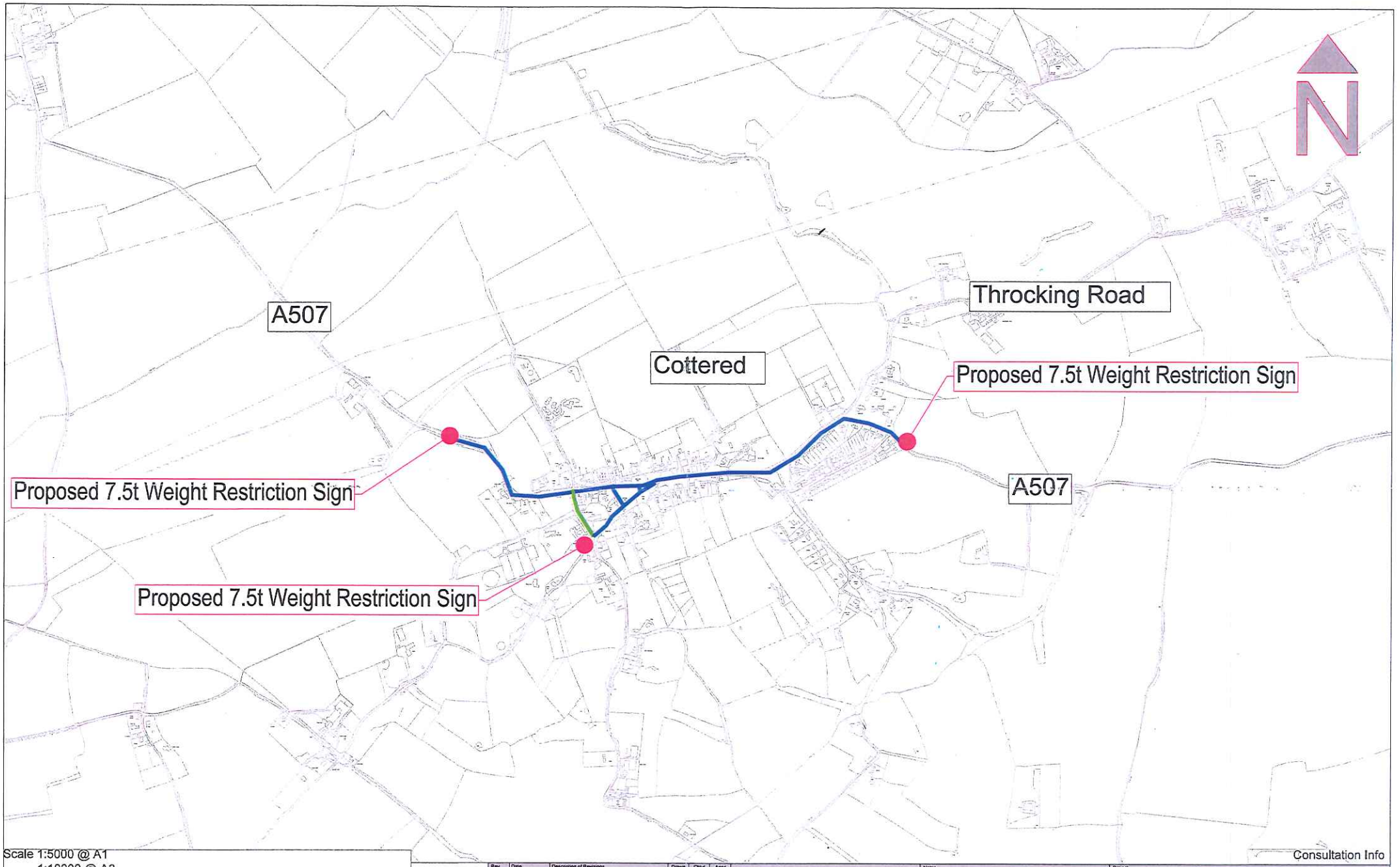
All comments received in relation to this scheme only, will be considered as part of the decision-making process.

Your personal details will not be published. However, it is helpful for us to know where you live, in order to analyse your specific feedback in context with those made from the wider area. Details given will be stored securely for the duration of the works/scheme. This data is shared with our third-party consultants for the works/scheme who are acting under contract.

If you have any concerns regarding highway issues or wish to report a highway fault you can do so online via www.hertfordshire.gov.uk/faultreporting/ or telephone **0300 123 4047**.

Yours faithfully,

Miltiadis Nikolaidis
Project Engineer



Scale 1:5000 @ A1
1:10000 @ A3

Key: Description:
Existing 7.5t HGV ban
Proposed 7.5t HGV ban

Consultation Info

Rev	Date	Description of Revisions	Drawn	Chkd	Appr
XXX	XXX	XXX	XXX	XXX	XXX

Hertfordshire
County Hall
Pegs Lane
Hertford, Herts
SG13 8DN
www.hertfordshire.gov.uk/highways

Notes
N1. You are not permitted to copy, sub-licence, distribute or sell any of this data to third parties in any form. (This restriction may not apply to HCC and its licensed contractors, agents & partners.)
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Drawn	Designed	Checked	Approved	Revision Date
M.Nikolaidis	M.Nikolaidis	A.Jenrola	S.Pearce	22/09/2022
Signature	Signature	Signature	Signature	Scale(s)
				1:5000 @A1

Project
ITP180012-1
A507 Weight Limit Ban
Cottered Village

Drawing Title
Consultation Info
Proposed Weight Limit Restriction and Signage Location Plan
Sheet 01 of 01

Project No.	Sheet, No.	Revision
HC G-I18012-1	01	00

Original Sheet Size A1 [841x594] Plot Date 07 Oct 2022 @ 4:12 PM Path S:\HERTFORD\HIGHWAYS\CST\G-I0000\G-I1800\G-I1800\G-I1801.2x4, Design\Drawings\Layouts\Preliminary\CAD\Option 2 - Cottered Only\ITP180012-B Consultation Plan.dwg A1H

TECHNICAL NOTE 1

DATE:	21 June 2023	**CONFIDENTIALITY:**	Confidential
SUBJECT:	Response to HCC Comments		
PROJECT:	70094210 - Land at Buntingford West	**AUTHOR:**	Gideon G
CHECKED:	Mehmet A	**APPROVED:**	Mehmet A

Annex C.1

WEIGHT LIMIT TRO

Hertfordshire

To Residents / Businesses
5
TANNERY HOUSE
23 HIGH STREET
BALDOCK
SG7 6BE

Highways & Environment
Hertfordshire County Council
Highway Improvements Group
County Hall
Pegs Lane
Hertford, Herts SG13 8DF
www.hertfordshire.gov.uk

Tel: 0300 123 4040
Email: CSCHighways@hertfordshire.gov.uk
My ref: *G-I180012-1 A507 Weight Limit PTRO*
Your ref: A507 Weight Limit
Date: 20 July 2023

Dear Sir/Madam,

A507 Weight Limit Permanent Traffic Regulation Order – Notice Letter

Hertfordshire County Council has been exploring options to reduce the impact of heavy goods vehicles using the A507 through Cottered Village.

Feedback received from the consultation that took place in February 2023 has been reviewed. Based on this, we would like to notify you that we will be advertising a permanent traffic regulation order to support a weight limit ban on the A507. The consultation period on this order will start on Thursday 20th July 2023 and end on 10th of August 2023.

The proposed Public Notice of Making will be published in The Comet and The Hertfordshire Mercury. Subject to the outcome of this consultation, it is anticipated that the scheme would commence in Autumn 2023.

Have your say

During this consultation, we would like to invite you to provide feedback you may have specific to the outlined proposal. Details on how to do so are provided overleaf.

Your personal details will not be published. Details given will be stored securely for the duration of the works/scheme. This data is shared with our third-party consultants for the works/scheme who are acting under contract.

Yours faithfully,

Miltiadis Nikolaidis
Project Engineer

HERTFORDSHIRE COUNTY COUNCIL

THE HERTFORDSHIRE (A507 CLOTHALL ROAD, BALDOCK, CLOTHALL AND RUSHDEN, A507 BALDOCK ROAD, RUSHDEN, COTTERED AND BUNTINGFORD) (7.5 TONNES WEIGHT LIMIT) ORDER 2023

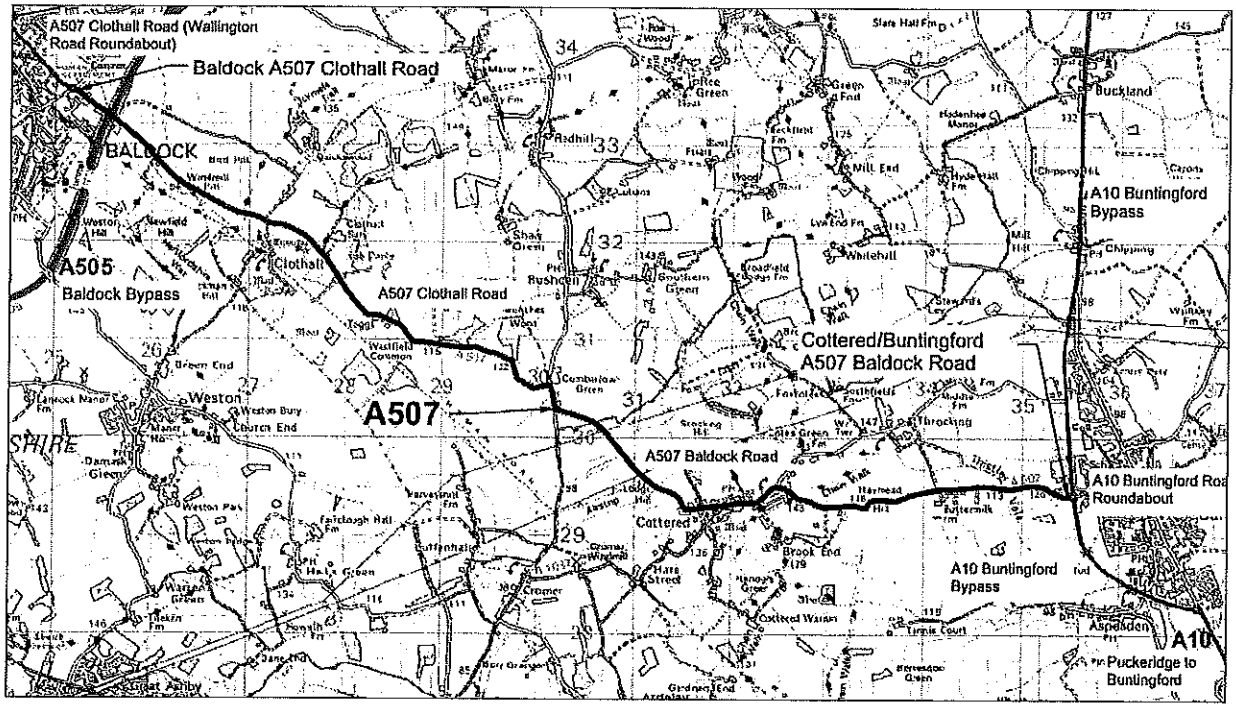
NOTICE is given that the Hertfordshire County Council in order to improve road safety proposes under the Road Traffic Regulation Act 1984 to introduce a new 7.5 tonnes weight limit in parts of Baldock, Clothall, Rushden, Cottered and Buntingford as specified in the Schedule to this Notice.

Documents giving more detailed particulars of the proposals may be inspected from 20 July 2023 during normal office hours, at Main Reception, Hertfordshire County Council, County Hall, Pegs Lane, Hertford, or may be viewed on-line at www.hertfordshire.gov.uk/trafficorders by selecting North Herts and looking at Ref: NH00323

General enquiries relating to the proposals should be referred to the Highways Engineer concerned Miltiadis Nikolaidis tel: 01992 658157 or miltos.nikolaidis@hertfordshire.gov.uk

Objections to the proposals should be made **in writing** to TRO Team, Postal Point (CHO242), First Floor, East Link Corridor, County Hall, Pegs Lane, Hertford, Herts, SG13 8DN or tro.team@hertfordshire.gov.uk by 10 August 2023 stating the grounds on which they are made.

SCHEDULE: 7.5 tonnes weight limit – affecting those sections of road herein listed and as set out in the Order and accompanying plan – A507 Clothall Road, Baldock, Clothall and Rushden, A507 Baldock Road, Rushden, Cottered and Buntingford.



Consulting on this scheme is a statutory duty of the County Council. Any personal data you provide in responding to this Notice will be treated as confidential but will be shared with HCC Officers; County Councillors and contracted third parties who are involved in the statutory process. We will not share identifiable data with third parties outside of the statutory process. Guidance on your rights in respect of personal data are published in the Privacy Policy on our website, Hertfordshire.gov.uk

County Hall
Hertford
Herts SG13 8DN · Deputy Chief Executive & Executive Director (Resources)

20 July 2023
Scott Crudgington

Appendix B

WALKING AND CYCLING ISOCHRONES

Date Modified: 26/06/2022

Drawn By: UKSXB076

Key

- Site Layout
- 0 to 5 Minutes (0 - 1000 Metres)
- 5 to 10 Minutes (1000 - 2000 Metres)
- 10 to 15 Minutes (2000 - 3000 Metres)
- 15 to 20 Minutes (3000 - 4000 Metres)
- 20 to 25 Minutes (4000 - 5000 Metres)

Cycle Isochrone is based on an average speed of 12kph (7.5mph) 200m per minute

0 0.2 0.4 0.8 1.2 1.6 Kilometres

wsp

TITLE:

CYCLING ISOCHRONE

FIGURE NO:

FIGURE 3.5

File: Q:\WSP_UK\WSP_D\Hertford\70007498 - West Buntingford\Cycling Isochrone.mxd

Date Modified: 20/10/2014

Drawn By: UKSXB076

Key

- Site Layout
- Town Centre
- Bus Stops
- Supermarket Facility
- Millfield First School
- Layston First School
- Edwinstree Middle School
- Freman College
- Access Points
- 0 to 5 Minutes (0 - 400 Metres)
- 5 to 10 Minutes (400 - 800 Metres)
- 10 to 15 Minutes (800 - 1200 Metres)
- 15 to 20 Minutes (1200 - 1600 Metres)
- 20 to 25 Minutes (1600 - 2000 Metres)

Walk Isochrone is based on an average speed of 4.8kph (3mph) 80m per minute

0 0.075 0.15 0.3 0.45 0.6 Kilometres

wsp

TITLE:

WALKING ISOCHRONE

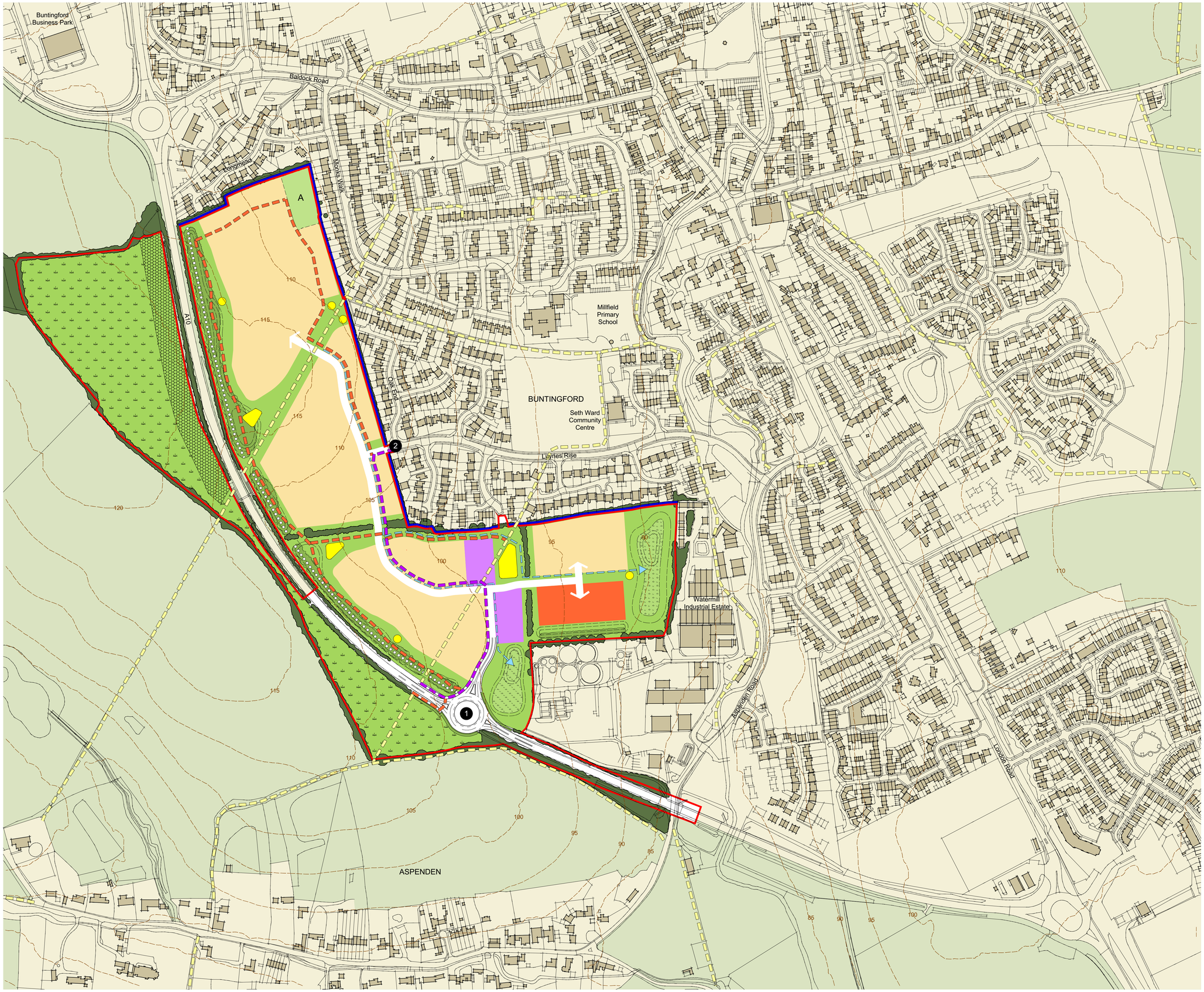
FIGURE NO:

FIGURE 3.3

File: Q:\WSP_UK\WSP_D\Hertford\70007498 - West Buntingford\Walking Isochrone.mxd

Appendix D

INDICATIVE MASTERPLAN



NOTES

0 50 100 150 200m

N

KEY

- Application boundary
- Land under the control of the applicant
- Residential
  - Up to 350 dwellings at approx. 35 dwellings per hectare average
- Employment
  - Use Classes E and B8
- Local Centre
  - Use Class E
- Children's Equipped Play Area
- A — Allotments
- Recreational Route
- Footway Cycleway
- Existing Public Right of Way
- Indicative Acoustic Fence on Bund with Proposed Planting
- Indicative Attenuation Feature
- Potential Swale
- Retained agricultural land
- Ecological enhancement area
- 1 — Proposed vehicular, pedestrian and cycle access from A10
- 2 — Proposed bus link, pedestrian and cycle access from Luynes Rise

rev	date	description	drn	chk
P05	08/06/2023	Access updated	CTH	KMN
P04	06/06/2023	Roundabout added	CTH	KMN
P03	26/05/2023	Title block and key amended.	JMG	KMN
P02	19/05/2023	A10 access amended; minor amendments.	JMG	KMN
P01	21/04/2023	First issue.	JMG	KMN

masterplanning
environmental assessment
landscape design
urban design
ecology
architecture
arboriculture

FPCR Environment and Design Ltd
Lockington Hall
Lockington
Derby
DE74 2RH

t: 01509 672772
e: mail@fpcr.co.uk
w: www.fpcr.co.uk

client
Countryside Partnerships and Vistry Homes

project
Buntingford West,
Buntingford, Hertfordshire

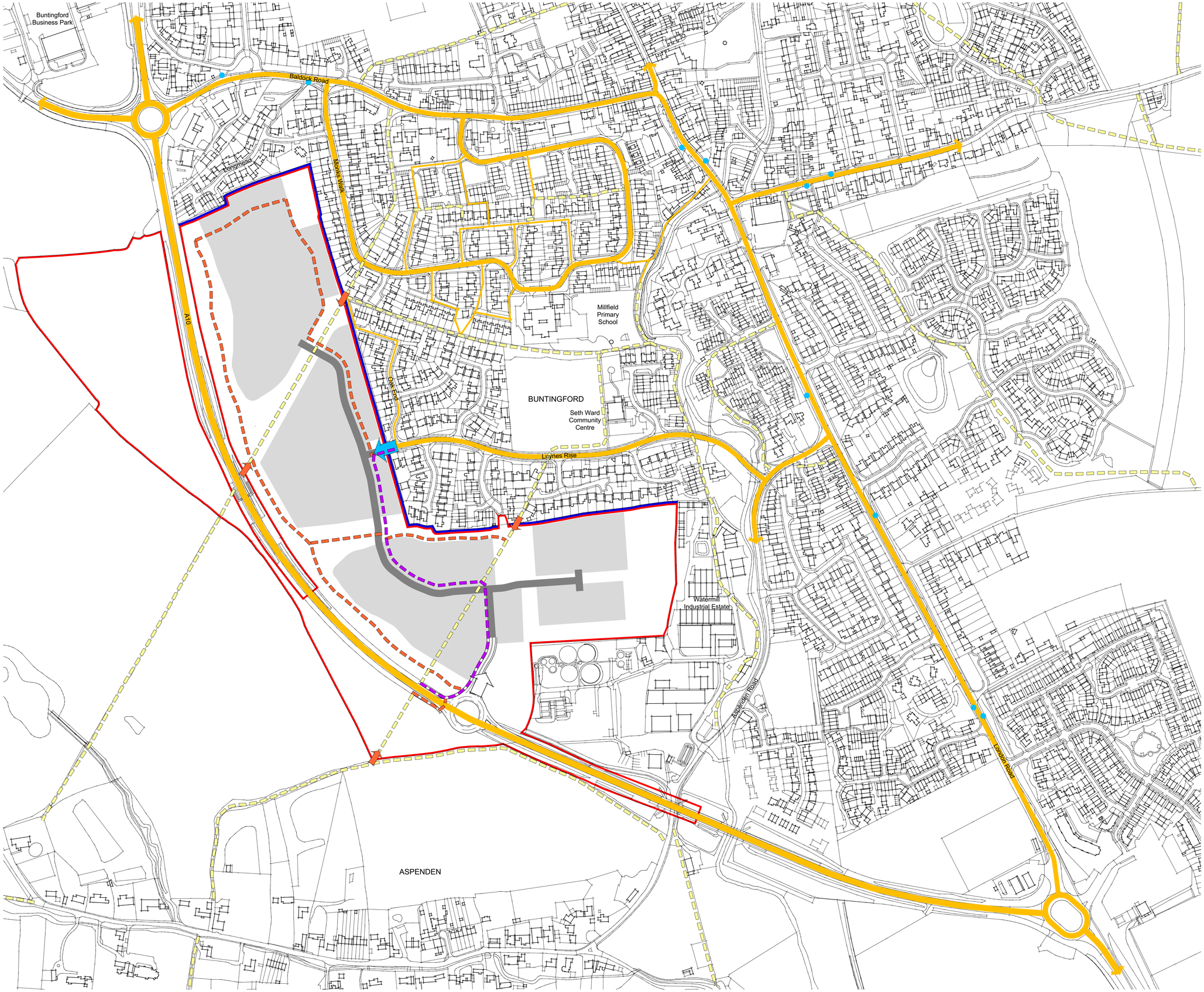
drawing title
DEVELOPMENT FRAMEWORK PLAN

scale	dm	chk	date created
1:2500 @ A1	JMG	KMN	April 2023

project number	status	issue
10537	S3	P05

document number
10537-FPCR-XX-XX-DR-A-1002
Project Code - Originator - Zone - Level - Type - Role - Drawing Number

File: \\FPCR-FS-01\Projects2\10500\10537\ARCH\Drawings\10537-FPCR-XX-XX-DR-A-1002-P04_DFP.vwx



NOTES

0 50 100 150 200m

N

KEY

- Application boundary
- Land under the control of the applicant
- Proposed vehicular, pedestrian and cycle access from A10
- Proposed bus link, pedestrian and cycle access from Luynes Rise
- Proposed pedestrian point of access
- Proposed primary street
- Proposed footway cycleway
- Proposed recreational route
- Existing Public Right of Way
- Existing bus stop
- Selected existing off site route

NOTE

All proposed streets and routes are indicative alignments and subject to future approvals

rev	date	description	drn	chk
P04	08/06/2023	Roundabout added	CTH	KMN
P03	26/05/2023	Title block and key amended.	JMG	KMN
P02	19/05/2023	A10 access amended; minor amendments	JMG	KMN
P01	21/04/2023	First issue.	JMG	KMN

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environmental assessment
landscape design
urban design
ecology
architecture
arboriculture

FPCR Environment and Design Ltd
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Lockington
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DE74 2RH

t: 01509 672772
e: mail@fpcr.co.uk
w: www.fpcr.co.uk

client
Countryside Partnerships and Vistry Homes

project
Buntingford West,
Buntingford, Hertfordshire

drawing title
PARAMETERS PLAN 2:
ACCESS & MOVEMENT

scale	drn	chk	date created
1:2500 @ A1	JMG	KMN	April 2023

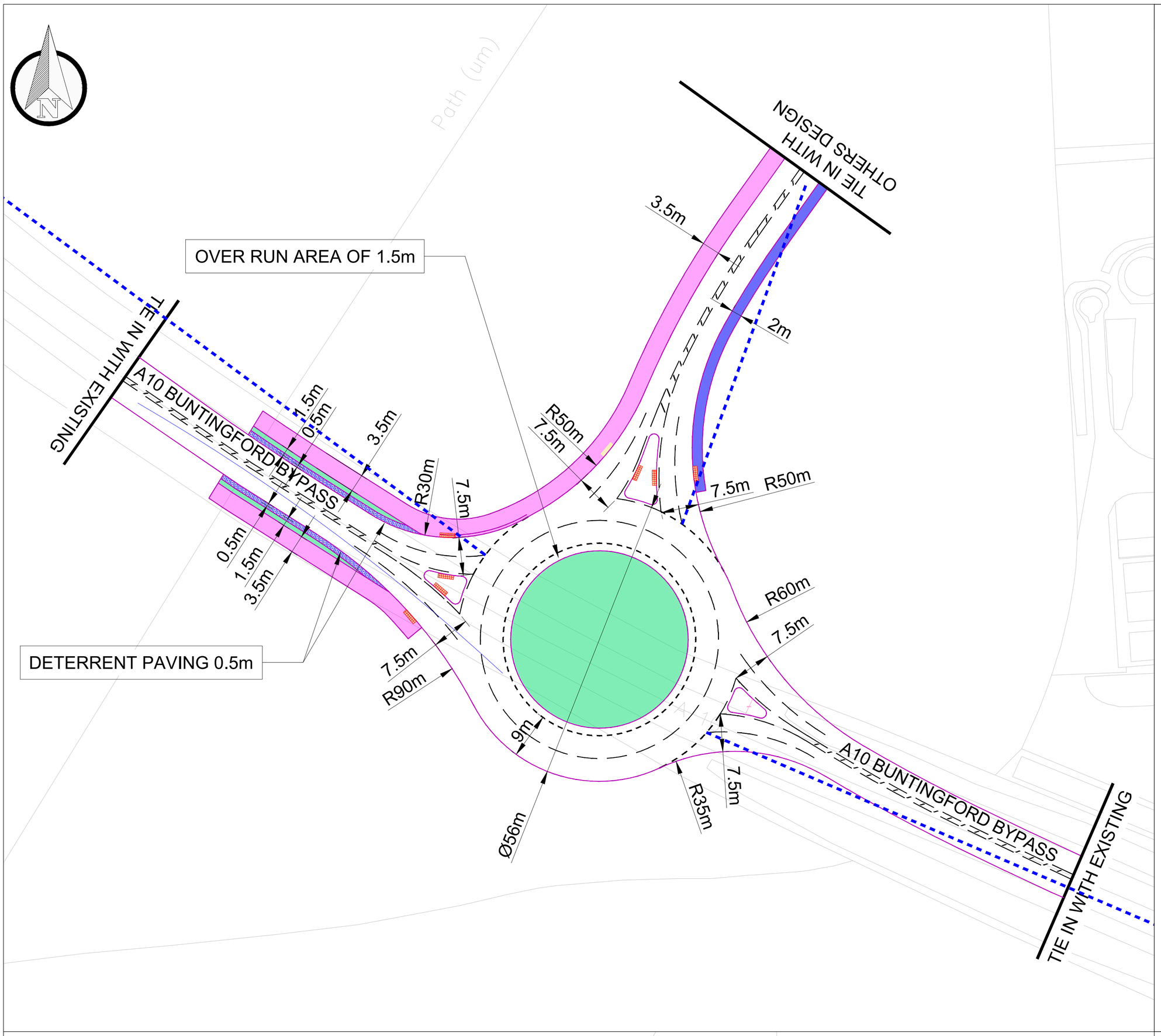
project number	status	issue
10537	S3	P04

document number
10537-FPCR-XX-XX-DR-A-1004
Project Code - Originator - Zone - Level - Type - Role - Drawing Number

File: \\FPCR-FS-01\Projects\10500\10537\ARCH\Drawings\10537-FPCR-XX-XX-DR-A-1004-P04_ParametersPlan2Acc

Appendix D.1

SITE ACCESS ARRANGEMENT



DO NOT SCALE

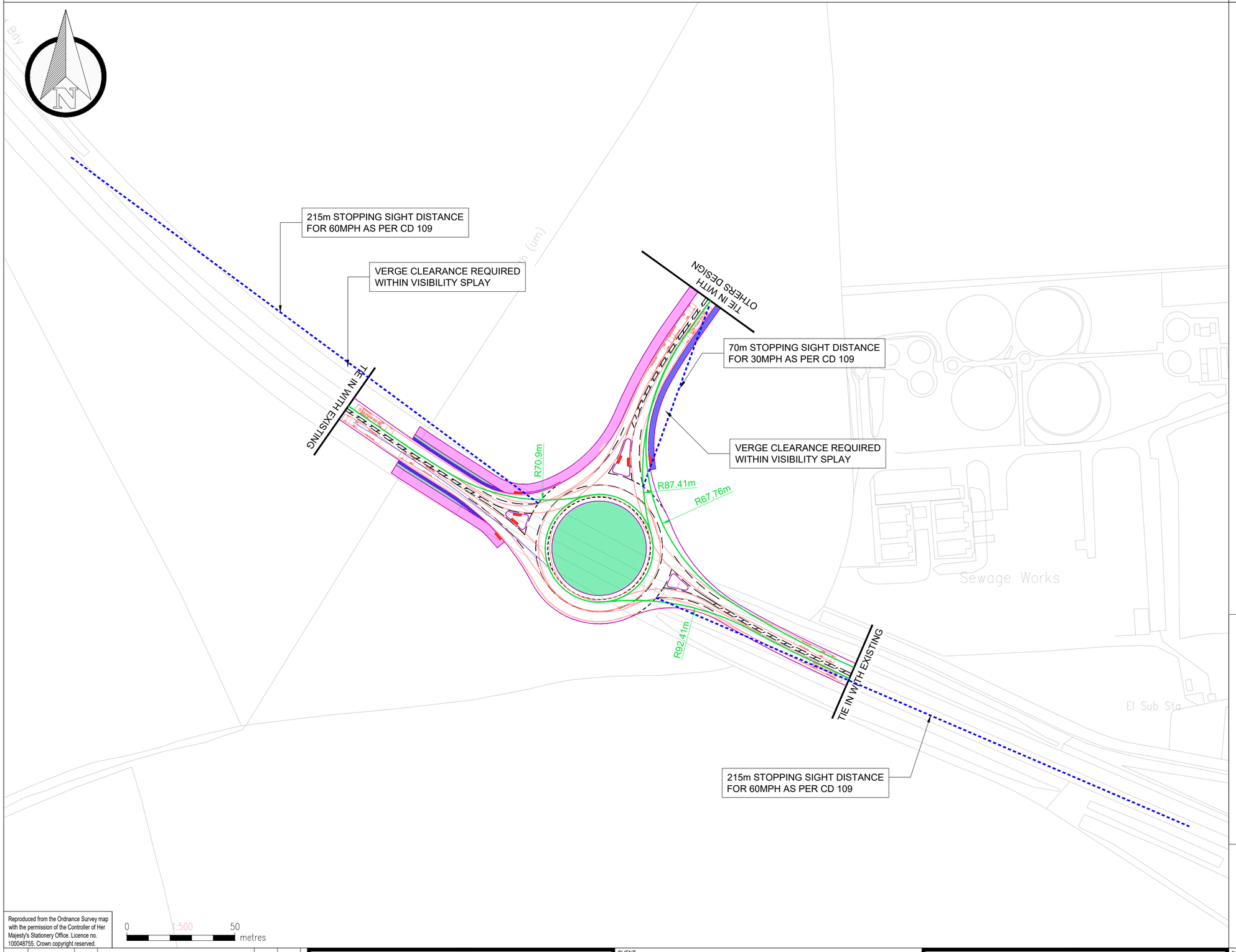
NOTES:

1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE STATED.
2. PROPOSED LAYOUT IS DEVELOPED BASED ON THE OS MAP INFORMATION.
3. DUE TO UNAVAILABILITY OF TOPOGRAPHICAL SURVEY INFORMATION, IMPACT ON EXISTING UTILITIES HAS NOT BEEN UNDERTAKEN FOR THIS DESIGN STAGE.
4. ALL PROPOSALS CONCEPT FOR CLIENT INPUT AND SUBJECT TO TRAFFIC MODELING.

KEY:

- PROPOSED KERB LINE
- ENTRY PATH RADIUS
- VISIBILITY SPLAY
- PROPOSED FOOTWAY
- VERGE
- SHARED USE PATH
- PROPOSED TACTILE PAVING
- DETERRENT PAVING

DO NOT SCALE



NOTES:

1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE STATED.
2. PROPOSED LAYOUT IS DEVELOPED BASED ON THE OS MAP INFORMATION.
3. DUE TO UNAVAILABILITY OF TOPOGRAPHICAL SURVEY INFORMATION, IMPACT ON EXISTING UTILITIES HAS NOT BEEN UNDERTAKEN FOR THIS DESIGN STAGE.
4. ALL PROPOSALS CONCEPT FOR CLIENT INPUT AND SUBJECT TO TRAFFIC MODELING.

KEY:

- PROPOSED KERB LINE
- ENTRY PATH RADIUS
- VISIBILITY SPLAY
- PROPOSED FOOTWAY
- VERGE
- SHARED USE PATH
- PROPOSED TACTILE PAVING
- DETERRENT PAVING

0 1:500 50 metres

REV	DATE	BY	DESCRIPTION	CHK	APD

DRAWING STATUS: FOR INFORMATION ONLY

WSP
Unit 9, The Chase, John Tate Road
Foxholes Business Park, Hertford SG13 7NN
Tel: +44 (0)1992 526000 Fax: +44 (0)1992 526001
http://www.wspgroup.com

CLIENT: VISTRY HOMES

ARCHITECT: FPCR

PROJECT: WEST BUNTINGFORD

TITLE: POTENTIAL ROUNDABOUT ACCESS TO A10

SCALE @ A1:	CHECKED:	APPROVED:
1:500	GG	DG
CAD FILE:	DESIGN-DRAWN:	DATE:
7498-GA-02 REV G.DWG	VM	JUNE- 2023

PROJECT No:	DRAWING No:	REV:
7008893	7498-GA-02 REV G	F

Appendix D.2

RSA AND DESIGNERS RESPONSE

Vistry Homes Ltd

LAND AT BUNTINGFORD WEST

Stage 1 Road Safety Audit Response Report

RSA-01
JULY 2023

PUBLIC

Bovis Homes

LAND AT BUNTINGFORD WEST

Stage 1 Road Safety Audit Response Report

TYPE OF DOCUMENT (VERSION) PUBLIC

PROJECT NO. 70088938

OUR REF. NO. RSA-01

DATE: JULY 2023

WSP

Unit 9, The Chase
John Tate Road, Foxholes Business Park
Hertford
SG13 7NN

Phone: +44 1992 526 000

Fax: +44 1992 526 001

WSP.com

QUALITY CONTROL

Issue/revision	First issue	Revision 1	Revision 2	Revision 3
Remarks	Final			
Date	July 2023			
Prepared by	G Gasinu			
Signature				
Checked by	D Gooding			
Signature				
Authorised by	M Ahmet			
Signature				
Project number	70088938			
Report number				
File reference				

CONTENTS

APPENDICES

1 INTRODUCTION

1.1 FOREWORD

1.1.1. This Stage 1 Road Safety Audit Response Report has been prepared by WSP in response to Hertfordshire County Council's Stage 1 Road Safety Audit Report dated July 2023 (ref DC3/163/2023) relating to the proposed access from the A10 to land at Buntingford West.

1.1.2. The Stage 1 Road Safety Audit was undertaken in accordance with the requirements of the GG119 Road Safety Audit (version 2, Volume 5 Part 2 of the Design Manual for Roads and Bridges), and the report from the Auditors is contained in Appendix A.

1.2 SCHEME DESCRIPTION

1.2.1. The scheme that is subject to the Stage 1 Road Safety Audit is the proposed roundabout access junction from the A10 Buntingford Bypass to the proposed development on land west of Buntingford. It is understood that the principal of a roundabout in this location may have previously been agreed. The scheme drawing is included in Appendix B.

1.3 KEY PERSONNEL

Overseeing Organisation	Hertfordshire County Council
RSA Team (Hertfordshire County Council)	Kathryn Carman Hertfordshire County Council Audit Team Leader Highway Safety Team Ema Jones Hertfordshire County Council Audit Team Member Highway Safety Team
Design Organisation (WSP)	Designer: Mekala, Veeresh S1 Response Reviewer 1: Gideon Gasinu BSc MSc MCIHT GMICE S1 Response Reviewer 2: David Gooding MEng (hons) CMILT MCIHT MTPS GMICE

1.4 REPORT STRUCTURE

The remainder of this report responds to this issues that were raised in the Stage 1 RSA report.

2 DESIGNER'S RESPONSE

2.1 INTRODUCTION

2.1.1. The Stage 1 Road Safety Audit identified 6 problems of which 3 are general (1, 4 and 6) and 3 are specific (2, 3 and 5). These are summarised below with respective responses.

2.2 PROBLEM 1

Location: A10 Buntingford Bypass – Approaches to Proposed roundabout junction
RSA Problem *"Restricted forward visibility may increase the risk of collisions between road users.* *It is unclear if sufficient forward visibility to the proposed junction will be achievable for all approaches to the junction, due to the alignment of the carriageway and extensive vegetation. Insufficient forward visibility may increase the risk of sudden braking and subsequent collisions between road users on approach to the junction. This is especially of concern on the south-eastbound approach as it appears to be on a downhill left-hand bend."*
RSA Recommendation *"Ensure sufficient forward visibility is provided and maintained."*
Designer Organisation Response As indicated on the submitted drawing 7498-GA-02 REV F an SSD to the stop line for a design speed of 60mph (215m) has been shown as achievable on both the north and southbound approaches. Equally a 70m SSD has been demonstrated as achievable from the site access. Regarding the south-eastbound approach, it should be noted on drawing 7498-GA-02 REV F that the area required for verge clearance within the visibility splay has been clearly indicated. This area is within the applicant's ownership and the vegetation will be removed as well as any future planting will be outside the required visibility splays. For additional safety, appropriate skid resistant surfacing will also be provided at the junction and will be specified/ shown at the detailed design stage.

2.3 PROBLEM 2

Location: Eastern side of crossing on development access arm
RSA Problem *Restricted intervisibility may increase the risk of crossing users being struck by*

road users. *It is unclear if sufficient intervisibility will be achievable on the eastern side of the uncontrolled crossing due to the alignment of the carriageway and existing/ proposed vegetation.* *Insufficient intervisibility at this location may increase the risk of crossing users being struck by road users.*
RSA Recommendation *"Ensure sufficient intervisibility is provided and maintained."*
Designer Organisation Response Existing vegetation will be removed and proposed vegetation will be outside the visibility splays to ensure sufficient visibility.

2.4 PROBLEM 3

Location*:* North-eastern quadrant of roundabout
RSA Problem *Limited entry/ roundabout deflection may increase the risk of speed related collisions between road users.* *There is limited entry path deflection for road users exiting the development site and travelling east (left). This may increase the risk of road users entering the roundabout at inappropriate speeds, losing control, and subsequently colliding with other road users/ highway infrastructure.*
RSA Recommendation *"Provide appropriate deflection between the northern and eastern arms of the junction for road users exiting the development site and travelling east."*
Designer Organisation Response In line with DMRB CD116, all entry path deflections on drawing 7498-GA-02 REV F have been kept below 100m. Drawing 7498-GA-02 REV G has been updated to now show the deflection to the east.

2.5 PROBLEM 4

Location*:* Throughout scheme
RSA Problem *Restricted visibility to signage may increase the risk of collisions between road users.*

No signage information has been provided which is commensurate for this stage of audit. However, the audit team are concerned that additional land take may be required to facilitate suitable placement of signage due to extensive vegetation and the alignment of the A10, which may restrict forward visibility to any proposed signage. This may increase the risk of road user confusion, sudden braking, and subsequent collisions between road users on approach to, or at, the junction.
RSA Recommendation *"Ensure all signage is visible to approaching road users.."*
Designer Organisation Response Most of the land along the A10 within the scheme area is within the ownership of the client (see redline boundary at Appendix B), appropriate space can therefore be made available to accommodate signage as necessary. At the detailed design stage all necessary signage will be appropriately situated to ensure they are visible to approaching road users.

2.6 PROBLEM 5

Location*:* Western arm of roundabout
RSA Problem *Shared route connections may increase the risk of collisions involving non-motorised users.* *It is understood that the shared routes are proposed to connect with the existing footpaths 02 and 26 on either side of the A10. The audit team have the following concerns regarding the proposed shared route connections at this location:* *• The connection between the footpaths and the shared routes are currently unknown and if sufficient warning is not provided this may increase the risk of non-motorised users inadvertently entering the live carriageway (when joining from the existing footpaths).* *• The provision of a shared route at both footpath connections may encourage non-motorised users to cross the A10 carriageway at unsafe locations.* *• The shared route connections with the footpaths may encourage cyclists to cycle along the footpaths, increasing the risk of collisions between non-motorised users.*
RSA Recommendation *"Ensure the shared route connections do not encourage unsafe non-motorised user behaviour.."*
Designer Organisation Response The following have been provided as responses to the points above respectively: 1. Sufficient warning will be provided by way of signages. This will be detailed at the detail design stage.

2. The footpath connection is existing with no safe formal crossing opportunity. The proposal will introduce a formal safe crossing point. To ensure non-motorised road users cross at the dedicated crossing point, the grass verge has been provided as a buffer to deter illicit crossing. Further to this, deterrent paving will be provided along the grass verge to provide added deterrence. This is shown on drawing 7498-GA-02 REV G attached at Appendix C. Additionally, appropriate signages will be provided to direct non-motorised users to the safe crossing point.
3. Signage will be provided to direct cyclist to the shared route which is also the most direct and so most attractive to cyclist. This will encourage and also direct cyclist to the appropriate dedicated route.

2.7 PROBLEM 6

Location: Throughout scheme

RSA Problem

Absence of maintenance areas may increase the risk of collisions between maintenance users and other highway users.

No maintenance areas have been identified within the scheme proposals. As such, there is the concern that maintenance activities may be undertaken at risk, whereby maintenance operatives/ vehicles may conflict with other highway users and subsequent collisions may occur.

RSA Recommendation

"Ensure maintenance areas, that do not pose highway safety concerns, are provided throughout the junction.."

Designer Organisation Response

Most of the area around the proposed junction (see Appendix B) is within the applicant's control, suitable maintenance areas, that do not pose highway safety concerns will therefore be provided throughout the junction. Details will be provided at the detailed design stage

2.8 CONCLUSION

The Stage 1 Road Safety Audit Report raised 6 safety problem, which have been responded to and the necessary adjustments made to the access drawing. A revised drawing is enclosed at Appendix C.

Appendix A

RSA REPORT

Land at Buntingford West Buntingford

Stage 1 Road Safety Audit Report

Approved for Release By

Name: Linda Irons MCIHT, MSoRSA
Title: Principal Engineer, Highway Safety

Prepared by:
Hertfordshire County Council
County Hall, Pegs Lane, Hertford
Hertfordshire, SG13 9DQ
Telephone: 01992 555555

Date: July 2023
RSA Ref: DC3/163/2023

This sheet is for quality assurance purposes only. It is not a requirement of the audit.

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Land at Buntingford West Buntingford

Stage 1 Road Safety Audit Report

Reference: DC3/163/2023

Prepared by:
Hertfordshire County Council
County Hall, Pegs Lane, Hertford
Hertfordshire, SG13 9DQ
Telephone: 01992 555555

Date: July 2023
RSA Ref: DC3/163/2023

1. Introduction

1.1. This report results from a Stage 1 Road Safety Audit carried out for a proposal to provide Section 278 works associated with this development in Buntingford, at the request of Vistry Homes Ltd the Project Sponsor. The audit brief was accepted, and the audit was carried out during July 2023.

1.2. The audit team membership for this audit was:

Kathryn Carman Audit Team Leader	Hertfordshire County Council Highway Safety Team
Ema Jones Audit Team Member (Certificate of Competency)	Hertfordshire County Council Highway Safety Team

1.3. The Road Safety Audit took place at the registered Hertford offices of Hertfordshire County Council. The audit was undertaken in accordance with the audit brief contained in the Request for Services submission provided by Gideon Gasinu at WSP. The audit comprised of an examination of the documents produced by the Design Team, as listed in the Appendices of this report. These documents consisted of a set of drawings, which show the extent of the works to be carried out under the scheme.

A visit to the site was made by the audit team on the afternoon of Thursday 6 July 2023. During the site visit the weather was fine with a dry carriageway surface. Traffic flows were light and non-motorised user activity throughout the area was observed to be very light.

1.4. The terms of reference for this Road Safety Audit are as described in GG119 Revision 2 (Volume 5, Section 2, Part 2 of The Design Manual for Roads and Bridges). The audit team has examined and reported only on the road safety implications to road users of the scheme as presented. The audit team has not examined or verified the highway layout described by the audit brief for this scheme for compliance with any other standards or criteria.

1.5. All safety comments and recommendations are referenced to the Problem Location Plan held in Section 2 (Figure 1) and Appendix III (Figure 3) of this report.

1. Introduction

1.6. The scheme comprises of the following elements:

- A new three arm roundabout on the A10, with dual lane entries, exits and circulatory.
- 3.5m wide shared route along the western side of the development access and both sides of the A10 for a short section.
- Uncontrolled crossings, with dropped kerbs and tactile paving, on the western and northern arms of the junction.

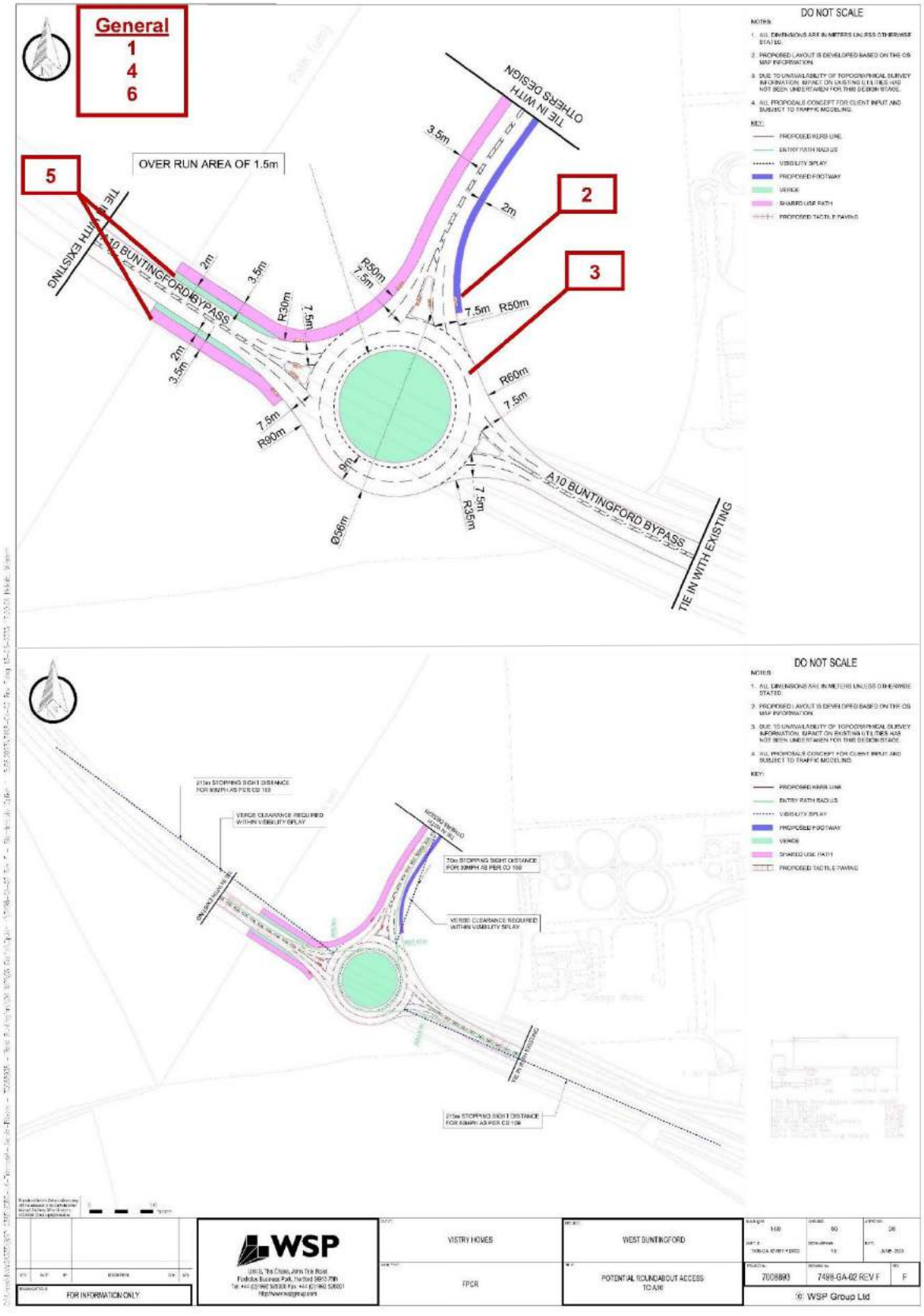
1.7. No Departures from Standards have been submitted as part of this audit brief.

1.8. The audit team have reviewed the most recent five years personal injury collision data for the location.

1.9. A previous Stage 1 Road Safety Audit was carried out in June 2022 (Reference: DC3/167/2022). However, the design proposals have altered significantly since this was undertaken.

2. Items raised at this Stage 1 Road Safety Audit Report

Figure 1: Problem Location Plan (extract of image Figure 3, Appendix III)



2. Items raised at this Stage 1 Road Safety Audit

Problem 1

Location: All approaches to roundabout

Summary: Restricted forward visibility may increase the risk of collisions between road users.

It is unclear if sufficient forward visibility to the proposed junction will be achievable for all approaches to the junction, due to the alignment of the carriageway and extensive vegetation. Insufficient forward visibility may increase the risk of sudden braking and subsequent collisions between road users on approach to the junction. This is especially of concern on the south-eastbound approach as it appears to be on a downhill left-hand bend.

Recommendation

Ensure sufficient forward visibility is provided and maintained.

Problem 2

Location: Eastern side of crossing on development access arm

Summary: Restricted intervisibility may increase the risk of crossing users being struck by road users.

It is unclear if sufficient intervisibility will be achievable on the eastern side of the uncontrolled crossing due to the alignment of the carriageway and existing/ proposed vegetation. Insufficient intervisibility at this location may increase the risk of crossing users being struck by road users.

Recommendation

Ensure sufficient intervisibility is provided and maintained.

2. Items raised at this Stage 1 Road Safety Audit

Problem 3

Location: North-eastern quadrant of roundabout

Summary: Limited entry/ roundabout deflection may increase the risk of speed related collisions between road users.

There is limited entry path deflection for road users exiting the development site and travelling east (left). This may increase the risk of road users entering the roundabout at inappropriate speeds, losing control, and subsequently colliding with other road users/ highway infrastructure.

Recommendation

Provide appropriate deflection between the northern and eastern arms of the junction for road users exiting the development site and travelling east**.**

Problem 4

Location: Throughout scheme

Summary: Restricted visibility to signage may increase the risk of collisions between road users.

No signage information has been provided which is commensurate for this stage of audit. However, the audit team are concerned that additional land take may be required to facilitate suitable placement of signage due to extensive vegetation and the alignment of the A10, which may restrict forward visibility to any proposed signage. This may increase the risk of road user confusion, sudden braking, and subsequent collisions between road users on approach to, or at, the junction.

Recommendation

Ensure all signage is visible to approaching road users.

2. Items raised at this Stage 1 Road Safety Audit

Problem 5

Location: Western arm of roundabout

Summary: Shared route connections may increase the risk of collisions involving non-motorised users.

It is understood that the shared routes are proposed to connect with the existing footpaths 02 and 26 on either side of the A10. The audit team have the following concerns regarding the proposed shared route connections at this location:

- The connection between the footpaths and the shared routes are currently unknown and if sufficient warning is not provided this may increase the risk of non-motorised users inadvertently entering the live carriageway (when joining from the existing footpaths).
- The provision of a shared route at both footpath connections may encourage non-motorised users to cross the A10 carriageway at unsafe locations.
- The shared route connections with the footpaths may encourage cyclists to cycle along the footpaths, increasing the risk of collisions between non-motorised users.

Recommendation

Ensure the shared route connections do not encourage unsafe non-motorised user behaviour.

Problem 6

Location: Throughout scheme

Summary: Absence of maintenance areas may increase the risk of collisions between maintenance users and other highway users.

No maintenance areas have been identified within the scheme proposals. As such, there is the concern that maintenance activities may be undertaken at risk, whereby maintenance operatives/ vehicles may conflict with other highway users and subsequent collisions may occur.

Recommendation

Ensure maintenance areas, that do not pose highway safety concerns, are provided throughout the junction.

----------End of the 'Safety Comments' section ----------

3. Audit Team Statement

3.1. We certify that this audit has been carried out in accordance with GG119.

Audit Team Leader

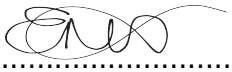
Kathryn Carman MCIHT, MSoRSA
Engineer
Hertfordshire County Council
Highway Safety, County Hall, Pegs Lane, Hertford, Hertfordshire, SG13 8DN

Signed  .....

Dated 14/07/2023.....

Audit Team Member

Ema Jones MCIHT, MSoRSA
Senior Engineer
Hertfordshire County Council
Highway Safety, County Hall, Pegs Lane, Hertford, Hertfordshire, SG13 8DN

Signed  .....

Dated .....14/07/2023.....

Appendix I

Documents included in the Audit Brief

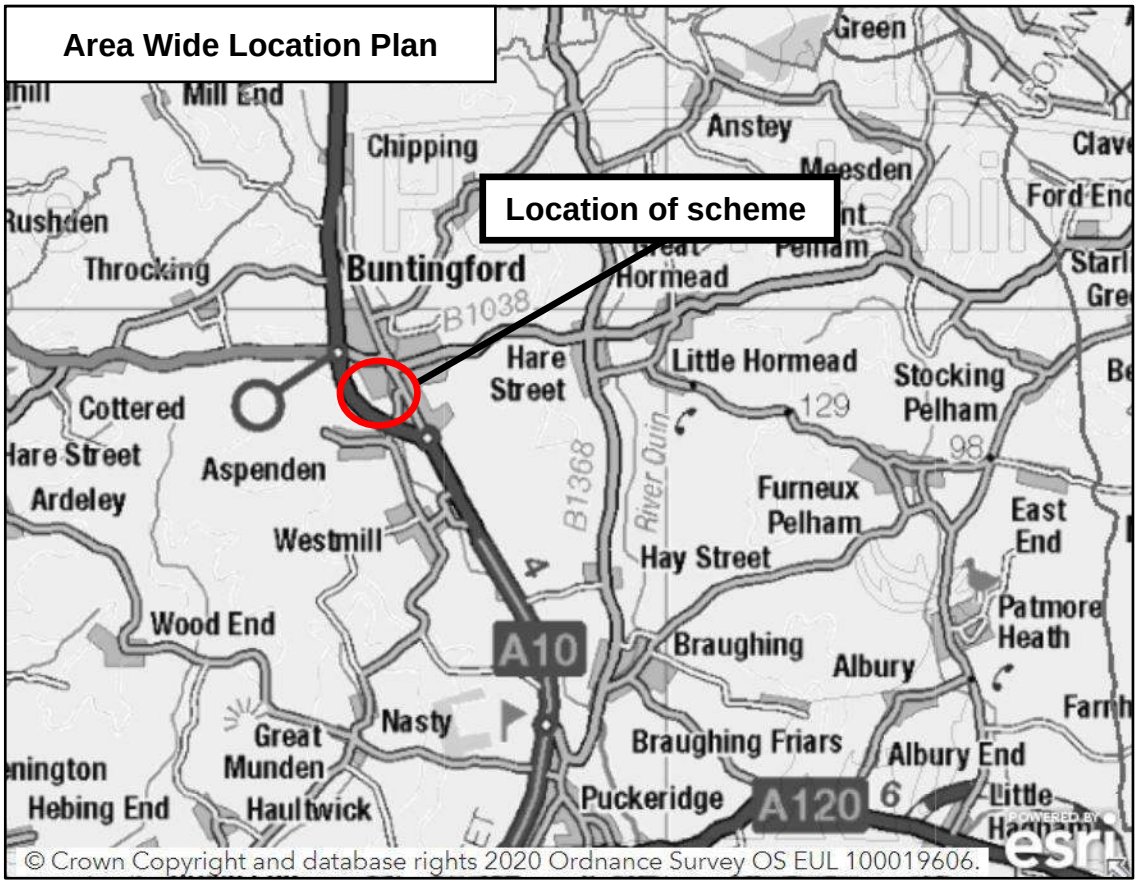
Drawing Title	Drawing Number
Potential Roundabout Access to A10	7498-GA-02 Rev.F

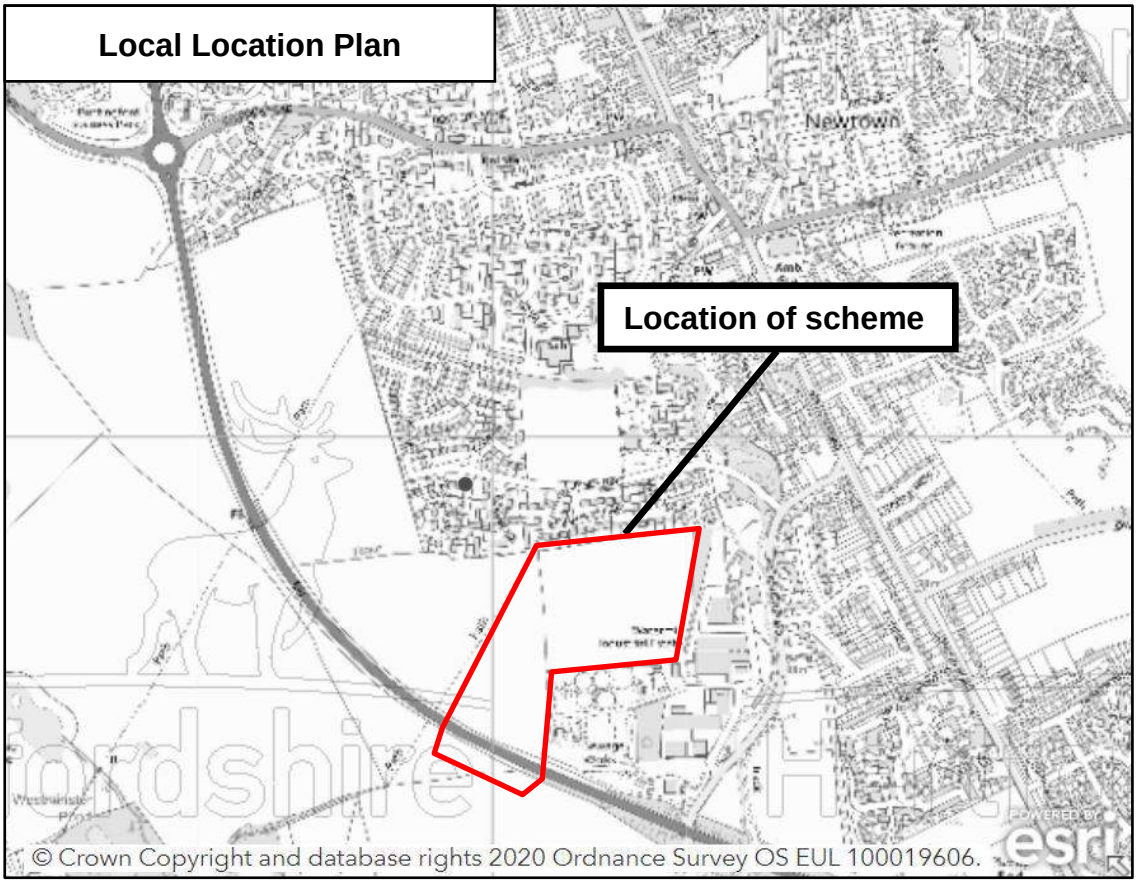
Other Documents

1. Stage 1 Road Safety Audit. Reference: DC3/167/2022.

Appendix II

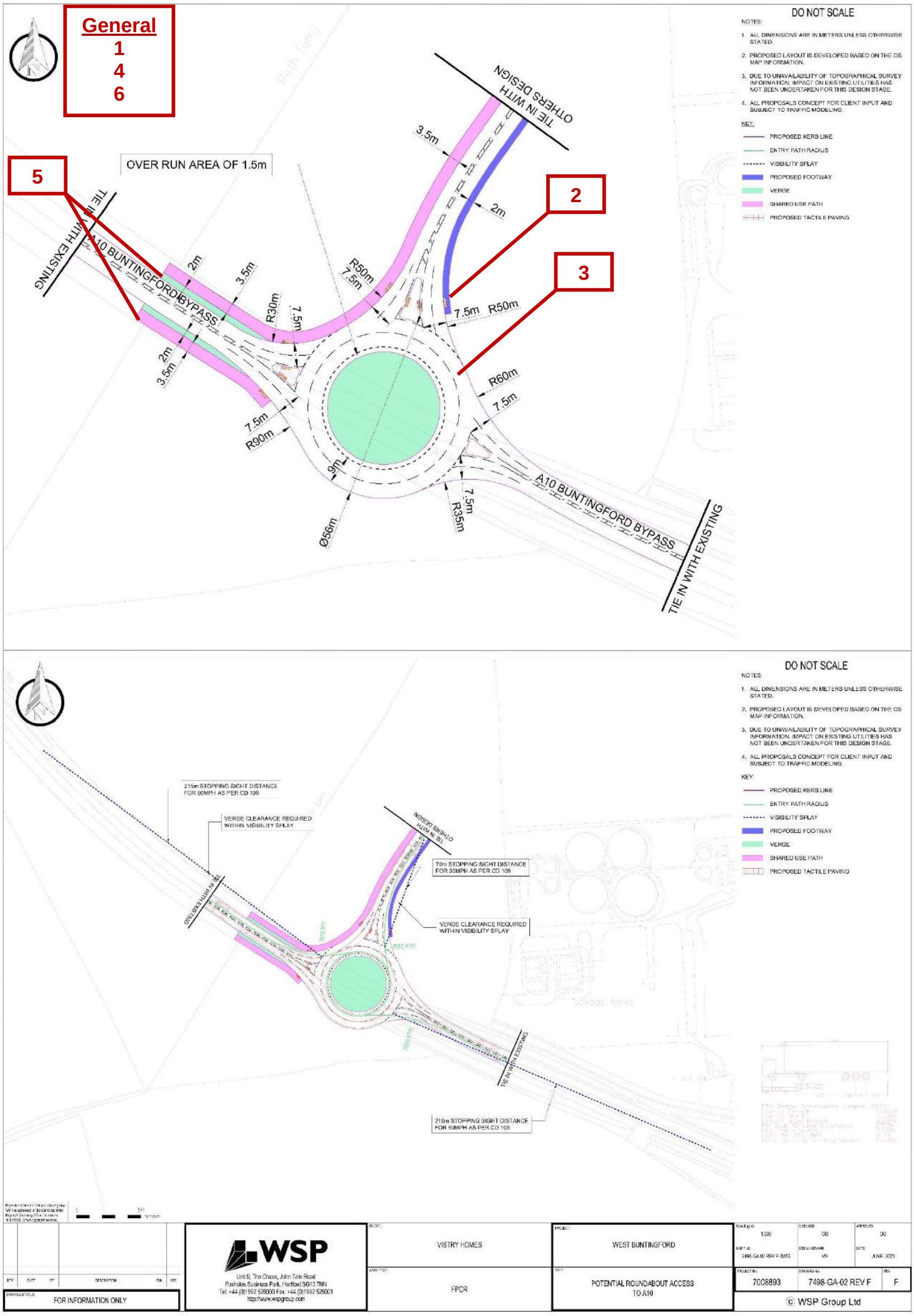
Figure 2: Location Plan





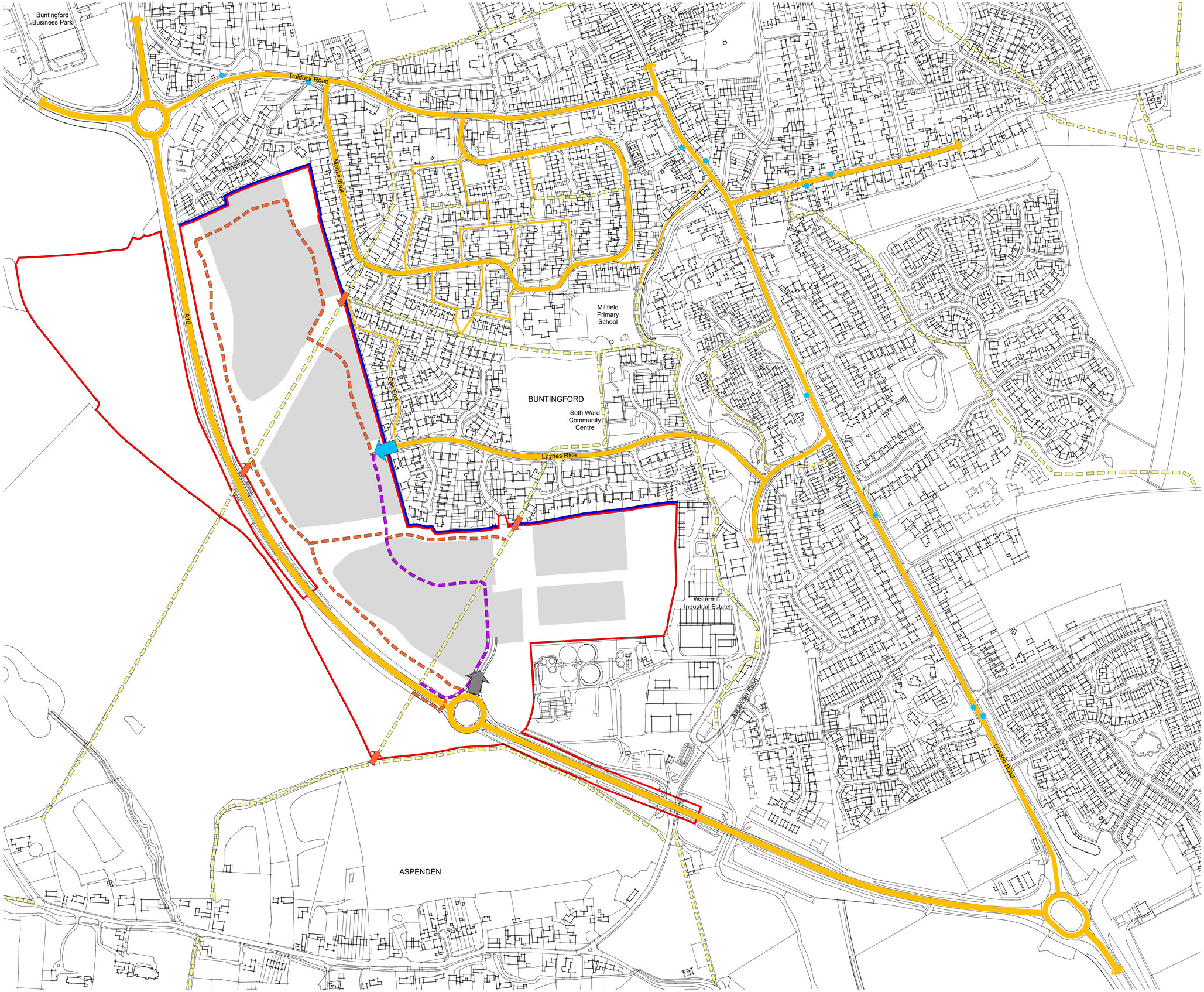
Appendix III

Figure 3: Problem Location Plan



Appendix B

SITE REDLINE BOUNDARY AND INDICATIVE PARAMETER PLAN



NOTES

0 50 100 150 200m

N

KEY

- Application boundary
- Land under the control of the applicant
- Proposed vehicular, pedestrian and cycle access from A10
- Proposed bus link, pedestrian and cycle access from Luynes Rise
- Proposed pedestrian point of access
- Proposed footway cycleway
- Proposed recreational route
- Existing Public Right of Way
- Existing bus stop
- Selected existing off site route

NOTE

All proposed streets and routes are indicative alignments and subject to future approvals

rev	date	description	drn	chk
P05	13/06/2023	Proposed primary street omitted; key amended.	JMG	KMN
P04	08/06/2023	Roundabout added	CTH	KMN
P03	26/05/2023	Title block and key amended.	JMG	KMN
P02	19/05/2023	A10 access amended; minor amendments	JMG	KMN
P01	21/04/2023	First issue.	JMG	KMN

masterplanning
environmental assessment
landscape design
urban design
ecology
architecture
arboriculture

FPCR Environment and Design Ltd
Lockington Hall
Lockington
Derby
DE74 2RH

t: 01509 672772
e: mail@fpcr.co.uk
w: www.fpcr.co.uk

client
Countryside Partnerships and Vistry Homes

project
Buntingford West,
Buntingford, Hertfordshire

drawing title
PARAMETERS PLAN 2:
ACCESS & MOVEMENT

scale	drn	chk	date created
1:2500 @ A1	JMG	KMN	April 2023

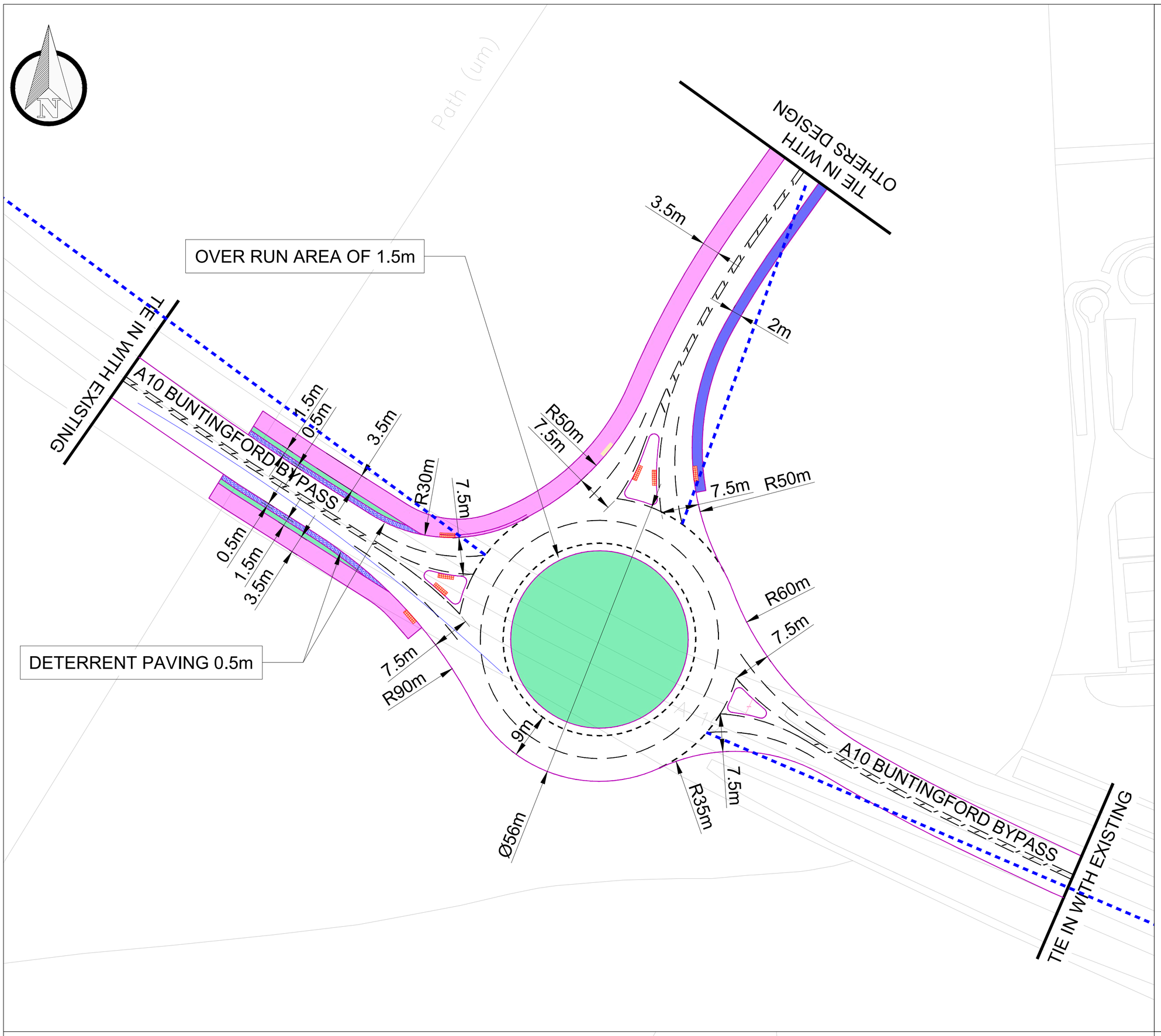
project number	status	issue
10537	S3	P05

document number
10537-FPCR-XX-XX-DR-A-1004
Project Code - Originator - Zone - Level - Type - Role - Drawing Number

File: L:\10500\10537\ARCH\Drawings\10537-FPCR-XX-XX-DR-A-1004-P05_ParametersPlan2Access.vwx

Appendix C

SCHEME DRAWING



DO NOT SCALE

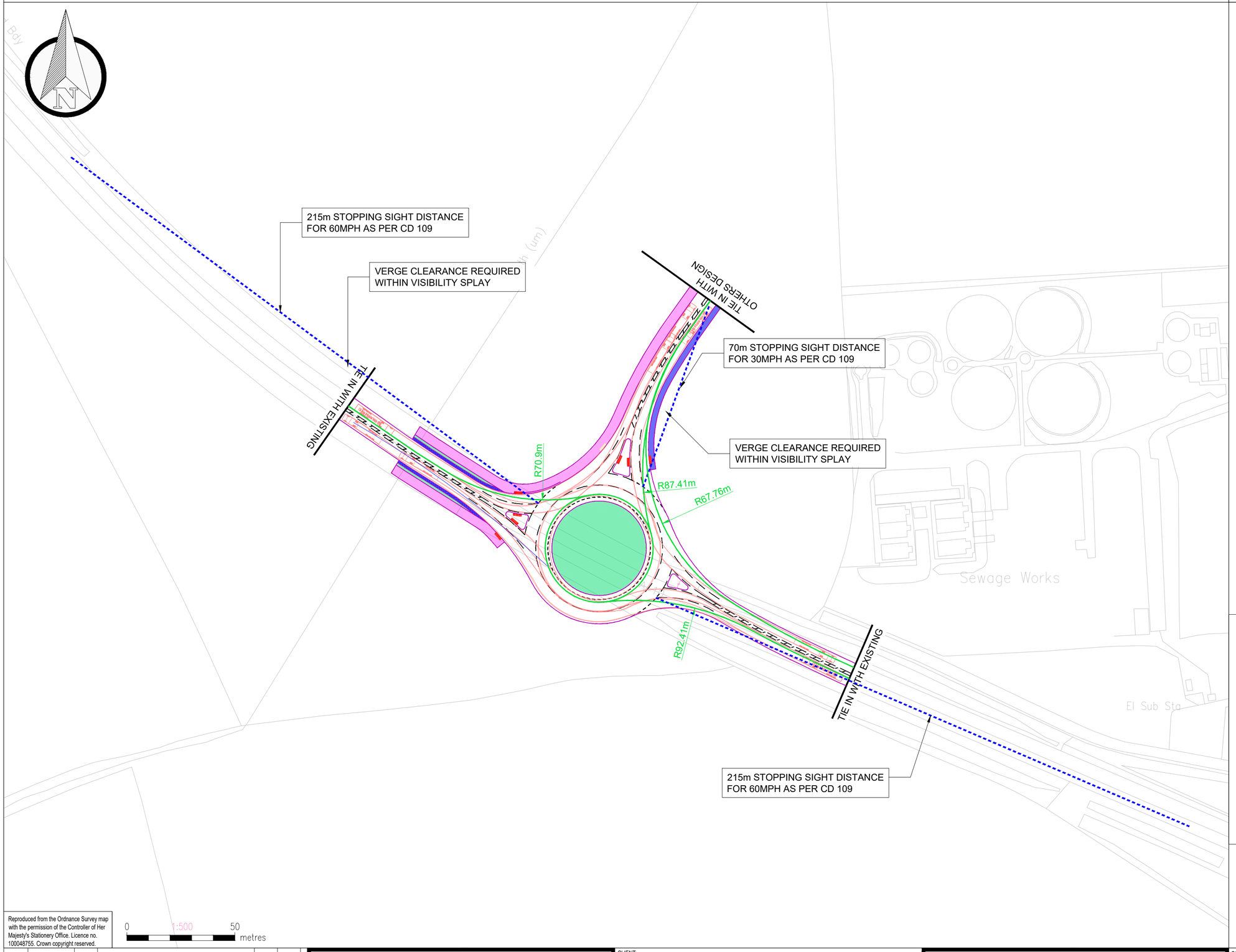
NOTES:

1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE STATED.
2. PROPOSED LAYOUT IS DEVELOPED BASED ON THE OS MAP INFORMATION.
3. DUE TO UNAVAILABILITY OF TOPOGRAPHICAL SURVEY INFORMATION, IMPACT ON EXISTING UTILITIES HAS NOT BEEN UNDERTAKEN FOR THIS DESIGN STAGE.
4. ALL PROPOSALS CONCEPT FOR CLIENT INPUT AND SUBJECT TO TRAFFIC MODELING.

KEY:

- PROPOSED KERB LINE
- ENTRY PATH RADIUS
- VISIBILITY SPLAY
- PROPOSED FOOTWAY
- VERGE
- SHARED USE PATH
- PROPOSED TACTILE PAVING
- DETERRENT PAVING

DO NOT SCALE



NOTES:

1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE STATED.
2. PROPOSED LAYOUT IS DEVELOPED BASED ON THE OS MAP INFORMATION.
3. DUE TO UNAVAILABILITY OF TOPOGRAPHICAL SURVEY INFORMATION, IMPACT ON EXISTING UTILITIES HAS NOT BEEN UNDERTAKEN FOR THIS DESIGN STAGE.
4. ALL PROPOSALS CONCEPT FOR CLIENT INPUT AND SUBJECT TO TRAFFIC MODELING.

KEY:

- PROPOSED KERB LINE
- ENTRY PATH RADIUS
- VISIBILITY SPLAY
- PROPOSED FOOTWAY
- VERGE
- SHARED USE PATH
- PROPOSED TACTILE PAVING
- DETERRENT PAVING

0 1:500 50 metres

REV	DATE	BY	DESCRIPTION	CHK	APD

DRAWING STATUS: FOR INFORMATION ONLY

WSP
Unit 9, The Chase, John Tate Road
Foxholes Business Park, Hertford SG13 7NN
Tel: +44 (0)1992 526000 Fax: +44 (0)1992 526001
http://www.wspgroup.com

CLIENT: VISTRY HOMES

ARCHITECT: FPCR

PROJECT: WEST BUNTINGFORD

TITLE: POTENTIAL ROUNDABOUT ACCESS TO A10

SCALE @ A1:	CHECKED:	APPROVED:
1:500	GG	DG
CAD FILE:	DESIGN-DRAWN:	DATE:
7498-GA-02 REV G.DWG	VM	JUNE- 2023

PROJECT No:	DRAWING No:	REV:
7008893	7498-GA-02 REV G	F

Unit 9, The Chase
John Tate Road, Foxholes Business Park
Hertford
SG13 7NN

wsp.com

Appendix C

PERSONAL INJURY COLLISION PLOT

A10 Buntingford Bypass, London Road, Station Road, High Street, Baldock Road, Hare Street Road Buntingford

Legend

Accidents by Severity from 1 Oct 2016 to 30 Sep 2021

- Fatal
- Serious
- Slight

Selection Boundary

N W E S

Ref:25449			
	Prepared	Checked	Approved
Initials	AN	AN	
Date	08/02/2022	08/02/2022	

Hertfordshire

Full Confidential Accident Report

Date Produced: *08-Feb-22*

Set Name (if saved) : 25449 **Set Total :** 13

Accident Details:

Acc Ref:	2021-411082247	**1st / 2nd Rd:**	A10/170 NONE	**Jun Detail:**	Notjunct	**Weather:**	Fine	**Num Cas:**	1
Day of Week:	Wed	**Parish:**		**Jun Control:**	Notjunct	**Light:**	Darknone	**Num Peds:**	1
Date:	25/08/2021 21:30:00	**District:**	EHerts	**Spec Conditions:**	None	**Road Surface:**	Dry	**Num Vehicles:**	2
Acc Severity:	Serious	**Speed Limit:**	60mph	**C/way Hazard:**	None	**C/way Type:**	Single	**Ped Xing:**	Npernox
A10 Buntingford Bypass 400m South Rbt J/w A507 Baldock Road								**On Site:**	Yes

V2 Car Assume S/bound Stopped In C/way To Assist Pedestrian Who Was Lying Down In C/way. V1 Car Assume Trav South Collided With O/s V2 And Ran Over Pedestrian

Easting: 535633 **Northing:** 228979

Casualty Details

Acc Ref:	2021-411082247	**Cas Class:**	Pedestri	**Car Passenger:**	No	**Cas Severity:**	Serious	**Ped Movement:**	Cwaystil
Veh Ref:	1	**Cas Age:**	23	**PSV Passenger:**	No	**Road User Class:**	Pedestrians	**Ped Location:**	Ctrcway
Cas Ref:	1	**Cas Gender:**	Female	**Seat Belt:**	Notapp	**School Pupil:**		**Ped Work on Rd:**	Notapp

Vehicle Details

Acc Ref:	156387	**Maneouvre:**	Otakesta	**Skiding:**	None	**Impact Point:**	Front	**Driver Breath Test:**	Negati	**Driver Age:**	31
Veh Ref:	1	**Location:**	Carw	**Object in Cway:**	Parked	**From:**	N	**Hit and Run:**	Nothtrun		
Veh Type:	Car	**Junction:**	Notjunct	**Object off Cway**	None	**To:**	S	**Driver Gender:**	Male		
Foreign Veh:		**Towing;**	None	**velcwy**	No	**J Purpose:**	Other	**Driver Severity:**	None		
Acc Ref:		**Maneouvre:**	Parked	**Skiding:**	None	**Impact Point:**	Offside	**Driver Breath Test:**	Negati	**Driver Age:**	55
Veh Ref:	2	**Location:**	Carw	**Object in Cway:**	None	**From:**	P	**Hit and Run:**	Nothtrun		
Veh Type:	Car	**Junction:**	Notjunct	**Object off Cway**	None	**To:**	P	**Driver Gender:**	Male		
Foreign Veh:		**Towing;**	None	**velcwy**	No	**J Purpose:**	Other	**Driver Severity:**	None		

Accident Details:

Acc Ref: 2021-411061623	**1st / 2nd Rd:** C170/40 B1038/1	**Jun Detail:** Mini	**Weather:** Fine	**Num Cas:** 1
Day of Week: Thu	**Parish:**	**Jun Control:** Giveway	**Light:** Day	**Num Peds:** 0
Date: 24/06/2021 12:52:00	**District:** EHerts	**Spec Conditions:** None	**Road Surface:** Dry	**Num Vehicles:** 2
Acc Severity: Slight	**Speed Limit:** 30mph	**C/way Hazard:** None	**C/way Type:** Single	**Ped Xing:** Nperzebx
C170 Station Road Buntingford Mini Rbt J/w B1038 Hare Street Road				**On Site:** No-self

Both Vs Cars. V1 Trav North On Station Road Has Entered Rbt & Collided With N/s V2 Turning Right From V1 O/s Across Jct. V1 Fts

Easting: 536349 **Northing:** 229280

Contributory Factors

Participant	Confidence	Factor 1	2	3	4	5	6
V 1	B	Flookdri	Speeding				

Casualty Details

Acc Ref: 2021-411061623	**Cas Class:** Driver	**Car Passenger:** No	**Cas Severity:** Slight	**Ped Movement:** Notped
Veh Ref: 2	**Cas Age:** 19	**PSV Passenger:** No	**Road User Class:** Car Users	**Ped Location:** Notped
Cas Ref: 1	**Cas Gender:** Male	**Seat Belt:** Unknown	**School Pupil:**	**Ped Work on Rd:** Notped

Vehicle Details

Acc Ref:	156167	**Maneouvre:**	Ahead	**Skiding:**	None	**Impact Point:**	Front	**Driver Breath Test:**	Notcon	**Driver Age:**	
Veh Ref:	1	**Location:**	Carw	**Object in Cway:**	None	**From:**	S	**Hit and Run:**	Hit&run		
Veh Type:	Car	**Junction:**	Er/about	**Object off Cway**	None	**To:**	N	**Driver Gender:**	Unknown		
Foreign Veh:		**Towing;**	None	**velcwy**	No	**J Purpose:**	Unknown	**Driver Severity:**	None		
Acc Ref:		**Maneouvre:**	Ahead	**Skiding:**	None	**Impact Point:**	Nearside	**Driver Breath Test:**	Notcon	**Driver Age:**	19
Veh Ref:	2	**Location:**	Carw	**Object in Cway:**	None	**From:**	E	**Hit and Run:**	Nothtrun		
Veh Type:	Car	**Junction:**	Middle	**Object off Cway**	None	**To:**	N	**Driver Gender:**	Male		
Foreign Veh:		**Towing;**	None	**velcwy**	No	**J Purpose:**	Unknown	**Driver Severity:**	Slight		

Accident Details:

Acc Ref:	2020-410958551	**1st / 2nd Rd:**	A10/172 A10/170	**Jun Detail:**	R/bout	**Weather:**	Fine	**Num Cas:**	1
Day of Week:	Thu	**Parish:**		**Jun Control:**	Giveway	**Light:**	Day	**Num Peds:**	0
Date:	18/06/2020 19:05:00	**District:**	EHerts	**Spec Conditions:**	None	**Road Surface:**	Dry	**Num Vehicles:**	2
Acc Severity:	Slight	**Speed Limit:**	60mph	**C/way Hazard:**	None	**C/way Type:**	R/bout	**Ped Xing:**	Npernox
A10 London Road Rbt Buntingford J/w A10 Buntingford By Pass								**On Site:**	Yes

Both Vs Trav Nw On A10 Have Entered The Rbt With V2 M/c Over 500cc Overtaking V1 Car. V2 Has Begun To Turn Left Onto Buntingford By Pass & V1 Car Has Continued Straight Ahead & N/s V12 & O/s V1 Have Collided

Easting: 536791 **Northing:** 228284

Contributory Factors

Participant	Confidence	Factor 1	2	3	4	5	6
V 1	A	Flookdri				Poorindi	Distrcin
V 2	A		Misspeed				
V 2	B			Tooclose	Slipnowe		

Casualty Details

Acc Ref:	2020-410958551	**Cas Class:**	Driver	**Car Passenger:**	No	**Cas Severity:**	Slight	**Ped Movement:**	Notped
Veh Ref:	2	**Cas Age:**	50	**PSV Passenger:**	No	**Road User Class:**	Motorcyclists	**Ped Location:**	Notped
Cas Ref:	1	**Cas Gender:**	Male	**Seat Belt:**	Notapp	**School Pupil:**		**Ped Work on Rd:**	Notped

Vehicle Details

Acc Ref:	154644	**Maneouvre:**	Ahead	**Skiding:**	None	**Impact Point:**	Offside	**Driver Breath Test:**	Negati	**Driver Age:**	65
Veh Ref:	1	**Location:**	Carw	**Object in Cway:**	None	**From:**	Se	**Hit and Run:**	Nothtrun		
Veh Type:	Car	**Junction:**	Middle	**Object off Cway**	None	**To:**	N	**Driver Gender:**	Male		
Foreign Veh:		**Towing;**	None	**velcwy**	No	**J Purpose:**	Other	**Driver Severity:**	None		
Acc Ref:		**Maneouvre:**	Turnleft	**Skiding:**	None	**Impact Point:**	Nearside	**Driver Breath Test:**	Ntprov	**Driver Age:**	50
Veh Ref:	2	**Location:**	Carw	**Object in Cway:**	None	**From:**	Se	**Hit and Run:**	Nothtrun		
Veh Type:	Mc>500	**Junction:**	Lr/about	**Object off Cway**	None	**To:**	W	**Driver Gender:**	Male		
Foreign Veh:		**Towing;**	None	**velcwy**	No	**J Purpose:**	Other	**Driver Severity:**	Slight		

Accident Details:

Acc Ref: 2019-410921481	**1st / 2nd Rd:** B1038/3 3U1784/	**Jun Detail:**	T	**Weather:**	Fine	**Num Cas:**	1
Day of Week: Thu	**Parish:**	**Jun Control:**	Giveway	**Light:**	Day	**Num Peds:**	1
Date: 12/12/2019 08:25:00	**District:** EHerts	**Spec Conditions:**	None	**Road Surface:**	Wet	**Num Vehicles:**	1
Acc Severity: Slight	**Speed Limit:** 30mph	**C/way Hazard:**	None	**C/way Type:**	Single	**Ped Xing:**	Npernox
B1038 Baldock Road Buntingford J/w U1784 Meeting Place Lane						**On Site:**	No

V1 Car Trav East On Baldock Road Has Left C/way O/s Onto Footway & Collided With Child Ped. V1 Fts

Easting: 536151 **Northing:** 229422

Contributory Factors

Participant	Confidence	Factor 1	2	3	4	5	6
V 1	A	Flookdri					
V 1	B		Reckdriv				

Casualty Details

Acc Ref: 2019-410921481	**Cas Class:** Pedestri	**Car Passenger:**	No	**Cas Severity:**	Slight	**Ped Movement:**	Unknown
Veh Ref: 1	**Cas Age:** 10	**PSV Passenger:**	No	**Road User Class:**	Pedestrians	**Ped Location:**	Footway
Cas Ref: 1	**Cas Gender:** Male	**Seat Belt:**	Notapp	**School Pupil:**		**Ped Work on Rd:**	Notapp

Vehicle Details

Acc Ref:	153950	**Maneouvre:**	Ahead	**Skiding:**	None	**Impact Point:**	Offside	**Driver Breath Test:**	Notcon	**Driver Age:**	
Veh Ref:	1	**Location:**	Fway	**Object in Cway:**	None	**From:**	W	**Hit and Run:**	Hit&run		
Veh Type:	Car	**Junction:**	Middle	**Object off Cway**	None	**To:**	E	**Driver Gender:**	Unknown		
Foreign Veh:		**Towing;**	None	**velcwy**	Offside	**J Purpose:**	Unknown	**Driver Severity:**	None		

Accident Details:

Acc Ref:	2019-410906830	**1st / 2nd Rd:**	C170/25 NONE	**Jun Detail:**	Notjunct	**Weather:**	Fine	**Num Cas:**	1
Day of Week:	Sun	**Parish:**		**Jun Control:**	Notjunct	**Light:**	Darklit	**Num Peds:**	0
Date:	13/10/2019 18:50:00	**District:**	3Rivers	**Spec Conditions:**	None	**Road Surface:**	Dry	**Num Vehicles:**	2
Acc Severity:	Slight	**Speed Limit:**	30mph	**C/way Hazard:**	None	**C/way Type:**	Single	**Ped Xing:**	Npernox

C170 High Street Buntingford O/s No 56 & Approx 60m Nw J/w C12 Church Street — **On Site:** Yes

Both Vs Cars. V2 Trav Nw On High Street Has Been Hit To F/n/s By V1 Pulling Out Of Parking Bay To V2 N/s Causing V2 To Leave C/way O/s Into Wall Of No 56 & Overturning

Easting: 536171 **Northing:** 229615

Contributory Factors

Participant	Confidence	Factor 1	2	3	4	5	6
V 1	B	Flookdri	Misspeed				
V 2	B			Flookdri			

Casualty Details

Acc Ref:	2019-410906830	**Cas Class:**	Driver	**Car Passenger:**	No	**Cas Severity:**	Slight	**Ped Movement:**	Notped
Veh Ref:	2	**Cas Age:**	18	**PSV Passenger:**	No	**Road User Class:**	Car Users	**Ped Location:**	Notped
Cas Ref:	1	**Cas Gender:**	Female	**Seat Belt:**	Wornnot	**School Pupil:**		**Ped Work on Rd:**	Notped

Vehicle Details

Acc Ref:	153709	**Maneouvre:**	Starting	**Skiding:**	None	**Impact Point:**	Front	**Driver Breath Test:**	Negati	**Driver Age:**	37
Veh Ref:	1	**Location:**	Carw	**Object in Cway:**	None	**From:**	Se	**Hit and Run:**	Nothtrun		
Veh Type:	Car	**Junction:**	Notjunct	**Object off Cway**	None	**To:**	Nw	**Driver Gender:**	Male		
Foreign Veh:		**Towing;**	None	**velcwy**	No	**J Purpose:**	Other	**Driver Severity:**	None		
Acc Ref:		**Maneouvre:**	Ahead	**Skiding:**	Overturn	**Impact Point:**	Nearside	**Driver Breath Test:**	Negati	**Driver Age:**	18
Veh Ref:	2	**Location:**	Carw	**Object in Cway:**	None	**From:**	Se	**Hit and Run:**	Nothtrun		
Veh Type:	Car	**Junction:**	Notjunct	**Object off Cway**	Wall	**To:**	Nw	**Driver Gender:**	Female		
Foreign Veh:		**Towing;**	None	**velcwy**	Offside	**J Purpose:**	Other	**Driver Severity:**	Slight		

Accident Details:

Acc Ref: 2019-410886758	**1st / 2nd Rd:** C170/10 3U2070/	**Jun Detail:**	T	**Weather:**	Fine	**Num Cas:**	2
Day of Week: Tue	**Parish:**	**Jun Control:**	Giveway	**Light:**	Day	**Num Peds:**	0
Date: 10/09/2019 07:48:00	**District:** EHerts	**Spec Conditions:**	None	**Road Surface:**	Dry	**Num Vehicles:**	2
Acc Severity: Slight	**Speed Limit:** 60mph	**C/way Hazard:**	None	**C/way Type:**	Single	**Ped Xing:**	Npernox
C170 Ermine Street Buntingford J/w U2010 Norris Way						**On Site:**	Yes

Both Vs Cars. V1 Trav North On Ermine Street Overtaking Parked Cars To N/s Has Collided With V2 Turning Right Out Of Norris Way To V1 N/s Across Path V1

Easting: 535875 **Northing:** 230232

Contributory Factors

Participant	Confidence	Factor 1	2	3	4	5	6
V 1	A		Statvehi				
V 2	A			Statvehi			
V 2	B	Newdrivr					

Casualty Details

Acc Ref: 2019-410886758	**Cas Class:** Driver	**Car Passenger:**	No	**Cas Severity:**	Slight	**Ped Movement:**	Notped
Veh Ref: 1	**Cas Age:** 41	**PSV Passenger:**	No	**Road User Class:**	Car Users	**Ped Location:**	Notped
Cas Ref: 1	**Cas Gender:** Female	**Seat Belt:**	Wornnot	**School Pupil:**		**Ped Work on Rd:**	Notped
Acc Ref: 2019-410886758	**Cas Class:** Driver	**Car Passenger:**	No	**Cas Severity:**	Slight	**Ped Movement:**	Notped
Veh Ref: 2	**Cas Age:** 21	**PSV Passenger:**	No	**Road User Class:**	Car Users	**Ped Location:**	Notped
Cas Ref: 2	**Cas Gender:** Female	**Seat Belt:**	Wornnot	**School Pupil:**		**Ped Work on Rd:**	Notped

Vehicle Details

Acc Ref:	153394	**Maneouvre:**	Otakesta	**Skiding:**	None	**Impact Point:**	Front	**Driver Breath Test:**	Notreq	**Driver Age:**	41
Veh Ref:	1	**Location:**	Carw	**Object in Cway:**	None	**From:**	Se	**Hit and Run:**	Nothtrun		
Veh Type:	Car	**Junction:**	Middle	**Object off Cway**	None	**To:**	Nw	**Driver Gender:**	Female		
Foreign Veh:		**Towing;**	None	**velcwy**	No	**J Purpose:**	Work	**Driver Severity:**	Slight		

Acc Ref:		**Maneouvre:**	Turnrigh	**Skiding:**	None	**Impact Point:**	Front	**Driver Breath Test:**	Notreq	**Driver Age:**	21
Veh Ref:	2	**Location:**	Carw	**Object in Cway:**	None	**From:**	W	**Hit and Run:**	Nothtrun		
Veh Type:	Car	**Junction:**	Emain	**Object off Cway**	None	**To:**	E	**Driver Gender:**	Female		
Foreign Veh:		**Towing;**	None	**velcwy**	No	**J Purpose:**	Work	**Driver Severity:**	Slight		

Accident Details:

Acc Ref:	2018-410802571	**1st / 2nd Rd:**	A10/172 A10/170	**Jun Detail:**	R/bout	**Weather:**	Fine	**Num Cas:**	1
Day of Week:	Tue	**Parish:**		**Jun Control:**	Giveway	**Light:**	Darklit	**Num Peds:**	0
Date:	06/11/2018 20:19:00	**District:**	EHerts	**Spec Conditions:**	None	**Road Surface:**	Dry	**Num Vehicles:**	2
Acc Severity:	Slight	**Speed Limit:**	60mph	**C/way Hazard:**	None	**C/way Type:**	R/bout	**Ped Xing:**	Npernox
A10 London Road Rbt Buntingford J/w A10 Buntingford By Pass								**On Site:**	Yes

V1 M/c Over 500cc Trav North On Rbt Has Collided With O/s V2 Car Entering Rbt From Buntingford By Pass To V1 N/s Across Path V1

Easting: 536791 **Northing:** 228302

Contributory Factors

Participant	Confidence	Factor 1	2	3	4	5	6
V 2	A	Flookdri	Misspeed	Flookdri	Misspeed		

Casualty Details

Acc Ref:	2018-410802571	**Cas Class:**	Driver	**Car Passenger:**	No	**Cas Severity:**	Slight	**Ped Movement:**	Notped
Veh Ref:	1	**Cas Age:**	21	**PSV Passenger:**	No	**Road User Class:**	Motorcyclists	**Ped Location:**	Notped
Cas Ref:	1	**Cas Gender:**	Male	**Seat Belt:**	Notapp	**School Pupil:**		**Ped Work on Rd:**	Notped

Vehicle Details

Acc Ref:	152035	**Maneouvre:**	Ahead	**Skiding:**	None	**Impact Point:**	Front	**Driver Breath Test:**	Notreq	**Driver Age:**	21
Veh Ref:	1	**Location:**	Carw	**Object in Cway:**	None	**From:**	Se	**Hit and Run:**	Nothtrun		
Veh Type:	Mc>500	**Junction:**	Middle	**Object off Cway**	None	**To:**	Ne	**Driver Gender:**	Male		
Foreign Veh:		**Towing;**	None	**velcwy**	No	**J Purpose:**	Unknown	**Driver Severity:**	Slight		
Acc Ref:		**Maneouvre:**	Turnrigh	**Skiding:**	None	**Impact Point:**	Offside	**Driver Breath Test:**	Notreq	**Driver Age:**	21
Veh Ref:	2	**Location:**	Carw	**Object in Cway:**	None	**From:**	Nw	**Hit and Run:**	Nothtrun		
Veh Type:	Car	**Junction:**	Er/about	**Object off Cway**	None	**To:**	Se	**Driver Gender:**	Female		
Foreign Veh:		**Towing;**	None	**velcwy**	No	**J Purpose:**	Unknown	**Driver Severity:**	None		

Accident Details:

Acc Ref:	2018-410324669	**1st / 2nd Rd:**	A10/172 A10/170	**Jun Detail:**	R/bout	**Weather:**	Fine	**Num Cas:**	4
Day of Week:	Sun	**Parish:**		**Jun Control:**	Giveway	**Light:**	Day	**Num Peds:**	0
Date:	19/08/2018 14:08:00	**District:**	3Rivers	**Spec Conditions:**	None	**Road Surface:**	Dry	**Num Vehicles:**	2
Acc Severity:	Serious	**Speed Limit:**	50mph	**C/way Hazard:**	None	**C/way Type:**	R/bout	**Ped Xing:**	Npernox
A10 London Road Rbt Buntingford J/w A10 Buntingford Bypass								**On Site:**	Yes

Exact Details Not Clear. Both Vs Negotiating Rbt & O/s V1 Car Has Collided With N/s V2 M/c Over 500cc Causing Both Vs To Leave C/way N/s & V1 To Collide With Lamp Post & Rider V2 To Fall

Easting: 536787 **Northing:** 228292

Casualty Details

Acc Ref:	2018-410324669	**Cas Class:**	Driver	**Car Passenger:**	No	**Cas Severity:**	Slight	**Ped Movement:**	Notped
Veh Ref:	1	**Cas Age:**	72	**PSV Passenger:**	No	**Road User Class:**	Car Users	**Ped Location:**	Notped
Cas Ref:	1	**Cas Gender:**	Male	**Seat Belt:**	Wornnot	**School Pupil:**		**Ped Work on Rd:**	Notped
Acc Ref:	2018-410324669	**Cas Class:**	Driver	**Car Passenger:**	No	**Cas Severity:**	Serious	**Ped Movement:**	Notped
Veh Ref:	2	**Cas Age:**	49	**PSV Passenger:**	No	**Road User Class:**	Motorcyclists	**Ped Location:**	Notped
Cas Ref:	2	**Cas Gender:**	Male	**Seat Belt:**	Notapp	**School Pupil:**		**Ped Work on Rd:**	Notped
Acc Ref:	2018-410324669	**Cas Class:**	Passenge	**Car Passenger:**	No	**Cas Severity:**	Slight	**Ped Movement:**	Notped
Veh Ref:	2	**Cas Age:**	23	**PSV Passenger:**	No	**Road User Class:**	Motorcyclists	**Ped Location:**	Notped
Cas Ref:	3	**Cas Gender:**	Female	**Seat Belt:**	Notapp	**School Pupil:**		**Ped Work on Rd:**	Notped
Acc Ref:	2018-410324669	**Cas Class:**	Passenge	**Car Passenger:**	Frontsea	**Cas Severity:**	Slight	**Ped Movement:**	Notped
Veh Ref:	1	**Cas Age:**	83	**PSV Passenger:**	No	**Road User Class:**	Car Users	**Ped Location:**	Notped
Cas Ref:	4	**Cas Gender:**	Female	**Seat Belt:**	Wornnot	**School Pupil:**		**Ped Work on Rd:**	Notped

Vehicle Details

Acc Ref:	151524	**Maneouvre:**	Ahead	**Skiding:**	None	**Impact Point:**	Offside	**Driver Breath Test:**	Notreq	**Driver Age:**	72
Veh Ref:	1	**Location:**	Carw	**Object in Cway:**	None	**From:**	Se	**Hit and Run:**	Nothtrun		
Veh Type:	Car	**Junction:**	Middle	**Object off Cway**	Lamppost	**To:**	Nw	**Driver Gender:**	Male		

Set Name (if saved) : 25449

Foreign Veh:		**Towing;**	None	**velcwy**	Nearside	**J Purpose:**	Unknown	**Driver Severity:**	Slight		
Acc Ref:		**Maneouvre:**	Ahead	**Skiding:**	Skidded	**Impact Point:**	Nearside	**Driver Breath Test:**	Notreq	**Driver Age:**	49
Veh Ref:	2	**Location:**	Carw	**Object in Cway:**	None	**From:**	Se	**Hit and Run:**	Nothtrun		
Veh Type:	Mc>500	**Junction:**	Middle	**Object off Cway**	None	**To:**	Nw	**Driver Gender:**	Male		
Foreign Veh:		**Towing;**	None	**velcwy**	Nearside	**J Purpose:**	Unknown	**Driver Severity:**	Serious		

Accident Details:

Acc Ref:	2018-410303969	**1st / 2nd Rd:**	A10/172 A10/170	**Jun Detail:**	R/bout	**Weather:**	Fine	**Num Cas:**	1
Day of Week:	Sat	**Parish:**		**Jun Control:**	Giveway	**Light:**	Day	**Num Peds:**	0
Date:	02/06/2018 19:30:00	**District:**	EHerts	**Spec Conditions:**	None	**Road Surface:**	Dry	**Num Vehicles:**	2
Acc Severity:	Slight	**Speed Limit:**	30mph	**C/way Hazard:**	None	**C/way Type:**	R/bout	**Ped Xing:**	Npernox
A10 London Road Rbt Buntingford J/w A10 Buntingford By Pass								**On Site:**	Yes

Both Vs Trav Nw On Buntingford By Pass Have Entered Rbt. V1 M/c Over 500cc In R/h Lane, V2 Car In L/h Lane. Whilst Negotiating Rbt V1 Has Changed Lane To Left & Collided With O/s V2 Car Causing Rider V1 To Fall

Easting: 536793 **Northing:** 228296

Casualty Details

Acc Ref:	2018-410303969	**Cas Class:**	Driver	**Car Passenger:**	No	**Cas Severity:**	Slight	**Ped Movement:**	Notped
Veh Ref:	1	**Cas Age:**	49	**PSV Passenger:**	No	**Road User Class:**	Motorcyclists	**Ped Location:**	Notped
Cas Ref:	1	**Cas Gender:**	Male	**Seat Belt:**	Notapp	**School Pupil:**		**Ped Work on Rd:**	Notped

Vehicle Details

Acc Ref:	150908	**Maneouvre:**	Chglnlef	**Skiding:**	None	**Impact Point:**	Front	**Driver Breath Test:**	Negati	**Driver Age:**	49
Veh Ref:	1	**Location:**	Carw	**Object in Cway:**	None	**From:**	Se	**Hit and Run:**	Nothtrun		
Veh Type:	Mc>500	**Junction:**	Middle	**Object off Cway**	None	**To:**	N	**Driver Gender:**	Male		
Foreign Veh:		**Towing;**	None	**velcwy**	No	**J Purpose:**	Tofrowrk	**Driver Severity:**	Slight		
Acc Ref:		**Maneouvre:**	Ahead	**Skiding:**	None	**Impact Point:**	Offside	**Driver Breath Test:**	Notreq	**Driver Age:**	28
Veh Ref:	2	**Location:**	Carw	**Object in Cway:**	None	**From:**	Se	**Hit and Run:**	Nothtrun		
Veh Type:	Car	**Junction:**	Middle	**Object off Cway**	None	**To:**	N	**Driver Gender:**	Male		
Foreign Veh:		**Towing;**	None	**velcwy**	No	**J Purpose:**	Other	**Driver Severity:**	None		

Accident Details:

Acc Ref: 2018-410293825	**1st / 2nd Rd:** B1038/3 3U1784/	**Jun Detail:**	T	**Weather:**	Fine	**Num Cas:**	1
Day of Week: Thu	**Parish:**	**Jun Control:**	Giveway	**Light:**	Day	**Num Peds:**	0
Date: 10/05/2018 15:16:00	**District:** EHerts	**Spec Conditions:**	None	**Road Surface:**	Dry	**Num Vehicles:**	2
Acc Severity: Slight	**Speed Limit:** 30mph	**C/way Hazard:**	None	**C/way Type:**	Single	**Ped Xing:**	Nperzebx
B1038 Baldock Road Buntingofrd O/s Post Office & Approx 20m East J/w U1784 Meeting House Lane						**On Site:**	Yes

Both Vs Cars. V1 Trav West On Baldock Road Has Collided With Rear V2 Parked To N/s. Driver V1 Using Mobile Phone

Easting: 536171 **Northing:** 229422

Contributory Factors

Participant	Confidence	Factor 1	2	3	4	5	6
V 1	A	Mobileph	Distrcin	Swerved		Flookdri	
V 1	B				Badrdlay		Aggsdriv

Casualty Details

Acc Ref: 2018-410293825	**Cas Class:** Driver	**Car Passenger:**	No	**Cas Severity:**	Slight	**Ped Movement:**	Notped
Veh Ref: 1	**Cas Age:** 49	**PSV Passenger:**	No	**Road User Class:**	Car Users	**Ped Location:**	Notped
Cas Ref: 1	**Cas Gender:** Female	**Seat Belt:**	Unknown	**School Pupil:**		**Ped Work on Rd:**	Notped

Vehicle Details

Acc Ref:	150706	**Maneouvre:**	Otakesta	**Skiding:**	None	**Impact Point:**	Front	**Driver Breath Test:**	Negati	**Driver Age:**	49
Veh Ref:	1	**Location:**	Carw	**Object in Cway:**	Parked	**From:**	E	**Hit and Run:**	Nothtrun		
Veh Type:	Car	**Junction:**	Approach	**Object off Cway**	None	**To:**	W	**Driver Gender:**	Female		
Foreign Veh:		**Towing;**	None	**velcwy**	No	**J Purpose:**	Other	**Driver Severity:**	Slight		
Acc Ref:		**Maneouvre:**	Parked	**Skiding:**	None	**Impact Point:**	Back	**Driver Breath Test:**	Notreq	**Driver Age:**	47
Veh Ref:	2	**Location:**	Carw	**Object in Cway:**	None	**From:**	P	**Hit and Run:**	Nothtrun		
Veh Type:	Car	**Junction:**	Approach	**Object off Cway**	None	**To:**	P	**Driver Gender:**	Unknown		
Foreign Veh:		**Towing;**	None	**velcwy**	No	**J Purpose:**	Unknown	**Driver Severity:**	None		

Accident Details:

Acc Ref:	2018-410294980	**1st / 2nd Rd:**	A10/170 NONE	**Jun Detail:**	Notjunct	**Weather:**	Fine	**Num Cas:**	1
Day of Week:	Sun	**Parish:**		**Jun Control:**	Notjunct	**Light:**	Day	**Num Peds:**	0
Date:	06/05/2018 09:30:00	**District:**	EHerts	**Spec Conditions:**	None	**Road Surface:**	Dry	**Num Vehicles:**	1
Acc Severity:	Serious	**Speed Limit:**	60mph	**C/way Hazard:**	None	**C/way Type:**	Single	**Ped Xing:**	Npernox
								On Site:	Yes

A10 Buntingford By Pass Buntingford Approx 150m South J/w A10 Baldock Road Rbt

V1 M/c Over 500cc Trav South On Buntingford By Pass Has Lost Control & Rider Fallen To N/s

Easting: 535576 **Northing:** 229232

Contributory Factors

Participant	Confidence	Factor 1	2	3	4	5	6
V 1	B	Lostcont	Poorturn	Badroad			

Casualty Details

Acc Ref:	2018-410294980	**Cas Class:**	Driver	**Car Passenger:**	No	**Cas Severity:**	Serious	**Ped Movement:**	Notped
Veh Ref:	1	**Cas Age:**	38	**PSV Passenger:**	No	**Road User Class:**	Motorcyclists	**Ped Location:**	Notped
Cas Ref:	1	**Cas Gender:**	Male	**Seat Belt:**	Notapp	**School Pupil:**		**Ped Work on Rd:**	Notped

Vehicle Details

Acc Ref:	150707	**Maneouvre:**	Ahead	**Skiding:**	Overturn	**Impact Point:**	None	**Driver Breath Test:**	Ntprov	**Driver Age:**	38
Veh Ref:	1	**Location:**	Carw	**Object in Cway:**	None	**From:**	N	**Hit and Run:**	Nothtrun		
Veh Type:	Mc>500	**Junction:**	Notjunct	**Object off Cway**	None	**To:**	S	**Driver Gender:**	Male		
Foreign Veh:		**Towing;**	None	**velcwy**	Offside	**J Purpose:**	Unknown	**Driver Severity:**	Serious		

Accident Details:

Acc Ref:	2018-410275703	**1st / 2nd Rd:**	B1038/3 NONE	**Jun Detail:**	Notjunct	**Weather:**	Fine	**Num Cas:**	1
Day of Week:	Fri	**Parish:**		**Jun Control:**	Notjunct	**Light:**	Day	**Num Peds:**	0
Date:	23/02/2018 12:50:00	**District:**	EHerts	**Spec Conditions:**	None	**Road Surface:**	Dry	**Num Vehicles:**	2
Acc Severity:	Serious	**Speed Limit:**	30mph	**C/way Hazard:**	None	**C/way Type:**	Single	**Ped Xing:**	Npernox
B1038 Baldock Road Buntingford Approx 25m East J/w U1784 Meeting House Lane								**On Site:**	Yes

Both Vs Trav East On Baldock Road. V2 Car Waiting In Traffic & V1 M/c Over 500cc Has Collided With Rear V2

Easting: 536174 **Northing:** 229426

Casualty Details

Acc Ref:	2018-410275703	**Cas Class:**	Driver	**Car Passenger:**	No	**Cas Severity:**	Serious	**Ped Movement:**	Notped
Veh Ref:	1	**Cas Age:**	28	**PSV Passenger:**	No	**Road User Class:**	Motorcyclists	**Ped Location:**	Notped
Cas Ref:	1	**Cas Gender:**	Male	**Seat Belt:**	Notapp	**School Pupil:**		**Ped Work on Rd:**	Notped

Vehicle Details

Acc Ref:	150479	**Maneouvre:**	Ahead	**Skiding:**	Skidded	**Impact Point:**	Front	**Driver Breath Test:**	Notreq	**Driver Age:**	28
Veh Ref:	1	**Location:**	Carw	**Object in Cway:**	None	**From:**	W	**Hit and Run:**	Nothtrun		
Veh Type:	Mc>500	**Junction:**	Notjunct	**Object off Cway**	None	**To:**	E	**Driver Gender:**	Male		
Foreign Veh:		**Towing;**	None	**velcwy**	No	**J Purpose:**	Unknown	**Driver Severity:**	Serious		
Acc Ref:		**Maneouvre:**	Waitahea	**Skiding:**	None	**Impact Point:**	Back	**Driver Breath Test:**	Notreq	**Driver Age:**	33
Veh Ref:	2	**Location:**	Carw	**Object in Cway:**	None	**From:**	W	**Hit and Run:**	Nothtrun		
Veh Type:	Car	**Junction:**	Notjunct	**Object off Cway**	None	**To:**	E	**Driver Gender:**	Female		
Foreign Veh:		**Towing;**	None	**velcwy**	No	**J Purpose:**	Unknown	**Driver Severity:**	None		

Accident Details:

Acc Ref:	2017-410162907	**1st / 2nd Rd:**	C170/60 3U1932/	**Jun Detail:**	T	**Weather:**	Rain	**Num Cas:**	1
Day of Week:	Mon	**Parish:**		**Jun Control:**	Giveway	**Light:**	Day	**Num Peds:**	0
Date:	27/02/2017 14:09:00	**District:**	EHerts	**Spec Conditions:**	None	**Road Surface:**	Wet	**Num Vehicles:**	2
Acc Severity:	Slight	**Speed Limit:**	40mph	**C/way Hazard:**	None	**C/way Type:**	Single	**Ped Xing:**	Npernox
C170 London Road Buntingford J/w U1932 Crouch Gardens								**On Site:**	Yes

V2 Se/bound On London Road Waiting To Turn Right Into Crouch Gardens & V1 Trav Se At Speed Has Skidded & Collided With Rear V2 Causing V1 To Leave C/way N/s & V2 To Leave C/way O/s

Easting: 536640 **Northing:** 228686

Contributory Factors

Participant	Confidence	Factor 1	2	3	4	5	6
V 1	A	Badtyres	Flookdri	Toofast			

Casualty Details

Acc Ref:	2017-410162907	**Cas Class:**	Driver	**Car Passenger:**	No	**Cas Severity:**	Slight	**Ped Movement:**	Notped
Veh Ref:	2	**Cas Age:**	35	**PSV Passenger:**	No	**Road User Class:**	Car Users	**Ped Location:**	Notped
Cas Ref:	1	**Cas Gender:**	Female	**Seat Belt:**	Unknown	**School Pupil:**		**Ped Work on Rd:**	Notped

Vehicle Details

Acc Ref:	148319	**Maneouvre:**	Ahead	**Skiding:**	Skidded	**Impact Point:**	Front	**Driver Breath Test:**	Notreq	**Driver Age:**	20
Veh Ref:	1	**Location:**	Carw	**Object in Cway:**	None	**From:**	Nw	**Hit and Run:**	Nothtrun		
Veh Type:	Car	**Junction:**	Approach	**Object off Cway**	None	**To:**	Se	**Driver Gender:**	Male		
Foreign Veh:		**Towing;**	None	**velcwy**	Nearside	**J Purpose:**	Unknown	**Driver Severity:**	None		
Acc Ref:		**Maneouvre:**	Waitrigh	**Skiding:**	None	**Impact Point:**	Back	**Driver Breath Test:**	Notreq	**Driver Age:**	35
Veh Ref:	2	**Location:**	Carw	**Object in Cway:**	None	**From:**	Nw	**Hit and Run:**	Nothtrun		
Veh Type:	Car	**Junction:**	Approach	**Object off Cway**	None	**To:**	Se	**Driver Gender:**	Female		
Foreign Veh:		**Towing;**	None	**velcwy**	Offside	**J Purpose:**	Unknown	**Driver Severity:**	Slight		

Appendix E

PARKING DEMAND PROFILE

GP

13 Starting OC 0

Time Range	Arrival	Departure	GP
00:00-01:00	0	0	0
01:00-02:00	0	0	0
02:00-03:00	0	0	0
03:00-04:00	0	0	0
04:00-05:00	0	0	0
05:00-06:00	0	0	0
06:00-07:00	0	0	0
07:00-08:00	7	1	7
08:00-09:00	20	6	20
09:00-10:00	20	17	24
10:00-11:00	19	19	24
11:00-12:00	19	22	21
12:00-13:00	16	17	20
13:00-14:00	11	11	20
14:00-15:00	15	15	19
15:00-16:00	15	15	19
16:00-17:00	13	16	16
17:00-18:00	7	13	10
18:00-19:00	1	8	3
19:00-20:00	0	7	0
20:00-21:00	0	0	0
21:00-22:00	0	0	0
22:00-23:00	0	0	0
23:00-24:00	0	0	0

B8

15 Starting OC 0

Arrival	Departure	B8
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
1	0	0
2	0	1
2	1	3
2	1	4
1	1	4
1	1	4
1	1	3
2	2	3
1	1	3
1	1	2
1	1	2
0	1	1
0	1	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0

Office

16 Starting OC 0

Arrival	Departure	Office
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
7	1	6
19	3	22
16	5	32
5	4	33
4	4	33
5	7	31
7	5	33
4	5	33
4	6	31
3	12	21
3	17	7
1	6	2
0	0	2
0	0	2
0	0	2
0	0	2
0	0	2

GP	B8	Office	TOTAL
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
7	1	6	14
20	3	22	45
24	4	32	60
24	4	33	61
21	4	33	58
20	3	31	55
20	3	33	56
19	3	33	55
19	2	31	52
16	2	21	39
10	1	7	17
3	0	2	5
0	0	2	2
0	0	2	2
0	0	2	2
0	0	2	2
0	0	2	2

Total			0	
Time Rang	Arrival	Departure	Accumulat	Total
00:00-01:0	0	0	0	0
01:00-02:0	0	0	0	0
02:00-03:0	0	0	0	0
03:00-04:0	0	0	0	0
04:00-05:0	0	0	0	0
05:00-06:0	0	0	0	0
06:00-07:0	1	0	0	0
07:00-08:0	16	2	14	14
08:00-09:0	41	10	45	45
09:00-10:0	38	23	60	60
10:00-11:0	25	24	61	61
11:00-12:0	24	27	58	58
12:00-13:0	22	25	55	55
13:00-14:0	19	18	56	56
14:00-15:0	20	21	55	55
15:00-16:0	19	22	52	52
16:00-17:0	16	29	39	39
17:00-18:0	10	32	17	17
18:00-19:0	3	15	5	5
19:00-20:0	0	7	0	2
20:00-21:0	0	0	0	2
21:00-22:0	0	0	0	2
22:00-23:0	0	0	0	2
23:00-24:0	0	0	0	2

Appendix F

EMPLOYMENT TRICS OUTPUT

Calculation Reference: AUDIT-100307-220308-0319

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
Category : A - OFFICE
MULTI-MODAL TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST		
	ES	EAST SUSSEX	1 days
	HF	HERTFORDSHIRE	1 days
	SO	SLOUGH	1 days
04	EAST ANGLIA		
	NF	NORFOLK	1 days
	SF	SUFFOLK	1 days
08	NORTH WEST		
	MS	MERSEYSIDE	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: 3640 to 11250 (units: sqm)
Range Selected by User: 3000 to 15000 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/13 to 13/11/18

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

Selected survey days:

Tuesday	2 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	7 days
Directional ATC Count	0 days

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

Selected Locations:

Edge of Town Centre	6
Suburban Area (PPS6 Out of Centre)	1

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

Selected Location Sub Categories:

Commercial Zone	2
Residential Zone	2
Built-Up Zone	3

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

Secondary Filtering selection:

Use Class:

Not Known	7 days

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

Filter by Site Operations Breakdown:
All Surveys Included

Population within 500m Range:
All Surveys Included

Population within 1 mile:

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

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

Population within 5 miles:

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

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

Car ownership within 5 miles:

0.6 to 1.0	3 days
1.1 to 1.5	3 days
1.6 to 2.0	1 days

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

Travel Plan:

Yes	2 days
No	5 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	7 days

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

LIST OF SITES relevant to selection parameters

1 ES-02-A-12 COUNCIL OFFICES EAST SUSSEX
VICARAGE LANE
HAILSHAM

Edge of Town Centre
Built-Up Zone
Total Gross floor area: 3640 sqm
Survey date: THURSDAY 26/11/15 Survey Type: MANUAL

2 HF-02-A-04 OFFICES HERTFORDSHIRE
STATION WAY
ST ALBANS

Edge of Town Centre
Residential Zone
Total Gross floor area: 5000 sqm
Survey date: THURSDAY 02/10/14 Survey Type: MANUAL

3 MS-02-A-02 SCIENCE PARK OFFICES MERSEYSIDE
MOUNT PLEASANT
LIVERPOOL

Edge of Town Centre
Built-Up Zone
Total Gross floor area: 11250 sqm
Survey date: TUESDAY 13/11/18 Survey Type: MANUAL

4 NF-02-A-03 OFFICES NORFOLK
NORTH QUAY
GREAT YARMOUTH

Edge of Town Centre
Commercial Zone
Total Gross floor area: 5500 sqm
Survey date: TUESDAY 12/09/17 Survey Type: MANUAL

5 SF-02-A-02 OFFICES SUFFOLK
BATH STREET
IPSWICH

Edge of Town Centre
Commercial Zone
Total Gross floor area: 6505 sqm
Survey date: FRIDAY 19/07/13 Survey Type: MANUAL

6 SO-02-A-02 COUNCIL OFFICES SLOUGH
BATH ROAD
SLOUGH

Edge of Town Centre
Built-Up Zone
Total Gross floor area: 5050 sqm
Survey date: THURSDAY 27/02/14 Survey Type: MANUAL

7 TW-02-A-08 HOUSING ASSOCIATION OFFICE TYNE & WEAR
BENTON PARK ROAD
NEWCASTLE UPON TYNE
LONGBENTON
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Gross floor area: 4800 sqm
Survey date: FRIDAY 19/10/18 Survey Type: MANUAL

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

TRIP RATE for Land Use 02 - EMPLOYMENT/A - OFFICE
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): 1.83

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	7	5964	0.091	7	5964	0.012	7	5964	0.103
07:30 - 08:00	7	5964	0.338	7	5964	0.046	7	5964	0.384
08:00 - 08:30	7	5964	0.544	7	5964	0.089	7	5964	0.633
08:30 - 09:00	7	5964	0.644	7	5964	0.127	7	5964	0.771
09:00 - 09:30	7	5964	0.630	7	5964	0.165	7	5964	0.795
09:30 - 10:00	7	5964	0.350	7	5964	0.146	7	5964	0.496
10:00 - 10:30	7	5964	0.180	7	5964	0.137	7	5964	0.317
10:30 - 11:00	7	5964	0.146	7	5964	0.120	7	5964	0.266
11:00 - 11:30	7	5964	0.122	7	5964	0.122	7	5964	0.244
11:30 - 12:00	7	5964	0.103	7	5964	0.120	7	5964	0.223
12:00 - 12:30	7	5964	0.139	7	5964	0.184	7	5964	0.323
12:30 - 13:00	7	5964	0.192	7	5964	0.244	7	5964	0.436
13:00 - 13:30	7	5964	0.237	7	5964	0.170	7	5964	0.407
13:30 - 14:00	7	5964	0.199	7	5964	0.151	7	5964	0.350
14:00 - 14:30	7	5964	0.163	7	5964	0.113	7	5964	0.276
14:30 - 15:00	7	5964	0.113	7	5964	0.170	7	5964	0.283
15:00 - 15:30	7	5964	0.117	7	5964	0.196	7	5964	0.313
15:30 - 16:00	7	5964	0.117	7	5964	0.204	7	5964	0.321
16:00 - 16:30	7	5964	0.081	7	5964	0.362	7	5964	0.443
16:30 - 17:00	7	5964	0.084	7	5964	0.376	7	5964	0.460
17:00 - 17:30	7	5964	0.098	7	5964	0.697	7	5964	0.795
17:30 - 18:00	7	5964	0.062	7	5964	0.381	7	5964	0.443
18:00 - 18:30	7	5964	0.053	7	5964	0.244	7	5964	0.297
18:30 - 19:00	7	5964	0.012	7	5964	0.110	7	5964	0.122
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			4.815			4.686			9.501

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

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

Parameter summary

Trip rate parameter range selected:	3640 - 11250 (units: sqm)
Survey date date range:	01/01/13 - 13/11/18
Number of weekdays (Monday-Friday):	7
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	1
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are 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/A - OFFICE
MULTI-MODAL TAXIS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	7	5964	0.000	7	5964	0.000	7	5964	0.000
07:30 - 08:00	7	5964	0.000	7	5964	0.000	7	5964	0.000
08:00 - 08:30	7	5964	0.010	7	5964	0.010	7	5964	0.020
08:30 - 09:00	7	5964	0.014	7	5964	0.012	7	5964	0.026
09:00 - 09:30	7	5964	0.010	7	5964	0.012	7	5964	0.022
09:30 - 10:00	7	5964	0.005	7	5964	0.005	7	5964	0.010
10:00 - 10:30	7	5964	0.002	7	5964	0.002	7	5964	0.004
10:30 - 11:00	7	5964	0.002	7	5964	0.002	7	5964	0.004
11:00 - 11:30	7	5964	0.002	7	5964	0.002	7	5964	0.004
11:30 - 12:00	7	5964	0.002	7	5964	0.002	7	5964	0.004
12:00 - 12:30	7	5964	0.002	7	5964	0.002	7	5964	0.004
12:30 - 13:00	7	5964	0.007	7	5964	0.005	7	5964	0.012
13:00 - 13:30	7	5964	0.002	7	5964	0.005	7	5964	0.007
13:30 - 14:00	7	5964	0.000	7	5964	0.000	7	5964	0.000
14:00 - 14:30	7	5964	0.002	7	5964	0.002	7	5964	0.004
14:30 - 15:00	7	5964	0.000	7	5964	0.000	7	5964	0.000
15:00 - 15:30	7	5964	0.002	7	5964	0.002	7	5964	0.004
15:30 - 16:00	7	5964	0.005	7	5964	0.005	7	5964	0.010
16:00 - 16:30	7	5964	0.002	7	5964	0.000	7	5964	0.002
16:30 - 17:00	7	5964	0.005	7	5964	0.007	7	5964	0.012
17:00 - 17:30	7	5964	0.012	7	5964	0.010	7	5964	0.022
17:30 - 18:00	7	5964	0.002	7	5964	0.005	7	5964	0.007
18:00 - 18:30	7	5964	0.000	7	5964	0.000	7	5964	0.000
18:30 - 19:00	7	5964	0.000	7	5964	0.000	7	5964	0.000
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			0.088			0.090			0.178

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/A - OFFICE
MULTI-MODAL OGVS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	7	5964	0.000	7	5964	0.000	7	5964	0.000
07:30 - 08:00	7	5964	0.002	7	5964	0.000	7	5964	0.002
08:00 - 08:30	7	5964	0.005	7	5964	0.005	7	5964	0.010
08:30 - 09:00	7	5964	0.002	7	5964	0.002	7	5964	0.004
09:00 - 09:30	7	5964	0.002	7	5964	0.005	7	5964	0.007
09:30 - 10:00	7	5964	0.000	7	5964	0.000	7	5964	0.000
10:00 - 10:30	7	5964	0.002	7	5964	0.000	7	5964	0.002
10:30 - 11:00	7	5964	0.000	7	5964	0.002	7	5964	0.002
11:00 - 11:30	7	5964	0.000	7	5964	0.000	7	5964	0.000
11:30 - 12:00	7	5964	0.000	7	5964	0.000	7	5964	0.000
12:00 - 12:30	7	5964	0.000	7	5964	0.000	7	5964	0.000
12:30 - 13:00	7	5964	0.000	7	5964	0.000	7	5964	0.000
13:00 - 13:30	7	5964	0.000	7	5964	0.000	7	5964	0.000
13:30 - 14:00	7	5964	0.000	7	5964	0.000	7	5964	0.000
14:00 - 14:30	7	5964	0.002	7	5964	0.002	7	5964	0.004
14:30 - 15:00	7	5964	0.000	7	5964	0.000	7	5964	0.000
15:00 - 15:30	7	5964	0.000	7	5964	0.000	7	5964	0.000
15:30 - 16:00	7	5964	0.007	7	5964	0.005	7	5964	0.012
16:00 - 16:30	7	5964	0.000	7	5964	0.002	7	5964	0.002
16:30 - 17:00	7	5964	0.000	7	5964	0.000	7	5964	0.000
17:00 - 17:30	7	5964	0.000	7	5964	0.000	7	5964	0.000
17:30 - 18:00	7	5964	0.000	7	5964	0.000	7	5964	0.000
18:00 - 18:30	7	5964	0.000	7	5964	0.000	7	5964	0.000
18:30 - 19:00	7	5964	0.000	7	5964	0.000	7	5964	0.000
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			0.022			0.023			0.045

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/A - OFFICE
MULTI-MODAL CYCLISTS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	7	5964	0.002	7	5964	0.000	7	5964	0.002
07:30 - 08:00	7	5964	0.007	7	5964	0.000	7	5964	0.007
08:00 - 08:30	7	5964	0.012	7	5964	0.000	7	5964	0.012
08:30 - 09:00	7	5964	0.053	7	5964	0.000	7	5964	0.053
09:00 - 09:30	7	5964	0.022	7	5964	0.000	7	5964	0.022
09:30 - 10:00	7	5964	0.014	7	5964	0.000	7	5964	0.014
10:00 - 10:30	7	5964	0.014	7	5964	0.005	7	5964	0.019
10:30 - 11:00	7	5964	0.002	7	5964	0.005	7	5964	0.007
11:00 - 11:30	7	5964	0.002	7	5964	0.000	7	5964	0.002
11:30 - 12:00	7	5964	0.010	7	5964	0.005	7	5964	0.015
12:00 - 12:30	7	5964	0.002	7	5964	0.007	7	5964	0.009
12:30 - 13:00	7	5964	0.007	7	5964	0.012	7	5964	0.019
13:00 - 13:30	7	5964	0.010	7	5964	0.012	7	5964	0.022
13:30 - 14:00	7	5964	0.000	7	5964	0.007	7	5964	0.007
14:00 - 14:30	7	5964	0.000	7	5964	0.007	7	5964	0.007
14:30 - 15:00	7	5964	0.000	7	5964	0.002	7	5964	0.002
15:00 - 15:30	7	5964	0.010	7	5964	0.002	7	5964	0.012
15:30 - 16:00	7	5964	0.002	7	5964	0.014	7	5964	0.016
16:00 - 16:30	7	5964	0.002	7	5964	0.022	7	5964	0.024
16:30 - 17:00	7	5964	0.000	7	5964	0.007	7	5964	0.007
17:00 - 17:30	7	5964	0.000	7	5964	0.026	7	5964	0.026
17:30 - 18:00	7	5964	0.002	7	5964	0.036	7	5964	0.038
18:00 - 18:30	7	5964	0.002	7	5964	0.007	7	5964	0.009
18:30 - 19:00	7	5964	0.002	7	5964	0.002	7	5964	0.004
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			0.177			0.178			0.355

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/A - OFFICE
MULTI-MODAL VEHICLE OCCUPANTS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	7	5964	0.096	7	5964	0.010	7	5964	0.106
07:30 - 08:00	7	5964	0.362	7	5964	0.041	7	5964	0.403
08:00 - 08:30	7	5964	0.606	7	5964	0.079	7	5964	0.685
08:30 - 09:00	7	5964	0.697	7	5964	0.129	7	5964	0.826
09:00 - 09:30	7	5964	0.680	7	5964	0.151	7	5964	0.831
09:30 - 10:00	7	5964	0.367	7	5964	0.156	7	5964	0.523
10:00 - 10:30	7	5964	0.204	7	5964	0.158	7	5964	0.362
10:30 - 11:00	7	5964	0.158	7	5964	0.134	7	5964	0.292
11:00 - 11:30	7	5964	0.137	7	5964	0.134	7	5964	0.271
11:30 - 12:00	7	5964	0.115	7	5964	0.132	7	5964	0.247
12:00 - 12:30	7	5964	0.163	7	5964	0.225	7	5964	0.388
12:30 - 13:00	7	5964	0.235	7	5964	0.285	7	5964	0.520
13:00 - 13:30	7	5964	0.285	7	5964	0.201	7	5964	0.486
13:30 - 14:00	7	5964	0.230	7	5964	0.163	7	5964	0.393
14:00 - 14:30	7	5964	0.184	7	5964	0.127	7	5964	0.311
14:30 - 15:00	7	5964	0.125	7	5964	0.192	7	5964	0.317
15:00 - 15:30	7	5964	0.129	7	5964	0.211	7	5964	0.340
15:30 - 16:00	7	5964	0.122	7	5964	0.220	7	5964	0.342
16:00 - 16:30	7	5964	0.089	7	5964	0.398	7	5964	0.487
16:30 - 17:00	7	5964	0.084	7	5964	0.405	7	5964	0.489
17:00 - 17:30	7	5964	0.093	7	5964	0.776	7	5964	0.869
17:30 - 18:00	7	5964	0.065	7	5964	0.419	7	5964	0.484
18:00 - 18:30	7	5964	0.048	7	5964	0.259	7	5964	0.307
18:30 - 19:00	7	5964	0.012	7	5964	0.117	7	5964	0.129
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			5.286			5.122			10.408

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/A - OFFICE
MULTI-MODAL PEDESTRIANS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	7	5964	0.019	7	5964	0.002	7	5964	0.021
07:30 - 08:00	7	5964	0.074	7	5964	0.010	7	5964	0.084
08:00 - 08:30	7	5964	0.113	7	5964	0.010	7	5964	0.123
08:30 - 09:00	7	5964	0.153	7	5964	0.026	7	5964	0.179
09:00 - 09:30	7	5964	0.117	7	5964	0.041	7	5964	0.158
09:30 - 10:00	7	5964	0.074	7	5964	0.043	7	5964	0.117
10:00 - 10:30	7	5964	0.053	7	5964	0.053	7	5964	0.106
10:30 - 11:00	7	5964	0.038	7	5964	0.060	7	5964	0.098
11:00 - 11:30	7	5964	0.072	7	5964	0.065	7	5964	0.137
11:30 - 12:00	7	5964	0.072	7	5964	0.081	7	5964	0.153
12:00 - 12:30	7	5964	0.117	7	5964	0.266	7	5964	0.383
12:30 - 13:00	7	5964	0.264	7	5964	0.249	7	5964	0.513
13:00 - 13:30	7	5964	0.268	7	5964	0.316	7	5964	0.584
13:30 - 14:00	7	5964	0.314	7	5964	0.156	7	5964	0.470
14:00 - 14:30	7	5964	0.204	7	5964	0.086	7	5964	0.290
14:30 - 15:00	7	5964	0.069	7	5964	0.046	7	5964	0.115
15:00 - 15:30	7	5964	0.043	7	5964	0.041	7	5964	0.084
15:30 - 16:00	7	5964	0.029	7	5964	0.038	7	5964	0.067
16:00 - 16:30	7	5964	0.026	7	5964	0.074	7	5964	0.100
16:30 - 17:00	7	5964	0.019	7	5964	0.108	7	5964	0.127
17:00 - 17:30	7	5964	0.014	7	5964	0.189	7	5964	0.203
17:30 - 18:00	7	5964	0.010	7	5964	0.132	7	5964	0.142
18:00 - 18:30	7	5964	0.007	7	5964	0.038	7	5964	0.045
18:30 - 19:00	7	5964	0.010	7	5964	0.024	7	5964	0.034
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			2.179			2.154			4.333

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/A - OFFICE
MULTI-MODAL BUS/TRAM PASSENGERS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	7	5964	0.010	7	5964	0.000	7	5964	0.010
07:30 - 08:00	7	5964	0.041	7	5964	0.002	7	5964	0.043
08:00 - 08:30	7	5964	0.074	7	5964	0.000	7	5964	0.074
08:30 - 09:00	7	5964	0.101	7	5964	0.005	7	5964	0.106
09:00 - 09:30	7	5964	0.079	7	5964	0.017	7	5964	0.096
09:30 - 10:00	7	5964	0.038	7	5964	0.017	7	5964	0.055
10:00 - 10:30	7	5964	0.041	7	5964	0.024	7	5964	0.065
10:30 - 11:00	7	5964	0.022	7	5964	0.010	7	5964	0.032
11:00 - 11:30	7	5964	0.022	7	5964	0.012	7	5964	0.034
11:30 - 12:00	7	5964	0.017	7	5964	0.019	7	5964	0.036
12:00 - 12:30	7	5964	0.024	7	5964	0.038	7	5964	0.062
12:30 - 13:00	7	5964	0.031	7	5964	0.077	7	5964	0.108
13:00 - 13:30	7	5964	0.050	7	5964	0.057	7	5964	0.107
13:30 - 14:00	7	5964	0.036	7	5964	0.034	7	5964	0.070
14:00 - 14:30	7	5964	0.017	7	5964	0.005	7	5964	0.022
14:30 - 15:00	7	5964	0.005	7	5964	0.019	7	5964	0.024
15:00 - 15:30	7	5964	0.014	7	5964	0.019	7	5964	0.033
15:30 - 16:00	7	5964	0.007	7	5964	0.012	7	5964	0.019
16:00 - 16:30	7	5964	0.007	7	5964	0.060	7	5964	0.067
16:30 - 17:00	7	5964	0.014	7	5964	0.079	7	5964	0.093
17:00 - 17:30	7	5964	0.010	7	5964	0.093	7	5964	0.103
17:30 - 18:00	7	5964	0.000	7	5964	0.062	7	5964	0.062
18:00 - 18:30	7	5964	0.000	7	5964	0.010	7	5964	0.010
18:30 - 19:00	7	5964	0.002	7	5964	0.000	7	5964	0.002
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			0.662			0.671			1.333

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/A - OFFICE
MULTI-MODAL TOTAL RAIL PASSENGERS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	7	5964	0.012	7	5964	0.005	7	5964	0.017
07:30 - 08:00	7	5964	0.019	7	5964	0.002	7	5964	0.021
08:00 - 08:30	7	5964	0.043	7	5964	0.014	7	5964	0.057
08:30 - 09:00	7	5964	0.098	7	5964	0.007	7	5964	0.105
09:00 - 09:30	7	5964	0.062	7	5964	0.005	7	5964	0.067
09:30 - 10:00	7	5964	0.034	7	5964	0.007	7	5964	0.041
10:00 - 10:30	7	5964	0.012	7	5964	0.017	7	5964	0.029
10:30 - 11:00	7	5964	0.005	7	5964	0.005	7	5964	0.010
11:00 - 11:30	7	5964	0.017	7	5964	0.005	7	5964	0.022
11:30 - 12:00	7	5964	0.012	7	5964	0.010	7	5964	0.022
12:00 - 12:30	7	5964	0.017	7	5964	0.019	7	5964	0.036
12:30 - 13:00	7	5964	0.014	7	5964	0.041	7	5964	0.055
13:00 - 13:30	7	5964	0.034	7	5964	0.038	7	5964	0.072
13:30 - 14:00	7	5964	0.036	7	5964	0.026	7	5964	0.062
14:00 - 14:30	7	5964	0.019	7	5964	0.007	7	5964	0.026
14:30 - 15:00	7	5964	0.007	7	5964	0.010	7	5964	0.017
15:00 - 15:30	7	5964	0.010	7	5964	0.017	7	5964	0.027
15:30 - 16:00	7	5964	0.012	7	5964	0.022	7	5964	0.034
16:00 - 16:30	7	5964	0.002	7	5964	0.031	7	5964	0.033
16:30 - 17:00	7	5964	0.010	7	5964	0.043	7	5964	0.053
17:00 - 17:30	7	5964	0.010	7	5964	0.060	7	5964	0.070
17:30 - 18:00	7	5964	0.000	7	5964	0.050	7	5964	0.050
18:00 - 18:30	7	5964	0.000	7	5964	0.022	7	5964	0.022
18:30 - 19:00	7	5964	0.002	7	5964	0.007	7	5964	0.009
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			0.487			0.470			0.957

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/A - OFFICE
MULTI-MODAL PUBLIC TRANSPORT USERS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	7	5964	0.022	7	5964	0.005	7	5964	0.027
07:30 - 08:00	7	5964	0.060	7	5964	0.005	7	5964	0.065
08:00 - 08:30	7	5964	0.117	7	5964	0.014	7	5964	0.131
08:30 - 09:00	7	5964	0.199	7	5964	0.012	7	5964	0.211
09:00 - 09:30	7	5964	0.141	7	5964	0.022	7	5964	0.163
09:30 - 10:00	7	5964	0.072	7	5964	0.024	7	5964	0.096
10:00 - 10:30	7	5964	0.053	7	5964	0.041	7	5964	0.094
10:30 - 11:00	7	5964	0.026	7	5964	0.014	7	5964	0.040
11:00 - 11:30	7	5964	0.038	7	5964	0.017	7	5964	0.055
11:30 - 12:00	7	5964	0.029	7	5964	0.029	7	5964	0.058
12:00 - 12:30	7	5964	0.041	7	5964	0.057	7	5964	0.098
12:30 - 13:00	7	5964	0.046	7	5964	0.117	7	5964	0.163
13:00 - 13:30	7	5964	0.084	7	5964	0.096	7	5964	0.180
13:30 - 14:00	7	5964	0.072	7	5964	0.060	7	5964	0.132
14:00 - 14:30	7	5964	0.036	7	5964	0.012	7	5964	0.048
14:30 - 15:00	7	5964	0.012	7	5964	0.029	7	5964	0.041
15:00 - 15:30	7	5964	0.024	7	5964	0.036	7	5964	0.060
15:30 - 16:00	7	5964	0.019	7	5964	0.034	7	5964	0.053
16:00 - 16:30	7	5964	0.010	7	5964	0.091	7	5964	0.101
16:30 - 17:00	7	5964	0.024	7	5964	0.122	7	5964	0.146
17:00 - 17:30	7	5964	0.019	7	5964	0.153	7	5964	0.172
17:30 - 18:00	7	5964	0.000	7	5964	0.113	7	5964	0.113
18:00 - 18:30	7	5964	0.000	7	5964	0.031	7	5964	0.031
18:30 - 19:00	7	5964	0.005	7	5964	0.007	7	5964	0.012
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			1.149			1.141			2.290

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/A - OFFICE
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): 1.83

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	7	5964	0.139	7	5964	0.017	7	5964	0.156
07:30 - 08:00	7	5964	0.503	7	5964	0.055	7	5964	0.558
08:00 - 08:30	7	5964	0.848	7	5964	0.103	7	5964	0.951
08:30 - 09:00	7	5964	1.102	7	5964	0.168	7	5964	1.270
09:00 - 09:30	7	5964	0.961	7	5964	0.213	7	5964	1.174
09:30 - 10:00	7	5964	0.527	7	5964	0.223	7	5964	0.750
10:00 - 10:30	7	5964	0.323	7	5964	0.256	7	5964	0.579
10:30 - 11:00	7	5964	0.225	7	5964	0.213	7	5964	0.438
11:00 - 11:30	7	5964	0.249	7	5964	0.216	7	5964	0.465
11:30 - 12:00	7	5964	0.225	7	5964	0.247	7	5964	0.472
12:00 - 12:30	7	5964	0.323	7	5964	0.556	7	5964	0.879
12:30 - 13:00	7	5964	0.551	7	5964	0.664	7	5964	1.215
13:00 - 13:30	7	5964	0.647	7	5964	0.625	7	5964	1.272
13:30 - 14:00	7	5964	0.616	7	5964	0.386	7	5964	1.002
14:00 - 14:30	7	5964	0.424	7	5964	0.232	7	5964	0.656
14:30 - 15:00	7	5964	0.206	7	5964	0.268	7	5964	0.474
15:00 - 15:30	7	5964	0.206	7	5964	0.290	7	5964	0.496
15:30 - 16:00	7	5964	0.172	7	5964	0.307	7	5964	0.479
16:00 - 16:30	7	5964	0.127	7	5964	0.585	7	5964	0.712
16:30 - 17:00	7	5964	0.127	7	5964	0.642	7	5964	0.769
17:00 - 17:30	7	5964	0.127	7	5964	1.145	7	5964	1.272
17:30 - 18:00	7	5964	0.077	7	5964	0.699	7	5964	0.776
18:00 - 18:30	7	5964	0.057	7	5964	0.335	7	5964	0.392
18:30 - 19:00	7	5964	0.029	7	5964	0.151	7	5964	0.180
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			8.791			8.596			17.387

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/A - OFFICE
MULTI-MODAL CARS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	7	5964	0.079	7	5964	0.007	7	5964	0.086
07:30 - 08:00	7	5964	0.319	7	5964	0.036	7	5964	0.355
08:00 - 08:30	7	5964	0.505	7	5964	0.041	7	5964	0.546
08:30 - 09:00	7	5964	0.599	7	5964	0.089	7	5964	0.688
09:00 - 09:30	7	5964	0.601	7	5964	0.125	7	5964	0.726
09:30 - 10:00	7	5964	0.316	7	5964	0.115	7	5964	0.431
10:00 - 10:30	7	5964	0.160	7	5964	0.120	7	5964	0.280
10:30 - 11:00	7	5964	0.132	7	5964	0.108	7	5964	0.240
11:00 - 11:30	7	5964	0.103	7	5964	0.101	7	5964	0.204
11:30 - 12:00	7	5964	0.089	7	5964	0.105	7	5964	0.194
12:00 - 12:30	7	5964	0.125	7	5964	0.180	7	5964	0.305
12:30 - 13:00	7	5964	0.170	7	5964	0.220	7	5964	0.390
13:00 - 13:30	7	5964	0.220	7	5964	0.156	7	5964	0.376
13:30 - 14:00	7	5964	0.182	7	5964	0.139	7	5964	0.321
14:00 - 14:30	7	5964	0.137	7	5964	0.098	7	5964	0.235
14:30 - 15:00	7	5964	0.098	7	5964	0.151	7	5964	0.249
15:00 - 15:30	7	5964	0.105	7	5964	0.172	7	5964	0.277
15:30 - 16:00	7	5964	0.084	7	5964	0.177	7	5964	0.261
16:00 - 16:30	7	5964	0.062	7	5964	0.331	7	5964	0.393
16:30 - 17:00	7	5964	0.065	7	5964	0.357	7	5964	0.422
17:00 - 17:30	7	5964	0.067	7	5964	0.673	7	5964	0.740
17:30 - 18:00	7	5964	0.053	7	5964	0.369	7	5964	0.422
18:00 - 18:30	7	5964	0.046	7	5964	0.235	7	5964	0.281
18:30 - 19:00	7	5964	0.012	7	5964	0.103	7	5964	0.115
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			4.329			4.208			8.537

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/A - OFFICE
MULTI-MODAL LGVS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	7	5964	0.010	7	5964	0.002	7	5964	0.012
07:30 - 08:00	7	5964	0.017	7	5964	0.010	7	5964	0.027
08:00 - 08:30	7	5964	0.017	7	5964	0.034	7	5964	0.051
08:30 - 09:00	7	5964	0.024	7	5964	0.022	7	5964	0.046
09:00 - 09:30	7	5964	0.010	7	5964	0.022	7	5964	0.032
09:30 - 10:00	7	5964	0.029	7	5964	0.024	7	5964	0.053
10:00 - 10:30	7	5964	0.014	7	5964	0.014	7	5964	0.028
10:30 - 11:00	7	5964	0.012	7	5964	0.007	7	5964	0.019
11:00 - 11:30	7	5964	0.014	7	5964	0.019	7	5964	0.033
11:30 - 12:00	7	5964	0.012	7	5964	0.012	7	5964	0.024
12:00 - 12:30	7	5964	0.010	7	5964	0.002	7	5964	0.012
12:30 - 13:00	7	5964	0.014	7	5964	0.019	7	5964	0.033
13:00 - 13:30	7	5964	0.014	7	5964	0.010	7	5964	0.024
13:30 - 14:00	7	5964	0.017	7	5964	0.012	7	5964	0.029
14:00 - 14:30	7	5964	0.019	7	5964	0.007	7	5964	0.026
14:30 - 15:00	7	5964	0.014	7	5964	0.019	7	5964	0.033
15:00 - 15:30	7	5964	0.010	7	5964	0.019	7	5964	0.029
15:30 - 16:00	7	5964	0.022	7	5964	0.014	7	5964	0.036
16:00 - 16:30	7	5964	0.017	7	5964	0.026	7	5964	0.043
16:30 - 17:00	7	5964	0.014	7	5964	0.010	7	5964	0.024
17:00 - 17:30	7	5964	0.017	7	5964	0.007	7	5964	0.024
17:30 - 18:00	7	5964	0.007	7	5964	0.007	7	5964	0.014
18:00 - 18:30	7	5964	0.007	7	5964	0.010	7	5964	0.017
18:30 - 19:00	7	5964	0.000	7	5964	0.007	7	5964	0.007
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			0.341			0.335			0.676

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/A - OFFICE
MULTI-MODAL MOTOR CYCLES
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	7	5964	0.000	7	5964	0.000	7	5964	0.000
07:30 - 08:00	7	5964	0.000	7	5964	0.000	7	5964	0.000
08:00 - 08:30	7	5964	0.007	7	5964	0.000	7	5964	0.007
08:30 - 09:00	7	5964	0.005	7	5964	0.002	7	5964	0.007
09:00 - 09:30	7	5964	0.007	7	5964	0.002	7	5964	0.009
09:30 - 10:00	7	5964	0.000	7	5964	0.002	7	5964	0.002
10:00 - 10:30	7	5964	0.000	7	5964	0.000	7	5964	0.000
10:30 - 11:00	7	5964	0.000	7	5964	0.000	7	5964	0.000
11:00 - 11:30	7	5964	0.002	7	5964	0.000	7	5964	0.002
11:30 - 12:00	7	5964	0.000	7	5964	0.000	7	5964	0.000
12:00 - 12:30	7	5964	0.002	7	5964	0.000	7	5964	0.002
12:30 - 13:00	7	5964	0.000	7	5964	0.000	7	5964	0.000
13:00 - 13:30	7	5964	0.000	7	5964	0.000	7	5964	0.000
13:30 - 14:00	7	5964	0.000	7	5964	0.000	7	5964	0.000
14:00 - 14:30	7	5964	0.002	7	5964	0.002	7	5964	0.004
14:30 - 15:00	7	5964	0.000	7	5964	0.000	7	5964	0.000
15:00 - 15:30	7	5964	0.000	7	5964	0.002	7	5964	0.002
15:30 - 16:00	7	5964	0.000	7	5964	0.002	7	5964	0.002
16:00 - 16:30	7	5964	0.000	7	5964	0.002	7	5964	0.002
16:30 - 17:00	7	5964	0.000	7	5964	0.002	7	5964	0.002
17:00 - 17:30	7	5964	0.002	7	5964	0.007	7	5964	0.009
17:30 - 18:00	7	5964	0.000	7	5964	0.000	7	5964	0.000
18:00 - 18:30	7	5964	0.000	7	5964	0.000	7	5964	0.000
18:30 - 19:00	7	5964	0.000	7	5964	0.000	7	5964	0.000
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			0.027			0.023			0.050

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

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

Appendix F.1

B8 TRICS REPORT

Calculation Reference: AUDIT-100307-220311-0321

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
Category : F - WAREHOUSING (COMMERCIAL)
MULTI-MODAL TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST		
	EX	ESSEX	1 days
03	SOUTH WEST		
	DV	DEVON	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: 6560 to 50000 (units: sqm)
Range Selected by User: 3824 to 80066 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/13 to 03/04/19

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

Selected survey days:

Wednesday	1 days
Friday	1 days

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

Selected survey types:

Manual count	2 days
Directional ATC Count	0 days

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

Selected Locations:

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

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

Selected Location Sub Categories:

Industrial Zone	1
Out of Town	1

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

Secondary Filtering selection:

Use Class:

n/a	1 days
B8	1 days

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

Filter by Site Operations Breakdown:
All Surveys Included

Population within 500m Range:
All Surveys Included

Population within 1 mile:

1,000 or Less	1 days
10,001 to 15,000	1 days

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

Population within 5 miles:

125,001 to 250,000	2 days

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

Car ownership within 5 miles:

0.6 to 1.0	1 days
1.1 to 1.5	1 days

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

Travel Plan:

No	2 days

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

PTAL Rating:

No PTAL Present	2 days

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

LIST OF SITES relevant to selection parameters

1 DV-02-F-02 LIDL DISTRIBUTION CENTRE DEVON
CHILLPARK BRAKE
NEAR EXETER
CLYST HONITON
Free Standing (PPS6 Out of Town)
Out of Town
Total Gross floor area: 50000 sqm
Survey date: WEDNESDAY 03/04/19 Survey Type: MANUAL

2 EX-02-F-01 SPORTS SUPPLEMENTS ESSEX
BRUNEL WAY
COLCHESTER
SEVERALLS INDUSTRIAL PK
Edge of Town
Industrial Zone
Total Gross floor area: 6560 sqm
Survey date: FRIDAY 18/05/18 Survey Type: MANUAL

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

TRIP RATE for Land Use 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)
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): 1.52

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00	1	50000	0.024	1	50000	0.020	1	50000	0.044
06:00 - 07:00	1	50000	0.046	1	50000	0.030	1	50000	0.076
07:00 - 08:00	2	28280	0.103	2	28280	0.027	2	28280	0.130
08:00 - 09:00	2	28280	0.136	2	28280	0.046	2	28280	0.182
09:00 - 10:00	2	28280	0.140	2	28280	0.071	2	28280	0.211
10:00 - 11:00	2	28280	0.057	2	28280	0.048	2	28280	0.105
11:00 - 12:00	2	28280	0.067	2	28280	0.078	2	28280	0.145
12:00 - 13:00	2	28280	0.065	2	28280	0.090	2	28280	0.155
13:00 - 14:00	2	28280	0.113	2	28280	0.115	2	28280	0.228
14:00 - 15:00	2	28280	0.039	2	28280	0.081	2	28280	0.120
15:00 - 16:00	2	28280	0.035	2	28280	0.062	2	28280	0.097
16:00 - 17:00	2	28280	0.051	2	28280	0.083	2	28280	0.134
17:00 - 18:00	2	28280	0.016	2	28280	0.090	2	28280	0.106
18:00 - 19:00	2	28280	0.016	2	28280	0.094	2	28280	0.110
19:00 - 20:00	1	50000	0.014	1	50000	0.014	1	50000	0.028
20:00 - 21:00	1	50000	0.028	1	50000	0.022	1	50000	0.050
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.950			0.971			1.921

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

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

Parameter summary

Trip rate parameter range selected:	6560 - 50000 (units: sqm)
Survey date date range:	01/01/13 - 03/04/19
Number of weekdays (Monday-Friday):	2
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

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

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

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00	1	50000	0.016	1	50000	0.014	1	50000	0.030
06:00 - 07:00	1	50000	0.034	1	50000	0.018	1	50000	0.052
07:00 - 08:00	2	28280	0.039	2	28280	0.023	2	28280	0.062
08:00 - 09:00	2	28280	0.053	2	28280	0.037	2	28280	0.090
09:00 - 10:00	2	28280	0.064	2	28280	0.037	2	28280	0.101
10:00 - 11:00	2	28280	0.037	2	28280	0.028	2	28280	0.065
11:00 - 12:00	2	28280	0.025	2	28280	0.050	2	28280	0.075
12:00 - 13:00	2	28280	0.023	2	28280	0.050	2	28280	0.073
13:00 - 14:00	2	28280	0.012	2	28280	0.034	2	28280	0.046
14:00 - 15:00	2	28280	0.004	2	28280	0.014	2	28280	0.018
15:00 - 16:00	2	28280	0.019	2	28280	0.007	2	28280	0.026
16:00 - 17:00	2	28280	0.018	2	28280	0.012	2	28280	0.030
17:00 - 18:00	2	28280	0.007	2	28280	0.012	2	28280	0.019
18:00 - 19:00	2	28280	0.002	2	28280	0.019	2	28280	0.021
19:00 - 20:00	1	50000	0.008	1	50000	0.010	1	50000	0.018
20:00 - 21:00	1	50000	0.012	1	50000	0.008	1	50000	0.020
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.373			0.373			0.746

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/F - WAREHOUSING (COMMERCIAL)
MULTI-MODAL CYCLISTS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00	1	50000	0.000	1	50000	0.000	1	50000	0.000
06:00 - 07:00	1	50000	0.002	1	50000	0.002	1	50000	0.004
07:00 - 08:00	2	28280	0.000	2	28280	0.000	2	28280	0.000
08:00 - 09:00	2	28280	0.002	2	28280	0.002	2	28280	0.004
09:00 - 10:00	2	28280	0.000	2	28280	0.000	2	28280	0.000
10:00 - 11:00	2	28280	0.000	2	28280	0.000	2	28280	0.000
11:00 - 12:00	2	28280	0.000	2	28280	0.000	2	28280	0.000
12:00 - 13:00	2	28280	0.002	2	28280	0.000	2	28280	0.002
13:00 - 14:00	2	28280	0.007	2	28280	0.005	2	28280	0.012
14:00 - 15:00	2	28280	0.000	2	28280	0.002	2	28280	0.002
15:00 - 16:00	2	28280	0.000	2	28280	0.000	2	28280	0.000
16:00 - 17:00	2	28280	0.000	2	28280	0.000	2	28280	0.000
17:00 - 18:00	2	28280	0.000	2	28280	0.002	2	28280	0.002
18:00 - 19:00	2	28280	0.000	2	28280	0.000	2	28280	0.000
19:00 - 20:00	1	50000	0.000	1	50000	0.000	1	50000	0.000
20:00 - 21:00	1	50000	0.000	1	50000	0.000	1	50000	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.013			0.013			0.026

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/F - WAREHOUSING (COMMERCIAL)
MULTI-MODAL VEHICLE OCCUPANTS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00	1	50000	0.032	1	50000	0.024	1	50000	0.056
06:00 - 07:00	1	50000	0.078	1	50000	0.036	1	50000	0.114
07:00 - 08:00	2	28280	0.161	2	28280	0.039	2	28280	0.200
08:00 - 09:00	2	28280	0.205	2	28280	0.060	2	28280	0.265
09:00 - 10:00	2	28280	0.203	2	28280	0.113	2	28280	0.316
10:00 - 11:00	2	28280	0.081	2	28280	0.057	2	28280	0.138
11:00 - 12:00	2	28280	0.090	2	28280	0.115	2	28280	0.205
12:00 - 13:00	2	28280	0.083	2	28280	0.138	2	28280	0.221
13:00 - 14:00	2	28280	0.171	2	28280	0.184	2	28280	0.355
14:00 - 15:00	2	28280	0.050	2	28280	0.113	2	28280	0.163
15:00 - 16:00	2	28280	0.042	2	28280	0.085	2	28280	0.127
16:00 - 17:00	2	28280	0.080	2	28280	0.124	2	28280	0.204
17:00 - 18:00	2	28280	0.023	2	28280	0.136	2	28280	0.159
18:00 - 19:00	2	28280	0.021	2	28280	0.133	2	28280	0.154
19:00 - 20:00	1	50000	0.014	1	50000	0.020	1	50000	0.034
20:00 - 21:00	1	50000	0.036	1	50000	0.032	1	50000	0.068
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.370			1.409			2.779

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/F - WAREHOUSING (COMMERCIAL)
MULTI-MODAL PEDESTRIANS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00	1	50000	0.000	1	50000	0.000	1	50000	0.000
06:00 - 07:00	1	50000	0.000	1	50000	0.000	1	50000	0.000
07:00 - 08:00	2	28280	0.000	2	28280	0.000	2	28280	0.000
08:00 - 09:00	2	28280	0.007	2	28280	0.000	2	28280	0.007
09:00 - 10:00	2	28280	0.004	2	28280	0.000	2	28280	0.004
10:00 - 11:00	2	28280	0.000	2	28280	0.000	2	28280	0.000
11:00 - 12:00	2	28280	0.000	2	28280	0.000	2	28280	0.000
12:00 - 13:00	2	28280	0.009	2	28280	0.000	2	28280	0.009
13:00 - 14:00	2	28280	0.007	2	28280	0.002	2	28280	0.009
14:00 - 15:00	2	28280	0.000	2	28280	0.000	2	28280	0.000
15:00 - 16:00	2	28280	0.000	2	28280	0.000	2	28280	0.000
16:00 - 17:00	2	28280	0.000	2	28280	0.002	2	28280	0.002
17:00 - 18:00	2	28280	0.000	2	28280	0.005	2	28280	0.005
18:00 - 19:00	2	28280	0.000	2	28280	0.005	2	28280	0.005
19:00 - 20:00	1	50000	0.000	1	50000	0.002	1	50000	0.002
20:00 - 21:00	1	50000	0.000	1	50000	0.000	1	50000	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.027			0.016			0.043

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

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

TRIP RATE for Land Use 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)
MULTI-MODAL BUS/TRAM PASSENGERS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00	1	50000	0.002	1	50000	0.000	1	50000	0.002
06:00 - 07:00	1	50000	0.000	1	50000	0.000	1	50000	0.000
07:00 - 08:00	2	28280	0.002	2	28280	0.000	2	28280	0.002
08:00 - 09:00	2	28280	0.009	2	28280	0.000	2	28280	0.009
09:00 - 10:00	2	28280	0.002	2	28280	0.000	2	28280	0.002
10:00 - 11:00	2	28280	0.002	2	28280	0.002	2	28280	0.004
11:00 - 12:00	2	28280	0.004	2	28280	0.000	2	28280	0.004
12:00 - 13:00	2	28280	0.007	2	28280	0.005	2	28280	0.012
13:00 - 14:00	2	28280	0.005	2	28280	0.007	2	28280	0.012
14:00 - 15:00	2	28280	0.000	2	28280	0.002	2	28280	0.002
15:00 - 16:00	2	28280	0.002	2	28280	0.002	2	28280	0.004
16:00 - 17:00	2	28280	0.000	2	28280	0.000	2	28280	0.000
17:00 - 18:00	2	28280	0.000	2	28280	0.011	2	28280	0.011
18:00 - 19:00	2	28280	0.002	2	28280	0.002	2	28280	0.004
19:00 - 20:00	1	50000	0.004	1	50000	0.002	1	50000	0.006
20:00 - 21:00	1	50000	0.004	1	50000	0.000	1	50000	0.004
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.045			0.033			0.078

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/F - WAREHOUSING (COMMERCIAL)
MULTI-MODAL PUBLIC TRANSPORT USERS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00	1	50000	0.002	1	50000	0.000	1	50000	0.002
06:00 - 07:00	1	50000	0.000	1	50000	0.000	1	50000	0.000
07:00 - 08:00	2	28280	0.002	2	28280	0.000	2	28280	0.002
08:00 - 09:00	2	28280	0.009	2	28280	0.000	2	28280	0.009
09:00 - 10:00	2	28280	0.002	2	28280	0.000	2	28280	0.002
10:00 - 11:00	2	28280	0.002	2	28280	0.002	2	28280	0.004
11:00 - 12:00	2	28280	0.004	2	28280	0.000	2	28280	0.004
12:00 - 13:00	2	28280	0.007	2	28280	0.005	2	28280	0.012
13:00 - 14:00	2	28280	0.005	2	28280	0.007	2	28280	0.012
14:00 - 15:00	2	28280	0.000	2	28280	0.002	2	28280	0.002
15:00 - 16:00	2	28280	0.002	2	28280	0.002	2	28280	0.004
16:00 - 17:00	2	28280	0.000	2	28280	0.000	2	28280	0.000
17:00 - 18:00	2	28280	0.000	2	28280	0.011	2	28280	0.011
18:00 - 19:00	2	28280	0.002	2	28280	0.002	2	28280	0.004
19:00 - 20:00	1	50000	0.004	1	50000	0.002	1	50000	0.006
20:00 - 21:00	1	50000	0.004	1	50000	0.000	1	50000	0.004
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.045			0.033			0.078

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/F - WAREHOUSING (COMMERCIAL)
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): 1.52

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00	1	50000	0.034	1	50000	0.024	1	50000	0.058
06:00 - 07:00	1	50000	0.080	1	50000	0.038	1	50000	0.118
07:00 - 08:00	2	28280	0.163	2	28280	0.039	2	28280	0.202
08:00 - 09:00	2	28280	0.223	2	28280	0.062	2	28280	0.285
09:00 - 10:00	2	28280	0.209	2	28280	0.113	2	28280	0.322
10:00 - 11:00	2	28280	0.083	2	28280	0.058	2	28280	0.141
11:00 - 12:00	2	28280	0.094	2	28280	0.115	2	28280	0.209
12:00 - 13:00	2	28280	0.101	2	28280	0.143	2	28280	0.244
13:00 - 14:00	2	28280	0.191	2	28280	0.198	2	28280	0.389
14:00 - 15:00	2	28280	0.050	2	28280	0.117	2	28280	0.167
15:00 - 16:00	2	28280	0.044	2	28280	0.087	2	28280	0.131
16:00 - 17:00	2	28280	0.080	2	28280	0.126	2	28280	0.206
17:00 - 18:00	2	28280	0.023	2	28280	0.154	2	28280	0.177
18:00 - 19:00	2	28280	0.023	2	28280	0.140	2	28280	0.163
19:00 - 20:00	1	50000	0.018	1	50000	0.024	1	50000	0.042
20:00 - 21:00	1	50000	0.040	1	50000	0.032	1	50000	0.072
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.456			1.470			2.926

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/F - WAREHOUSING (COMMERCIAL)
MULTI-MODAL CARS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00	1	50000	0.006	1	50000	0.004	1	50000	0.010
06:00 - 07:00	1	50000	0.010	1	50000	0.010	1	50000	0.020
07:00 - 08:00	2	28280	0.058	2	28280	0.004	2	28280	0.062
08:00 - 09:00	2	28280	0.074	2	28280	0.004	2	28280	0.078
09:00 - 10:00	2	28280	0.058	2	28280	0.023	2	28280	0.081
10:00 - 11:00	2	28280	0.014	2	28280	0.018	2	28280	0.032
11:00 - 12:00	2	28280	0.025	2	28280	0.021	2	28280	0.046
12:00 - 13:00	2	28280	0.032	2	28280	0.034	2	28280	0.066
13:00 - 14:00	2	28280	0.092	2	28280	0.072	2	28280	0.164
14:00 - 15:00	2	28280	0.030	2	28280	0.053	2	28280	0.083
15:00 - 16:00	2	28280	0.012	2	28280	0.050	2	28280	0.062
16:00 - 17:00	2	28280	0.025	2	28280	0.062	2	28280	0.087
17:00 - 18:00	2	28280	0.007	2	28280	0.071	2	28280	0.078
18:00 - 19:00	2	28280	0.012	2	28280	0.067	2	28280	0.079
19:00 - 20:00	1	50000	0.006	1	50000	0.004	1	50000	0.010
20:00 - 21:00	1	50000	0.014	1	50000	0.012	1	50000	0.026
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.475			0.509			0.984

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/F - WAREHOUSING (COMMERCIAL)
MULTI-MODAL LGVS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00	1	50000	0.002	1	50000	0.002	1	50000	0.004
06:00 - 07:00	1	50000	0.000	1	50000	0.000	1	50000	0.000
07:00 - 08:00	2	28280	0.005	2	28280	0.000	2	28280	0.005
08:00 - 09:00	2	28280	0.009	2	28280	0.005	2	28280	0.014
09:00 - 10:00	2	28280	0.018	2	28280	0.011	2	28280	0.029
10:00 - 11:00	2	28280	0.005	2	28280	0.002	2	28280	0.007
11:00 - 12:00	2	28280	0.018	2	28280	0.007	2	28280	0.025
12:00 - 13:00	2	28280	0.007	2	28280	0.007	2	28280	0.014
13:00 - 14:00	2	28280	0.005	2	28280	0.007	2	28280	0.012
14:00 - 15:00	2	28280	0.005	2	28280	0.009	2	28280	0.014
15:00 - 16:00	2	28280	0.002	2	28280	0.005	2	28280	0.007
16:00 - 17:00	2	28280	0.009	2	28280	0.009	2	28280	0.018
17:00 - 18:00	2	28280	0.002	2	28280	0.007	2	28280	0.009
18:00 - 19:00	2	28280	0.002	2	28280	0.007	2	28280	0.009
19:00 - 20:00	1	50000	0.000	1	50000	0.000	1	50000	0.000
20:00 - 21:00	1	50000	0.002	1	50000	0.002	1	50000	0.004
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.091			0.080			0.171

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/F - WAREHOUSING (COMMERCIAL)
MULTI-MODAL MOTOR CYCLES
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00	1	50000	0.000	1	50000	0.000	1	50000	0.000
06:00 - 07:00	1	50000	0.002	1	50000	0.002	1	50000	0.004
07:00 - 08:00	2	28280	0.000	2	28280	0.000	2	28280	0.000
08:00 - 09:00	2	28280	0.000	2	28280	0.000	2	28280	0.000
09:00 - 10:00	2	28280	0.000	2	28280	0.000	2	28280	0.000
10:00 - 11:00	2	28280	0.000	2	28280	0.000	2	28280	0.000
11:00 - 12:00	2	28280	0.000	2	28280	0.000	2	28280	0.000
12:00 - 13:00	2	28280	0.004	2	28280	0.000	2	28280	0.004
13:00 - 14:00	2	28280	0.004	2	28280	0.002	2	28280	0.006
14:00 - 15:00	2	28280	0.000	2	28280	0.005	2	28280	0.005
15:00 - 16:00	2	28280	0.002	2	28280	0.000	2	28280	0.002
16:00 - 17:00	2	28280	0.000	2	28280	0.000	2	28280	0.000
17:00 - 18:00	2	28280	0.000	2	28280	0.000	2	28280	0.000
18:00 - 19:00	2	28280	0.000	2	28280	0.000	2	28280	0.000
19:00 - 20:00	1	50000	0.000	1	50000	0.000	1	50000	0.000
20:00 - 21:00	1	50000	0.000	1	50000	0.000	1	50000	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.012			0.009			0.021

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

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

TRIP RATE for Land Use 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)
MULTI-MODAL Servicing Vehicles
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00	1	50000	0.016	1	50000	0.014	1	50000	0.030
06:00 - 07:00	1	50000	0.034	1	50000	0.018	1	50000	0.052
07:00 - 08:00	2	28280	0.041	2	28280	0.023	2	28280	0.064
08:00 - 09:00	2	28280	0.048	2	28280	0.035	2	28280	0.083
09:00 - 10:00	2	28280	0.060	2	28280	0.037	2	28280	0.097
10:00 - 11:00	2	28280	0.030	2	28280	0.028	2	28280	0.058
11:00 - 12:00	2	28280	0.023	2	28280	0.044	2	28280	0.067
12:00 - 13:00	2	28280	0.014	2	28280	0.044	2	28280	0.058
13:00 - 14:00	2	28280	0.012	2	28280	0.034	2	28280	0.046
14:00 - 15:00	2	28280	0.002	2	28280	0.012	2	28280	0.014
15:00 - 16:00	2	28280	0.014	2	28280	0.005	2	28280	0.019
16:00 - 17:00	2	28280	0.018	2	28280	0.011	2	28280	0.029
17:00 - 18:00	2	28280	0.007	2	28280	0.007	2	28280	0.014
18:00 - 19:00	2	28280	0.002	2	28280	0.019	2	28280	0.021
19:00 - 20:00	1	50000	0.008	1	50000	0.010	1	50000	0.018
20:00 - 21:00	1	50000	0.012	1	50000	0.008	1	50000	0.020
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.341			0.349			0.690

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

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

Appendix F.2

HEALTH CARE TRICS REPORT

Calculation Reference: AUDIT-100307-220311-0342

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 05 - HEALTH
Category : G - GP SURGERIES
MULTI-MODAL TOTAL VEHICLES

Selected regions and areas:

05	EAST MIDLANDS		
	LN	LINCOLNSHIRE	1 days
	NT	NOTTINGHAMSHIRE	1 days
08	NORTH WEST		
	CH	CHESHIRE	1 days
11	SCOTLAND		
	HI	HIGHLAND	1 days
17	ULSTER (NORTHERN IRELAND)		
	AN	ANTRIM	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: 460 to 1400 (units: sqm)
Range Selected by User: 300 to 2500 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/13 to 22/06/21

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

Selected survey days:

Monday	1 days
Tuesday	2 days
Wednesday	2 days

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

Selected survey types:

Manual count	5 days
Directional ATC Count	0 days

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

Selected Locations:

Edge of Town Centre	3
Suburban Area (PPS6 Out of Centre)	2

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

Selected Location Sub Categories:

Residential Zone	4
No Sub Category	1

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

Secondary Filtering selection:

Use Class:

E(e)	5 days

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

Population within 500m Range:

All Surveys Included

Population within 1 mile:

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

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

Population within 5 miles:

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

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

Car ownership within 5 miles:

0.6 to 1.0	4 days
1.1 to 1.5	1 days

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

Travel Plan:

No	5 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	5 days

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

Covid-19 Restrictions	Yes	At least one survey within the selected data set was undertaken at a time of Covid-19 restrictions

LIST OF SITES relevant to selection parameters

1 AN-05-G-05 GP SURGERY ANTRIM
DOURY ROAD
BALLYMENA

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Gross floor area: 1110 sqm
Survey date: TUESDAY *22/06/21* *Survey Type: MANUAL*

2 CH-05-G-06 GP SURGERY CHESHIRE
LONDON ROAD
NORTHWICH

Edge of Town Centre
Residential Zone
Total Gross floor area: 1400 sqm
Survey date: WEDNESDAY *21/04/21* *Survey Type: MANUAL*

3 HI-05-G-01 GP SURGERY HIGHLAND
BALLIFEARY LANE
INVERNESS

Edge of Town Centre
No Sub Category
Total Gross floor area: 979 sqm
Survey date: MONDAY *16/04/18* *Survey Type: MANUAL*

4 LN-05-G-01 GP SURGERY LINCOLNSHIRE
95 MONKS ROAD
LINCOLN

Edge of Town Centre
Residential Zone
Total Gross floor area: 506 sqm
Survey date: TUESDAY *25/06/13* *Survey Type: MANUAL*

5 NT-05-G-01 GP SURGERY NOTTINGHAMSHIRE
MANSFIELD ROAD
NOTTINGHAM

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Gross floor area: 460 sqm
Survey date: WEDNESDAY *24/06/15* *Survey Type: MANUAL*

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

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
DE-05-G-02	Not Comparable
DL-05-G-02	Not Comparable
DN-05-G-01	Not Comparable
DS-05-G-01	Not Comparable
DU-05-G-01	Not Comparable
DV-05-G-01	Not Comparable
NY-05-G-02	Not Comparable
SM-05-G-02	Not Comparable

TRIP RATE for Land Use 05 - HEALTH/G - GP SURGERIES
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): 2.02

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	4	999	0.551	4	999	0.050	4	999	0.601
08:00 - 09:00	5	891	1.526	5	891	0.471	5	891	1.997
09:00 - 10:00	5	891	1.549	5	891	1.279	5	891	2.828
10:00 - 11:00	5	891	1.481	5	891	1.459	5	891	2.940
11:00 - 12:00	5	891	1.481	5	891	1.684	5	891	3.165
12:00 - 13:00	5	891	1.212	5	891	1.302	5	891	2.514
13:00 - 14:00	5	891	0.808	5	891	0.853	5	891	1.661
14:00 - 15:00	5	891	1.122	5	891	1.167	5	891	2.289
15:00 - 16:00	5	891	1.145	5	891	1.122	5	891	2.267
16:00 - 17:00	5	891	0.965	5	891	1.212	5	891	2.177
17:00 - 18:00	5	891	0.539	5	891	1.033	5	891	1.572
18:00 - 19:00	5	891	0.112	5	891	0.606	5	891	0.718
19:00 - 20:00	1	1400	0.000	1	1400	0.500	1	1400	0.500
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			12.491			12.738			25.229

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

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

Parameter summary

Trip rate parameter range selected:	460 - 1400 (units: sqm)
Survey date date range:	01/01/13 - 22/06/21
Number of weekdays (Monday-Friday):	5
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	1
Surveys manually removed from selection:	8

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

TRIP RATE for Land Use 05 - HEALTH/G - GP SURGERIES
MULTI-MODAL TAXIS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	4	999	0.000	4	999	0.000	4	999	0.000
08:00 - 09:00	5	891	0.022	5	891	0.022	5	891	0.044
09:00 - 10:00	5	891	0.022	5	891	0.022	5	891	0.044
10:00 - 11:00	5	891	0.067	5	891	0.067	5	891	0.134
11:00 - 12:00	5	891	0.045	5	891	0.045	5	891	0.090
12:00 - 13:00	5	891	0.022	5	891	0.022	5	891	0.044
13:00 - 14:00	5	891	0.022	5	891	0.022	5	891	0.044
14:00 - 15:00	5	891	0.022	5	891	0.022	5	891	0.044
15:00 - 16:00	5	891	0.045	5	891	0.045	5	891	0.090
16:00 - 17:00	5	891	0.000	5	891	0.000	5	891	0.000
17:00 - 18:00	5	891	0.022	5	891	0.022	5	891	0.044
18:00 - 19:00	5	891	0.000	5	891	0.000	5	891	0.000
19:00 - 20:00	1	1400	0.000	1	1400	0.000	1	1400	0.000
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.289			0.289			0.578

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

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

TRIP RATE for Land Use 05 - HEALTH/G - GP SURGERIES
MULTI-MODAL OGVS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	4	999	0.000	4	999	0.000	4	999	0.000
08:00 - 09:00	5	891	0.000	5	891	0.000	5	891	0.000
09:00 - 10:00	5	891	0.000	5	891	0.000	5	891	0.000
10:00 - 11:00	5	891	0.000	5	891	0.000	5	891	0.000
11:00 - 12:00	5	891	0.000	5	891	0.000	5	891	0.000
12:00 - 13:00	5	891	0.000	5	891	0.000	5	891	0.000
13:00 - 14:00	5	891	0.000	5	891	0.000	5	891	0.000
14:00 - 15:00	5	891	0.000	5	891	0.000	5	891	0.000
15:00 - 16:00	5	891	0.000	5	891	0.000	5	891	0.000
16:00 - 17:00	5	891	0.022	5	891	0.022	5	891	0.044
17:00 - 18:00	5	891	0.000	5	891	0.000	5	891	0.000
18:00 - 19:00	5	891	0.000	5	891	0.000	5	891	0.000
19:00 - 20:00	1	1400	0.000	1	1400	0.000	1	1400	0.000
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.022			0.022			0.044

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

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

TRIP RATE for Land Use 05 - HEALTH/G - GP SURGERIES
MULTI-MODAL CYCLISTS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	4	999	0.000	4	999	0.000	4	999	0.000
08:00 - 09:00	5	891	0.067	5	891	0.022	5	891	0.089
09:00 - 10:00	5	891	0.067	5	891	0.045	5	891	0.112
10:00 - 11:00	5	891	0.045	5	891	0.045	5	891	0.090
11:00 - 12:00	5	891	0.022	5	891	0.022	5	891	0.044
12:00 - 13:00	5	891	0.022	5	891	0.000	5	891	0.022
13:00 - 14:00	5	891	0.022	5	891	0.045	5	891	0.067
14:00 - 15:00	5	891	0.045	5	891	0.022	5	891	0.067
15:00 - 16:00	5	891	0.022	5	891	0.000	5	891	0.022
16:00 - 17:00	5	891	0.022	5	891	0.045	5	891	0.067
17:00 - 18:00	5	891	0.000	5	891	0.067	5	891	0.067
18:00 - 19:00	5	891	0.000	5	891	0.000	5	891	0.000
19:00 - 20:00	1	1400	0.000	1	1400	0.000	1	1400	0.000
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.334			0.313			0.647

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

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

TRIP RATE for Land Use 05 - HEALTH/G - GP SURGERIES
MULTI-MODAL VEHICLE OCCUPANTS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	4	999	0.576	4	999	0.050	4	999	0.626
08:00 - 09:00	5	891	1.796	5	891	0.561	5	891	2.357
09:00 - 10:00	5	891	2.200	5	891	1.684	5	891	3.884
10:00 - 11:00	5	891	1.841	5	891	1.841	5	891	3.682
11:00 - 12:00	5	891	1.841	5	891	2.088	5	891	3.929
12:00 - 13:00	5	891	1.773	5	891	1.863	5	891	3.636
13:00 - 14:00	5	891	1.055	5	891	1.145	5	891	2.200
14:00 - 15:00	5	891	1.526	5	891	1.481	5	891	3.007
15:00 - 16:00	5	891	1.414	5	891	1.504	5	891	2.918
16:00 - 17:00	5	891	1.257	5	891	1.639	5	891	2.896
17:00 - 18:00	5	891	0.696	5	891	1.504	5	891	2.200
18:00 - 19:00	5	891	0.157	5	891	0.741	5	891	0.898
19:00 - 20:00	1	1400	0.000	1	1400	0.500	1	1400	0.500
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			16.132			16.601			32.733

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

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

TRIP RATE for Land Use 05 - HEALTH/G - GP SURGERIES
MULTI-MODAL PEDESTRIANS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	4	999	0.000	4	999	0.000	4	999	0.000
08:00 - 09:00	5	891	0.337	5	891	0.112	5	891	0.449
09:00 - 10:00	5	891	0.718	5	891	0.584	5	891	1.302
10:00 - 11:00	5	891	1.212	5	891	0.920	5	891	2.132
11:00 - 12:00	5	891	0.943	5	891	0.875	5	891	1.818
12:00 - 13:00	5	891	1.077	5	891	1.190	5	891	2.267
13:00 - 14:00	5	891	0.629	5	891	0.606	5	891	1.235
14:00 - 15:00	5	891	0.651	5	891	0.629	5	891	1.280
15:00 - 16:00	5	891	0.831	5	891	0.786	5	891	1.617
16:00 - 17:00	5	891	0.763	5	891	0.988	5	891	1.751
17:00 - 18:00	5	891	0.359	5	891	0.718	5	891	1.077
18:00 - 19:00	5	891	0.022	5	891	0.157	5	891	0.179
19:00 - 20:00	1	1400	0.000	1	1400	0.000	1	1400	0.000
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			7.542			7.565			15.107

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

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

TRIP RATE for Land Use 05 - HEALTH/G - GP SURGERIES
MULTI-MODAL BUS/TRAM PASSENGERS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	4	999	0.000	4	999	0.000	4	999	0.000
08:00 - 09:00	5	891	0.090	5	891	0.000	5	891	0.090
09:00 - 10:00	5	891	0.135	5	891	0.022	5	891	0.157
10:00 - 11:00	5	891	0.292	5	891	0.180	5	891	0.472
11:00 - 12:00	5	891	0.090	5	891	0.135	5	891	0.225
12:00 - 13:00	5	891	0.090	5	891	0.112	5	891	0.202
13:00 - 14:00	5	891	0.112	5	891	0.157	5	891	0.269
14:00 - 15:00	5	891	0.090	5	891	0.135	5	891	0.225
15:00 - 16:00	5	891	0.090	5	891	0.135	5	891	0.225
16:00 - 17:00	5	891	0.067	5	891	0.090	5	891	0.157
17:00 - 18:00	5	891	0.022	5	891	0.067	5	891	0.089
18:00 - 19:00	5	891	0.000	5	891	0.022	5	891	0.022
19:00 - 20:00	1	1400	0.000	1	1400	0.000	1	1400	0.000
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.078			1.055			2.133

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

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

TRIP RATE for Land Use 05 - HEALTH/G - GP SURGERIES
MULTI-MODAL TOTAL RAIL PASSENGERS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	4	999	0.000	4	999	0.000	4	999	0.000
08:00 - 09:00	5	891	0.022	5	891	0.000	5	891	0.022
09:00 - 10:00	5	891	0.000	5	891	0.000	5	891	0.000
10:00 - 11:00	5	891	0.000	5	891	0.000	5	891	0.000
11:00 - 12:00	5	891	0.000	5	891	0.000	5	891	0.000
12:00 - 13:00	5	891	0.000	5	891	0.000	5	891	0.000
13:00 - 14:00	5	891	0.000	5	891	0.000	5	891	0.000
14:00 - 15:00	5	891	0.000	5	891	0.000	5	891	0.000
15:00 - 16:00	5	891	0.000	5	891	0.000	5	891	0.000
16:00 - 17:00	5	891	0.000	5	891	0.000	5	891	0.000
17:00 - 18:00	5	891	0.000	5	891	0.022	5	891	0.022
18:00 - 19:00	5	891	0.000	5	891	0.000	5	891	0.000
19:00 - 20:00	1	1400	0.000	1	1400	0.000	1	1400	0.000
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.022			0.022			0.044

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

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

TRIP RATE for Land Use 05 - HEALTH/G - GP SURGERIES
MULTI-MODAL PUBLIC TRANSPORT USERS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	4	999	0.000	4	999	0.000	4	999	0.000
08:00 - 09:00	5	891	0.112	5	891	0.000	5	891	0.112
09:00 - 10:00	5	891	0.135	5	891	0.022	5	891	0.157
10:00 - 11:00	5	891	0.292	5	891	0.180	5	891	0.472
11:00 - 12:00	5	891	0.090	5	891	0.135	5	891	0.225
12:00 - 13:00	5	891	0.090	5	891	0.112	5	891	0.202
13:00 - 14:00	5	891	0.112	5	891	0.157	5	891	0.269
14:00 - 15:00	5	891	0.090	5	891	0.135	5	891	0.225
15:00 - 16:00	5	891	0.090	5	891	0.135	5	891	0.225
16:00 - 17:00	5	891	0.067	5	891	0.090	5	891	0.157
17:00 - 18:00	5	891	0.022	5	891	0.090	5	891	0.112
18:00 - 19:00	5	891	0.000	5	891	0.022	5	891	0.022
19:00 - 20:00	1	1400	0.000	1	1400	0.000	1	1400	0.000
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.100			1.078			2.178

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

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

TRIP RATE for Land Use 05 - HEALTH/G - GP SURGERIES
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): 2.02

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	4	999	0.576	4	999	0.050	4	999	0.626
08:00 - 09:00	5	891	2.312	5	891	0.696	5	891	3.008
09:00 - 10:00	5	891	3.120	5	891	2.334	5	891	5.454
10:00 - 11:00	5	891	3.389	5	891	2.985	5	891	6.374
11:00 - 12:00	5	891	2.896	5	891	3.120	5	891	6.016
12:00 - 13:00	5	891	2.963	5	891	3.165	5	891	6.128
13:00 - 14:00	5	891	1.818	5	891	1.953	5	891	3.771
14:00 - 15:00	5	891	2.312	5	891	2.267	5	891	4.579
15:00 - 16:00	5	891	2.357	5	891	2.424	5	891	4.781
16:00 - 17:00	5	891	2.110	5	891	2.761	5	891	4.871
17:00 - 18:00	5	891	1.077	5	891	2.379	5	891	3.456
18:00 - 19:00	5	891	0.180	5	891	0.920	5	891	1.100
19:00 - 20:00	1	1400	0.000	1	1400	0.500	1	1400	0.500
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			25.110			25.554			50.664

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

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

TRIP RATE for Land Use 05 - HEALTH/G - GP SURGERIES
MULTI-MODAL CARS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	4	999	0.551	4	999	0.050	4	999	0.601
08:00 - 09:00	5	891	1.437	5	891	0.426	5	891	1.863
09:00 - 10:00	5	891	1.392	5	891	1.122	5	891	2.514
10:00 - 11:00	5	891	1.167	5	891	1.122	5	891	2.289
11:00 - 12:00	5	891	1.212	5	891	1.481	5	891	2.693
12:00 - 13:00	5	891	0.988	5	891	1.055	5	891	2.043
13:00 - 14:00	5	891	0.718	5	891	0.741	5	891	1.459
14:00 - 15:00	5	891	0.920	5	891	1.010	5	891	1.930
15:00 - 16:00	5	891	0.943	5	891	0.920	5	891	1.863
16:00 - 17:00	5	891	0.898	5	891	1.077	5	891	1.975
17:00 - 18:00	5	891	0.494	5	891	0.988	5	891	1.482
18:00 - 19:00	5	891	0.112	5	891	0.584	5	891	0.696
19:00 - 20:00	1	1400	0.000	1	1400	0.500	1	1400	0.500
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			10.832			11.076			21.908

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

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

TRIP RATE for Land Use 05 - HEALTH/G - GP SURGERIES
MULTI-MODAL LGVS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	4	999	0.000	4	999	0.000	4	999	0.000
08:00 - 09:00	5	891	0.045	5	891	0.022	5	891	0.067
09:00 - 10:00	5	891	0.135	5	891	0.135	5	891	0.270
10:00 - 11:00	5	891	0.224	5	891	0.247	5	891	0.471
11:00 - 12:00	5	891	0.202	5	891	0.157	5	891	0.359
12:00 - 13:00	5	891	0.202	5	891	0.202	5	891	0.404
13:00 - 14:00	5	891	0.045	5	891	0.067	5	891	0.112
14:00 - 15:00	5	891	0.180	5	891	0.135	5	891	0.315
15:00 - 16:00	5	891	0.157	5	891	0.157	5	891	0.314
16:00 - 17:00	5	891	0.045	5	891	0.112	5	891	0.157
17:00 - 18:00	5	891	0.022	5	891	0.022	5	891	0.044
18:00 - 19:00	5	891	0.000	5	891	0.000	5	891	0.000
19:00 - 20:00	1	1400	0.000	1	1400	0.000	1	1400	0.000
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.257			1.256			2.513

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

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

TRIP RATE for Land Use 05 - HEALTH/G - GP SURGERIES
MULTI-MODAL MOTOR CYCLES
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

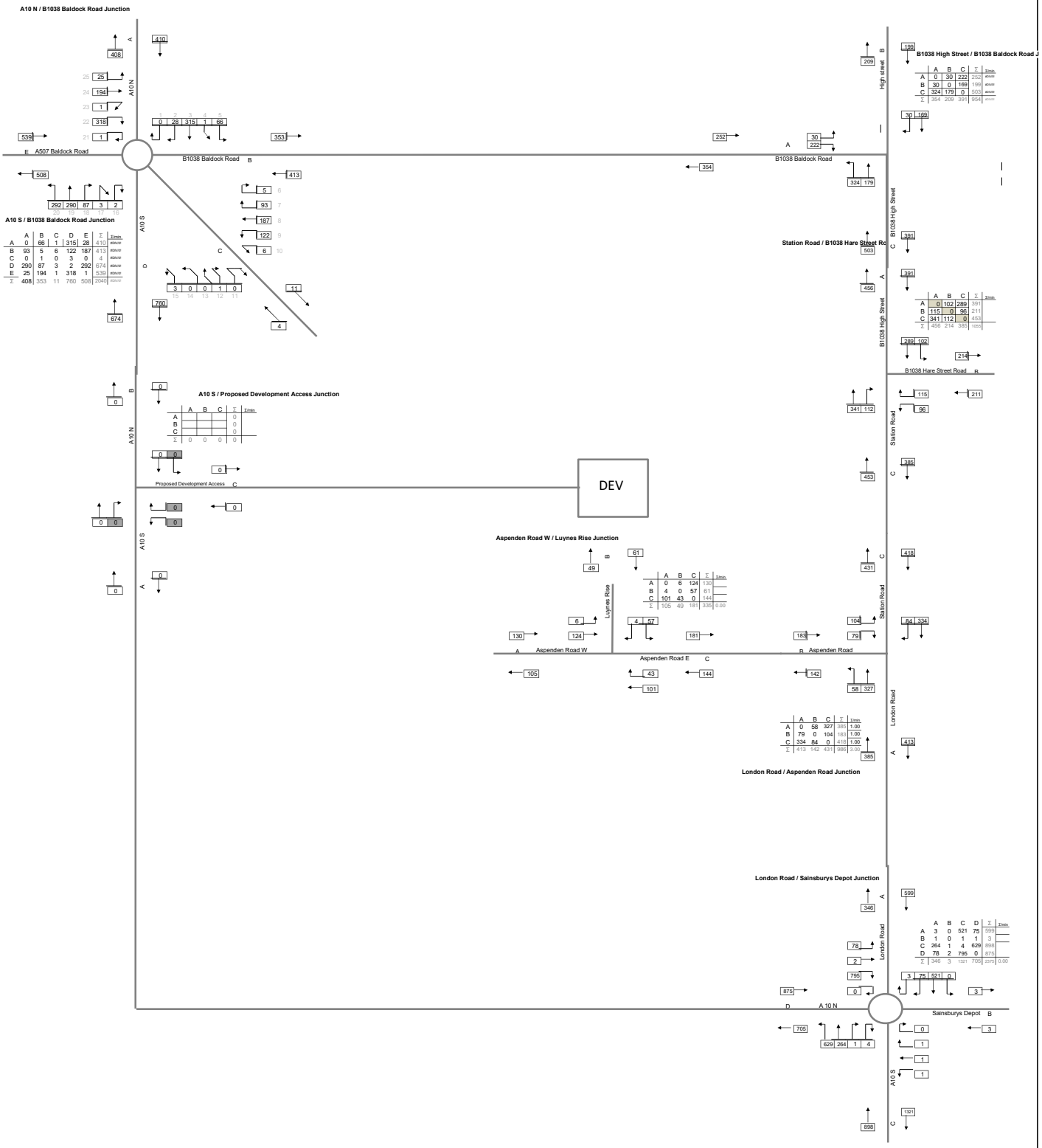
	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	4	999	0.000	4	999	0.000	4	999	0.000
08:00 - 09:00	5	891	0.022	5	891	0.000	5	891	0.022
09:00 - 10:00	5	891	0.000	5	891	0.000	5	891	0.000
10:00 - 11:00	5	891	0.022	5	891	0.022	5	891	0.044
11:00 - 12:00	5	891	0.022	5	891	0.000	5	891	0.022
12:00 - 13:00	5	891	0.000	5	891	0.022	5	891	0.022
13:00 - 14:00	5	891	0.022	5	891	0.022	5	891	0.044
14:00 - 15:00	5	891	0.000	5	891	0.000	5	891	0.000
15:00 - 16:00	5	891	0.000	5	891	0.000	5	891	0.000
16:00 - 17:00	5	891	0.000	5	891	0.000	5	891	0.000
17:00 - 18:00	5	891	0.000	5	891	0.000	5	891	0.000
18:00 - 19:00	5	891	0.000	5	891	0.022	5	891	0.022
19:00 - 20:00	1	1400	0.000	1	1400	0.000	1	1400	0.000
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.088			0.088			0.176

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

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

Appendix G

BUNTINGFORD WEST TRAFFIC FLOW DIAGRAMS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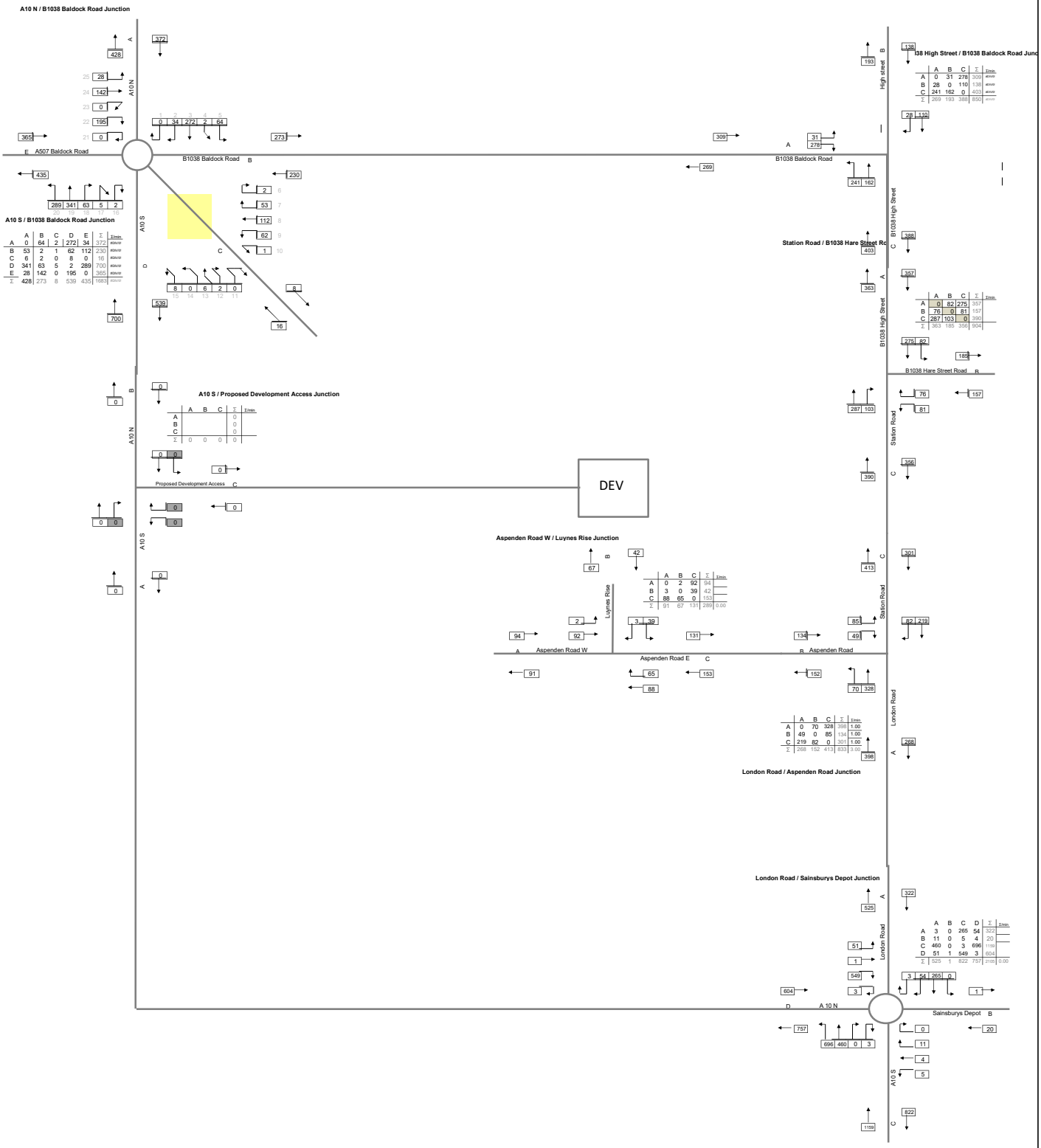
A10 S / B1038 Baldock Road Junction
A10 S / Proposed Development Access Junction
Aspenden Road W / Luynes Rise Junction
London Road / Aspenden Road Junction
London Road / Sainsburys Depot Junction
B1038 High Street / B1038 Baldock Road J
Station Road / B1038 Hare Street Ro
B1038 Hare Street Road
DEV
A507 Baldock Road
B1038 Baldock Road
A10 N
A10 S
High street
B1038 High Street
Station Road
Luynes Rise
Aspenden Road W
Aspenden Road E
Aspenden Road
London Road
Sainsburys Depot
Proposed Development Access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A10 S / B1038 Baldock Road Junction
A10 S / Proposed Development Access Junction
Aspenden Road W / Luynes Rise Junction
London Road / Aspenden Road Junction
London Road / Sainsburys Depot Junction
B1038 High Street / B1038 Baldock Road Junc
Station Road / B1038 Hare Street Ro
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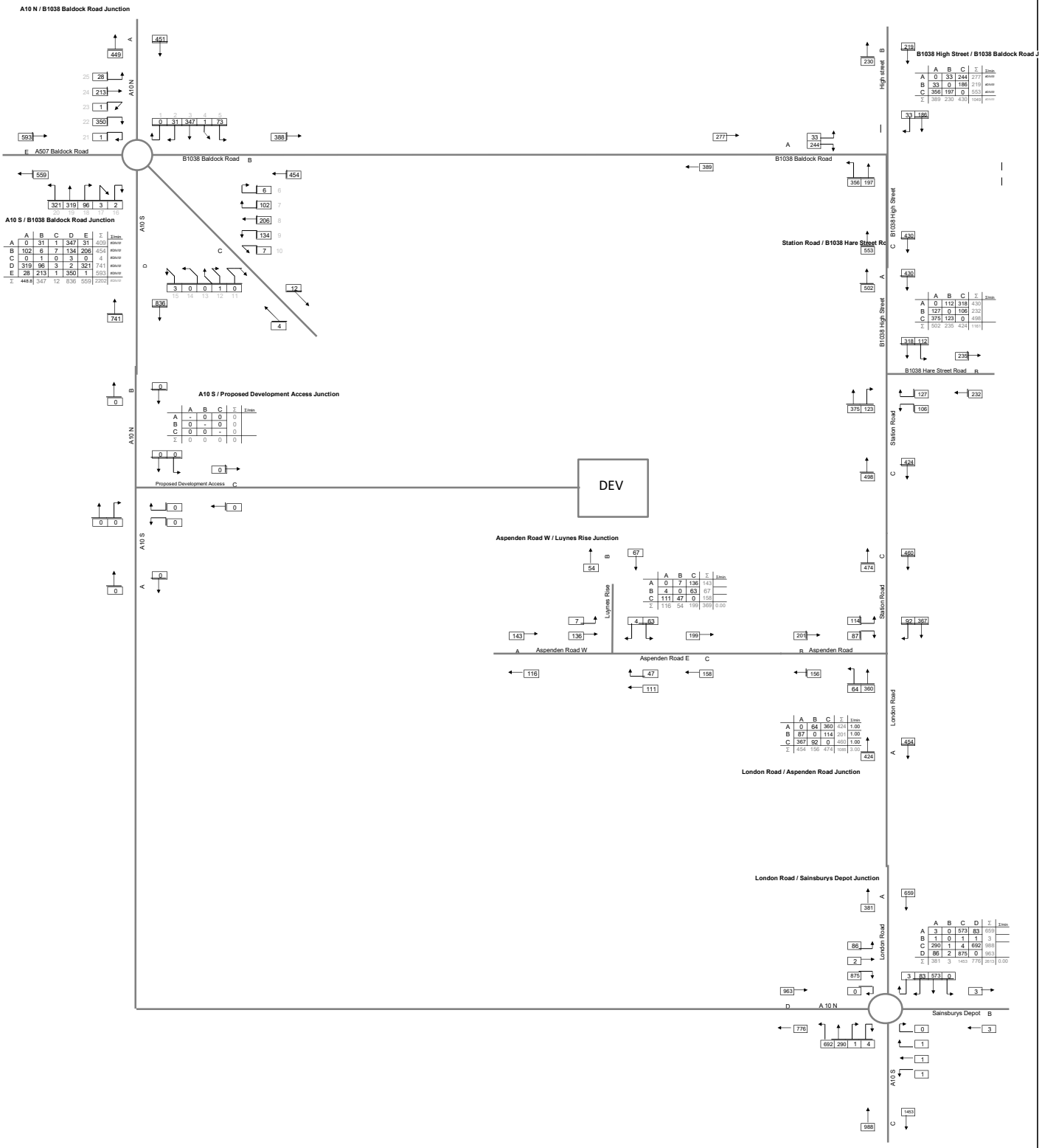
B1038 High Street
Station Road
Luynes Rise
Aspenden Road W
Aspenden Road E
Aspenden Road
London Road
Sainsburys Depot
Proposed Development Access


A10 N / B1038 Baldock Road Junction
A10 S / B1038 Baldock Road Junction
A10 S / Proposed Development Access Junction
Aspenden Road W / Luynes Rise Junction
London Road / Aspenden Road Junction
London Road / Sainsburys Depot Junction
B1038 High Street / B1038 Baldock Road J
Station Road / B1038 Hare Street Ro
B1038 Hare Street Road
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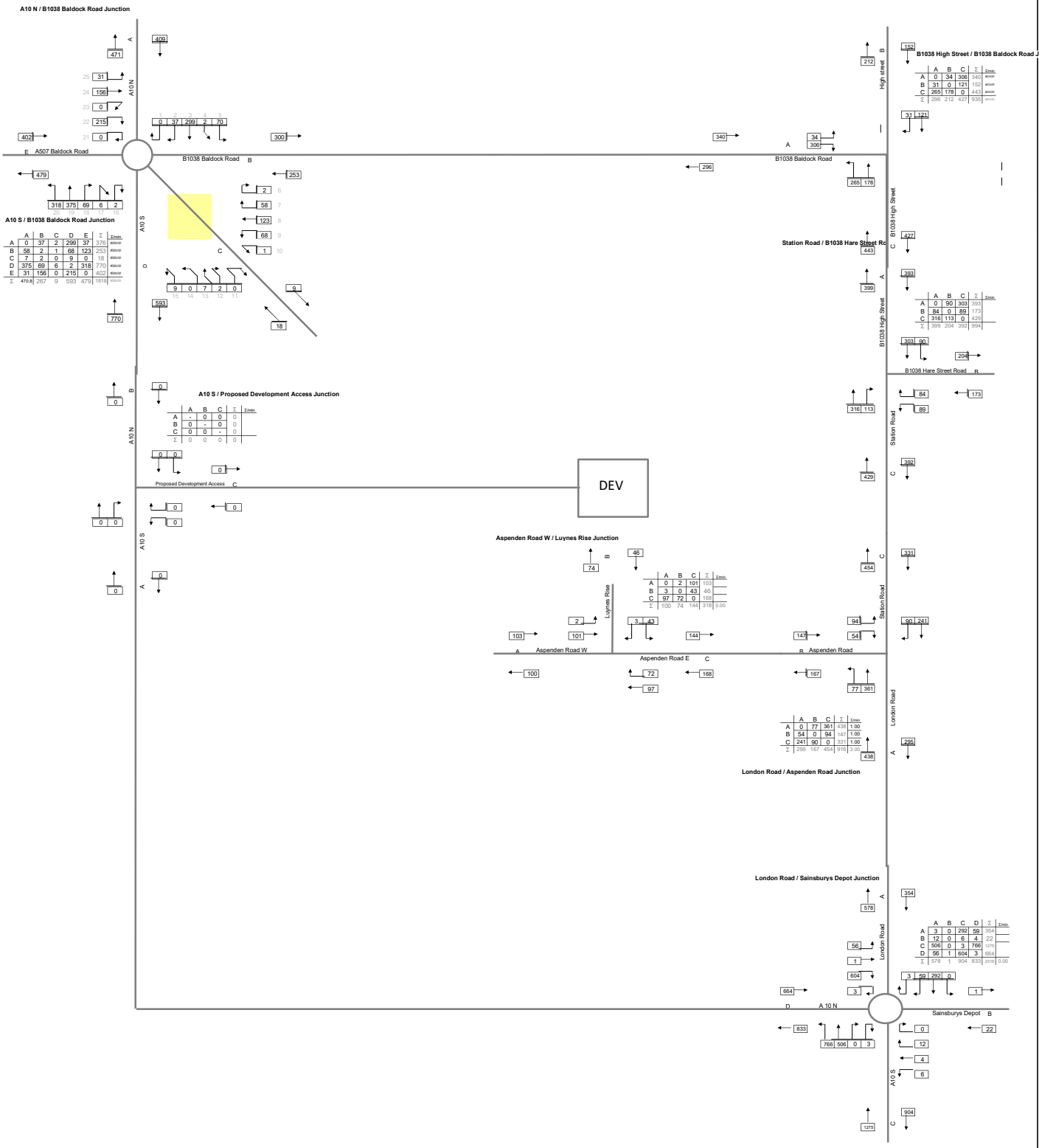
A507 Baldock Road
B1038 Baldock Road
A10 N
A10 S
High street
B1038 High Street
Station Road
Luynes Rise
Aspenden Road W
Aspenden Road E
Aspenden Road
London Road
Sainsburys Depot
Proposed Development Access

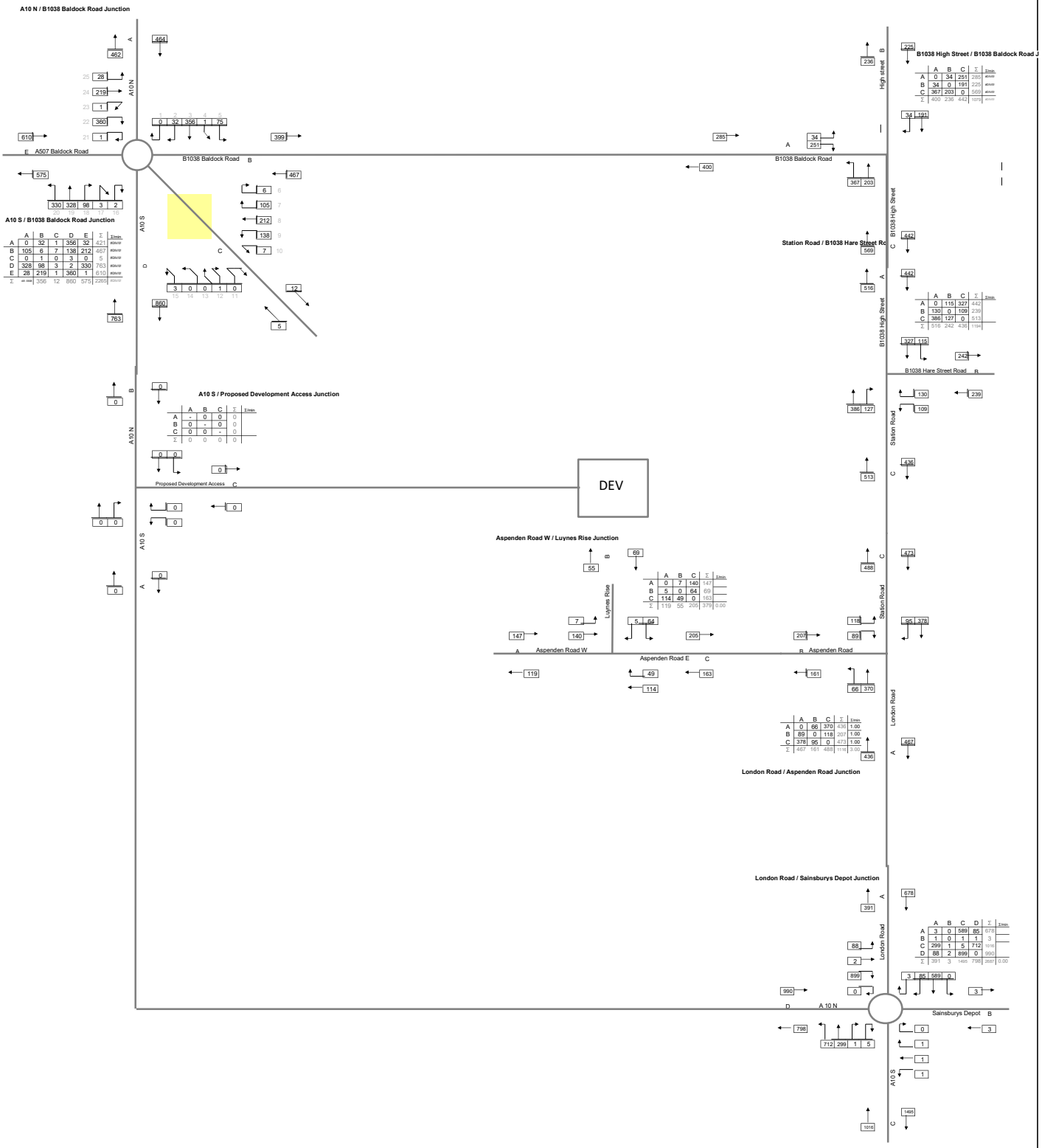
Covid Recovery-Traffic Growth F 1.1

1100



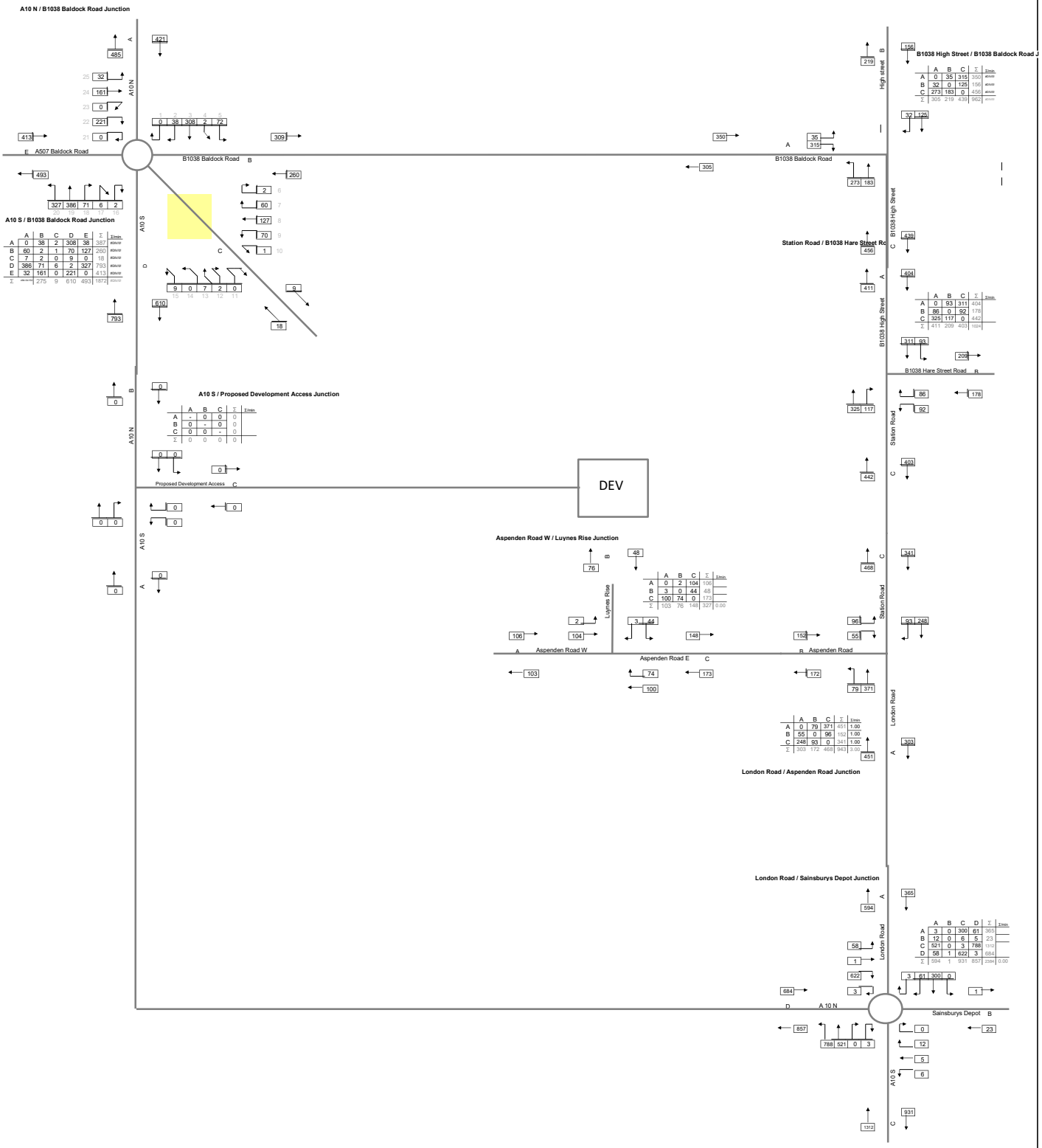
West Buntingford
70007498
Traffic Flow Diagrams
PM Peak (16:00-17:00)
2022 Covid Recovery Scenario
All Vehicles

Traffic Growth Factor 1.03



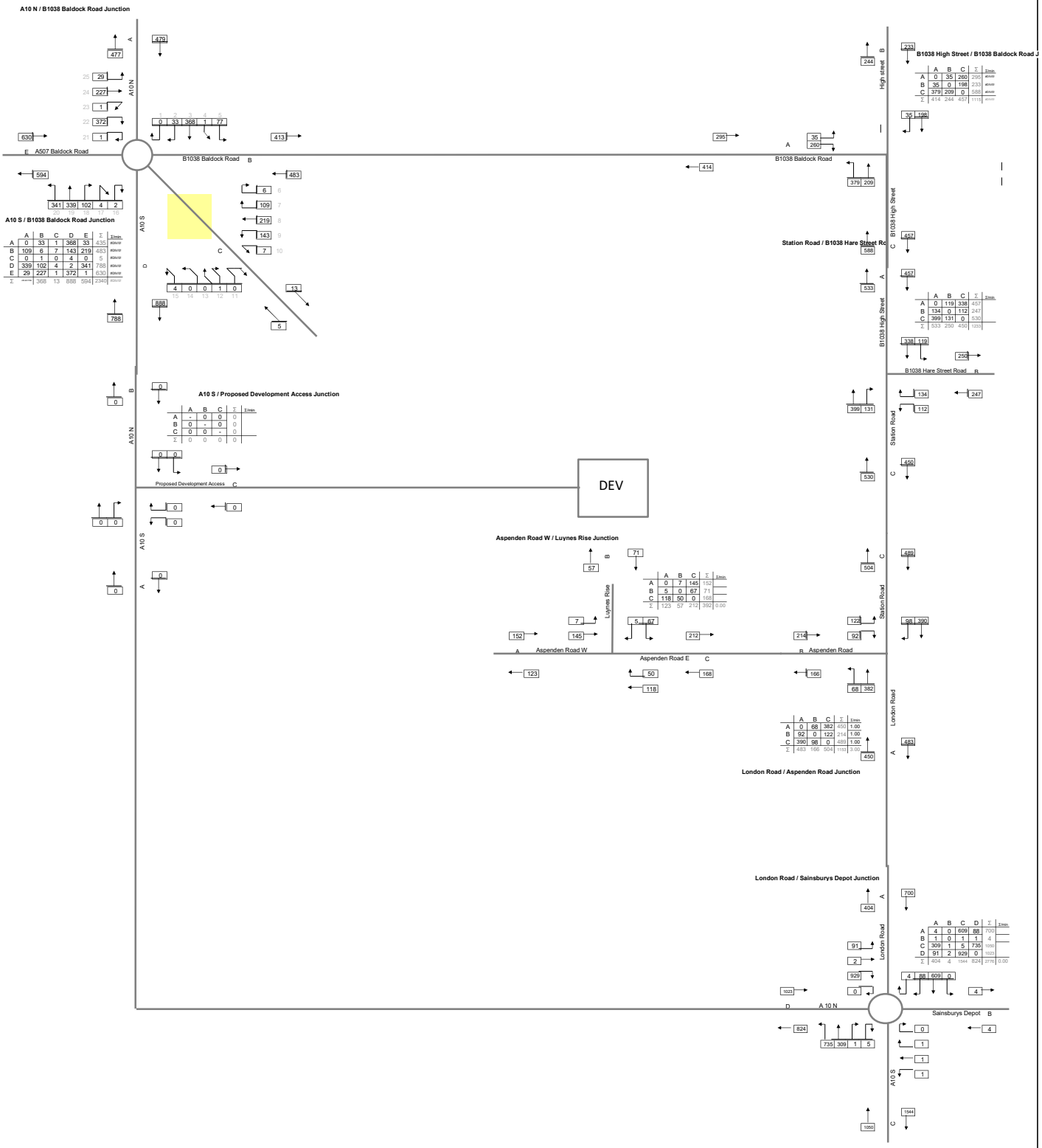
West Buntingford
70007498
Traffic Flow Diagrams
AM Peak (08:00-09:00)
2024 Base Scenario
All Vehicles

Traffic Growth Factor 1.03



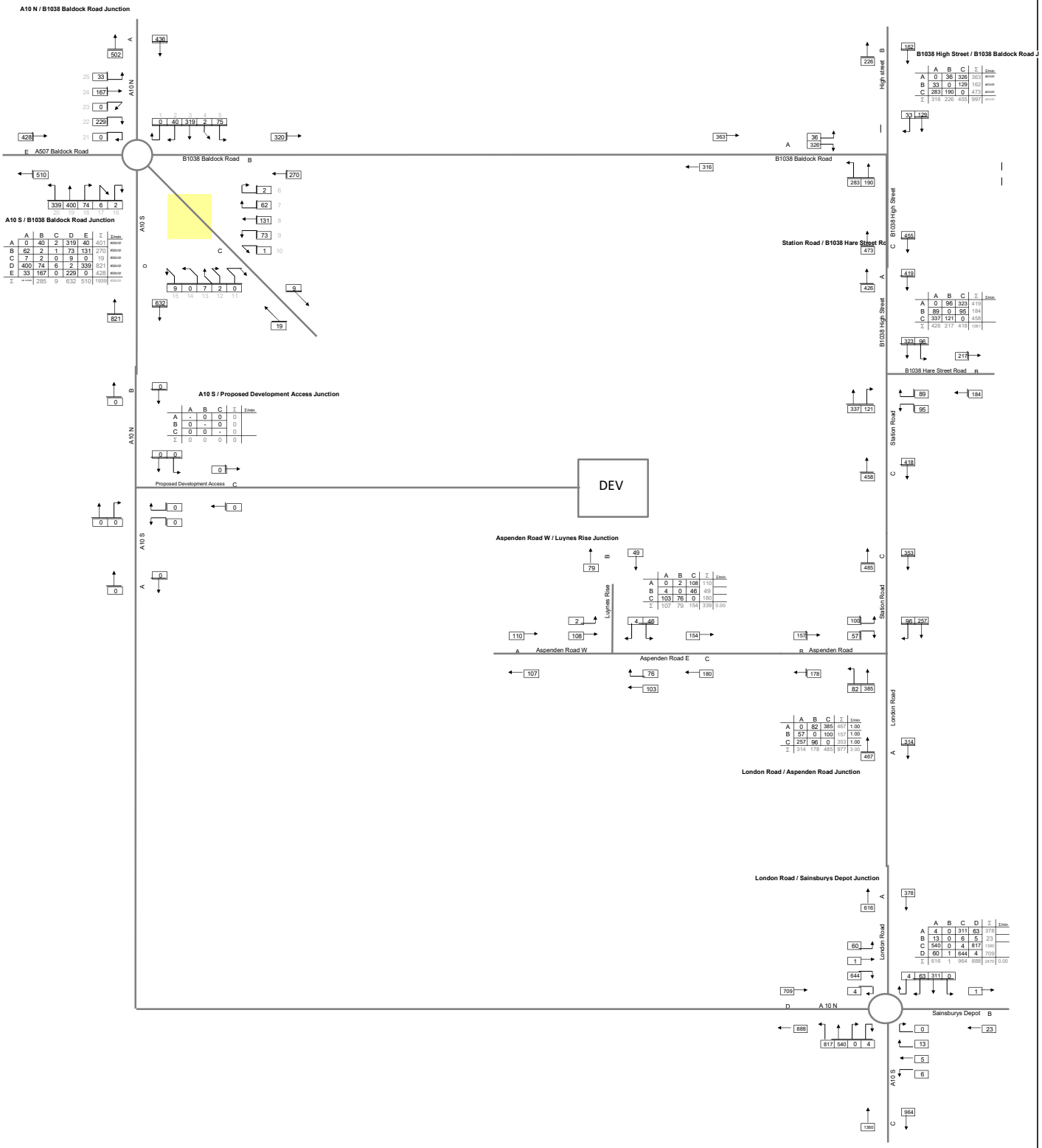
West Buntingford
70007498
Traffic Flow Diagrams
PM Peak (16:00-17:00)
2024 Base Scenario
All Vehicles

Traffic Growth Factor 1.03

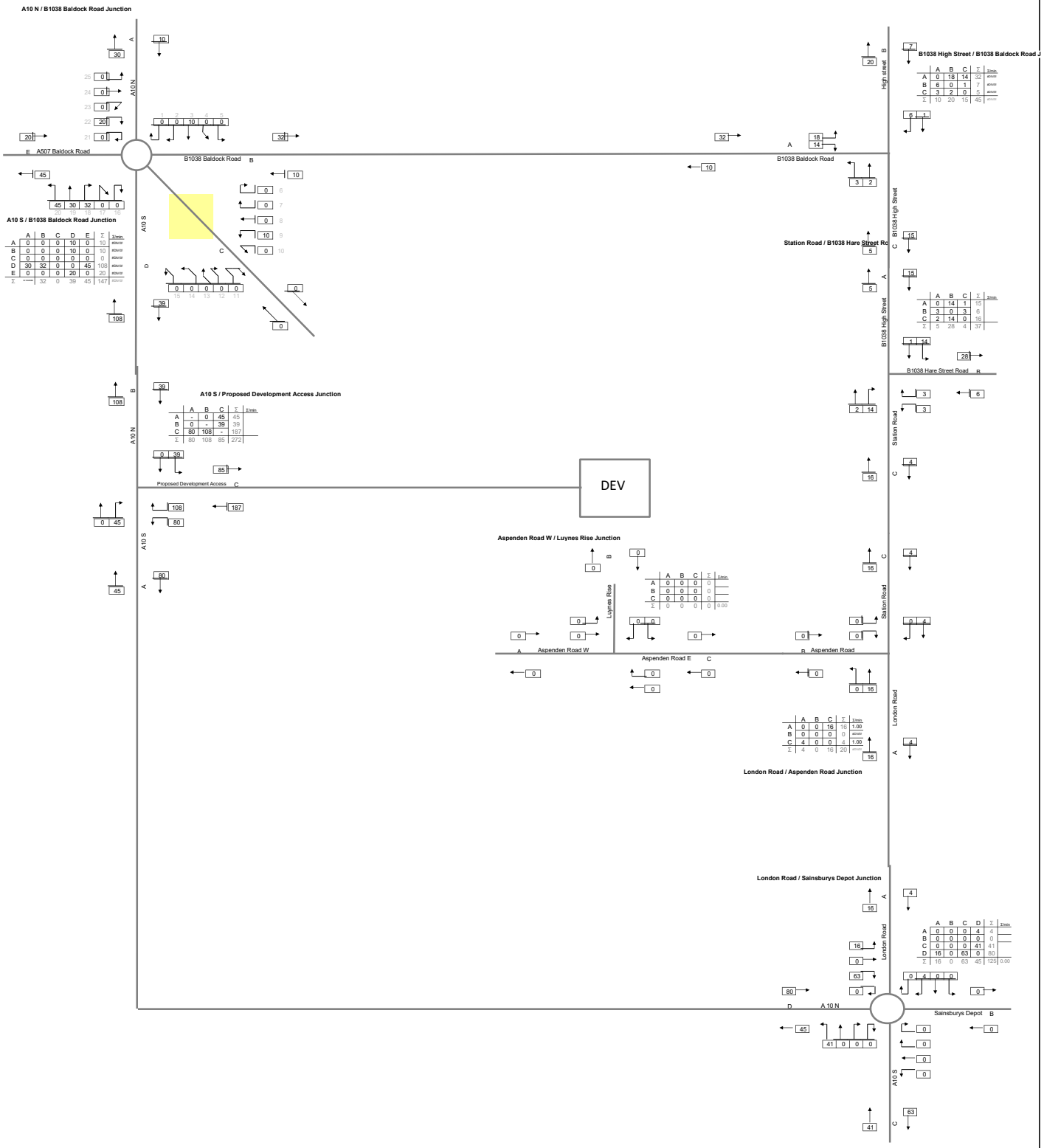


West Buntingford
70007498
Traffic Flow Diagrams
AM Peak (08:00-09:00)
2029 Base Scenario
All Vehicles

Traffic Growth Factor 1.04



West Buntingford
70007498
Traffic Flow Diagrams
PM Peak (16:00-17:00)
2029 Base Scenario
All Vehicles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A10 S / B1038 Baldock Road Junction
A10 S / Proposed Development Access Junction
B1038 High Street / B1038 Baldock Road J
Station Road / B1038 Hare Street Ro
B1038 Hare Street Road
Aspenden Road W / Luynes Rise Junction
London Road / Aspenden Road Junction
London Road / Sainsburys Depot Junction
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B1038 Baldock Road
A10 N
A10 S
B1038 High Street
Station Road
Luynes Rise
Aspenden Road W
Aspenden Road E
Aspenden Road
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Sainsburys Depot
Proposed Development Access
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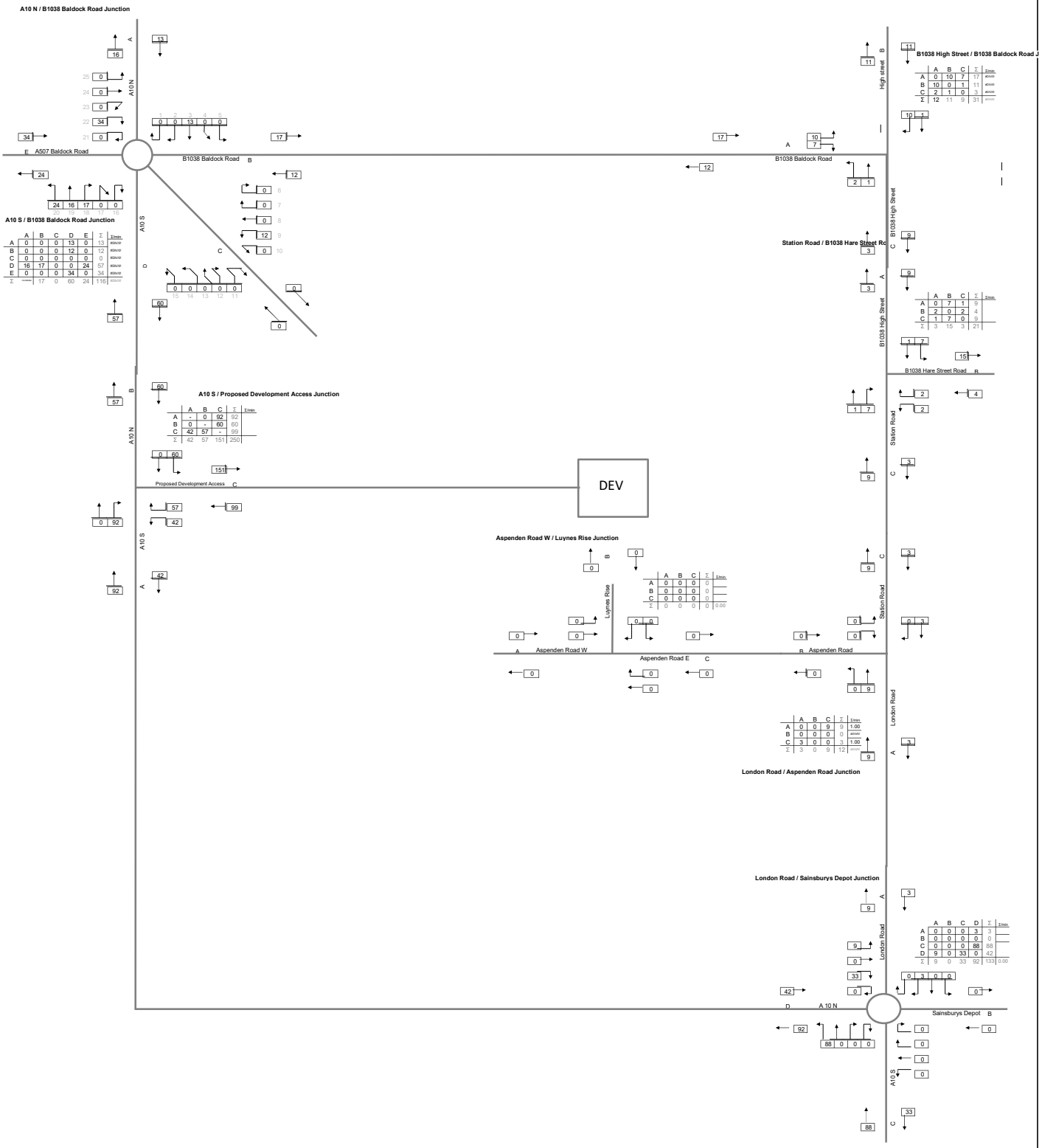
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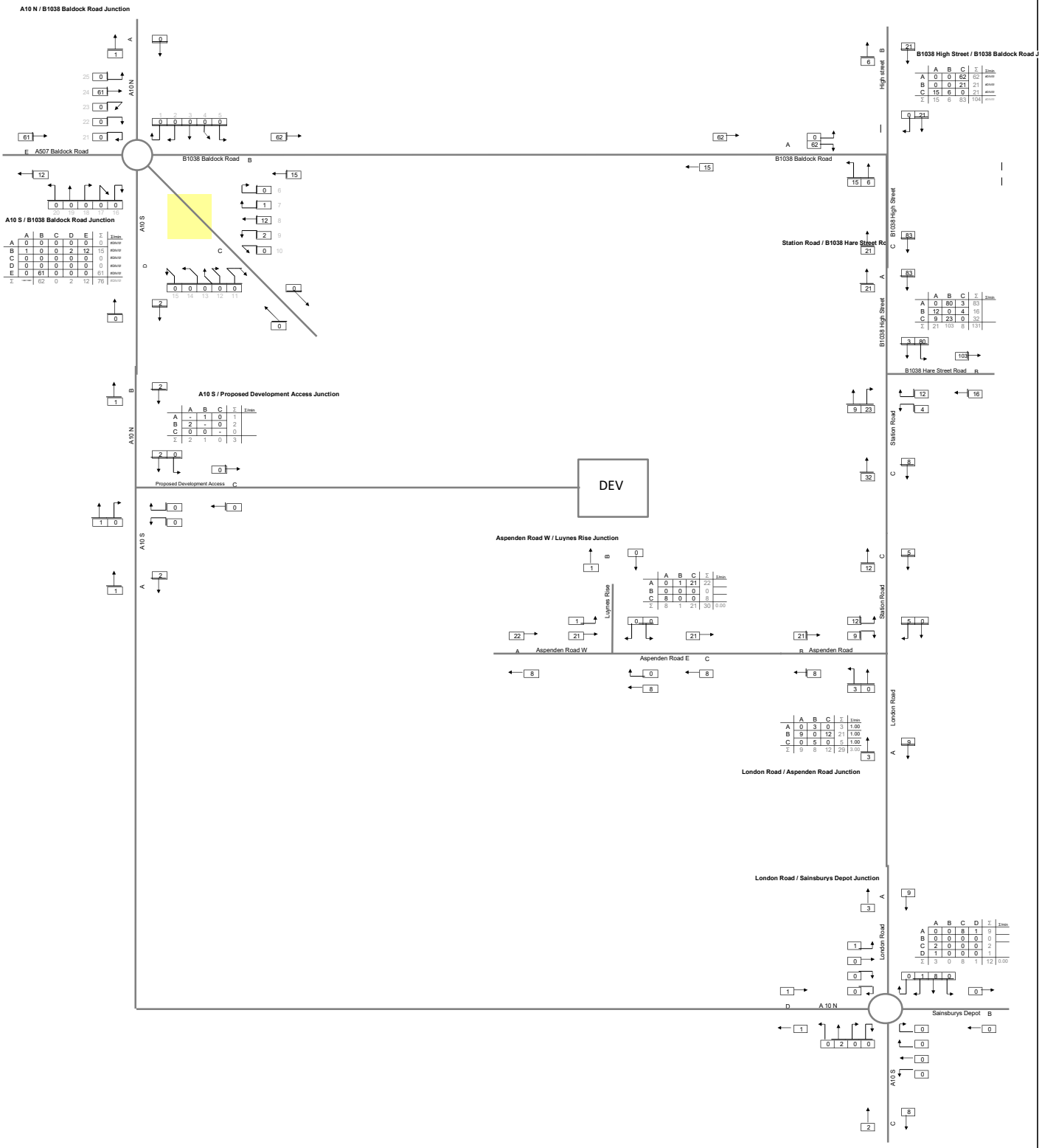
Proposed Development Access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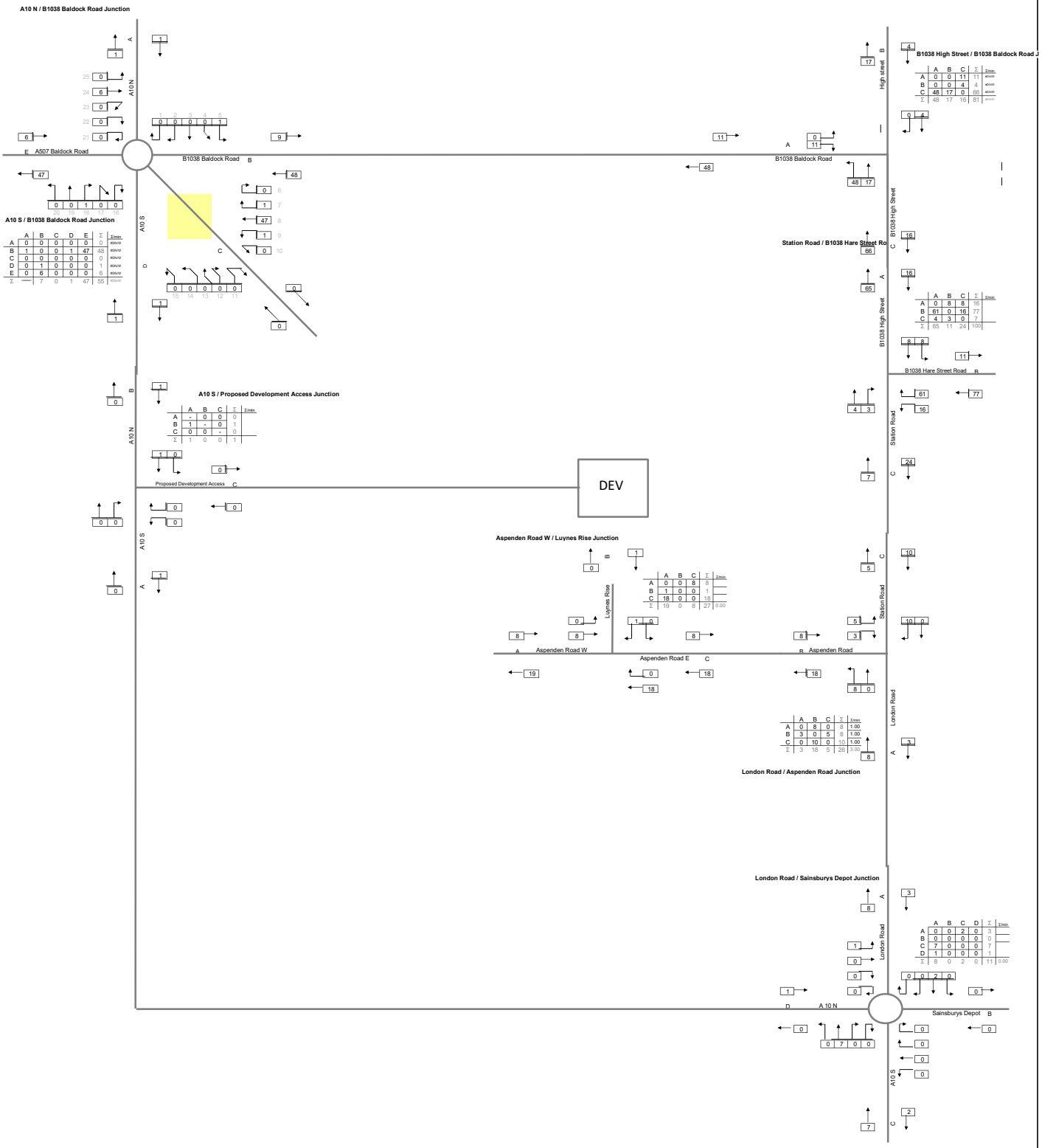
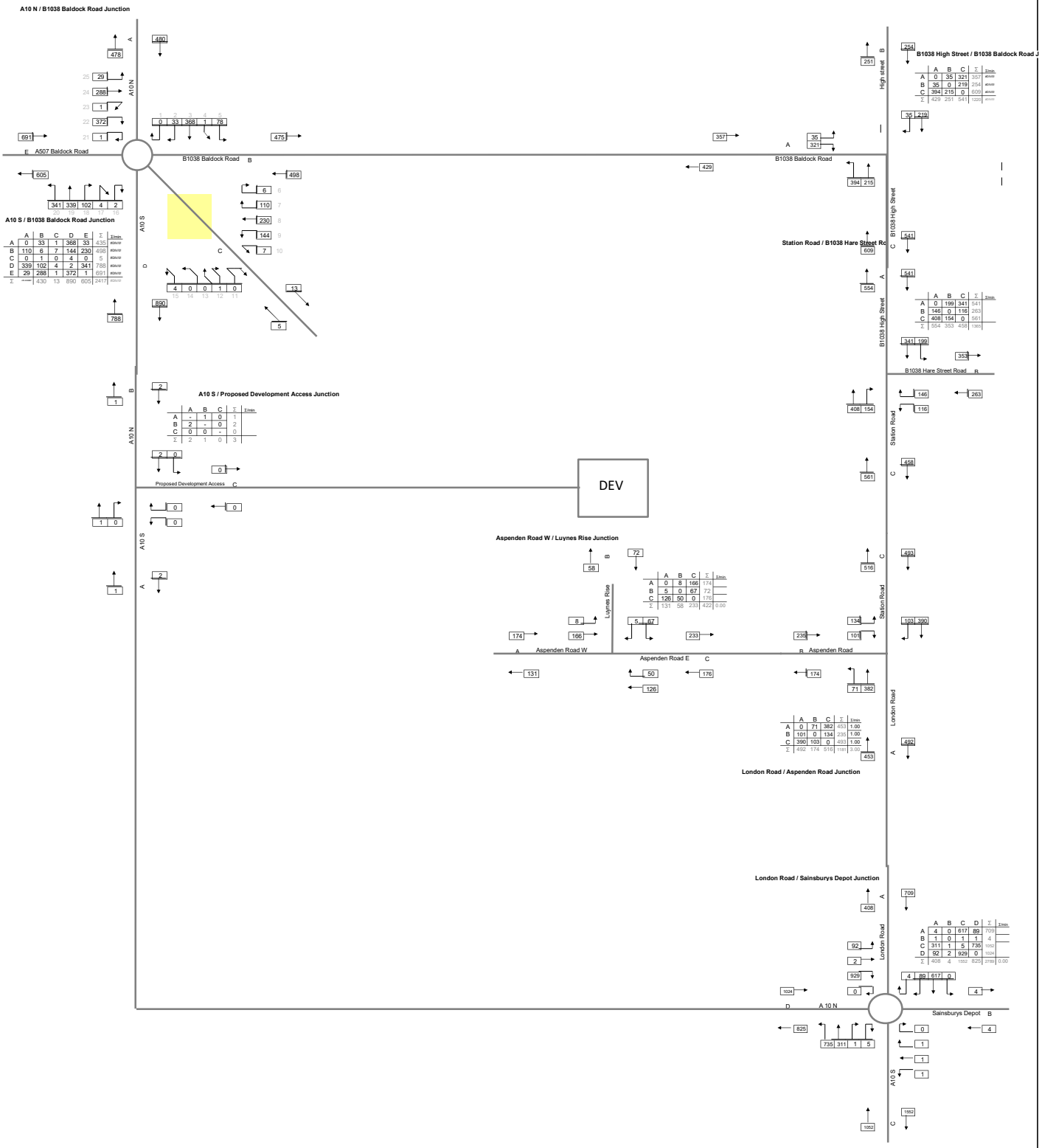


West Buntingford
70007498
Traffic Flow Diagrams
PM Peak (16:00-17:00)
Committed Development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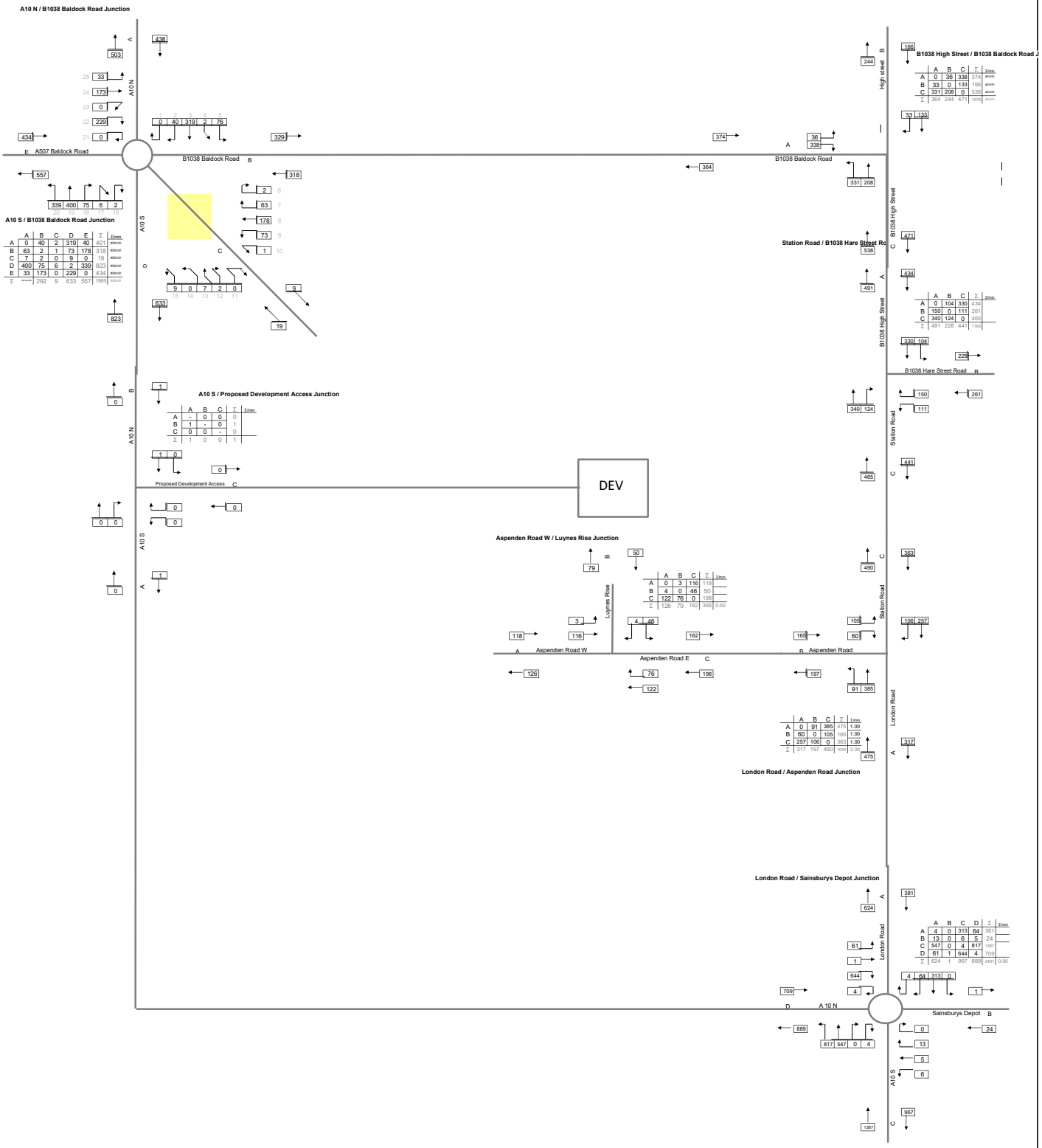
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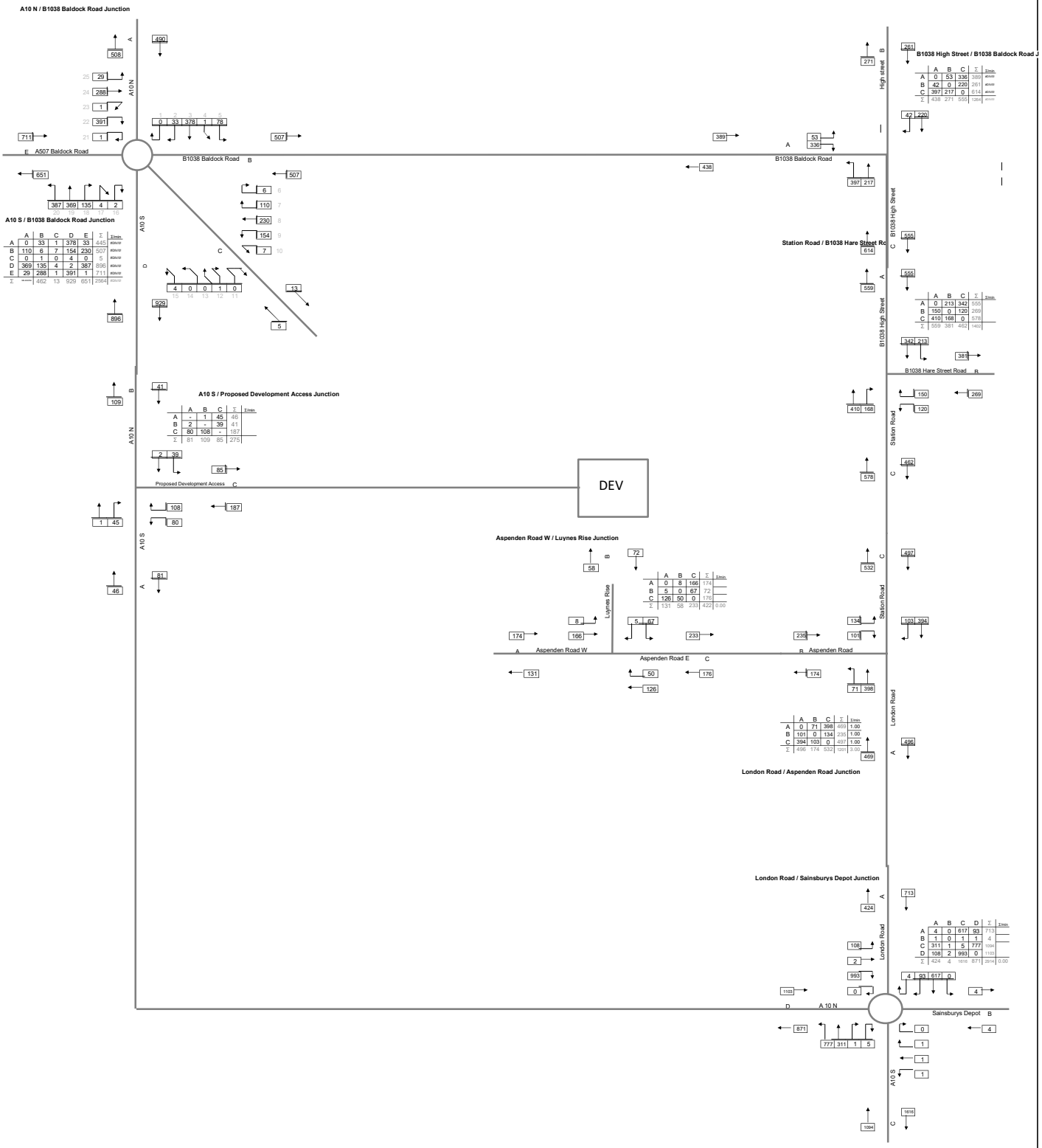
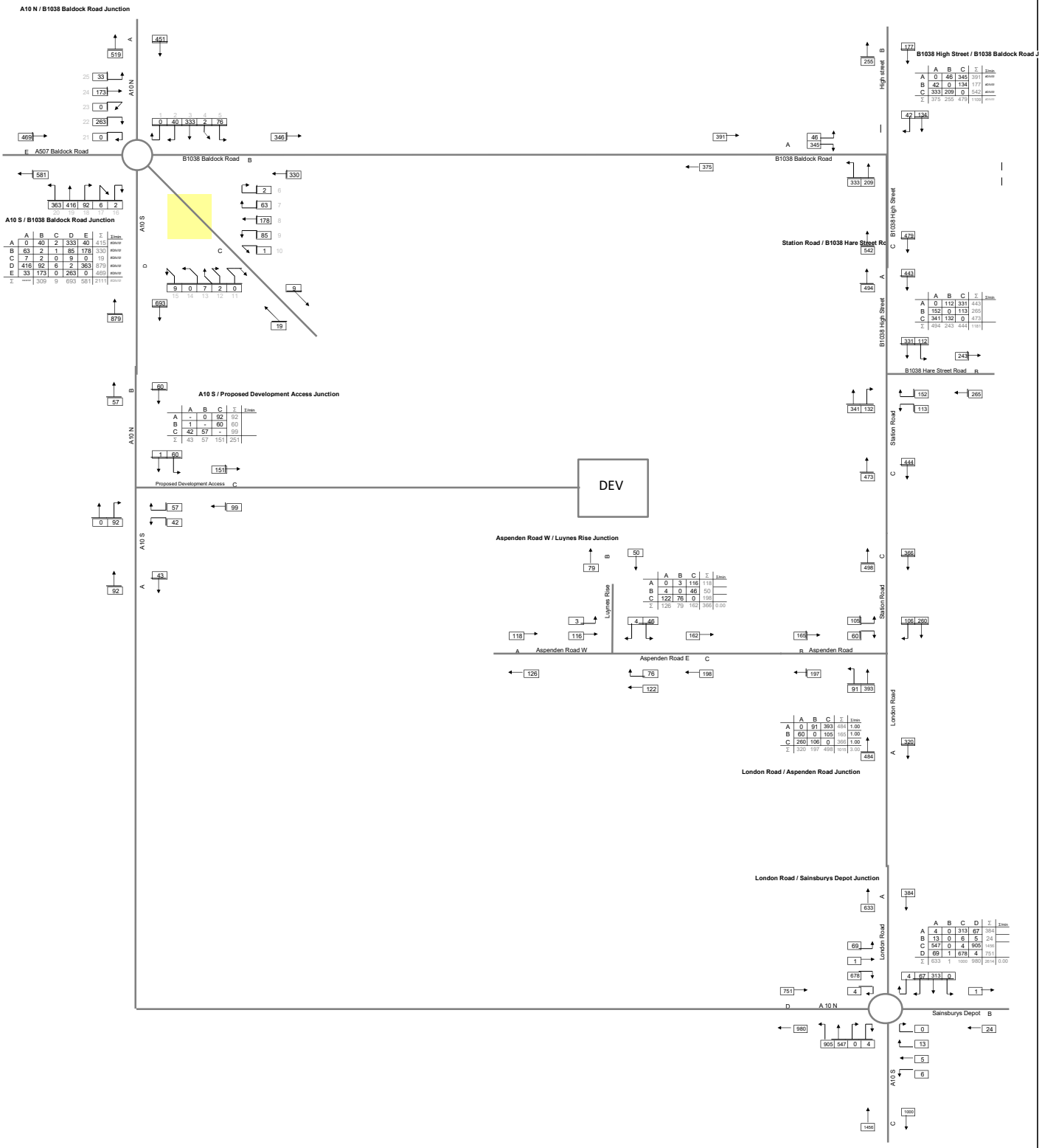
Aspenden Road
London Road
Sainsburys Depot
Proposed Development Access



West Buntingford
70007498
Traffic Flow Diagrams
AM Peak (08:00-09:00)
2029+Committed+Proposed Development
All Vehicles


A10 N / B1038 Baldock Road Junction
A10 S / B1038 Baldock Road Junction
A10 S / Proposed Development Access Junction
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B1038 High Street
Station Road
Luynes Rise
Aspenden Road W
Aspenden Road E
Aspenden Road
London Road
Sainsburys Depot
Proposed Development Access

Appendix H

QUEUE VALIDATION

Junction	Arm Name	AM			PM		
		Modelled Queue (PCU)	Observed Queue (PCU)	Difference (M-O)	Modelled Queue (PCU)	Observed Queue (PCU)	Difference (M-O)
J1_A10-Baldock Road	A - A10 (N)	2	7.0	-5.0	1	3.6	-2.6
	B - B1038 (Baldock Road)	1.9	6.8	-4.9	0.4	2.7	-2.3
	C - Access Road	0	0.5	-0.5	0	0.6	-0.6
	D - A10 (S)	0.8	4.0	-3.2	0.8	2.2	-1.4
	E - A507 (Baldock Road)	3.1	8.1	-5.0	1	4.3	-3.3
J2_Hare St - Station Rd mini -	A - High Street	0.9	2.3	-1.4	0.8	2.1	-1.3
	B - Hare St	0.4	2.0	-1.6	0.3	1.8	-1.5
	C - Station Rd	1.3	2.1	-0.8	0.9	1.8	-0.9
J3_Aspenden Road-Luynes Rise	B - Luynes Rise	0.1	0.8	-0.7	0.1	0.5	-0.4
	C - Aspenden Road N	0.1	0.3	-0.2	0.2	0.4	-0.2
J4_Aspenden Rd - London Rd	B - Aspenden Road	0.9	0.0	0.9	0.5	0.2	0.3
	C - Station Road	0.4	4.8	-4.4	0.3	3.1	-2.8
J5_A10-London Road Roundabout	A - London Road	15.2	19.9	-4.7	0.4	3.3	-2.9
	B - Sainsburys Depot Access	0.0	0.2	-0.2	0.0	0.6	-0.6
	C - A10 (S)	0.9	0.7	0.2	1.4	1.0	0.4
	D - A10 (N)	4.3	9.3	-5.0	3.2	8.3	-5.1
J6_Baldock Rd-High St	B - High Street	2.2	0.0	2.2	1.0	0.2	0.8
	C - B1038	3.2	2.1	1.1	2.3	1.3	1.1

Note:
In TFD results sheet, for J5 arm D is depicted as A10 (N) while in the Queue length Survey sheet it is depicted as A10(West)

Appendix I

JUNCTION MODELLING RESULTS

Appendix I.1

JUNCTION 1

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.5.2.1013

For sales and distribution information, program advice and maintenance, contact TRL:
+44 (0)1344 379777 software@trl.co.uk www.trlsoftware.co.uk

Filename: J1_A10-Baldock Road_without CF_intercept adj.j9
Path: C:\Users\INAA02374\Desktop\Buntingford JM\220706 - JM - Updated TFD Flows\J1
Report generation date: 06-07-2022 17:57:32

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	2022 Base							
A - A10 (N)	2.0	15.39	0.66	C	1.0	8.38	0.49	A
B - B1038 (Baldock Road)	1.9	14.82	0.65	B	0.4	6.23	0.30	A
C - Access Road	0.0	0.00	0.00	A	0.0	6.54	0.03	A
D - A10 (S)	0.8	3.81	0.44	A	0.8	3.40	0.42	A
E - A507 (Baldock Road)	3.1	18.50	0.75	C	1.0	8.75	0.49	A
	2024 Projected Base							
A - A10 (N)	2.3	16.98	0.69	C	1.0	8.76	0.51	A
B - B1038 (Baldock Road)	2.1	16.49	0.68	C	0.5	6.42	0.32	A
C - Access Road	0.0	0.00	0.00	A	0.0	6.65	0.03	A
D - A10 (S)	0.9	3.91	0.45	A	0.8	3.48	0.43	A
E - A507 (Baldock Road)	3.6	21.06	0.78	C	1.1	9.19	0.51	A
	2029 FY							
A - A10 (N)	2.6	19.38	0.72	C	1.2	9.30	0.53	A
B - B1038 (Baldock Road)	2.5	19.07	0.72	C	0.5	6.69	0.33	A
C - Access Road	0.0	0.00	0.00	A	0.0	6.77	0.03	A
D - A10 (S)	0.9	4.03	0.47	A	0.8	3.59	0.45	A
E - A507 (Baldock Road)	4.3	25.18	0.82	D	1.2	9.81	0.54	A
	2029 FY+DEV							
A - A10 (N)	4.2	30.69	0.81	D	1.4	10.75	0.58	B
B - B1038 (Baldock Road)	3.3	23.93	0.78	C	0.8	8.16	0.43	A
C - Access Road	0.0	0.00	0.00	A	0.0	7.25	0.04	A
D - A10 (S)	1.2	4.60	0.54	A	1.0	3.95	0.49	A
E - A507 (Baldock Road)	15.7	78.80	0.98	F	1.6	11.87	0.61	B

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

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

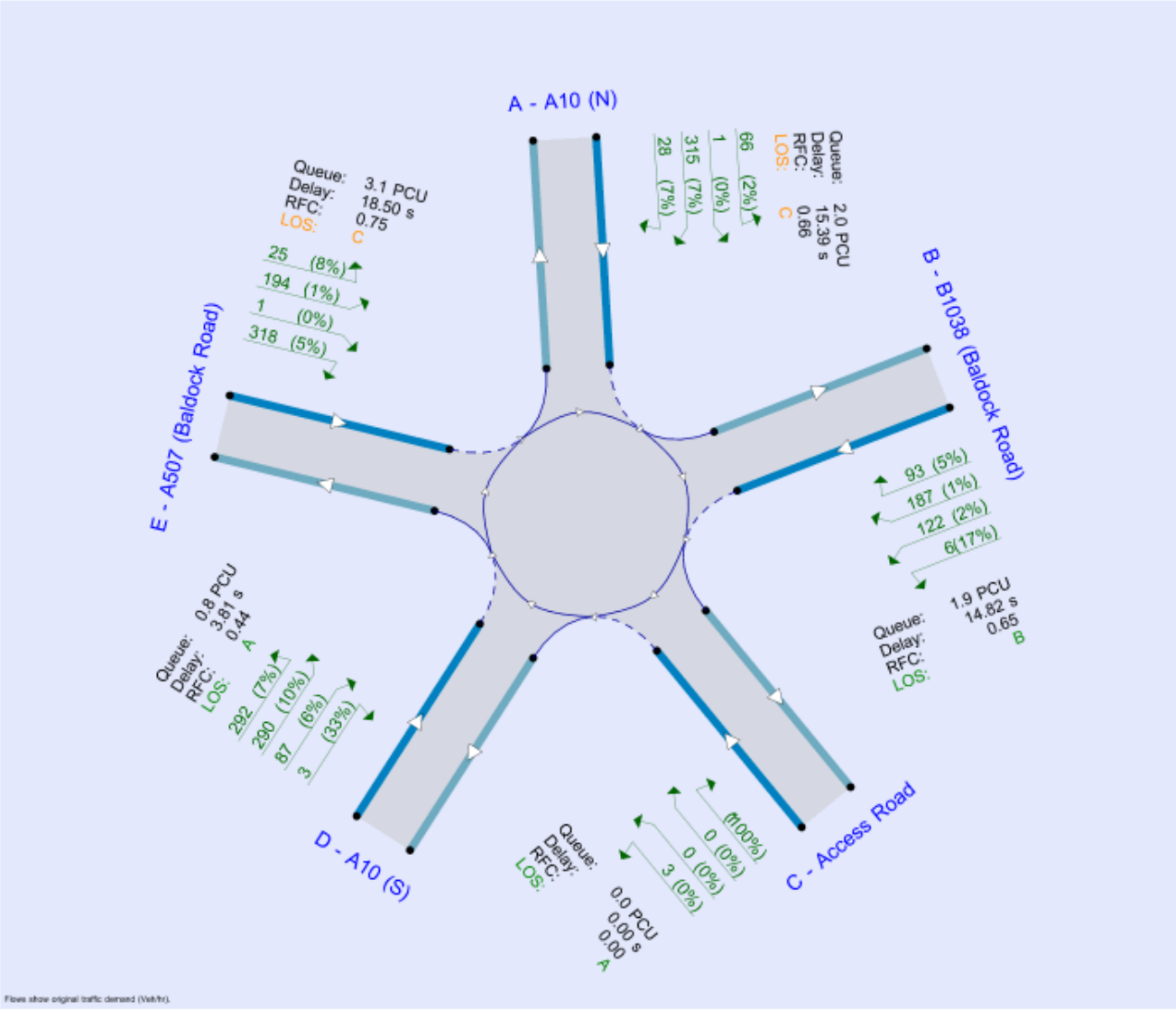
File summary

File Description

Title	A10 / A507 / B1038 Roundabout (Existing Junction Layout)
Location	Buntingford
Site number	1
Date	20-10-2014
Version	
Status	
Identifier	
Client	
Jobnumber	
Enumerator	UKSXB076 [W13UK0135]
Description	51.94664219533919, -0.029282359615619053

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	PCU	perHour	s	-Min	perMin



The junction diagram reflects the last run of Junctions.

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D1	2022 Base	AM	Actual Base Year	ONE HOUR	07:45	09:15	15	✓	✓
D2	2022 Base	PM	Actual Base Year	ONE HOUR	15:45	17:15	15	✓	✓
D3	2024 Projected Base	AM	Projected Base Year	ONE HOUR	07:45	09:15	15	✓	✓
D4	2024 Projected Base	PM	Projected Base Year	ONE HOUR	15:45	17:15	15	✓	✓
D5	2029 FY	AM	Future Year	ONE HOUR	07:45	09:15	15	✓	✓
D6	2029 FY	PM	Future Year	ONE HOUR	15:45	17:15	15	✓	✓
D7	2029 FY+DEV	AM	Future Year+Dev	ONE HOUR	07:45	09:15	15	✓	✓
D8	2029 FY+DEV	PM	Future Year+Dev	ONE HOUR	15:45	17:15	15	✓	✓

Analysis Set Details

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

2022 Base, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D1 - 2022 Base, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A10/ A508 Roundabout	Standard Roundabout		A, B, C, D, E	12.15	B

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
A	A10 (N)	
B	B1038 (Baldock Road)	
C	Access Road	
D	A10 (S)	
E	A507 (Baldock Road)	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
A - A10 (N)	4.36	7.68	10.2	39.1	55.0	45.0	
B - B1038 (Baldock Road)	3.86	7.36	15.4	54.3	55.0	29.0	
C - Access Road	4.54	5.50	1.2	3.0	55.0	76.0	
D - A10 (S)	4.43	8.18	16.5	64.6	55.0	31.0	
E - A507 (Baldock Road)	3.30	8.36	10.7	42.5	55.0	42.0	

Slope / Intercept / Capacity

Arm Intercept Adjustments

Arm	Type	Reason	Direct intercept adjustment (PCU/hr)
A - A10 (N)	Direct		-625
B - B1038 (Baldock Road)	Direct		-645
C - Access Road	None		
D - A10 (S)	None		
E - A507 (Baldock Road)	Direct		-450

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A - A10 (N)	0.588	1138
B - B1038 (Baldock Road)	0.620	1200
C - Access Road	0.304	821
D - A10 (S)	0.658	2061
E - A507 (Baldock Road)	0.559	1134

The slope and intercept shown above include any corrections and adjustments

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D1	2022 Base	AM	Actual Base Year	ONE HOUR	07:45	09:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - A10 (N)		ONE HOUR	✓	410	100.000
B - B1038 (Baldock Road)		ONE HOUR	✓	413	100.000
C - Access Road		ONE HOUR	✓	4	100.000
D - A10 (S)		ONE HOUR	✓	674	100.000
E - A507 (Baldock Road)		ONE HOUR	✓	539	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E - A507 (Baldock Road)
From	A - A10 (N)	0	66	1	315	28
	B - B1038 (Baldock Road)	93	5	6	122	187
	C - Access Road	0	1	0	3	0
	D - A10 (S)	290	87	3	2	292
	E - A507 (Baldock Road)	25	194	1	318	1

Proportions

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E - (Ba Ro
From	A - A10 (N)	0.00	0.16	0.00	0.77	0
	B - B1038 (Baldock Road)	0.23	0.01	0.01	0.30	0
	C - Access Road	0.00	0.25	0.00	0.75	0
	D - A10 (S)	0.43	0.13	0.00	0.00	0
	E - A507 (Baldock Road)	0.05	0.36	0.00	0.59	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E - A507 (Baldock Road)
From	A - A10 (N)	0	2	0	7	7
	B - B1038 (Baldock Road)	5	0	17	2	1
	C - Access Road	0	100	0	0	0
	D - A10 (S)	10	6	33	0	7
	E - A507 (Baldock Road)	8	1	0	5	0

Average PCU Per Veh

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	(E
From	A - A10 (N)	1.000	1.015	1.002	1.073	
	B - B1038 (Baldock Road)	1.054	1.000	1.167	1.025	
	C - Access Road	1.000	2.000	1.000	1.000	
	D - A10 (S)	1.100	1.057	1.333	1.000	
	E - A507 (Baldock Road)	1.080	1.010	1.003	1.047	

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - A10 (N)	07:45-08:00	309	328
	08:00-08:15	369	392
	08:15-08:30	451	480
	08:30-08:45	451	480
	08:45-09:00	369	392
	09:00-09:15	309	328
B - B1038 (Baldock Road)	07:45-08:00	311	319
	08:00-08:15	371	381
	08:15-08:30	455	467
	08:30-08:45	455	467
	08:45-09:00	371	381
	09:00-09:15	311	319
C - Access Road	07:45-08:00	0	0
	08:00-08:15	0	0
	08:15-08:30	0	0
	08:30-08:45	0	0
	08:45-09:00	0	0
	09:00-09:15	0	0
D - A10 (S)	07:45-08:00	507	550
	08:00-08:15	606	656
	08:15-08:30	742	804
	08:30-08:45	742	804
	08:45-09:00	606	656
	09:00-09:15	507	550
E - A507 (Baldock Road)	07:45-08:00	406	420
	08:00-08:15	485	502
	08:15-08:30	593	614
	08:30-08:45	593	614
	08:45-09:00	485	502
	09:00-09:15	406	420

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - A10 (N)	0.66	15.39	2.0	C	436	436
B - B1038 (Baldock Road)	0.65	14.82	1.9	B	424	424
C - Access Road	0.00	0.00	0.0	A	0	0
D - A10 (S)	0.44	3.81	0.8	A	730	730
E - A507 (Baldock Road)	0.75	18.50	3.1	C	558	558

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	392	98	568	804	0.487	391	399	0.6	1.0	9.223	A
B - B1038 (Baldock Road)	381	95	636	806	0.473	380	323	0.6	0.9	8.654	A
C - Access Road	0	0	1004	515	0.000	0	12	0.0	0.0	0.000	A
D - A10 (S)	656	164	289	1871	0.351	656	715	0.4	0.6	3.206	A
E - A507 (Baldock Road)	502	125	467	873	0.574	500	478	0.9	1.4	9.920	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	480	120	692	731	0.656	476	487	1.0	1.9	14.785	B
B - B1038 (Baldock Road)	467	117	775	720	0.649	463	393	0.9	1.8	14.215	B
C - Access Road	0	0	1224	448	0.000	0	14	0.0	0.0	0.000	A
D - A10 (S)	804	201	353	1829	0.439	803	871	0.6	0.8	3.795	A
E - A507 (Baldock Road)	614	154	571	815	0.754	608	585	1.4	2.9	17.487	C

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	480	120	698	728	0.659	480	489	1.9	2.0	15.387	C
B - B1038 (Baldock Road)	467	117	781	715	0.652	467	396	1.8	1.9	14.815	B
C - Access Road	0	0	1234	445	0.000	0	14	0.0	0.0	0.000	A
D - A10 (S)	804	201	355	1827	0.440	804	878	0.8	0.8	3.808	A
E - A507 (Baldock Road)	614	154	572	814	0.755	614	587	2.9	3.1	18.497	C

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	392	98	576	799	0.490	396	401	2.0	1.0	9.574	A
B - B1038 (Baldock Road)	381	95	645	800	0.477	385	327	1.9	1.0	8.985	A
C - Access Road	0	0	1019	511	0.000	0	12	0.0	0.0	0.000	A
D - A10 (S)	656	164	293	1868	0.351	657	725	0.8	0.6	3.221	A
E - A507 (Baldock Road)	502	125	469	872	0.575	508	482	3.1	1.4	10.414	B

2022 Base, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D2 - 2022 Base, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A10/ A508 Roundabout	Standard Roundabout		A, B, C, D, E	6.06	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D2	2022 Base	PM	Actual Base Year	ONE HOUR	15:45	17:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - A10 (N)		ONE HOUR	✓	372	100.000
B - B1038 (Baldock Road)		ONE HOUR	✓	230	100.000
C - Access Road		ONE HOUR	✓	16	100.000
D - A10 (S)		ONE HOUR	✓	700	100.000
E - A507 (Baldock Road)		ONE HOUR	✓	385	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E - A507 (Baldock Road)
From	A - A10 (N)	0	64	2	272	34
	B - B1038 (Baldock Road)	53	2	1	62	112
	C - Access Road	6	2	0	8	0
	D - A10 (S)	341	63	5	2	289
	E - A507 (Baldock Road)	28	142	0	195	0

Proportions

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E - (Ba Ro
From	A - A10 (N)	0.00	0.17	0.01	0.73	0
	B - B1038 (Baldock Road)	0.23	0.01	0.00	0.27	0
	C - Access Road	0.38	0.13	0.00	0.50	0
	D - A10 (S)	0.49	0.09	0.01	0.00	0
	E - A507 (Baldock Road)	0.08	0.39	0.00	0.53	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E - A507 (Baldock Road)
From	A - A10 (N)	0	0	0	3	9
	B - B1038 (Baldock Road)	2	0	0	0	1
	C - Access Road	0	0	0	0	0
	D - A10 (S)	4	0	0	0	5
	E - A507 (Baldock Road)	0	1	0	4	0

Average PCU Per Veh

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E
From	A - A10 (N)	1.000	1.000	1.000	1.033	
	B - B1038 (Baldock Road)	1.019	1.000	1.000	1.000	
	C - Access Road	1.000	1.000	1.000	1.000	
	D - A10 (S)	1.041	1.000	1.000	1.000	
	E - A507 (Baldock Road)	1.000	1.007	1.000	1.041	

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - A10 (N)	15:45-16:00	280	289
	16:00-16:15	334	345
	16:15-16:30	410	423
	16:30-16:45	410	423
	16:45-17:00	334	345
	17:00-17:15	280	289
B - B1038 (Baldock Road)	15:45-16:00	173	175
	16:00-16:15	207	209
	16:15-16:30	253	255
	16:30-16:45	253	255
	16:45-17:00	207	209
	17:00-17:15	173	175
C - Access Road	15:45-16:00	12	12
	16:00-16:15	14	14
	16:15-16:30	18	18
	16:30-16:45	18	18
	16:45-17:00	14	14
	17:00-17:15	12	12
D - A10 (S)	15:45-16:00	527	549
	16:00-16:15	629	655
	16:15-16:30	771	803
	16:30-16:45	771	803
	16:45-17:00	629	655
	17:00-17:15	527	549
E - A507 (Baldock Road)	15:45-16:00	275	282
	16:00-16:15	328	336
	16:15-16:30	402	412
	16:30-16:45	402	412
	16:45-17:00	328	336
	17:00-17:15	275	282

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - A10 (N)	0.49	8.38	1.0	A	384	384
B - B1038 (Baldock Road)	0.30	6.23	0.4	A	232	232
C - Access Road	0.03	6.54	0.0	A	16	16
D - A10 (S)	0.42	3.40	0.8	A	729	729
E - A507 (Baldock Road)	0.49	8.75	1.0	A	374	374

Main Results for each time segment

16:00 - 16:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	345	86	377	917	0.377	345	398	0.4	0.6	6.487	A
B - B1038 (Baldock Road)	209	52	476	905	0.230	208	246	0.2	0.3	5.209	A
C - Access Road	14	4	677	615	0.023	14	7	0.0	0.0	5.996	A
D - A10 (S)	655	164	192	1935	0.339	655	499	0.4	0.5	2.927	A
E - A507 (Baldock Road)	336	84	439	889	0.378	336	408	0.4	0.6	6.660	A

16:15 - 16:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	423	106	461	867	0.488	421	487	0.6	1.0	8.310	A
B - B1038 (Baldock Road)	255	64	582	839	0.304	255	301	0.3	0.4	6.209	A
C - Access Road	18	4	828	569	0.031	18	9	0.0	0.0	6.531	A
D - A10 (S)	803	201	235	1907	0.421	802	610	0.5	0.8	3.389	A
E - A507 (Baldock Road)	412	103	538	834	0.494	410	499	0.6	1.0	8.684	A

16:30 - 16:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	423	106	462	866	0.488	423	488	1.0	1.0	8.376	A
B - B1038 (Baldock Road)	255	64	583	838	0.305	255	302	0.4	0.4	6.231	A
C - Access Road	18	4	830	568	0.031	18	9	0.0	0.0	6.540	A
D - A10 (S)	803	201	236	1906	0.421	803	612	0.8	0.8	3.396	A
E - A507 (Baldock Road)	412	103	538	833	0.494	412	500	1.0	1.0	8.750	A

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	345	86	379	915	0.377	347	399	1.0	0.6	6.551	A
B - B1038 (Baldock Road)	209	52	478	903	0.231	209	247	0.4	0.3	5.237	A
C - Access Road	14	4	680	614	0.023	14	7	0.0	0.0	6.010	A
D - A10 (S)	655	164	193	1934	0.339	656	502	0.8	0.5	2.936	A
E - A507 (Baldock Road)	336	84	440	888	0.379	338	409	1.0	0.6	6.720	A

2024 Projected Base, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D3 - 2024 Projected Base, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A10/ A508 Roundabout	Standard Roundabout		A, B, C, D, E	13.50	B

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D3	2024 Projected Base	AM	Projected Base Year	ONE HOUR	07:45	09:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - A10 (N)		ONE HOUR	✓	422	100.000
B - B1038 (Baldock Road)		ONE HOUR	✓	425	100.000
C - Access Road		ONE HOUR	✓	4	100.000
D - A10 (S)		ONE HOUR	✓	693	100.000
E - A507 (Baldock Road)		ONE HOUR	✓	554	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E - A507 (Baldock Road)
From	A - A10 (N)	0	68	1	324	29
	B - B1038 (Baldock Road)	96	5	6	125	192
	C - Access Road	0	1	0	3	0
	D - A10 (S)	298	89	3	2	300
	E - A507 (Baldock Road)	26	200	1	327	1

Proportions

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E - (Ba Ro
From	A - A10 (N)	0.00	0.16	0.00	0.77	0
	B - B1038 (Baldock Road)	0.23	0.01	0.01	0.30	0
	C - Access Road	0.00	0.25	0.00	0.75	0
	D - A10 (S)	0.43	0.13	0.00	0.00	0
	E - A507 (Baldock Road)	0.05	0.36	0.00	0.59	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E - A507 (Baldock Road)
From	A - A10 (N)	0	1	0	7	7
	B - B1038 (Baldock Road)	5	0	16	2	1
	C - Access Road	0	97	0	0	0
	D - A10 (S)	10	6	32	0	7
	E - A507 (Baldock Road)	8	1	0	5	0

Average PCU Per Veh

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E
From	A - A10 (N)	1.000	1.015	1.001	1.071	
	B - B1038 (Baldock Road)	1.052	1.000	1.162	1.024	
	C - Access Road	1.000	1.972	1.000	1.000	
	D - A10 (S)	1.097	1.056	1.324	1.000	
	E - A507 (Baldock Road)	1.078	1.010	1.003	1.046	

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - A10 (N)	07:45-08:00	317	337
	08:00-08:15	379	402
	08:15-08:30	464	493
	08:30-08:45	464	493
	08:45-09:00	379	402
	09:00-09:15	317	337
B - B1038 (Baldock Road)	07:45-08:00	320	328
	08:00-08:15	382	392
	08:15-08:30	468	480
	08:30-08:45	468	480
	08:45-09:00	382	392
	09:00-09:15	320	328
C - Access Road	07:45-08:00	0	0
	08:00-08:15	0	0
	08:15-08:30	0	0
	08:30-08:45	0	0
	08:45-09:00	0	0
	09:00-09:15	0	0
D - A10 (S)	07:45-08:00	522	564
	08:00-08:15	623	674
	08:15-08:30	763	825
	08:30-08:45	763	825
	08:45-09:00	623	674
	09:00-09:15	522	564
E - A507 (Baldock Road)	07:45-08:00	417	432
	08:00-08:15	498	515
	08:15-08:30	610	631
	08:30-08:45	610	631
	08:45-09:00	498	515
	09:00-09:15	417	432

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - A10 (N)	0.69	16.98	2.3	C	448	448
B - B1038 (Baldock Road)	0.68	16.49	2.1	C	436	436
C - Access Road	0.00	0.00	0.0	A	0	0
D - A10 (S)	0.45	3.91	0.9	A	749	749
E - A507 (Baldock Road)	0.78	21.06	3.6	C	573	573

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	402	101	583	795	0.506	401	409	0.7	1.1	9.657	A
B - B1038 (Baldock Road)	392	98	653	795	0.493	390	332	0.6	1.0	9.090	A
C - Access Road	0	0	1031	507	0.000	0	12	0.0	0.0	0.000	A
D - A10 (S)	674	168	297	1866	0.361	673	734	0.5	0.6	3.260	A
E - A507 (Baldock Road)	515	129	479	866	0.595	513	491	0.9	1.5	10.473	B

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	493	123	710	721	0.684	488	500	1.1	2.2	16.141	C
B - B1038 (Baldock Road)	480	120	794	707	0.678	475	404	1.0	2.1	15.640	C
C - Access Road	0	0	1255	439	0.000	0	15	0.0	0.0	0.000	A
D - A10 (S)	825	206	362	1823	0.453	824	893	0.6	0.9	3.890	A
E - A507 (Baldock Road)	631	158	586	807	0.783	624	600	1.5	3.4	19.557	C

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	493	123	717	717	0.688	493	502	2.2	2.3	16.982	C
B - B1038 (Baldock Road)	480	120	802	703	0.683	479	407	2.1	2.1	16.494	C
C - Access Road	0	0	1267	435	0.000	0	15	0.0	0.0	0.000	A
D - A10 (S)	825	206	365	1821	0.453	825	902	0.9	0.9	3.905	A
E - A507 (Baldock Road)	631	158	588	806	0.783	631	603	3.4	3.6	21.056	C

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	402	101	593	789	0.510	407	411	2.3	1.1	10.113	B
B - B1038 (Baldock Road)	392	98	664	788	0.497	396	336	2.1	1.0	9.525	A
C - Access Road	0	0	1048	502	0.000	0	12	0.0	0.0	0.000	A
D - A10 (S)	674	168	302	1863	0.362	675	746	0.9	0.6	3.277	A
E - A507 (Baldock Road)	515	129	481	865	0.596	523	495	3.6	1.6	11.135	B

2024 Projected Base, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D4 - 2024 Projected Base, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A10/ A508 Roundabout	Standard Roundabout		A, B, C, D, E	6.30	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D4	2024 Projected Base	PM	Projected Base Year	ONE HOUR	15:45	17:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - A10 (N)		ONE HOUR	✓	383	100.000
B - B1038 (Baldock Road)		ONE HOUR	✓	237	100.000
C - Access Road		ONE HOUR	✓	16	100.000
D - A10 (S)		ONE HOUR	✓	721	100.000
E - A507 (Baldock Road)		ONE HOUR	✓	376	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E - A507 (Baldock Road)
From	A - A10 (N)	0	66	2	280	35
	B - B1038 (Baldock Road)	55	2	1	64	115
	C - Access Road	6	2	0	8	0
	D - A10 (S)	351	65	5	2	297
	E - A507 (Baldock Road)	29	146	0	201	0

Proportions

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E - (Ba Ro
From	A - A10 (N)	0.00	0.17	0.01	0.73	0
	B - B1038 (Baldock Road)	0.23	0.01	0.00	0.27	0
	C - Access Road	0.38	0.13	0.00	0.50	0
	D - A10 (S)	0.49	0.09	0.01	0.00	0
	E - A507 (Baldock Road)	0.08	0.39	0.00	0.53	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E - A507 (Baldock Road)
From	A - A10 (N)	0	0	0	3	9
	B - B1038 (Baldock Road)	2	0	0	0	1
	C - Access Road	0	0	0	0	0
	D - A10 (S)	4	0	0	0	5
	E - A507 (Baldock Road)	0	1	0	4	0

Average PCU Per Veh

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E
From	A - A10 (N)	1.000	1.000	1.000	1.032	
	B - B1038 (Baldock Road)	1.018	1.000	1.000	1.000	
	C - Access Road	1.000	1.000	1.000	1.004	
	D - A10 (S)	1.040	1.000	1.000	1.000	
	E - A507 (Baldock Road)	1.000	1.007	1.000	1.040	

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - A10 (N)	15:45-16:00	288	297
	16:00-16:15	344	355
	16:15-16:30	422	435
	16:30-16:45	422	435
	16:45-17:00	344	355
	17:00-17:15	288	297
B - B1038 (Baldock Road)	15:45-16:00	178	180
	16:00-16:15	213	215
	16:15-16:30	261	263
	16:30-16:45	261	263
	16:45-17:00	213	215
	17:00-17:15	178	180
C - Access Road	15:45-16:00	12	12
	16:00-16:15	15	15
	16:15-16:30	18	18
	16:30-16:45	18	18
	16:45-17:00	15	15
	17:00-17:15	12	12
D - A10 (S)	15:45-16:00	542	564
	16:00-16:15	648	674
	16:15-16:30	793	825
	16:30-16:45	793	825
	16:45-17:00	648	674
	17:00-17:15	542	564
E - A507 (Baldock Road)	15:45-16:00	283	290
	16:00-16:15	338	346
	16:15-16:30	414	424
	16:30-16:45	414	424
	16:45-17:00	338	346
	17:00-17:15	283	290

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - A10 (N)	0.51	8.76	1.0	A	395	395
B - B1038 (Baldock Road)	0.32	6.42	0.5	A	239	239
C - Access Road	0.03	6.65	0.0	A	17	17
D - A10 (S)	0.43	3.48	0.8	A	750	750
E - A507 (Baldock Road)	0.51	9.19	1.1	A	385	385

Main Results for each time segment

16:00 - 16:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	355	89	388	910	0.390	354	409	0.5	0.7	6.670	A
B - B1038 (Baldock Road)	215	54	489	897	0.239	214	253	0.2	0.3	5.317	A
C - Access Road	15	4	696	609	0.024	15	7	0.0	0.0	6.072	A
D - A10 (S)	674	168	198	1931	0.349	673	513	0.4	0.6	2.975	A
E - A507 (Baldock Road)	346	86	452	882	0.392	345	419	0.5	0.7	6.859	A

16:15 - 16:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	435	109	474	859	0.506	433	501	0.7	1.0	8.681	A
B - B1038 (Baldock Road)	263	66	598	829	0.317	262	310	0.3	0.5	6.397	A
C - Access Road	18	5	851	562	0.032	18	9	0.0	0.0	6.637	A
D - A10 (S)	825	206	242	1902	0.434	824	627	0.6	0.8	3.471	A
E - A507 (Baldock Road)	424	106	553	825	0.513	422	513	0.7	1.1	9.107	A

16:30 - 16:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	435	109	476	858	0.507	435	502	1.0	1.0	8.759	A
B - B1038 (Baldock Road)	263	66	600	828	0.318	263	310	0.5	0.5	6.425	A
C - Access Road	18	5	854	561	0.032	18	9	0.0	0.0	6.647	A
D - A10 (S)	825	206	242	1902	0.434	825	630	0.8	0.8	3.477	A
E - A507 (Baldock Road)	424	106	554	825	0.514	424	514	1.1	1.1	9.186	A

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	355	89	390	909	0.391	357	410	1.0	0.7	6.739	A
B - B1038 (Baldock Road)	215	54	492	895	0.240	215	254	0.5	0.3	5.348	A
C - Access Road	15	4	700	608	0.024	15	7	0.0	0.0	6.087	A
D - A10 (S)	674	168	198	1931	0.349	675	516	0.8	0.6	2.983	A
E - A507 (Baldock Road)	346	86	453	881	0.393	347	420	1.1	0.7	6.927	A

2029 FY, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D5 - 2029 FY, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A10/ A508 Roundabout	Standard Roundabout		A, B, C, D, E	15.62	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D5	2029 FY	AM	Future Year	ONE HOUR	07:45	09:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - A10 (N)		ONE HOUR	✓	436	100.000
B - B1038 (Baldock Road)		ONE HOUR	✓	439	100.000
C - Access Road		ONE HOUR	✓	4	100.000
D - A10 (S)		ONE HOUR	✓	716	100.000
E - A507 (Baldock Road)		ONE HOUR	✓	573	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E - A507 (Baldock Road)
From	A - A10 (N)	0	70	1	335	30
	B - B1038 (Baldock Road)	99	5	6	130	199
	C - Access Road	0	1	0	3	0
	D - A10 (S)	308	92	3	2	310
	E - A507 (Baldock Road)	27	206	1	338	1

Proportions

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E - (Ba Ro
From	A - A10 (N)	0.00	0.16	0.00	0.77	0
	B - B1038 (Baldock Road)	0.23	0.01	0.01	0.30	0
	C - Access Road	0.00	0.25	0.00	0.75	0
	D - A10 (S)	0.43	0.13	0.00	0.00	0
	E - A507 (Baldock Road)	0.05	0.36	0.00	0.59	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E - A507 (Baldock Road)
From	A - A10 (N)	0	1	0	7	7
	B - B1038 (Baldock Road)	5	0	16	2	1
	C - Access Road	0	94	0	0	0
	D - A10 (S)	9	5	31	0	7
	E - A507 (Baldock Road)	8	1	0	4	0

Average PCU Per Veh

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E
From	A - A10 (N)	1.000	1.014	1.001	1.069	
	B - B1038 (Baldock Road)	1.051	1.000	1.157	1.023	
	C - Access Road	1.000	1.941	1.000	1.000	
	D - A10 (S)	1.094	1.054	1.314	1.000	
	E - A507 (Baldock Road)	1.075	1.010	1.003	1.044	

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - A10 (N)	07:45-08:00	328	348
	08:00-08:15	392	415
	08:15-08:30	480	508
	08:30-08:45	480	508
	08:45-09:00	392	415
	09:00-09:15	328	348
B - B1038 (Baldock Road)	07:45-08:00	330	339
	08:00-08:15	395	404
	08:15-08:30	483	495
	08:30-08:45	483	495
	08:45-09:00	395	404
	09:00-09:15	330	339
C - Access Road	07:45-08:00	0	0
	08:00-08:15	0	0
	08:15-08:30	0	0
	08:30-08:45	0	0
	08:45-09:00	0	0
	09:00-09:15	0	0
D - A10 (S)	07:45-08:00	539	581
	08:00-08:15	644	694
	08:15-08:30	789	850
	08:30-08:45	789	850
	08:45-09:00	644	694
	09:00-09:15	539	581
E - A507 (Baldock Road)	07:45-08:00	431	446
	08:00-08:15	515	532
	08:15-08:30	631	652
	08:30-08:45	631	652
	08:45-09:00	515	532
	09:00-09:15	431	446

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - A10 (N)	0.72	19.38	2.6	C	462	462
B - B1038 (Baldock Road)	0.72	19.07	2.5	C	450	450
C - Access Road	0.00	0.00	0.0	A	0	0
D - A10 (S)	0.47	4.03	0.9	A	772	772
E - A507 (Baldock Road)	0.82	25.18	4.3	D	592	592

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	415	104	602	784	0.529	413	421	0.7	1.2	10.219	B
B - B1038 (Baldock Road)	404	101	673	783	0.517	403	342	0.7	1.1	9.674	A
C - Access Road	0	0	1064	497	0.000	0	12	0.0	0.0	0.000	A
D - A10 (S)	694	174	307	1859	0.373	694	757	0.5	0.6	3.328	A
E - A507 (Baldock Road)	532	133	494	858	0.620	529	507	1.0	1.6	11.224	B

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	508	127	731	709	0.718	503	515	1.2	2.5	18.093	C
B - B1038 (Baldock Road)	495	124	817	693	0.715	490	416	1.1	2.4	17.726	C
C - Access Road	0	0	1293	427	0.000	0	15	0.0	0.0	0.000	A
D - A10 (S)	850	213	373	1816	0.468	849	919	0.6	0.9	4.011	A
E - A507 (Baldock Road)	652	163	604	797	0.818	642	619	1.6	4.1	22.682	C

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	508	127	739	703	0.723	508	517	2.5	2.6	19.384	C
B - B1038 (Baldock Road)	495	124	827	687	0.721	495	420	2.4	2.5	19.071	C
C - Access Road	0	0	1307	423	0.000	0	15	0.0	0.0	0.000	A
D - A10 (S)	850	213	377	1813	0.469	850	930	0.9	0.9	4.030	A
E - A507 (Baldock Road)	652	163	606	796	0.819	651	622	4.1	4.3	25.180	D

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	415	104	615	777	0.534	421	424	2.6	1.2	10.871	B
B - B1038 (Baldock Road)	404	101	687	774	0.523	410	348	2.5	1.1	10.288	B
C - Access Road	0	0	1085	491	0.000	0	12	0.0	0.0	0.000	A
D - A10 (S)	694	174	312	1856	0.374	695	772	0.9	0.6	3.350	A
E - A507 (Baldock Road)	532	133	497	857	0.621	542	511	4.3	1.7	12.201	B

2029 FY, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D6 - 2029 FY, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A10/ A508 Roundabout	Standard Roundabout		A, B, C, D, E	6.64	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D6	2029 FY	PM	Future Year	ONE HOUR	15:45	17:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - A10 (N)		ONE HOUR	✓	397	100.000
B - B1038 (Baldock Road)		ONE HOUR	✓	245	100.000
C - Access Road		ONE HOUR	✓	17	100.000
D - A10 (S)		ONE HOUR	✓	747	100.000
E - A507 (Baldock Road)		ONE HOUR	✓	389	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E - A507 (Baldock Road)
From	A - A10 (N)	0	68	2	290	36
	B - B1038 (Baldock Road)	57	2	1	66	119
	C - Access Road	6	2	0	9	0
	D - A10 (S)	364	67	5	2	308
	E - A507 (Baldock Road)	30	151	0	208	0

Proportions

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E - (Ba Ro
From	A - A10 (N)	0.00	0.17	0.01	0.73	0
	B - B1038 (Baldock Road)	0.23	0.01	0.00	0.27	0
	C - Access Road	0.38	0.12	0.00	0.50	0
	D - A10 (S)	0.49	0.09	0.01	0.00	0
	E - A507 (Baldock Road)	0.08	0.39	0.00	0.53	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E - A507 (Baldock Road)
From	A - A10 (N)	0	0	0	3	8
	B - B1038 (Baldock Road)	2	0	0	0	1
	C - Access Road	0	0	0	0	0
	D - A10 (S)	4	0	0	0	5
	E - A507 (Baldock Road)	0	1	0	4	0

Average PCU Per Veh

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E
From	A - A10 (N)	1.000	1.000	1.000	1.031	
	B - B1038 (Baldock Road)	1.018	1.000	1.000	1.000	
	C - Access Road	1.000	1.000	1.000	1.003	
	D - A10 (S)	1.038	1.000	1.000	1.000	
	E - A507 (Baldock Road)	1.000	1.007	1.000	1.038	

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - A10 (N)	15:45-16:00	299	308
	16:00-16:15	357	367
	16:15-16:30	437	450
	16:30-16:45	437	450
	16:45-17:00	357	367
	17:00-17:15	299	308
B - B1038 (Baldock Road)	15:45-16:00	185	186
	16:00-16:15	221	222
	16:15-16:30	270	272
	16:30-16:45	270	272
	16:45-17:00	221	222
	17:00-17:15	185	186
C - Access Road	15:45-16:00	13	13
	16:00-16:15	15	15
	16:15-16:30	19	19
	16:30-16:45	19	19
	16:45-17:00	15	15
	17:00-17:15	13	13
D - A10 (S)	15:45-16:00	562	584
	16:00-16:15	671	697
	16:15-16:30	822	854
	16:30-16:45	822	854
	16:45-17:00	671	697
	17:00-17:15	562	584
E - A507 (Baldock Road)	15:45-16:00	293	300
	16:00-16:15	350	358
	16:15-16:30	429	439
	16:30-16:45	429	439
	16:45-17:00	350	358
	17:00-17:15	293	300

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - A10 (N)	0.53	9.30	1.2	A	409	409
B - B1038 (Baldock Road)	0.33	6.69	0.5	A	247	247
C - Access Road	0.03	6.77	0.0	A	17	17
D - A10 (S)	0.45	3.59	0.8	A	776	776
E - A507 (Baldock Road)	0.54	9.81	1.2	A	398	398

Main Results for each time segment

16:00 - 16:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	367	92	401	902	0.407	367	423	0.5	0.7	6.915	A
B - B1038 (Baldock Road)	222	56	506	886	0.251	222	262	0.2	0.3	5.461	A
C - Access Road	15	4	720	601	0.026	15	8	0.0	0.0	6.151	A
D - A10 (S)	697	174	205	1927	0.362	697	531	0.4	0.6	3.038	A
E - A507 (Baldock Road)	358	90	468	873	0.410	357	434	0.5	0.7	7.131	A

16:15 - 16:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	450	113	491	850	0.530	448	518	0.7	1.1	9.201	A
B - B1038 (Baldock Road)	272	68	618	816	0.334	272	321	0.3	0.5	6.653	A
C - Access Road	19	5	881	553	0.034	19	9	0.0	0.0	6.753	A
D - A10 (S)	854	213	250	1897	0.450	853	649	0.6	0.8	3.580	A
E - A507 (Baldock Road)	439	110	572	814	0.539	437	531	0.7	1.2	9.706	A

16:30 - 16:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	450	113	493	849	0.530	450	519	1.1	1.2	9.301	A
B - B1038 (Baldock Road)	272	68	621	815	0.334	272	322	0.5	0.5	6.687	A
C - Access Road	19	5	884	552	0.034	19	9	0.0	0.0	6.765	A
D - A10 (S)	854	213	251	1896	0.450	854	652	0.8	0.8	3.587	A
E - A507 (Baldock Road)	439	110	573	814	0.539	438	532	1.2	1.2	9.809	A

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	367	92	404	901	0.408	369	425	1.2	0.7	7.002	A
B - B1038 (Baldock Road)	222	56	509	884	0.252	223	264	0.5	0.3	5.495	A
C - Access Road	15	4	725	600	0.026	15	8	0.0	0.0	6.166	A
D - A10 (S)	697	174	206	1926	0.362	698	535	0.8	0.6	3.050	A
E - A507 (Baldock Road)	358	90	469	872	0.411	360	435	1.2	0.7	7.214	A

2029 FY+DEV, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D7 - 2029 FY+DEV, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A10/ A508 Roundabout	Standard Roundabout		A, B, C, D, E	33.16	D

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D7	2029 FY+DEV	AM	Future Year+Dev	ONE HOUR	07:45	09:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - A10 (N)		ONE HOUR	✓	446	100.000
B - B1038 (Baldock Road)		ONE HOUR	✓	463	100.000
C - Access Road		ONE HOUR	✓	4	100.000
D - A10 (S)		ONE HOUR	✓	825	100.000
E - A507 (Baldock Road)		ONE HOUR	✓	654	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E - A507 (Baldock Road)
From	A - A10 (N)	0	71	1	345	30
	B - B1038 (Baldock Road)	100	5	6	141	210
	C - Access Road	0	1	0	3	0
	D - A10 (S)	338	125	3	2	356
	E - A507 (Baldock Road)	27	267	1	358	1

Proportions

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E - (Ba Ro
From	A - A10 (N)	0.00	0.16	0.00	0.77	0
	B - B1038 (Baldock Road)	0.22	0.01	0.01	0.30	0
	C - Access Road	0.00	0.25	0.00	0.75	0
	D - A10 (S)	0.41	0.15	0.00	0.00	0
	E - A507 (Baldock Road)	0.04	0.41	0.00	0.55	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E - A507 (Baldock Road)
From	A - A10 (N)	0	1	0	7	7
	B - B1038 (Baldock Road)	5	0	15	2	1
	C - Access Road	0	94	0	0	0
	D - A10 (S)	9	4	31	0	6
	E - A507 (Baldock Road)	8	1	0	4	0

Average PCU Per Veh

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E
From	A - A10 (N)	1.000	1.014	1.001	1.067	
	B - B1038 (Baldock Road)	1.050	1.000	1.155	1.021	
	C - Access Road	1.000	1.936	1.000	1.000	
	D - A10 (S)	1.086	1.040	1.314	1.000	
	E - A507 (Baldock Road)	1.075	1.007	1.003	1.042	

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - A10 (N)	07:45-08:00	336	355
	08:00-08:15	401	424
	08:15-08:30	491	520
	08:30-08:45	491	520
	08:45-09:00	401	424
	09:00-09:15	336	355
B - B1038 (Baldock Road)	07:45-08:00	349	357
	08:00-08:15	417	426
	08:15-08:30	510	522
	08:30-08:45	510	522
	08:45-09:00	417	426
	09:00-09:15	349	357
C - Access Road	07:45-08:00	0	0
	08:00-08:15	0	0
	08:15-08:30	0	0
	08:30-08:45	0	0
	08:45-09:00	0	0
	09:00-09:15	0	0
D - A10 (S)	07:45-08:00	621	663
	08:00-08:15	741	792
	08:15-08:30	908	969
	08:30-08:45	908	969
	08:45-09:00	741	792
	09:00-09:15	621	663
E - A507 (Baldock Road)	07:45-08:00	492	506
	08:00-08:15	588	605
	08:15-08:30	720	741
	08:30-08:45	720	741
	08:45-09:00	588	605
	09:00-09:15	492	506

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - A10 (N)	0.81	30.69	4.2	D	472	472
B - B1038 (Baldock Road)	0.78	23.93	3.3	C	474	474
C - Access Road	0.00	0.00	0.0	A	0	0
D - A10 (S)	0.54	4.60	1.2	A	881	881
E - A507 (Baldock Road)	0.98	78.80	15.7	F	673	673

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	424	106	702	726	0.585	422	449	0.8	1.4	12.440	B
B - B1038 (Baldock Road)	426	107	698	767	0.556	424	426	0.7	1.2	10.681	B
C - Access Road	0	0	1110	483	0.000	0	12	0.0	0.0	0.000	A
D - A10 (S)	792	198	318	1852	0.427	791	792	0.6	0.8	3.619	A
E - A507 (Baldock Road)	605	151	551	826	0.732	600	557	1.4	2.6	16.003	C

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	520	130	830	650	0.800	511	548	1.4	3.7	25.824	D
B - B1038 (Baldock Road)	522	131	833	684	0.764	515	508	1.2	3.0	21.042	C
C - Access Road	0	0	1333	415	0.000	0	15	0.0	0.0	0.000	A
D - A10 (S)	969	242	386	1807	0.536	968	947	0.8	1.2	4.571	A
E - A507 (Baldock Road)	741	185	674	757	0.978	704	680	2.6	11.7	50.753	F

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	520	130	850	638	0.814	518	551	3.7	4.2	30.694	D
B - B1038 (Baldock Road)	522	131	850	673	0.776	521	518	3.0	3.3	23.926	C
C - Access Road	0	0	1356	408	0.000	0	15	0.0	0.0	0.000	A
D - A10 (S)	969	242	391	1804	0.537	969	965	1.2	1.2	4.605	A
E - A507 (Baldock Road)	741	185	676	756	0.979	725	684	11.7	15.7	78.800	F

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	424	106	755	694	0.611	434	455	4.2	1.7	15.164	C
B - B1038 (Baldock Road)	426	107	739	742	0.575	434	450	3.3	1.4	12.253	B
C - Access Road	0	0	1160	468	0.000	0	13	0.0	0.0	0.000	A
D - A10 (S)	792	198	326	1847	0.429	793	835	1.2	0.8	3.656	A
E - A507 (Baldock Road)	605	151	555	824	0.734	655	564	15.7	3.1	27.322	D

2029 FY+DEV, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D8 - 2029 FY+DEV, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A10/ A508 Roundabout	Standard Roundabout		A, B, C, D, E	7.76	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D8	2029 FY+DEV	PM	Future Year+Dev	ONE HOUR	15:45	17:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - A10 (N)		ONE HOUR	✓	411	100.000
B - B1038 (Baldock Road)		ONE HOUR	✓	305	100.000
C - Access Road		ONE HOUR	✓	17	100.000
D - A10 (S)		ONE HOUR	✓	805	100.000
E - A507 (Baldock Road)		ONE HOUR	✓	430	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E - A507 (Baldock Road)
From	A - A10 (N)	0	70	2	303	36
	B - B1038 (Baldock Road)	57	2	1	78	167
	C - Access Road	6	2	0	9	0
	D - A10 (S)	380	86	5	2	332
	E - A507 (Baldock Road)	30	157	0	242	0

Proportions

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E - (Ba Ro
From	A - A10 (N)	0.00	0.17	0.01	0.74	0
	B - B1038 (Baldock Road)	0.19	0.01	0.00	0.28	0
	C - Access Road	0.37	0.13	0.00	0.50	0
	D - A10 (S)	0.47	0.11	0.01	0.00	0
	E - A507 (Baldock Road)	0.07	0.37	0.00	0.56	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E - A507 (Baldock Road)
From	A - A10 (N)	0	0	0	3	8
	B - B1038 (Baldock Road)	2	0	0	0	1
	C - Access Road	0	0	0	0	0
	D - A10 (S)	4	0	0	0	5
	E - A507 (Baldock Road)	0	1	0	3	0

Average PCU Per Veh

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E
From	A - A10 (N)	1.000	1.000	1.000	1.030	
	B - B1038 (Baldock Road)	1.018	1.000	1.000	1.000	
	C - Access Road	1.000	1.000	1.000	1.000	
	D - A10 (S)	1.037	1.000	1.000	1.000	
	E - A507 (Baldock Road)	1.000	1.006	1.000	1.033	

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - A10 (N)	15:45-16:00	310	319
	16:00-16:15	370	381
	16:15-16:30	453	466
	16:30-16:45	453	466
	16:45-17:00	370	381
	17:00-17:15	310	319
B - B1038 (Baldock Road)	15:45-16:00	230	231
	16:00-16:15	274	276
	16:15-16:30	336	338
	16:30-16:45	336	338
	16:45-17:00	274	276
	17:00-17:15	230	231
C - Access Road	15:45-16:00	13	13
	16:00-16:15	15	15
	16:15-16:30	19	19
	16:30-16:45	19	19
	16:45-17:00	15	15
	17:00-17:15	13	13
D - A10 (S)	15:45-16:00	606	628
	16:00-16:15	723	749
	16:15-16:30	886	918
	16:30-16:45	886	918
	16:45-17:00	723	749
	17:00-17:15	606	628
E - A507 (Baldock Road)	15:45-16:00	324	330
	16:00-16:15	386	394
	16:15-16:30	473	483
	16:30-16:45	473	483
	16:45-17:00	386	394
	17:00-17:15	324	330

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - A10 (N)	0.58	10.75	1.4	B	423	423
B - B1038 (Baldock Road)	0.43	8.16	0.8	A	307	307
C - Access Road	0.04	7.25	0.0	A	17	17
D - A10 (S)	0.49	3.95	1.0	A	834	834
E - A507 (Baldock Road)	0.61	11.87	1.6	B	439	439

Main Results for each time segment

16:00 - 16:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	381	95	454	871	0.437	380	438	0.5	0.8	7.521	A
B - B1038 (Baldock Road)	276	69	549	860	0.321	276	285	0.3	0.5	6.199	A
C - Access Road	15	4	817	572	0.027	15	8	0.0	0.0	6.465	A
D - A10 (S)	749	187	247	1899	0.395	749	585	0.5	0.7	3.242	A
E - A507 (Baldock Road)	394	99	499	855	0.461	393	497	0.6	0.9	7.935	A

16:15 - 16:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	466	117	555	812	0.574	464	536	0.8	1.4	10.574	B
B - B1038 (Baldock Road)	338	85	670	784	0.431	337	348	0.5	0.8	8.083	A
C - Access Road	19	5	998	517	0.036	19	9	0.0	0.0	7.226	A
D - A10 (S)	918	229	302	1862	0.493	917	714	0.7	1.0	3.937	A
E - A507 (Baldock Road)	483	121	610	793	0.609	480	608	0.9	1.5	11.654	B

16:30 - 16:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	466	117	557	811	0.575	466	537	1.4	1.4	10.752	B
B - B1038 (Baldock Road)	338	85	674	782	0.432	338	350	0.8	0.8	8.158	A
C - Access Road	19	5	1002	516	0.037	19	9	0.0	0.0	7.246	A
D - A10 (S)	918	229	303	1862	0.493	918	718	1.0	1.0	3.951	A
E - A507 (Baldock Road)	483	121	611	792	0.610	483	610	1.5	1.6	11.867	B

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	381	95	458	869	0.438	383	440	1.4	0.8	7.655	A
B - B1038 (Baldock Road)	276	69	553	857	0.322	277	287	0.8	0.5	6.264	A
C - Access Road	15	4	823	570	0.027	15	8	0.0	0.0	6.489	A
D - A10 (S)	749	187	249	1898	0.395	751	590	1.0	0.7	3.257	A
E - A507 (Baldock Road)	394	99	500	855	0.462	397	499	1.6	0.9	8.081	A

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.5.2.1013

Filename: J1_A10-Baldock Road_with CF_intercept adj.j9
Path: C:\Users\INAA02374\Desktop\Buntingford JM\220706 - JM - Updated TFD Flows\J1
Report generation date: 06-07-2022 17:50:43

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	2022 Base							
A - A10 (N)	2.0	15.39	0.66	C	1.0	8.38	0.49	A
B - B1038 (Baldock Road)	1.9	14.82	0.65	B	0.4	6.23	0.30	A
C - Access Road	0.0	0.00	0.00	A	0.0	6.54	0.03	A
D - A10 (S)	0.8	3.81	0.44	A	0.8	3.40	0.42	A
E - A507 (Baldock Road)	3.1	18.50	0.75	C	1.0	8.75	0.49	A
	2024 Projected Base							
A - A10 (N)	3.8	26.72	0.80	D	1.4	10.45	0.57	B
B - B1038 (Baldock Road)	3.8	27.34	0.80	D	0.6	7.21	0.36	A
C - Access Road	0.0	0.00	0.00	A	0.0	7.00	0.04	A
D - A10 (S)	1.1	4.31	0.50	A	1.0	3.80	0.48	A
E - A507 (Baldock Road)	7.2	39.86	0.89	E	1.4	11.15	0.59	B
	2029 FY							
A - A10 (N)	4.8	33.00	0.84	D	1.5	11.31	0.60	B
B - B1038 (Baldock Road)	4.9	34.93	0.85	D	0.6	7.58	0.38	A
C - Access Road	0.0	0.00	0.00	A	0.0	7.14	0.04	A
D - A10 (S)	1.1	4.48	0.52	A	1.0	3.95	0.50	A
E - A507 (Baldock Road)	10.2	54.83	0.93	F	1.6	12.18	0.62	B
	2029 FY+DEV							
A - A10 (N)	7.1	48.65	0.90	E	1.9	13.54	0.65	B
B - B1038 (Baldock Road)	6.2	41.63	0.88	E	1.0	9.53	0.49	A
C - Access Road	0.0	0.00	0.00	A	0.0	7.68	0.04	A
D - A10 (S)	1.5	5.22	0.59	A	1.2	4.40	0.54	A
E - A507 (Baldock Road)	48.1	199.04	1.11	F	2.2	15.53	0.69	C

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

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

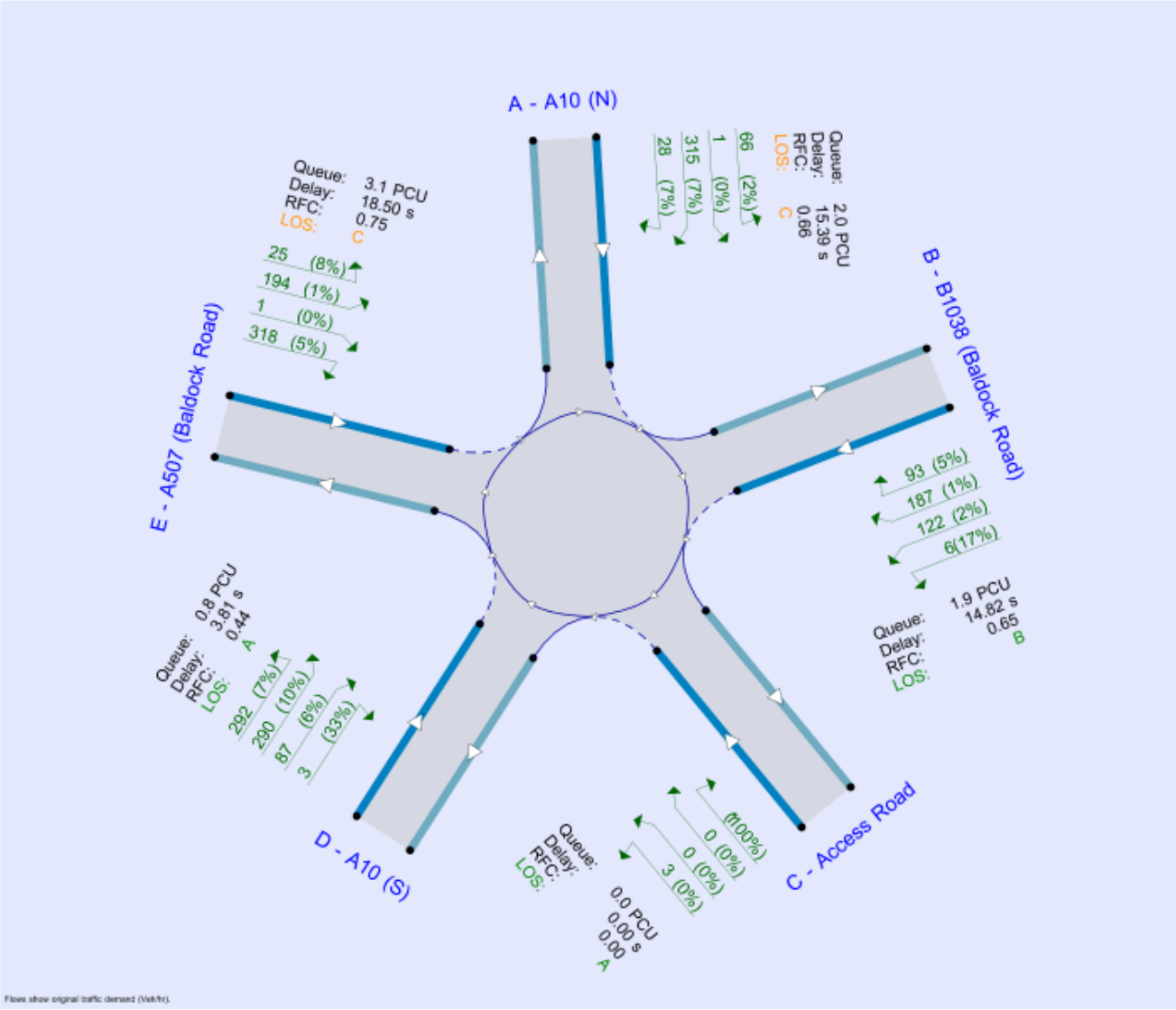
File summary

File Description

Title	A10 / A507 / B1038 Roundabout (Existing Junction Layout)
Location	Buntingford
Site number	1
Date	20-10-2014
Version	
Status	
Identifier	
Client	
Jobnumber	
Enumerator	UKSXB076 [W13UK0135]
Description	51.94664219533919, -0.029282359615619053

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	PCU	perHour	s	-Min	perMin



The junction diagram reflects the last run of Junctions.

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D1	2022 Base	AM	Actual Base Year	ONE HOUR	07:45	09:15	15	✓	✓
D2	2022 Base	PM	Actual Base Year	ONE HOUR	15:45	17:15	15	✓	✓
D3	2024 Projected Base	AM	Projected Base Year	ONE HOUR	07:45	09:15	15	✓	✓
D4	2024 Projected Base	PM	Projected Base Year	ONE HOUR	15:45	17:15	15	✓	✓
D5	2029 FY	AM	Future Year	ONE HOUR	07:45	09:15	15	✓	✓
D6	2029 FY	PM	Future Year	ONE HOUR	15:45	17:15	15	✓	✓
D7	2029 FY+DEV	AM	Future Year+Dev	ONE HOUR	07:45	09:15	15	✓	✓
D8	2029 FY+DEV	PM	Future Year+Dev	ONE HOUR	15:45	17:15	15	✓	✓

Analysis Set Details

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

2022 Base, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D1 - 2022 Base, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A10/ A508 Roundabout	Standard Roundabout		A, B, C, D, E	12.15	B

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
A	A10 (N)	
B	B1038 (Baldock Road)	
C	Access Road	
D	A10 (S)	
E	A507 (Baldock Road)	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
A - A10 (N)	4.36	7.68	10.2	39.1	55.0	45.0	
B - B1038 (Baldock Road)	3.86	7.36	15.4	54.3	55.0	29.0	
C - Access Road	4.54	5.50	1.2	3.0	55.0	76.0	
D - A10 (S)	4.43	8.18	16.5	64.6	55.0	31.0	
E - A507 (Baldock Road)	3.30	8.36	10.7	42.5	55.0	42.0	

Slope / Intercept / Capacity

Arm Intercept Adjustments

Arm	Type	Reason	Direct intercept adjustment (PCU/hr)
A - A10 (N)	Direct		-625
B - B1038 (Baldock Road)	Direct		-645
C - Access Road	None		
D - A10 (S)	None		
E - A507 (Baldock Road)	Direct		-450

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A - A10 (N)	0.588	1138
B - B1038 (Baldock Road)	0.620	1200
C - Access Road	0.304	821
D - A10 (S)	0.658	2061
E - A507 (Baldock Road)	0.559	1134

The slope and intercept shown above include any corrections and adjustments

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D1	2022 Base	AM	Actual Base Year	ONE HOUR	07:45	09:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - A10 (N)		ONE HOUR	✓	410	100.000
B - B1038 (Baldock Road)		ONE HOUR	✓	413	100.000
C - Access Road		ONE HOUR	✓	4	100.000
D - A10 (S)		ONE HOUR	✓	674	100.000
E - A507 (Baldock Road)		ONE HOUR	✓	539	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E - A507 (Baldock Road)
From	A - A10 (N)	0	66	1	315	28
	B - B1038 (Baldock Road)	93	5	6	122	187
	C - Access Road	0	1	0	3	0
	D - A10 (S)	290	87	3	2	292
	E - A507 (Baldock Road)	25	194	1	318	1

Proportions

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E - (Ba Ro
From	A - A10 (N)	0.00	0.16	0.00	0.77	0
	B - B1038 (Baldock Road)	0.23	0.01	0.01	0.30	0
	C - Access Road	0.00	0.25	0.00	0.75	0
	D - A10 (S)	0.43	0.13	0.00	0.00	0
	E - A507 (Baldock Road)	0.05	0.36	0.00	0.59	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E - A507 (Baldock Road)
From	A - A10 (N)	0	2	0	7	7
	B - B1038 (Baldock Road)	5	0	17	2	1
	C - Access Road	0	100	0	0	0
	D - A10 (S)	10	6	33	0	7
	E - A507 (Baldock Road)	8	1	0	5	0

Average PCU Per Veh

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	(
From	A - A10 (N)	1.000	1.015	1.002	1.073	
	B - B1038 (Baldock Road)	1.054	1.000	1.167	1.025	
	C - Access Road	1.000	2.000	1.000	1.000	
	D - A10 (S)	1.100	1.057	1.333	1.000	
	E - A507 (Baldock Road)	1.080	1.010	1.003	1.047	

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - A10 (N)	07:45-08:00	309	328
	08:00-08:15	369	392
	08:15-08:30	451	480
	08:30-08:45	451	480
	08:45-09:00	369	392
	09:00-09:15	309	328
B - B1038 (Baldock Road)	07:45-08:00	311	319
	08:00-08:15	371	381
	08:15-08:30	455	467
	08:30-08:45	455	467
	08:45-09:00	371	381
	09:00-09:15	311	319
C - Access Road	07:45-08:00	0	0
	08:00-08:15	0	0
	08:15-08:30	0	0
	08:30-08:45	0	0
	08:45-09:00	0	0
	09:00-09:15	0	0
D - A10 (S)	07:45-08:00	507	550
	08:00-08:15	606	656
	08:15-08:30	742	804
	08:30-08:45	742	804
	08:45-09:00	606	656
	09:00-09:15	507	550
E - A507 (Baldock Road)	07:45-08:00	406	420
	08:00-08:15	485	502
	08:15-08:30	593	614
	08:30-08:45	593	614
	08:45-09:00	485	502
	09:00-09:15	406	420

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - A10 (N)	0.66	15.39	2.0	C	436	436
B - B1038 (Baldock Road)	0.65	14.82	1.9	B	424	424
C - Access Road	0.00	0.00	0.0	A	0	0
D - A10 (S)	0.44	3.81	0.8	A	730	730
E - A507 (Baldock Road)	0.75	18.50	3.1	C	558	558

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	392	98	568	804	0.487	391	399	0.6	1.0	9.223	A
B - B1038 (Baldock Road)	381	95	636	806	0.473	380	323	0.6	0.9	8.654	A
C - Access Road	0	0	1004	515	0.000	0	12	0.0	0.0	0.000	A
D - A10 (S)	656	164	289	1871	0.351	656	715	0.4	0.6	3.206	A
E - A507 (Baldock Road)	502	125	467	873	0.574	500	478	0.9	1.4	9.920	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	480	120	692	731	0.656	476	487	1.0	1.9	14.785	B
B - B1038 (Baldock Road)	467	117	775	720	0.649	463	393	0.9	1.8	14.215	B
C - Access Road	0	0	1224	448	0.000	0	14	0.0	0.0	0.000	A
D - A10 (S)	804	201	353	1829	0.439	803	871	0.6	0.8	3.795	A
E - A507 (Baldock Road)	614	154	571	815	0.754	608	585	1.4	2.9	17.487	C

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	480	120	698	728	0.659	480	489	1.9	2.0	15.387	C
B - B1038 (Baldock Road)	467	117	781	715	0.652	467	396	1.8	1.9	14.815	B
C - Access Road	0	0	1234	445	0.000	0	14	0.0	0.0	0.000	A
D - A10 (S)	804	201	355	1827	0.440	804	878	0.8	0.8	3.808	A
E - A507 (Baldock Road)	614	154	572	814	0.755	614	587	2.9	3.1	18.497	C

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	392	98	576	799	0.490	396	401	2.0	1.0	9.574	A
B - B1038 (Baldock Road)	381	95	645	800	0.477	385	327	1.9	1.0	8.985	A
C - Access Road	0	0	1019	511	0.000	0	12	0.0	0.0	0.000	A
D - A10 (S)	656	164	293	1868	0.351	657	725	0.8	0.6	3.221	A
E - A507 (Baldock Road)	502	125	469	872	0.575	508	482	3.1	1.4	10.414	B

2022 Base, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D2 - 2022 Base, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A10/ A508 Roundabout	Standard Roundabout		A, B, C, D, E	6.06	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D2	2022 Base	PM	Actual Base Year	ONE HOUR	15:45	17:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - A10 (N)		ONE HOUR	✓	372	100.000
B - B1038 (Baldock Road)		ONE HOUR	✓	230	100.000
C - Access Road		ONE HOUR	✓	16	100.000
D - A10 (S)		ONE HOUR	✓	700	100.000
E - A507 (Baldock Road)		ONE HOUR	✓	385	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E - A507 (Baldock Road)
From	A - A10 (N)	0	64	2	272	34
	B - B1038 (Baldock Road)	53	2	1	62	112
	C - Access Road	6	2	0	8	0
	D - A10 (S)	341	63	5	2	289
	E - A507 (Baldock Road)	28	142	0	195	0

Proportions

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E - (Ba Ro
From	A - A10 (N)	0.00	0.17	0.01	0.73	0
	B - B1038 (Baldock Road)	0.23	0.01	0.00	0.27	0
	C - Access Road	0.38	0.13	0.00	0.50	0
	D - A10 (S)	0.49	0.09	0.01	0.00	0
	E - A507 (Baldock Road)	0.08	0.39	0.00	0.53	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E - A507 (Baldock Road)
From	A - A10 (N)	0	0	0	3	9
	B - B1038 (Baldock Road)	2	0	0	0	1
	C - Access Road	0	0	0	0	0
	D - A10 (S)	4	0	0	0	5
	E - A507 (Baldock Road)	0	1	0	4	0

Average PCU Per Veh

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E
From	A - A10 (N)	1.000	1.000	1.000	1.033	
	B - B1038 (Baldock Road)	1.019	1.000	1.000	1.000	
	C - Access Road	1.000	1.000	1.000	1.000	
	D - A10 (S)	1.041	1.000	1.000	1.000	
	E - A507 (Baldock Road)	1.000	1.007	1.000	1.041	

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - A10 (N)	15:45-16:00	280	289
	16:00-16:15	334	345
	16:15-16:30	410	423
	16:30-16:45	410	423
	16:45-17:00	334	345
	17:00-17:15	280	289
B - B1038 (Baldock Road)	15:45-16:00	173	175
	16:00-16:15	207	209
	16:15-16:30	253	255
	16:30-16:45	253	255
	16:45-17:00	207	209
	17:00-17:15	173	175
C - Access Road	15:45-16:00	12	12
	16:00-16:15	14	14
	16:15-16:30	18	18
	16:30-16:45	18	18
	16:45-17:00	14	14
	17:00-17:15	12	12
D - A10 (S)	15:45-16:00	527	549
	16:00-16:15	629	655
	16:15-16:30	771	803
	16:30-16:45	771	803
	16:45-17:00	629	655
	17:00-17:15	527	549
E - A507 (Baldock Road)	15:45-16:00	275	282
	16:00-16:15	328	336
	16:15-16:30	402	412
	16:30-16:45	402	412
	16:45-17:00	328	336
	17:00-17:15	275	282

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - A10 (N)	0.49	8.38	1.0	A	384	384
B - B1038 (Baldock Road)	0.30	6.23	0.4	A	232	232
C - Access Road	0.03	6.54	0.0	A	16	16
D - A10 (S)	0.42	3.40	0.8	A	729	729
E - A507 (Baldock Road)	0.49	8.75	1.0	A	374	374

Main Results for each time segment

16:00 - 16:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	345	86	377	917	0.377	345	398	0.4	0.6	6.487	A
B - B1038 (Baldock Road)	209	52	476	905	0.230	208	246	0.2	0.3	5.209	A
C - Access Road	14	4	677	615	0.023	14	7	0.0	0.0	5.996	A
D - A10 (S)	655	164	192	1935	0.339	655	499	0.4	0.5	2.927	A
E - A507 (Baldock Road)	336	84	439	889	0.378	336	408	0.4	0.6	6.660	A

16:15 - 16:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	423	106	461	867	0.488	421	487	0.6	1.0	8.310	A
B - B1038 (Baldock Road)	255	64	582	839	0.304	255	301	0.3	0.4	6.209	A
C - Access Road	18	4	828	569	0.031	18	9	0.0	0.0	6.531	A
D - A10 (S)	803	201	235	1907	0.421	802	610	0.5	0.8	3.389	A
E - A507 (Baldock Road)	412	103	538	834	0.494	410	499	0.6	1.0	8.684	A

16:30 - 16:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	423	106	462	866	0.488	423	488	1.0	1.0	8.376	A
B - B1038 (Baldock Road)	255	64	583	838	0.305	255	302	0.4	0.4	6.231	A
C - Access Road	18	4	830	568	0.031	18	9	0.0	0.0	6.540	A
D - A10 (S)	803	201	236	1906	0.421	803	612	0.8	0.8	3.396	A
E - A507 (Baldock Road)	412	103	538	833	0.494	412	500	1.0	1.0	8.750	A

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	345	86	379	915	0.377	347	399	1.0	0.6	6.551	A
B - B1038 (Baldock Road)	209	52	478	903	0.231	209	247	0.4	0.3	5.237	A
C - Access Road	14	4	680	614	0.023	14	7	0.0	0.0	6.010	A
D - A10 (S)	655	164	193	1934	0.339	656	502	0.8	0.5	2.936	A
E - A507 (Baldock Road)	336	84	440	888	0.379	338	409	1.0	0.6	6.720	A

2024 Projected Base, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D3 - 2024 Projected Base, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A10/ A508 Roundabout	Standard Roundabout		A, B, C, D, E	22.67	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D3	2024 Projected Base	AM	Projected Base Year	ONE HOUR	07:45	09:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - A10 (N)		ONE HOUR	✓	464	100.000
B - B1038 (Baldock Road)		ONE HOUR	✓	467	100.000
C - Access Road		ONE HOUR	✓	5	100.000
D - A10 (S)		ONE HOUR	✓	763	100.000
E - A507 (Baldock Road)		ONE HOUR	✓	610	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E - A507 (Baldock Road)
From	A - A10 (N)	0	75	1	356	32
	B - B1038 (Baldock Road)	105	6	7	138	212
	C - Access Road	0	1	0	3	0
	D - A10 (S)	328	98	3	2	330
	E - A507 (Baldock Road)	28	219	1	360	1

Proportions

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E - (Ba Ro
From	A - A10 (N)	0.00	0.16	0.00	0.77	0
	B - B1038 (Baldock Road)	0.23	0.01	0.01	0.30	0
	C - Access Road	0.00	0.25	0.00	0.75	0
	D - A10 (S)	0.43	0.13	0.00	0.00	0
	E - A507 (Baldock Road)	0.05	0.36	0.00	0.59	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E - A507 (Baldock Road)
From	A - A10 (N)	0	1	0	6	6
	B - B1038 (Baldock Road)	5	0	15	2	1
	C - Access Road	0	88	0	0	0
	D - A10 (S)	9	5	29	0	6
	E - A507 (Baldock Road)	7	1	0	4	0

Average PCU Per Veh

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E
From	A - A10 (N)	1.000	1.013	1.001	1.065	
	B - B1038 (Baldock Road)	1.048	1.000	1.147	1.022	
	C - Access Road	1.000	1.884	1.000	1.000	
	D - A10 (S)	1.088	1.051	1.295	1.000	
	E - A507 (Baldock Road)	1.071	1.009	1.003	1.042	

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - A10 (N)	07:45-08:00	349	369
	08:00-08:15	417	440
	08:15-08:30	511	539
	08:30-08:45	511	539
	08:45-09:00	417	440
	09:00-09:15	349	369
B - B1038 (Baldock Road)	07:45-08:00	352	360
	08:00-08:15	420	430
	08:15-08:30	514	527
	08:30-08:45	514	527
	08:45-09:00	420	430
	09:00-09:15	352	360
C - Access Road	07:45-08:00	0	0
	08:00-08:15	0	0
	08:15-08:30	0	0
	08:30-08:45	0	0
	08:45-09:00	0	0
	09:00-09:15	0	0
D - A10 (S)	07:45-08:00	574	616
	08:00-08:15	685	736
	08:15-08:30	840	901
	08:30-08:45	840	901
	08:45-09:00	685	736
	09:00-09:15	574	616
E - A507 (Baldock Road)	07:45-08:00	459	473
	08:00-08:15	548	565
	08:15-08:30	671	692
	08:30-08:45	671	692
	08:45-09:00	548	565
	09:00-09:15	459	473

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - A10 (N)	0.80	26.72	3.8	D	490	490
B - B1038 (Baldock Road)	0.80	27.34	3.8	D	478	478
C - Access Road	0.00	0.00	0.0	A	0	0
D - A10 (S)	0.50	4.31	1.1	A	819	819
E - A507 (Baldock Road)	0.89	39.86	7.2	E	629	629

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	440	110	639	763	0.577	438	446	0.8	1.4	11.631	B
B - B1038 (Baldock Road)	430	107	713	758	0.567	428	363	0.8	1.3	11.098	B
C - Access Road	0	0	1128	477	0.000	0	13	0.0	0.0	0.000	A
D - A10 (S)	736	184	326	1847	0.398	735	802	0.5	0.7	3.474	A
E - A507 (Baldock Road)	565	141	523	842	0.672	562	538	1.1	2.0	13.092	B

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	539	135	770	686	0.787	531	544	1.4	3.5	23.430	C
B - B1038 (Baldock Road)	527	132	861	666	0.791	518	440	1.3	3.4	23.657	C
C - Access Road	0	0	1363	406	0.000	0	16	0.0	0.0	0.000	A
D - A10 (S)	901	225	395	1802	0.500	900	969	0.7	1.1	4.278	A
E - A507 (Baldock Road)	692	173	639	777	0.891	675	655	2.0	6.3	32.092	D

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	539	135	783	678	0.796	538	547	3.5	3.8	26.723	D
B - B1038 (Baldock Road)	527	132	875	657	0.801	525	446	3.4	3.8	27.339	D
C - Access Road	0	0	1385	399	0.000	0	16	0.0	0.0	0.000	A
D - A10 (S)	901	225	400	1798	0.501	901	985	1.1	1.1	4.308	A
E - A507 (Baldock Road)	692	173	642	776	0.893	689	660	6.3	7.2	39.864	E

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	440	110	661	749	0.588	449	451	3.8	1.6	13.026	B
B - B1038 (Baldock Road)	430	107	737	743	0.579	439	374	3.8	1.4	12.483	B
C - Access Road	0	0	1163	467	0.000	0	13	0.0	0.0	0.000	A
D - A10 (S)	736	184	335	1841	0.400	737	828	1.1	0.7	3.507	A
E - A507 (Baldock Road)	565	141	527	840	0.673	585	545	7.2	2.2	15.608	C

2024 Projected Base, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D4 - 2024 Projected Base, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A10/ A508 Roundabout	Standard Roundabout		A, B, C, D, E	7.34	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D4	2024 Projected Base	PM	Projected Base Year	ONE HOUR	15:45	17:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - A10 (N)		ONE HOUR	✓	421	100.000
B - B1038 (Baldock Road)		ONE HOUR	✓	260	100.000
C - Access Road		ONE HOUR	✓	18	100.000
D - A10 (S)		ONE HOUR	✓	793	100.000
E - A507 (Baldock Road)		ONE HOUR	✓	413	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E - A507 (Baldock Road)
From	A - A10 (N)	0	72	2	308	38
	B - B1038 (Baldock Road)	60	2	1	70	127
	C - Access Road	7	2	0	9	0
	D - A10 (S)	386	71	6	2	327
	E - A507 (Baldock Road)	32	161	0	221	0

Proportions

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E - (Ba Ro
From	A - A10 (N)	0.00	0.17	0.01	0.73	0
	B - B1038 (Baldock Road)	0.23	0.01	0.00	0.27	0
	C - Access Road	0.38	0.13	0.00	0.50	0
	D - A10 (S)	0.49	0.09	0.01	0.00	0
	E - A507 (Baldock Road)	0.08	0.39	0.00	0.53	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E - A507 (Baldock Road)
From	A - A10 (N)	0	0	0	3	8
	B - B1038 (Baldock Road)	2	0	0	0	1
	C - Access Road	0	0	0	0	0
	D - A10 (S)	4	0	0	0	5
	E - A507 (Baldock Road)	0	1	0	4	0

Average PCU Per Veh

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E
From	A - A10 (N)	1.000	1.000	1.000	1.029	
	B - B1038 (Baldock Road)	1.017	1.000	1.000	1.000	
	C - Access Road	1.000	1.000	1.000	1.004	
	D - A10 (S)	1.036	1.000	1.000	1.000	
	E - A507 (Baldock Road)	1.000	1.006	1.000	1.036	

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - A10 (N)	15:45-16:00	317	326
	16:00-16:15	379	389
	16:15-16:30	464	477
	16:30-16:45	464	477
	16:45-17:00	379	389
	17:00-17:15	317	326
B - B1038 (Baldock Road)	15:45-16:00	196	198
	16:00-16:15	234	236
	16:15-16:30	287	289
	16:30-16:45	287	289
	16:45-17:00	234	236
	17:00-17:15	196	198
C - Access Road	15:45-16:00	14	14
	16:00-16:15	16	16
	16:15-16:30	20	20
	16:30-16:45	20	20
	16:45-17:00	16	16
	17:00-17:15	14	14
D - A10 (S)	15:45-16:00	597	619
	16:00-16:15	713	739
	16:15-16:30	873	905
	16:30-16:45	873	905
	16:45-17:00	713	739
	17:00-17:15	597	619
E - A507 (Baldock Road)	15:45-16:00	311	318
	16:00-16:15	372	380
	16:15-16:30	455	465
	16:30-16:45	455	465
	16:45-17:00	372	380
	17:00-17:15	311	318

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - A10 (N)	0.57	10.45	1.4	B	433	433
B - B1038 (Baldock Road)	0.36	7.21	0.6	A	262	262
C - Access Road	0.04	7.00	0.0	A	18	18
D - A10 (S)	0.48	3.80	1.0	A	822	822
E - A507 (Baldock Road)	0.59	11.15	1.4	B	422	422

Main Results for each time segment

16:00 - 16:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	389	97	425	888	0.439	388	449	0.6	0.8	7.396	A
B - B1038 (Baldock Road)	236	59	536	868	0.272	236	278	0.3	0.4	5.735	A
C - Access Road	16	4	763	588	0.028	16	8	0.0	0.0	6.305	A
D - A10 (S)	739	185	217	1919	0.385	738	563	0.5	0.6	3.159	A
E - A507 (Baldock Road)	380	95	496	857	0.443	379	459	0.5	0.8	7.670	A

16:15 - 16:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	477	119	520	832	0.573	475	549	0.8	1.3	10.287	B
B - B1038 (Baldock Road)	289	72	655	794	0.364	288	340	0.4	0.6	7.150	A
C - Access Road	20	5	933	537	0.037	20	10	0.0	0.0	6.980	A
D - A10 (S)	905	226	265	1887	0.479	903	688	0.6	0.9	3.789	A
E - A507 (Baldock Road)	465	116	607	795	0.585	463	562	0.8	1.4	10.980	B

16:30 - 16:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	477	119	522	831	0.574	477	550	1.3	1.4	10.446	B
B - B1038 (Baldock Road)	289	72	658	792	0.365	289	341	0.6	0.6	7.210	A
C - Access Road	20	5	937	536	0.037	20	10	0.0	0.0	6.995	A
D - A10 (S)	905	226	266	1886	0.480	905	691	0.9	1.0	3.800	A
E - A507 (Baldock Road)	465	116	607	795	0.585	465	563	1.4	1.4	11.147	B

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	389	97	429	886	0.440	392	450	1.4	0.8	7.523	A
B - B1038 (Baldock Road)	236	59	540	865	0.273	237	280	0.6	0.4	5.783	A
C - Access Road	16	4	769	587	0.028	16	8	0.0	0.0	6.327	A
D - A10 (S)	739	185	218	1918	0.385	740	567	1.0	0.7	3.170	A
E - A507 (Baldock Road)	380	95	497	856	0.443	382	461	1.4	0.8	7.792	A

2029 FY, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D5 - 2029 FY, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A10/ A508 Roundabout	Standard Roundabout		A, B, C, D, E	29.41	D

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D5	2029 FY	AM	Future Year	ONE HOUR	07:45	09:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - A10 (N)		ONE HOUR	✓	479	100.000
B - B1038 (Baldock Road)		ONE HOUR	✓	483	100.000
C - Access Road		ONE HOUR	✓	5	100.000
D - A10 (S)		ONE HOUR	✓	788	100.000
E - A507 (Baldock Road)		ONE HOUR	✓	630	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E - A507 (Baldock Road)
From	A - A10 (N)	0	77	1	368	33
	B - B1038 (Baldock Road)	109	6	7	143	219
	C - Access Road	0	1	0	4	0
	D - A10 (S)	339	102	4	2	341
	E - A507 (Baldock Road)	29	227	1	372	1

Proportions

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E - (Ba Ro
From	A - A10 (N)	0.00	0.16	0.00	0.77	0
	B - B1038 (Baldock Road)	0.23	0.01	0.01	0.30	0
	C - Access Road	0.00	0.25	0.00	0.75	0
	D - A10 (S)	0.43	0.13	0.00	0.00	0
	E - A507 (Baldock Road)	0.05	0.36	0.00	0.59	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E - A507 (Baldock Road)
From	A - A10 (N)	0	1	0	6	6
	B - B1038 (Baldock Road)	5	0	14	2	1
	C - Access Road	0	86	0	0	0
	D - A10 (S)	9	5	29	0	6
	E - A507 (Baldock Road)	7	1	0	4	0

Average PCU Per Veh

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E
From	A - A10 (N)	1.000	1.013	1.001	1.062	
	B - B1038 (Baldock Road)	1.046	1.000	1.143	1.021	
	C - Access Road	1.000	1.855	1.000	1.000	
	D - A10 (S)	1.086	1.049	1.285	1.000	
	E - A507 (Baldock Road)	1.068	1.009	1.003	1.040	

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - A10 (N)	07:45-08:00	361	380
	08:00-08:15	431	454
	08:15-08:30	528	556
	08:30-08:45	528	556
	08:45-09:00	431	454
	09:00-09:15	361	380
B - B1038 (Baldock Road)	07:45-08:00	363	372
	08:00-08:15	434	444
	08:15-08:30	532	544
	08:30-08:45	532	544
	08:45-09:00	434	444
	09:00-09:15	363	372
C - Access Road	07:45-08:00	0	0
	08:00-08:15	0	0
	08:15-08:30	0	0
	08:30-08:45	0	0
	08:45-09:00	0	0
	09:00-09:15	0	0
D - A10 (S)	07:45-08:00	593	635
	08:00-08:15	708	759
	08:15-08:30	868	929
	08:30-08:45	868	929
	08:45-09:00	708	759
	09:00-09:15	593	635
E - A507 (Baldock Road)	07:45-08:00	474	489
	08:00-08:15	566	584
	08:15-08:30	694	715
	08:30-08:45	694	715
	08:45-09:00	566	584
	09:00-09:15	474	489

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - A10 (N)	0.84	33.00	4.8	D	505	505
B - B1038 (Baldock Road)	0.85	34.93	4.9	D	494	494
C - Access Road	0.00	0.00	0.0	A	0	0
D - A10 (S)	0.52	4.48	1.1	A	844	844
E - A507 (Baldock Road)	0.93	54.83	10.2	F	649	649

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	454	114	659	751	0.605	452	460	0.9	1.6	12.571	B
B - B1038 (Baldock Road)	444	111	735	744	0.597	441	375	0.8	1.5	12.064	B
C - Access Road	0	0	1163	467	0.000	0	13	0.0	0.0	0.000	A
D - A10 (S)	759	190	336	1840	0.412	758	827	0.5	0.7	3.561	A
E - A507 (Baldock Road)	584	146	539	833	0.701	579	555	1.2	2.3	14.397	B

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	556	139	788	675	0.825	546	560	1.6	4.2	27.393	D
B - B1038 (Baldock Road)	544	136	883	653	0.833	532	451	1.5	4.3	28.298	D
C - Access Road	0	0	1399	395	0.000	0	16	0.0	0.0	0.000	A
D - A10 (S)	929	232	405	1794	0.518	928	993	0.7	1.1	4.440	A
E - A507 (Baldock Road)	715	179	658	766	0.933	690	675	2.3	8.4	39.895	E

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	556	139	805	665	0.837	554	564	4.2	4.8	33.002	D
B - B1038 (Baldock Road)	544	136	900	642	0.847	541	459	4.3	4.9	34.932	D
C - Access Road	0	0	1425	387	0.000	0	16	0.0	0.0	0.000	A
D - A10 (S)	929	232	412	1790	0.519	929	1013	1.1	1.1	4.478	A
E - A507 (Baldock Road)	715	179	661	765	0.935	708	680	8.4	10.2	54.832	F

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	454	114	692	731	0.621	466	466	4.8	1.8	14.916	B
B - B1038 (Baldock Road)	444	111	768	724	0.614	457	390	4.9	1.7	14.436	B
C - Access Road	0	0	1212	452	0.000	0	14	0.0	0.0	0.000	A
D - A10 (S)	759	190	348	1832	0.414	760	864	1.1	0.8	3.603	A
E - A507 (Baldock Road)	584	146	544	830	0.703	614	564	10.2	2.6	19.290	C

2029 FY, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D6 - 2029 FY, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A10/ A508 Roundabout	Standard Roundabout		A, B, C, D, E	7.87	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D6	2029 FY	PM	Future Year	ONE HOUR	15:45	17:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - A10 (N)		ONE HOUR	✓	436	100.000
B - B1038 (Baldock Road)		ONE HOUR	✓	270	100.000
C - Access Road		ONE HOUR	✓	19	100.000
D - A10 (S)		ONE HOUR	✓	821	100.000
E - A507 (Baldock Road)		ONE HOUR	✓	428	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E - A507 (Baldock Road)
From	A - A10 (N)	0	75	2	319	40
	B - B1038 (Baldock Road)	62	2	1	73	131
	C - Access Road	7	2	0	9	0
	D - A10 (S)	400	74	6	2	339
	E - A507 (Baldock Road)	33	167	0	229	0

Proportions

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E - (Ba Ro
From	A - A10 (N)	0.00	0.17	0.01	0.73	0
	B - B1038 (Baldock Road)	0.23	0.01	0.00	0.27	0
	C - Access Road	0.37	0.12	0.00	0.50	0
	D - A10 (S)	0.49	0.09	0.01	0.00	0
	E - A507 (Baldock Road)	0.08	0.39	0.00	0.53	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E - A507 (Baldock Road)
From	A - A10 (N)	0	0	0	3	8
	B - B1038 (Baldock Road)	2	0	0	0	1
	C - Access Road	0	0	0	0	0
	D - A10 (S)	3	0	0	0	4
	E - A507 (Baldock Road)	0	1	0	3	0

Average PCU Per Veh

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E
From	A - A10 (N)	1.000	1.000	1.000	1.028	
	B - B1038 (Baldock Road)	1.016	1.000	1.000	1.000	
	C - Access Road	1.000	1.000	1.000	1.003	
	D - A10 (S)	1.035	1.000	1.000	1.000	
	E - A507 (Baldock Road)	1.000	1.006	1.000	1.035	

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - A10 (N)	15:45-16:00	329	338
	16:00-16:15	392	403
	16:15-16:30	481	494
	16:30-16:45	481	494
	16:45-17:00	392	403
	17:00-17:15	329	338
B - B1038 (Baldock Road)	15:45-16:00	203	205
	16:00-16:15	243	244
	16:15-16:30	297	299
	16:30-16:45	297	299
	16:45-17:00	243	244
	17:00-17:15	203	205
C - Access Road	15:45-16:00	14	14
	16:00-16:15	17	17
	16:15-16:30	21	21
	16:30-16:45	21	21
	16:45-17:00	17	17
	17:00-17:15	14	14
D - A10 (S)	15:45-16:00	618	640
	16:00-16:15	738	764
	16:15-16:30	904	936
	16:30-16:45	904	936
	16:45-17:00	738	764
	17:00-17:15	618	640
E - A507 (Baldock Road)	15:45-16:00	322	329
	16:00-16:15	385	393
	16:15-16:30	471	481
	16:30-16:45	471	481
	16:45-17:00	385	393
	17:00-17:15	322	329

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - A10 (N)	0.60	11.31	1.5	B	448	448
B - B1038 (Baldock Road)	0.38	7.58	0.6	A	272	272
C - Access Road	0.04	7.14	0.0	A	19	19
D - A10 (S)	0.50	3.95	1.0	A	850	850
E - A507 (Baldock Road)	0.62	12.18	1.6	B	437	437

Main Results for each time segment

16:00 - 16:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	403	101	440	879	0.459	402	464	0.6	0.9	7.734	A
B - B1038 (Baldock Road)	244	61	554	856	0.285	244	288	0.3	0.4	5.920	A
C - Access Road	17	4	790	580	0.029	17	8	0.0	0.0	6.399	A
D - A10 (S)	764	191	224	1914	0.399	764	582	0.5	0.7	3.239	A
E - A507 (Baldock Road)	393	98	513	848	0.464	392	475	0.6	0.9	8.048	A

16:15 - 16:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	494	123	538	822	0.601	491	568	0.9	1.5	11.100	B
B - B1038 (Baldock Road)	299	75	677	780	0.384	298	352	0.4	0.6	7.516	A
C - Access Road	21	5	965	527	0.039	21	10	0.0	0.0	7.122	A
D - A10 (S)	936	234	275	1881	0.498	935	711	0.7	1.0	3.935	A
E - A507 (Baldock Road)	481	120	628	783	0.615	479	582	0.9	1.6	11.951	B

16:30 - 16:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	494	123	541	820	0.602	494	569	1.5	1.5	11.314	B
B - B1038 (Baldock Road)	299	75	681	778	0.385	299	354	0.6	0.6	7.578	A
C - Access Road	21	5	970	526	0.039	21	10	0.0	0.0	7.140	A
D - A10 (S)	936	234	275	1880	0.498	936	715	1.0	1.0	3.948	A
E - A507 (Baldock Road)	481	120	629	783	0.615	481	583	1.6	1.6	12.180	B

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	403	101	444	877	0.460	406	466	1.5	0.9	7.892	A
B - B1038 (Baldock Road)	244	61	560	853	0.287	245	290	0.6	0.4	5.976	A
C - Access Road	17	4	796	578	0.029	17	8	0.0	0.0	6.425	A
D - A10 (S)	764	191	226	1913	0.400	766	587	1.0	0.7	3.252	A
E - A507 (Baldock Road)	393	98	514	847	0.464	396	477	1.6	0.9	8.203	A

2029 FY+DEV, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D7 - 2029 FY+DEV, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A10/ A508 Roundabout	Standard Roundabout		A, B, C, D, E	72.50	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D7	2029 FY+DEV	AM	Future Year+Dev	ONE HOUR	07:45	09:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - A10 (N)		ONE HOUR	✓	490	100.000
B - B1038 (Baldock Road)		ONE HOUR	✓	507	100.000
C - Access Road		ONE HOUR	✓	5	100.000
D - A10 (S)		ONE HOUR	✓	896	100.000
E - A507 (Baldock Road)		ONE HOUR	✓	711	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E - A507 (Baldock Road)
From	A - A10 (N)	0	78	1	378	33
	B - B1038 (Baldock Road)	110	6	7	154	230
	C - Access Road	0	1	0	4	0
	D - A10 (S)	389	135	4	2	387
	E - A507 (Baldock Road)	29	288	1	391	1

Proportions

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E - (Ba Ro
From	A - A10 (N)	0.00	0.16	0.00	0.77	0
	B - B1038 (Baldock Road)	0.22	0.01	0.01	0.30	0
	C - Access Road	0.00	0.25	0.00	0.75	0
	D - A10 (S)	0.41	0.15	0.00	0.00	0
	E - A507 (Baldock Road)	0.04	0.40	0.00	0.55	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E - A507 (Baldock Road)
From	A - A10 (N)	0	1	0	6	6
	B - B1038 (Baldock Road)	5	0	14	2	1
	C - Access Road	0	85	0	0	0
	D - A10 (S)	8	4	29	0	5
	E - A507 (Baldock Road)	7	1	0	4	0

Average PCU Per Veh

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E
From	A - A10 (N)	1.000	1.013	1.001	1.061	
	B - B1038 (Baldock Road)	1.045	1.000	1.141	1.019	
	C - Access Road	1.000	1.851	1.000	1.000	
	D - A10 (S)	1.079	1.037	1.285	1.000	
	E - A507 (Baldock Road)	1.068	1.007	1.003	1.038	

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - A10 (N)	07:45-08:00	369	388
	08:00-08:15	440	463
	08:15-08:30	539	568
	08:30-08:45	539	568
	08:45-09:00	440	463
	09:00-09:15	369	388
B - B1038 (Baldock Road)	07:45-08:00	382	390
	08:00-08:15	456	466
	08:15-08:30	558	571
	08:30-08:45	558	571
	08:45-09:00	456	466
	09:00-09:15	382	390
C - Access Road	07:45-08:00	0	0
	08:00-08:15	0	0
	08:15-08:30	0	0
	08:30-08:45	0	0
	08:45-09:00	0	0
	09:00-09:15	0	0
D - A10 (S)	07:45-08:00	675	717
	08:00-08:15	806	856
	08:15-08:30	987	1048
	08:30-08:45	987	1048
	08:45-09:00	806	856
	09:00-09:15	675	717
E - A507 (Baldock Road)	07:45-08:00	535	549
	08:00-08:15	639	656
	08:15-08:30	783	804
	08:30-08:45	783	804
	08:45-09:00	639	656
	09:00-09:15	535	549

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - A10 (N)	0.90	48.65	7.1	E	516	516
B - B1038 (Baldock Road)	0.88	41.63	6.2	E	518	518
C - Access Road	0.00	0.00	0.0	A	0	0
D - A10 (S)	0.59	5.22	1.5	A	952	952
E - A507 (Baldock Road)	1.11	199.04	48.1	F	730	730

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	463	116	756	694	0.668	460	488	1.1	2.0	15.934	C
B - B1038 (Baldock Road)	466	116	758	730	0.638	463	457	0.9	1.7	13.604	B
C - Access Road	0	0	1207	453	0.000	0	13	0.0	0.0	0.000	A
D - A10 (S)	856	214	347	1833	0.467	855	860	0.7	0.9	3.908	A
E - A507 (Baldock Road)	656	164	597	801	0.820	647	605	1.8	4.1	22.756	C

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	568	142	847	640	0.886	552	591	2.0	6.0	37.394	E
B - B1038 (Baldock Road)	571	143	873	659	0.866	557	526	1.7	5.2	32.388	D
C - Access Road	0	0	1413	391	0.000	0	16	0.0	0.0	0.000	A
D - A10 (S)	1048	262	418	1786	0.587	1046	996	0.9	1.5	5.151	A
E - A507 (Baldock Road)	804	201	728	727	1.105	710	736	4.1	27.5	96.485	F

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	568	142	858	634	0.896	563	595	6.0	7.1	48.646	E
B - B1038 (Baldock Road)	571	143	889	649	0.880	567	532	5.2	6.2	41.634	E
C - Access Road	0	0	1439	383	0.000	0	16	0.0	0.0	0.000	A
D - A10 (S)	1048	262	425	1781	0.589	1048	1014	1.5	1.5	5.217	A
E - A507 (Baldock Road)	804	201	732	725	1.108	721	742	27.5	48.1	199.038	F

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	463	116	885	618	0.750	478	499	7.1	3.5	29.307	D
B - B1038 (Baldock Road)	466	116	849	674	0.692	481	514	6.2	2.4	20.339	C
C - Access Road	0	0	1316	420	0.000	0	14	0.0	0.0	0.000	A
D - A10 (S)	856	214	361	1824	0.469	858	954	1.5	0.9	3.972	A
E - A507 (Baldock Road)	656	164	603	797	0.823	780	616	48.1	17.0	155.310	F

2029 FY+DEV, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D8 - 2029 FY+DEV, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A10/ A508 Roundabout	Standard Roundabout		A, B, C, D, E	9.54	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D8	2029 FY+DEV	PM	Future Year+Dev	ONE HOUR	15:45	17:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - A10 (N)		ONE HOUR	✓	451	100.000
B - B1038 (Baldock Road)		ONE HOUR	✓	330	100.000
C - Access Road		ONE HOUR	✓	19	100.000
D - A10 (S)		ONE HOUR	✓	879	100.000
E - A507 (Baldock Road)		ONE HOUR	✓	469	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E - A507 (Baldock Road)
From	A - A10 (N)	0	76	2	333	40
	B - B1038 (Baldock Road)	63	2	1	85	178
	C - Access Road	7	2	0	9	0
	D - A10 (S)	416	92	6	2	363
	E - A507 (Baldock Road)	33	173	0	263	0

Proportions

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E - (Ba Ro
From	A - A10 (N)	0.00	0.17	0.01	0.74	0
	B - B1038 (Baldock Road)	0.19	0.01	0.00	0.26	0
	C - Access Road	0.37	0.13	0.00	0.50	0
	D - A10 (S)	0.47	0.10	0.01	0.00	0
	E - A507 (Baldock Road)	0.07	0.37	0.00	0.56	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E - A507 (Baldock Road)
From	A - A10 (N)	0	0	0	3	8
	B - B1038 (Baldock Road)	2	0	0	0	1
	C - Access Road	0	0	0	0	0
	D - A10 (S)	3	0	0	0	4
	E - A507 (Baldock Road)	0	1	0	3	0

Average PCU Per Veh

		To				
		A - A10 (N)	B - B1038 (Baldock Road)	C - Access Road	D - A10 (S)	E
From	A - A10 (N)	1.000	1.000	1.000	1.027	
	B - B1038 (Baldock Road)	1.016	1.000	1.000	1.000	
	C - Access Road	1.000	1.000	1.000	1.000	
	D - A10 (S)	1.034	1.000	1.000	1.000	
	E - A507 (Baldock Road)	1.000	1.006	1.000	1.030	

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - A10 (N)	15:45-16:00	340	349
	16:00-16:15	406	416
	16:15-16:30	497	510
	16:30-16:45	497	510
	16:45-17:00	406	416
	17:00-17:15	340	349
B - B1038 (Baldock Road)	15:45-16:00	248	250
	16:00-16:15	296	298
	16:15-16:30	363	365
	16:30-16:45	363	365
	16:45-17:00	296	298
	17:00-17:15	248	250
C - Access Road	15:45-16:00	14	14
	16:00-16:15	17	17
	16:15-16:30	21	21
	16:30-16:45	21	21
	16:45-17:00	17	17
	17:00-17:15	14	14
D - A10 (S)	15:45-16:00	662	684
	16:00-16:15	790	817
	16:15-16:30	968	1000
	16:30-16:45	968	1000
	16:45-17:00	790	817
	17:00-17:15	662	684
E - A507 (Baldock Road)	15:45-16:00	353	360
	16:00-16:15	421	429
	16:15-16:30	516	526
	16:30-16:45	516	526
	16:45-17:00	421	429
	17:00-17:15	353	360

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - A10 (N)	0.65	13.54	1.9	B	463	463
B - B1038 (Baldock Road)	0.49	9.53	1.0	A	332	332
C - Access Road	0.04	7.68	0.0	A	19	19
D - A10 (S)	0.54	4.40	1.2	A	908	908
E - A507 (Baldock Road)	0.69	15.53	2.2	C	478	478

Main Results for each time segment

16:00 - 16:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	416	104	493	848	0.491	415	479	0.6	1.0	8.503	A
B - B1038 (Baldock Road)	298	75	597	830	0.359	298	311	0.4	0.6	6.797	A
C - Access Road	17	4	886	551	0.031	17	8	0.0	0.0	6.740	A
D - A10 (S)	817	204	267	1886	0.433	816	636	0.6	0.8	3.472	A
E - A507 (Baldock Road)	429	107	544	830	0.517	428	539	0.7	1.1	9.089	A

16:15 - 16:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	510	127	601	785	0.650	506	586	1.0	1.8	13.125	B
B - B1038 (Baldock Road)	365	91	728	748	0.488	364	380	0.6	0.9	9.379	A
C - Access Road	21	5	1082	492	0.042	21	10	0.0	0.0	7.646	A
D - A10 (S)	1000	250	326	1846	0.542	998	776	0.8	1.2	4.376	A
E - A507 (Baldock Road)	526	131	666	762	0.690	522	659	1.1	2.2	14.992	B

16:30 - 16:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	510	127	605	782	0.652	510	587	1.8	1.9	13.539	B
B - B1038 (Baldock Road)	365	91	733	745	0.490	365	382	0.9	1.0	9.527	A
C - Access Road	21	5	1088	490	0.042	21	10	0.0	0.0	7.678	A
D - A10 (S)	1000	250	328	1846	0.542	1000	781	1.2	1.2	4.398	A
E - A507 (Baldock Road)	526	131	667	761	0.691	526	661	2.2	2.2	15.533	C

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - A10 (N)	416	104	499	845	0.493	420	481	1.9	1.0	8.763	A
B - B1038 (Baldock Road)	298	75	604	825	0.361	300	314	1.0	0.6	6.914	A
C - Access Road	17	4	896	548	0.031	17	8	0.0	0.0	6.778	A
D - A10 (S)	817	204	269	1884	0.433	818	643	1.2	0.8	3.493	A
E - A507 (Baldock Road)	429	107	546	829	0.518	434	541	2.2	1.1	9.384	A

Appendix I.2

JUNCTION 2

Junctions 9

ARCADY 9 - Roundabout Module

Filename: J2_Hare St - Station Rd mini - roundabout.j9
Path: C:\Users\INAA02374\Desktop\Buntingford JM\220706 - JM - Updated TFD Flows\J2
Report generation date: 06-07-2022 17:20:15

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	2022 Base							
A - High Street	0.9	7.65	0.48	A	0.8	6.93	0.43	A
B - Hare St	0.4	6.51	0.30	A	0.3	5.82	0.22	A
C - Station Rd	1.3	9.14	0.56	A	0.9	7.22	0.46	A
	2024 Projected Base							
A - High Street	1.2	8.87	0.55	A	1.0	7.84	0.49	A
B - Hare St	0.5	7.21	0.34	A	0.3	6.27	0.25	A
C - Station Rd	1.8	11.22	0.64	B	1.1	8.26	0.53	A
	2029 FY							
A - High Street	1.3	9.30	0.57	A	1.0	8.17	0.51	A
B - Hare St	0.6	7.44	0.36	A	0.4	6.43	0.27	A
C - Station Rd	1.9	12.01	0.66	B	1.2	8.64	0.55	A
	2029 FY+DEV							
A - High Street	2.3	14.01	0.70	B	1.2	8.84	0.55	A
B - Hare St	0.7	7.87	0.39	A	0.6	7.68	0.38	A
C - Station Rd	2.6	15.09	0.73	C	1.4	10.02	0.59	B

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

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

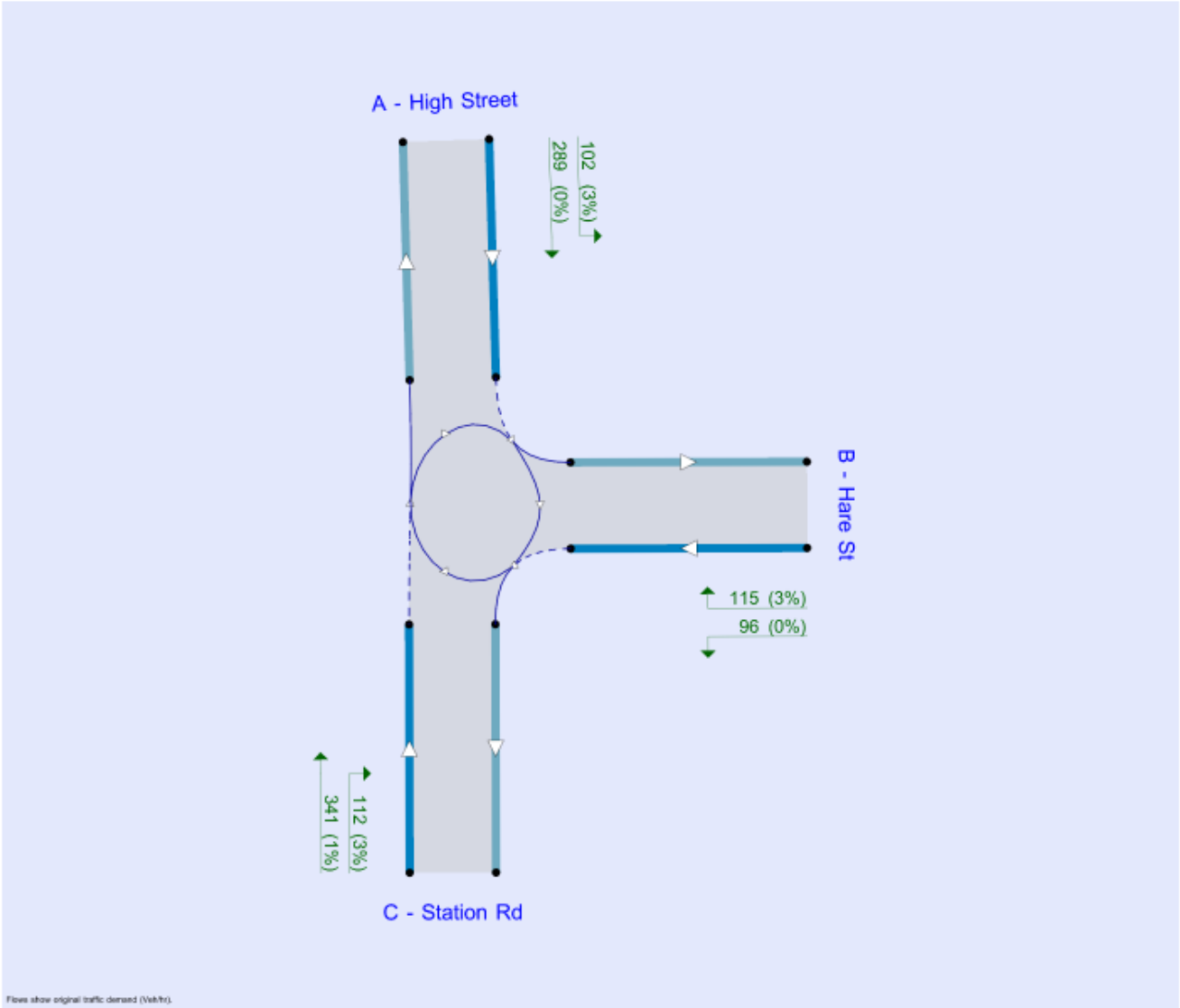
File summary

File Description

Title	J2_Hare St-Station Rd
Location	Buntingford
Site number	2
Date	19-04-2022
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	CORP\INAA02374
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	PCU	perHour	s	-Min	perMin



The junction diagram reflects the last run of Junctions.

Analysis Options

Mini-roundabout model	Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
JUNCTIONS 9	5.75				0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D1	2022 Base	AM	Actual Base Year	ONE HOUR	07:45	09:15	15	✓	✓
D2	2022 Base	PM	Actual Base Year	ONE HOUR	15:45	17:15	15	✓	✓
D3	2024 Projected Base	AM	Projected Base Year	ONE HOUR	07:45	09:15	15	✓	✓
D4	2024 Projected Base	PM	Projected Base Year	ONE HOUR	15:45	17:15	15	✓	✓
D5	2029 FY	AM	Future Year	ONE HOUR	07:45	09:15	15	✓	✓
D6	2029 FY	PM	Future Year	ONE HOUR	15:45	17:15	15	✓	✓
D7	2029 FY+DEV	AM	Future Year+Dev	ONE HOUR	07:45	09:15	15	✓	✓
D8	2029 FY+DEV	PM	Future Year+Dev	ONE HOUR	15:45	17:15	15	✓	✓

Analysis Set Details

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

2022 Base, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D1 - 2022 Base, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
2	Hare St-Station Rd	Mini-roundabout		A, B, C	8.06	A

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

Arm	Name	Description
A	High Street	
B	Hare St	
C	Station Rd	

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
A - High Street	3.00	3.00	3.00	0.0	5.00	2.00	0.0	
B - Hare St	3.00	3.00	3.00	0.0	5.00	2.00	0.0	
C - Station Rd	3.00	3.00	3.00	0.0	5.00	2.00	0.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A - High Street	0.590	985
B - Hare St	0.590	985
C - Station Rd	0.590	985

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D1	2022 Base	AM	Actual Base Year	ONE HOUR	07:45	09:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - High Street		ONE HOUR	✓	391	100.000
B - Hare St		ONE HOUR	✓	211	100.000
C - Station Rd		ONE HOUR	✓	453	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - High Street	B - Hare St	C - Station Rd
From	A - High Street	0	102	289
	B - Hare St	115	0	96
	C - Station Rd	341	112	0

Proportions

		To		
		A - High Street	B - Hare St	C - Station Rd
From	A - High Street	0.00	0.26	0.74
	B - Hare St	0.55	0.00	0.45
	C - Station Rd	0.75	0.25	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - High Street	B - Hare St	C - Station Rd
From	A - High Street	0	3	0
	B - Hare St	3	0	0
	C - Station Rd	1	3	0

Average PCU Per Veh

		To		
		A - High Street	B - Hare St	C - Station Rd
From	A - High Street	1.000	1.029	1.003
	B - Hare St	1.026	1.000	1.000
	C - Station Rd	1.015	1.027	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - High Street	07:45-08:00	294	297
	08:00-08:15	352	355
	08:15-08:30	430	435
	08:30-08:45	430	435
	08:45-09:00	352	355
	09:00-09:15	294	297
B - Hare St	07:45-08:00	159	161
	08:00-08:15	190	192
	08:15-08:30	232	236
	08:30-08:45	232	236
	08:45-09:00	190	192
	09:00-09:15	159	161
C - Station Rd	07:45-08:00	341	347
	08:00-08:15	407	414
	08:15-08:30	499	508
	08:30-08:45	499	508
	08:45-09:00	407	414
	09:00-09:15	341	347

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - High Street	0.48	7.65	0.9	A	395	395
B - Hare St	0.30	6.51	0.4	A	214	214
C - Station Rd	0.56	9.14	1.3	A	461	461

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - High Street	355	89	103	924	0.384	354	416	0.5	0.6	6.379	A
B - Hare St	192	48	260	831	0.231	192	197	0.2	0.3	5.709	A
C - Station Rd	414	104	106	922	0.449	414	346	0.6	0.8	7.186	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - High Street	435	109	126	910	0.478	434	509	0.6	0.9	7.611	A
B - Hare St	236	59	318	797	0.296	235	241	0.3	0.4	6.493	A
C - Station Rd	508	127	130	908	0.559	506	424	0.8	1.3	9.060	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - High Street	435	109	127	910	0.478	435	511	0.9	0.9	7.651	A
B - Hare St	236	59	319	796	0.296	236	242	0.4	0.4	6.509	A
C - Station Rd	508	127	130	908	0.559	508	425	1.3	1.3	9.140	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - High Street	355	89	104	924	0.384	356	419	0.9	0.6	6.424	A
B - Hare St	192	48	262	831	0.232	193	199	0.4	0.3	5.731	A
C - Station Rd	414	104	106	922	0.449	416	348	1.3	0.8	7.264	A

2022 Base, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout		Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms A and C have 82% of the total flow for the roundabout for one or more time segments]
Warning	Demand Sets	D2 - 2022 Base, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
2	Hare St-Station Rd	Mini-roundabout		A, B, C	6.86	A

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D2	2022 Base	PM	Actual Base Year	ONE HOUR	15:45	17:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - High Street		ONE HOUR	✓	357	100.000
B - Hare St		ONE HOUR	✓	157	100.000
C - Station Rd		ONE HOUR	✓	390	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - High Street	B - Hare St	C - Station Rd
From	A - High Street	0	82	275
	B - Hare St	76	0	81
	C - Station Rd	287	103	0

Proportions

		To		
		A - High Street	B - Hare St	C - Station Rd
From	A - High Street	0.00	0.23	0.77
	B - Hare St	0.48	0.00	0.52
	C - Station Rd	0.74	0.26	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - High Street	B - Hare St	C - Station Rd
From	A - High Street	0	2	0
	B - Hare St	1	0	2
	C - Station Rd	1	1	0

Average PCU Per Veh

		To		
		A - High Street	B - Hare St	C - Station Rd
From	A - High Street	1.000	1.024	1.000
	B - Hare St	1.013	1.000	1.025
	C - Station Rd	1.007	1.010	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - High Street	15:45-16:00	269	270
	16:00-16:15	321	323
	16:15-16:30	393	395
	16:30-16:45	393	395
	16:45-17:00	321	323
	17:00-17:15	269	270
B - Hare St	15:45-16:00	118	120
	16:00-16:15	141	144
	16:15-16:30	173	176
	16:30-16:45	173	176
	16:45-17:00	141	144
	17:00-17:15	118	120
C - Station Rd	15:45-16:00	294	296
	16:00-16:15	351	353
	16:15-16:30	429	433
	16:30-16:45	429	433
	16:45-17:00	351	353
	17:00-17:15	294	296

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - High Street	0.43	6.93	0.8	A	359	359
B - Hare St	0.22	5.82	0.3	A	160	160
C - Station Rd	0.46	7.22	0.9	A	393	393

Main Results for each time segment

16:00 - 16:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - High Street	323	81	93	930	0.347	322	329	0.4	0.5	5.953	A
B - Hare St	144	36	247	839	0.171	144	169	0.2	0.2	5.273	A
C - Station Rd	353	88	69	944	0.374	353	321	0.5	0.6	6.127	A

16:15 - 16:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - High Street	395	99	114	917	0.431	394	402	0.5	0.8	6.910	A
B - Hare St	176	44	302	807	0.218	176	207	0.2	0.3	5.814	A
C - Station Rd	433	108	85	935	0.463	432	393	0.6	0.9	7.194	A

16:30 - 16:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - High Street	395	99	114	917	0.431	395	403	0.8	0.8	6.933	A
B - Hare St	176	44	303	806	0.219	176	207	0.3	0.3	5.822	A
C - Station Rd	433	108	85	935	0.463	433	394	0.9	0.9	7.223	A

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - High Street	323	81	94	930	0.347	324	330	0.8	0.5	5.982	A
B - Hare St	144	36	248	839	0.172	144	169	0.3	0.2	5.284	A
C - Station Rd	353	88	69	944	0.374	354	323	0.9	0.6	6.162	A

2024 Projected Base, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D3 - 2024 Projected Base, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
2	Hare St-Station Rd	Mini-roundabout		A, B, C	9.55	A

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D3	2024 Projected Base	AM	Projected Base Year	ONE HOUR	07:45	09:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - High Street		ONE HOUR	✓	442	100.000
B - Hare St		ONE HOUR	✓	239	100.000
C - Station Rd		ONE HOUR	✓	513	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - High Street	B - Hare St	C - Station Rd
From	A - High Street	0	115	327
	B - Hare St	130	0	109
	C - Station Rd	386	127	0

Proportions

		To		
		A - High Street	B - Hare St	C - Station Rd
From	A - High Street	0.00	0.26	0.74
	B - Hare St	0.55	0.00	0.45
	C - Station Rd	0.75	0.25	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - High Street	B - Hare St	C - Station Rd
From	A - High Street	0	3	0
	B - Hare St	2	0	0
	C - Station Rd	1	2	0

Average PCU Per Veh

		To		
		A - High Street	B - Hare St	C - Station Rd
From	A - High Street	1.000	1.026	1.003
	B - Hare St	1.023	1.000	1.000
	C - Station Rd	1.013	1.024	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - High Street	07:45-08:00	333	336
	08:00-08:15	398	401
	08:15-08:30	487	491
	08:30-08:45	487	491
	08:45-09:00	398	401
	09:00-09:15	333	336
B - Hare St	07:45-08:00	180	182
	08:00-08:15	215	217
	08:15-08:30	263	266
	08:30-08:45	263	266
	08:45-09:00	215	217
	09:00-09:15	180	182
C - Station Rd	07:45-08:00	386	392
	08:00-08:15	461	468
	08:15-08:30	564	573
	08:30-08:45	564	573
	08:45-09:00	461	468
	09:00-09:15	386	392

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - High Street	0.55	8.87	1.2	A	446	446
B - Hare St	0.34	7.21	0.5	A	242	242
C - Station Rd	0.64	11.22	1.8	B	521	521

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - High Street	401	100	116	916	0.438	400	470	0.6	0.8	7.030	A
B - Hare St	217	54	294	811	0.268	217	223	0.3	0.4	6.129	A
C - Station Rd	468	117	119	914	0.512	467	392	0.7	1.0	8.144	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - High Street	491	123	142	901	0.545	490	574	0.8	1.2	8.798	A
B - Hare St	266	67	360	773	0.345	265	272	0.4	0.5	7.180	A
C - Station Rd	573	143	146	899	0.638	570	479	1.0	1.7	11.041	B

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - High Street	491	123	143	901	0.546	491	577	1.2	1.2	8.874	A
B - Hare St	266	67	361	772	0.345	266	273	0.5	0.5	7.207	A
C - Station Rd	573	143	147	898	0.638	573	481	1.7	1.8	11.225	B

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - High Street	401	100	117	916	0.438	403	473	1.2	0.8	7.107	A
B - Hare St	217	54	296	810	0.268	218	224	0.5	0.4	6.162	A
C - Station Rd	468	117	120	914	0.512	471	394	1.8	1.1	8.294	A

2024 Projected Base, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout		Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms A and C have 82% of the total flow for the roundabout for one or more time segments]
Warning	Demand Sets	D4 - 2024 Projected Base, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
2	Hare St-Station Rd	Mini-roundabout		A, B, C	7.75	A

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D4	2024 Projected Base	PM	Projected Base Year	ONE HOUR	15:45	17:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - High Street		ONE HOUR	✓	404	100.000
B - Hare St		ONE HOUR	✓	178	100.000
C - Station Rd		ONE HOUR	✓	442	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - High Street	B - Hare St	C - Station Rd
From	A - High Street	0	93	311
	B - Hare St	86	0	92
	C - Station Rd	325	117	0

Proportions

		To		
		A - High Street	B - Hare St	C - Station Rd
From	A - High Street	0.00	0.23	0.77
	B - Hare St	0.48	0.00	0.52
	C - Station Rd	0.74	0.26	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - High Street	B - Hare St	C - Station Rd
From	A - High Street	0	2	0
	B - Hare St	1	0	2
	C - Station Rd	1	1	0

Average PCU Per Veh

		To		
		A - High Street	B - Hare St	C - Station Rd
From	A - High Street	1.000	1.022	1.000
	B - Hare St	1.012	1.000	1.022
	C - Station Rd	1.006	1.009	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - High Street	15:45-16:00	304	306
	16:00-16:15	363	365
	16:15-16:30	445	447
	16:30-16:45	445	447
	16:45-17:00	363	365
	17:00-17:15	304	306
B - Hare St	15:45-16:00	134	136
	16:00-16:15	160	163
	16:15-16:30	196	199
	16:30-16:45	196	199
	16:45-17:00	160	163
	17:00-17:15	134	136
C - Station Rd	15:45-16:00	332	335
	16:00-16:15	397	400
	16:15-16:30	486	490
	16:30-16:45	486	490
	16:45-17:00	397	400
	17:00-17:15	332	335

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - High Street	0.49	7.84	1.0	A	406	406
B - Hare St	0.25	6.27	0.3	A	181	181
C - Station Rd	0.53	8.26	1.1	A	445	445

Main Results for each time segment

16:00 - 16:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - High Street	365	91	106	923	0.396	365	372	0.5	0.7	6.474	A
B - Hare St	163	41	279	820	0.198	162	191	0.2	0.2	5.565	A
C - Station Rd	400	100	78	939	0.426	399	364	0.5	0.7	6.704	A

16:15 - 16:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - High Street	447	112	129	909	0.492	446	455	0.7	1.0	7.799	A
B - Hare St	199	50	342	783	0.254	199	233	0.2	0.3	6.259	A
C - Station Rd	490	122	96	928	0.527	488	445	0.7	1.1	8.203	A

16:30 - 16:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - High Street	447	112	130	908	0.492	447	456	1.0	1.0	7.843	A
B - Hare St	199	50	343	783	0.254	199	234	0.3	0.3	6.272	A
C - Station Rd	490	122	96	928	0.527	489	446	1.1	1.1	8.258	A

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - High Street	365	91	106	922	0.396	366	373	1.0	0.7	6.522	A
B - Hare St	163	41	281	819	0.198	163	192	0.3	0.3	5.582	A
C - Station Rd	400	100	78	939	0.426	401	365	1.1	0.8	6.763	A

2029 FY, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D5 - 2029 FY, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
2	Hare St-Station Rd	Mini-roundabout		A, B, C	10.10	B

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D5	2029 FY	AM	Future Year	ONE HOUR	07:45	09:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - High Street		ONE HOUR	✓	457	100.000
B - Hare St		ONE HOUR	✓	247	100.000
C - Station Rd		ONE HOUR	✓	530	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - High Street	B - Hare St	C - Station Rd
From	A - High Street	0	119	338
	B - Hare St	134	0	112
	C - Station Rd	399	131	0

Proportions

		To		
		A - High Street	B - Hare St	C - Station Rd
From	A - High Street	0.00	0.26	0.74
	B - Hare St	0.55	0.00	0.45
	C - Station Rd	0.75	0.25	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - High Street	B - Hare St	C - Station Rd
From	A - High Street	0	3	0
	B - Hare St	2	0	0
	C - Station Rd	1	2	0

Average PCU Per Veh

		To		
		A - High Street	B - Hare St	C - Station Rd
From	A - High Street	1.000	1.025	1.003
	B - Hare St	1.022	1.000	1.000
	C - Station Rd	1.013	1.023	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - High Street	07:45-08:00	344	347
	08:00-08:15	411	415
	08:15-08:30	503	508
	08:30-08:45	503	508
	08:45-09:00	411	415
	09:00-09:15	344	347
B - Hare St	07:45-08:00	186	188
	08:00-08:15	222	224
	08:15-08:30	272	275
	08:30-08:45	272	275
	08:45-09:00	222	224
	09:00-09:15	186	188
C - Station Rd	07:45-08:00	399	405
	08:00-08:15	476	483
	08:15-08:30	583	592
	08:30-08:45	583	592
	08:45-09:00	476	483
	09:00-09:15	399	405

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - High Street	0.57	9.30	1.3	A	461	461
B - Hare St	0.36	7.44	0.6	A	250	250
C - Station Rd	0.66	12.01	1.9	B	538	538

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - High Street	415	104	120	914	0.454	414	485	0.6	0.8	7.243	A
B - Hare St	224	56	304	806	0.279	224	230	0.3	0.4	6.262	A
C - Station Rd	483	121	123	912	0.530	482	405	0.8	1.1	8.466	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - High Street	508	127	147	898	0.565	506	593	0.8	1.3	9.208	A
B - Hare St	275	69	372	766	0.359	274	281	0.4	0.6	7.405	A
C - Station Rd	592	148	151	896	0.661	589	495	1.1	1.9	11.778	B

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - High Street	508	127	147	898	0.565	508	596	1.3	1.3	9.300	A
B - Hare St	275	69	373	765	0.359	275	282	0.6	0.6	7.437	A
C - Station Rd	592	148	151	896	0.661	592	497	1.9	1.9	12.012	B

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - High Street	415	104	121	913	0.454	416	489	1.3	0.9	7.331	A
B - Hare St	224	56	306	804	0.279	225	232	0.6	0.4	6.297	A
C - Station Rd	483	121	124	912	0.530	486	407	1.9	1.2	8.653	A

2029 FY, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout		Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms A and C have 82% of the total flow for the roundabout for one or more time segments]
Warning	Demand Sets	D6 - 2029 FY, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
2	Hare St-Station Rd	Mini-roundabout		A, B, C	8.07	A

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D6	2029 FY	PM	Future Year	ONE HOUR	15:45	17:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - High Street		ONE HOUR	✓	419	100.000
B - Hare St		ONE HOUR	✓	184	100.000
C - Station Rd		ONE HOUR	✓	458	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - High Street	B - Hare St	C - Station Rd
From	A - High Street	0	96	323
	B - Hare St	89	0	95
	C - Station Rd	337	121	0

Proportions

		To		
		A - High Street	B - Hare St	C - Station Rd
From	A - High Street	0.00	0.23	0.77
	B - Hare St	0.48	0.00	0.52
	C - Station Rd	0.74	0.26	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - High Street	B - Hare St	C - Station Rd
From	A - High Street	0	2	0
	B - Hare St	1	0	2
	C - Station Rd	1	1	0

Average PCU Per Veh

		To		
		A - High Street	B - Hare St	C - Station Rd
From	A - High Street	1.000	1.021	1.000
	B - Hare St	1.011	1.000	1.021
	C - Station Rd	1.006	1.008	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - High Street	15:45-16:00	315	317
	16:00-16:15	377	378
	16:15-16:30	461	463
	16:30-16:45	461	463
	16:45-17:00	377	378
	17:00-17:15	315	317
B - Hare St	15:45-16:00	139	141
	16:00-16:15	166	168
	16:15-16:30	203	206
	16:30-16:45	203	206
	16:45-17:00	166	168
	17:00-17:15	139	141
C - Station Rd	15:45-16:00	344	347
	16:00-16:15	411	414
	16:15-16:30	504	507
	16:30-16:45	504	507
	16:45-17:00	411	414
	17:00-17:15	344	347

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - High Street	0.51	8.17	1.0	A	421	421
B - Hare St	0.27	6.43	0.4	A	187	187
C - Station Rd	0.55	8.64	1.2	A	461	461

Main Results for each time segment

16:00 - 16:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - High Street	378	95	109	920	0.411	378	385	0.5	0.7	6.656	A
B - Hare St	168	42	289	814	0.207	168	197	0.2	0.3	5.662	A
C - Station Rd	414	104	81	937	0.442	413	377	0.6	0.8	6.904	A

16:15 - 16:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - High Street	463	116	134	906	0.511	462	471	0.7	1.0	8.122	A
B - Hare St	206	52	354	776	0.266	206	242	0.3	0.4	6.412	A
C - Station Rd	507	127	99	926	0.547	505	461	0.8	1.2	8.573	A

16:30 - 16:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - High Street	463	116	134	906	0.512	463	472	1.0	1.0	8.175	A
B - Hare St	206	52	355	775	0.266	206	242	0.4	0.4	6.427	A
C - Station Rd	507	127	99	926	0.547	507	462	1.2	1.2	8.640	A

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - High Street	378	95	110	920	0.411	380	387	1.0	0.7	6.710	A
B - Hare St	168	42	291	813	0.207	169	199	0.4	0.3	5.680	A
C - Station Rd	414	104	81	937	0.442	416	378	1.2	0.8	6.971	A

2029 FY+DEV, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D7 - 2029 FY+DEV, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
2	Hare St-Station Rd	Mini-roundabout		A, B, C	13.28	B

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D7	2029 FY+DEV	AM	Future Year+Dev	ONE HOUR	07:45	09:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - High Street		ONE HOUR	✓	555	100.000
B - Hare St		ONE HOUR	✓	289	100.000
C - Station Rd		ONE HOUR	✓	578	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - High Street	B - Hare St	C - Station Rd
From	A - High Street	0	213	342
	B - Hare St	150	0	120
	C - Station Rd	410	168	0

Proportions

		To		
		A - High Street	B - Hare St	C - Station Rd
From	A - High Street	0.00	0.38	0.62
	B - Hare St	0.56	0.00	0.44
	C - Station Rd	0.71	0.29	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - High Street	B - Hare St	C - Station Rd
From	A - High Street	0	1	0
	B - Hare St	2	0	0
	C - Station Rd	1	2	0

Average PCU Per Veh

		To		
		A - High Street	B - Hare St	C - Station Rd
From	A - High Street	1.000	1.014	1.003
	B - Hare St	1.020	1.000	1.000
	C - Station Rd	1.012	1.018	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - High Street	07:45-08:00	418	421
	08:00-08:15	499	503
	08:15-08:30	612	616
	08:30-08:45	612	616
	08:45-09:00	499	503
	09:00-09:15	418	421
B - Hare St	07:45-08:00	203	205
	08:00-08:15	242	245
	08:15-08:30	296	300
	08:30-08:45	296	300
	08:45-09:00	242	245
	09:00-09:15	203	205
C - Station Rd	07:45-08:00	435	441
	08:00-08:15	519	527
	08:15-08:30	636	645
	08:30-08:45	636	645
	08:45-09:00	519	527
	09:00-09:15	435	441

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - High Street	0.70	14.01	2.3	B	559	559
B - Hare St	0.39	7.87	0.7	A	272	272
C - Station Rd	0.73	15.09	2.6	C	586	586

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - High Street	503	126	153	894	0.562	501	508	0.9	1.3	9.182	A
B - Hare St	245	61	307	804	0.304	244	347	0.3	0.4	6.502	A
C - Station Rd	527	132	137	904	0.582	525	415	0.9	1.4	9.572	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - High Street	616	154	187	875	0.704	612	621	1.3	2.3	13.589	B
B - Hare St	300	75	375	764	0.392	299	424	0.4	0.6	7.819	A
C - Station Rd	645	161	168	886	0.728	640	506	1.4	2.6	14.562	B

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - High Street	616	154	188	874	0.705	616	624	2.3	2.3	14.014	B
B - Hare St	300	75	377	762	0.393	300	426	0.6	0.7	7.870	A
C - Station Rd	645	161	168	886	0.728	645	509	2.6	2.6	15.087	C

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - High Street	503	126	155	893	0.563	507	514	2.3	1.3	9.483	A
B - Hare St	245	61	311	801	0.305	245	351	0.7	0.4	6.558	A
C - Station Rd	527	132	138	904	0.583	531	419	2.6	1.5	9.923	A

2029 FY+DEV, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D8 - 2029 FY+DEV, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
2	Hare St-Station Rd	Mini-roundabout		A, B, C	9.05	A

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D8	2029 FY+DEV	PM	Future Year+Dev	ONE HOUR	15:45	17:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - High Street		ONE HOUR	✓	443	100.000
B - Hare St		ONE HOUR	✓	265	100.000
C - Station Rd		ONE HOUR	✓	473	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - High Street	B - Hare St	C - Station Rd
From	A - High Street	0	112	331
	B - Hare St	152	0	113
	C - Station Rd	341	132	0

Proportions

		To		
		A - High Street	B - Hare St	C - Station Rd
From	A - High Street	0.00	0.25	0.75
	B - Hare St	0.57	0.00	0.43
	C - Station Rd	0.72	0.28	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - High Street	B - Hare St	C - Station Rd
From	A - High Street	0	2	0
	B - Hare St	1	0	2
	C - Station Rd	1	1	0

Average PCU Per Veh

		To		
		A - High Street	B - Hare St	C - Station Rd
From	A - High Street	1.000	1.018	1.000
	B - Hare St	1.007	1.000	1.018
	C - Station Rd	1.006	1.008	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - High Street	15:45-16:00	334	335
	16:00-16:15	398	400
	16:15-16:30	488	490
	16:30-16:45	488	490
	16:45-17:00	398	400
	17:00-17:15	334	335
B - Hare St	15:45-16:00	200	202
	16:00-16:15	239	241
	16:15-16:30	292	295
	16:30-16:45	292	295
	16:45-17:00	239	241
	17:00-17:15	200	202
C - Station Rd	15:45-16:00	356	358
	16:00-16:15	425	428
	16:15-16:30	521	524
	16:30-16:45	521	524
	16:45-17:00	425	428
	17:00-17:15	356	358

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - High Street	0.55	8.84	1.2	A	445	445
B - Hare St	0.38	7.68	0.6	A	268	268
C - Station Rd	0.59	10.02	1.4	B	476	476

Main Results for each time segment

16:00 - 16:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - High Street	400	100	119	915	0.437	399	446	0.6	0.8	7.004	A
B - Hare St	241	60	297	809	0.298	241	221	0.3	0.4	6.398	A
C - Station Rd	428	107	138	904	0.474	427	401	0.6	0.9	7.581	A

16:15 - 16:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - High Street	490	123	145	899	0.545	488	545	0.8	1.2	8.769	A
B - Hare St	295	74	384	770	0.384	295	270	0.4	0.6	7.641	A
C - Station Rd	524	131	168	886	0.592	522	490	0.9	1.4	9.905	A

16:30 - 16:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - High Street	490	123	146	899	0.545	490	547	1.2	1.2	8.844	A
B - Hare St	295	74	385	770	0.384	295	271	0.6	0.6	7.677	A
C - Station Rd	524	131	169	885	0.592	524	492	1.4	1.4	10.022	B

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - High Street	400	100	120	914	0.438	402	448	1.2	0.8	7.080	A
B - Hare St	241	60	299	808	0.298	242	222	0.6	0.4	6.435	A
C - Station Rd	428	107	138	903	0.474	430	403	1.4	0.9	7.688	A

Appendix I.3

JUNCTION 3

Junctions 9

PICADY 9 - Priority Intersection Module

Filename: J3_Aspenden Road-Luynes Rise.j9
Path: C:\Users\INAA02374\Desktop\Buntingford JM\220706 - JM - Updated TFD Flows\J3
Report generation date: 06-07-2022 17:40:41

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	2022 Base							
Stream B-AC	0.1	6.53	0.11	A	0.1	6.20	0.07	A
Stream C-AB	0.1	6.11	0.09	A	0.2	6.49	0.13	A
	2024 Projected Base							
Stream B-AC	0.1	6.70	0.12	A	0.1	6.31	0.08	A
Stream C-AB	0.1	6.14	0.10	A	0.2	6.57	0.15	A
	2029 FY							
Stream B-AC	0.1	6.75	0.13	A	0.1	6.34	0.09	A
Stream C-AB	0.2	6.15	0.11	A	0.2	6.59	0.16	A
	2029 FY+DEV							
Stream B-AC	0.1	6.84	0.13	A	0.1	6.41	0.09	A
Stream C-AB	0.2	6.15	0.11	A	0.2	6.49	0.16	A

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

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

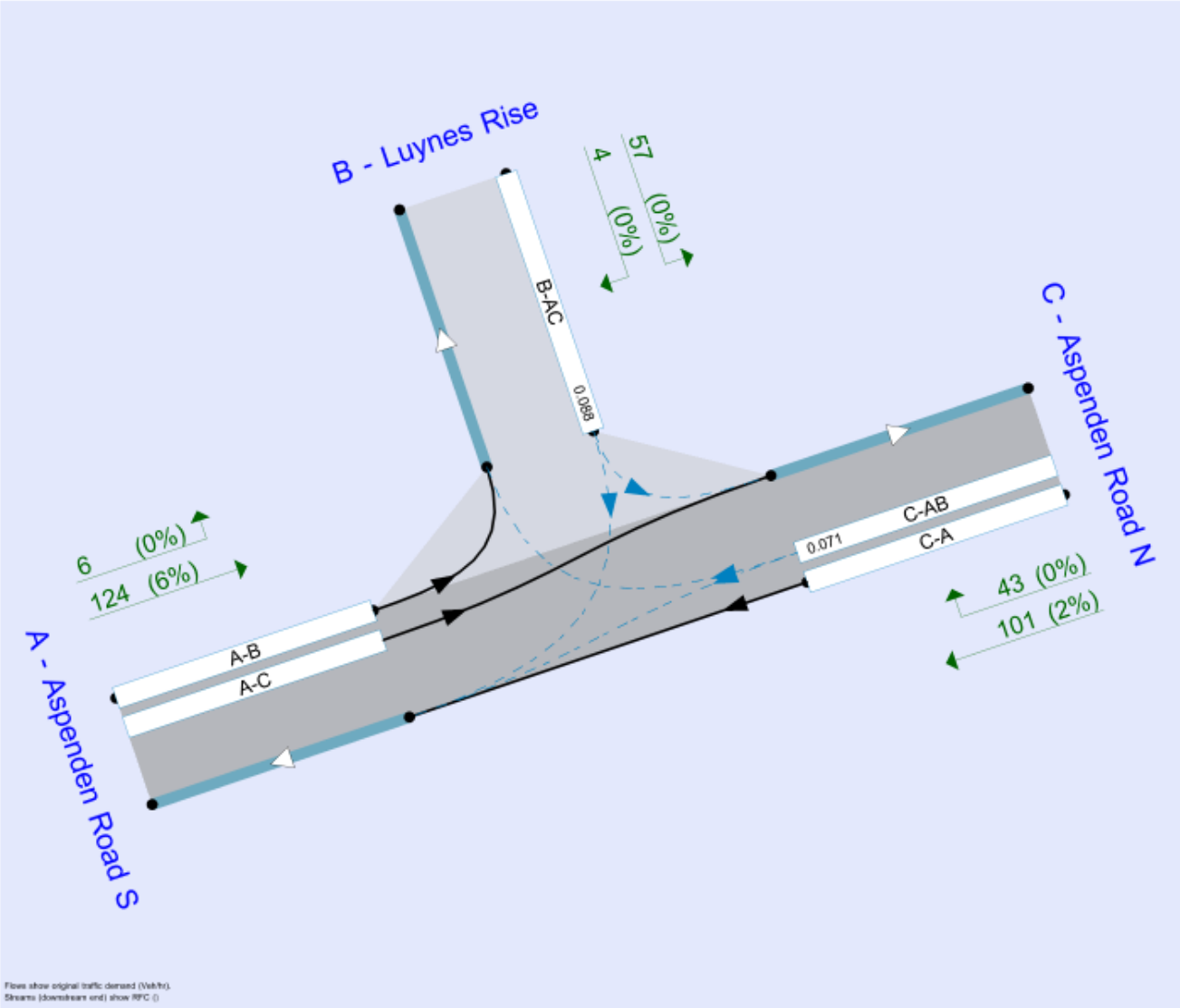
File summary

File Description

Title	Luynes Rise / Aspenden Road
Location	Buntingford
Site number	3
Date	15-10-2014
Version	
Status	
Identifier	
Client	
Jobnumber	70007498
Enumerator	UKSXB076 [W13UK0135]
Description	51.94187974275015, -0.017047568331740075

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	PCU	perHour	s	-Min	perMin



The junction diagram reflects the last run of Junctions.

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D1	2022 Base	AM	Actual Base Year	ONE HOUR	07:45	09:15	15	✓	✓
D2	2022 Base	PM	Actual Base Year	ONE HOUR	15:45	17:15	15	✓	✓
D3	2024 Projected Base	AM	Projected Base Year	ONE HOUR	07:45	09:15	15	✓	✓
D4	2024 Projected Base	PM	Projected Base Year	ONE HOUR	15:45	17:15	15	✓	✓
D5	2029 FY	AM	Future Year	ONE HOUR	07:45	09:15	15	✓	✓
D6	2029 FY	PM	Future Year	ONE HOUR	15:45	17:15	15	✓	✓
D7	2029 FY+DEV	AM	Future Year+Dev	ONE HOUR	07:45	09:15	15	✓	✓
D8	2029 FY+DEV	PM	Future Year+Dev	ONE HOUR	15:45	17:15	15	✓	✓

Analysis Set Details

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

2022 Base, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D1 - 2022 Base, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
3	Aspenden Rd - Luynes Rise	T-Junction	Two-way		2.07	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Aspenden Road S		Major
B	Luynes Rise		Minor
C	Aspenden Road N		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - Aspenden Road N	7.35			54.0	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B - Luynes Rise	One lane	3.48	29	24

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	523	0.090	0.227	0.143	0.324
B-C	670	0.097	0.244	-	-
C-B	605	0.221	0.221	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D1	2022 Base	AM	Actual Base Year	ONE HOUR	07:45	09:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - Aspenden Road S		ONE HOUR	✓	130	100.000
B - Luynes Rise		ONE HOUR	✓	61	100.000
C - Aspenden Road N		ONE HOUR	✓	144	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Aspenden Road S	B - Luynes Rise	C - Aspenden Road N
From	A - Aspenden Road S	0	6	124
	B - Luynes Rise	4	0	57
	C - Aspenden Road N	101	43	0

Proportions

		To		
		A - Aspenden Road S	B - Luynes Rise	C - Aspenden Road N
From	A - Aspenden Road S	0.00	0.05	0.95
	B - Luynes Rise	0.07	0.00	0.93
	C - Aspenden Road N	0.70	0.30	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Aspenden Road S	B - Luynes Rise	C - Aspenden Road N
From	A - Aspenden Road S	0	0	6
	B - Luynes Rise	0	0	0
	C - Aspenden Road N	2	0	0

Average PCU Per Veh

		To		
		A - Aspenden Road S	B - Luynes Rise	C - Aspenden Road N
From	A - Aspenden Road S	1.000	1.000	1.056
	B - Luynes Rise	1.000	1.000	1.000
	C - Aspenden Road N	1.020	1.000	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - Aspenden Road S	07:45-08:00	98	103
	08:00-08:15	117	123
	08:15-08:30	143	151
	08:30-08:45	143	151
	08:45-09:00	117	123
	09:00-09:15	98	103
B - Luynes Rise	07:45-08:00	46	46
	08:00-08:15	55	55
	08:15-08:30	67	67
	08:30-08:45	67	67
	08:45-09:00	55	55
	09:00-09:15	46	46
C - Aspenden Road N	07:45-08:00	108	110
	08:00-08:15	129	131
	08:15-08:30	159	161
	08:30-08:45	159	161
	08:45-09:00	129	131
	09:00-09:15	108	110

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.11	6.53	0.1	A	61	61
C-AB	0.09	6.11	0.1	A	51	51
C-A					95	95
A-B					6	6
A-C					131	131

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	55	14	626	0.088	55	0.1	0.1	6.306	A
C-AB	45	11	641	0.071	45	0.1	0.1	6.058	A
C-A	86	22			86				
A-B	5	1			5				
A-C	118	29			118				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	67	17	618	0.109	67	0.1	0.1	6.531	A
C-AB	57	14	649	0.088	57	0.1	0.1	6.100	A
C-A	103	26			103				
A-B	7	2			7				
A-C	144	36			144				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	67	17	618	0.109	67	0.1	0.1	6.531	A
C-AB	57	14	649	0.088	57	0.1	0.1	6.106	A
C-A	103	26			103				
A-B	7	2			7				
A-C	144	36			144				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	55	14	626	0.088	55	0.1	0.1	6.309	A
C-AB	45	11	641	0.071	45	0.1	0.1	6.065	A
C-A	86	21			86				
A-B	5	1			5				
A-C	118	29			118				

2022 Base, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D2 - 2022 Base, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
3	Aspenden Rd - Luynes Rise	T-Junction	Two-way		2.61	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D2	2022 Base	PM	Actual Base Year	ONE HOUR	15:45	17:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - Aspenden Road S		ONE HOUR	✓	94	100.000
B - Luynes Rise		ONE HOUR	✓	42	100.000
C - Aspenden Road N		ONE HOUR	✓	153	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Aspenden Road S	B - Luynes Rise	C - Aspenden Road N
From	A - Aspenden Road S	0	2	92
	B - Luynes Rise	3	0	39
	C - Aspenden Road N	88	65	0

Proportions

		To		
		A - Aspenden Road S	B - Luynes Rise	C - Aspenden Road N
From	A - Aspenden Road S	0.00	0.02	0.98
	B - Luynes Rise	0.07	0.00	0.93
	C - Aspenden Road N	0.58	0.42	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Aspenden Road S	B - Luynes Rise	C - Aspenden Road N
From	A - Aspenden Road S	0	0	0
	B - Luynes Rise	0	0	0
	C - Aspenden Road N	1	2	0

Average PCU Per Veh

		To		
		A - Aspenden Road S	B - Luynes Rise	C - Aspenden Road N
From	A - Aspenden Road S	1.000	1.000	1.000
	B - Luynes Rise	1.000	1.000	1.000
	C - Aspenden Road N	1.011	1.015	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - Aspenden Road S	15:45-16:00	71	71
	16:00-16:15	85	85
	16:15-16:30	103	103
	16:30-16:45	103	103
	16:45-17:00	85	85
	17:00-17:15	71	71
B - Luynes Rise	15:45-16:00	32	32
	16:00-16:15	38	38
	16:15-16:30	46	46
	16:30-16:45	46	46
	16:45-17:00	38	38
	17:00-17:15	32	32
C - Aspenden Road N	15:45-16:00	115	117
	16:00-16:15	138	139
	16:15-16:30	168	171
	16:30-16:45	168	171
	16:45-17:00	138	139
	17:00-17:15	115	117

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.07	6.20	0.1	A	42	42
C-AB	0.13	6.49	0.2	A	77	77
C-A					78	78
A-B					2	2
A-C					92	92

Main Results for each time segment

16:00 - 16:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	38	9	633	0.060	38	0.1	0.1	6.051	A
C-AB	68	17	641	0.106	68	0.1	0.1	6.379	A
C-A	71	18			71				
A-B	2	0.45			2				
A-C	83	21			83				

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	46	12	627	0.074	46	0.1	0.1	6.197	A
C-AB	86	21	649	0.132	86	0.1	0.2	6.487	A
C-A	85	21			85				
A-B	2	0.55			2				
A-C	101	25			101				

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	46	12	627	0.074	46	0.1	0.1	6.197	A
C-AB	86	21	649	0.132	86	0.2	0.2	6.489	A
C-A	85	21			85				
A-B	2	0.55			2				
A-C	101	25			101				

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	38	9	633	0.060	38	0.1	0.1	6.053	A
C-AB	68	17	641	0.106	68	0.2	0.1	6.383	A
C-A	71	18			71				
A-B	2	0.45			2				
A-C	83	21			83				

2024 Projected Base, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D3 - 2024 Projected Base, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
3	Aspenden Rd - Luynes Rise	T-Junction	Two-way		2.13	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D3	2024 Projected Base	AM	Projected Base Year	ONE HOUR	07:45	09:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - Aspenden Road S		ONE HOUR	✓	147	100.000
B - Luynes Rise		ONE HOUR	✓	69	100.000
C - Aspenden Road N		ONE HOUR	✓	163	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Aspenden Road S	B - Luynes Rise	C - Aspenden Road N
From	A - Aspenden Road S	0	7	140
	B - Luynes Rise	5	0	64
	C - Aspenden Road N	114	49	0

Proportions

		To		
		A - Aspenden Road S	B - Luynes Rise	C - Aspenden Road N
From	A - Aspenden Road S	0.00	0.05	0.95
	B - Luynes Rise	0.07	0.00	0.93
	C - Aspenden Road N	0.70	0.30	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Aspenden Road S	B - Luynes Rise	C - Aspenden Road N
From	A - Aspenden Road S	0	0	5
	B - Luynes Rise	0	0	0
	C - Aspenden Road N	2	0	0

Average PCU Per Veh

		To		
		A - Aspenden Road S	B - Luynes Rise	C - Aspenden Road N
From	A - Aspenden Road S	1.000	1.000	1.050
	B - Luynes Rise	1.000	1.000	1.000
	C - Aspenden Road N	1.018	1.000	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - Aspenden Road S	07:45-08:00	111	116
	08:00-08:15	132	139
	08:15-08:30	162	170
	08:30-08:45	162	170
	08:45-09:00	132	139
	09:00-09:15	111	116
B - Luynes Rise	07:45-08:00	52	52
	08:00-08:15	62	62
	08:15-08:30	76	76
	08:30-08:45	76	76
	08:45-09:00	62	62
	09:00-09:15	52	52
C - Aspenden Road N	07:45-08:00	123	124
	08:00-08:15	146	148
	08:15-08:30	179	182
	08:30-08:45	179	182
	08:45-09:00	146	148
	09:00-09:15	123	124

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.12	6.70	0.1	A	69	69
C-AB	0.10	6.14	0.1	A	59	59
C-A					105	105
A-B					7	7
A-C					147	147

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	62	16	622	0.100	62	0.1	0.1	6.433	A
C-AB	52	13	646	0.081	52	0.1	0.1	6.079	A
C-A	96	24			96				
A-B	6	2			6				
A-C	132	33			132				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	76	19	613	0.124	76	0.1	0.1	6.696	A
C-AB	67	17	655	0.102	67	0.1	0.1	6.132	A
C-A	115	29			115				
A-B	7	2			7				
A-C	162	41			162				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	76	19	613	0.124	76	0.1	0.1	6.698	A
C-AB	67	17	655	0.102	67	0.1	0.1	6.136	A
C-A	115	29			115				
A-B	7	2			7				
A-C	162	41			162				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	62	16	622	0.100	62	0.1	0.1	6.436	A
C-AB	52	13	646	0.081	52	0.1	0.1	6.087	A
C-A	96	24			96				
A-B	6	2			6				
A-C	132	33			132				

2024 Projected Base, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D4 - 2024 Projected Base, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
3	Aspenden Rd - Luynes Rise	T-Junction	Two-way		2.68	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D4	2024 Projected Base	PM	Projected Base Year	ONE HOUR	15:45	17:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - Aspenden Road S		ONE HOUR	✓	106	100.000
B - Luynes Rise		ONE HOUR	✓	48	100.000
C - Aspenden Road N		ONE HOUR	✓	173	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Aspenden Road S	B - Luynes Rise	C - Aspenden Road N
From	A - Aspenden Road S	0	2	104
	B - Luynes Rise	3	0	44
	C - Aspenden Road N	100	74	0

Proportions

		To		
		A - Aspenden Road S	B - Luynes Rise	C - Aspenden Road N
From	A - Aspenden Road S	0.00	0.02	0.98
	B - Luynes Rise	0.07	0.00	0.93
	C - Aspenden Road N	0.58	0.42	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Aspenden Road S	B - Luynes Rise	C - Aspenden Road N
From	A - Aspenden Road S	0	0	0
	B - Luynes Rise	0	0	0
	C - Aspenden Road N	1	1	0

Average PCU Per Veh

		To		
		A - Aspenden Road S	B - Luynes Rise	C - Aspenden Road N
From	A - Aspenden Road S	1.000	1.000	1.000
	B - Luynes Rise	1.000	1.000	1.000
	C - Aspenden Road N	1.010	1.014	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - Aspenden Road S	15:45-16:00	80	80
	16:00-16:15	96	96
	16:15-16:30	117	117
	16:30-16:45	117	117
	16:45-17:00	96	96
	17:00-17:15	80	80
B - Luynes Rise	15:45-16:00	36	36
	16:00-16:15	43	43
	16:15-16:30	52	52
	16:30-16:45	52	52
	16:45-17:00	43	43
	17:00-17:15	36	36
C - Aspenden Road N	15:45-16:00	130	132
	16:00-16:15	156	158
	16:15-16:30	191	193
	16:30-16:45	191	193
	16:45-17:00	156	158
	17:00-17:15	130	132

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.08	6.31	0.1	A	48	48
C-AB	0.15	6.57	0.2	A	89	89
C-A					87	87
A-B					2	2
A-C					104	104

Main Results for each time segment

16:00 - 16:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	43	11	629	0.068	43	0.1	0.1	6.136	A
C-AB	78	20	645	0.121	78	0.1	0.2	6.429	A
C-A	79	20			79				
A-B	2	0.51			2				
A-C	94	23			94				

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	52	13	623	0.084	52	0.1	0.1	6.306	A
C-AB	99	25	655	0.151	99	0.2	0.2	6.563	A
C-A	94	23			94				
A-B	2	0.62			2				
A-C	115	29			115				

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	52	13	623	0.084	52	0.1	0.1	6.306	A
C-AB	99	25	655	0.151	99	0.2	0.2	6.566	A
C-A	94	23			94				
A-B	2	0.62			2				
A-C	115	29			115				

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	43	11	629	0.068	43	0.1	0.1	6.138	A
C-AB	78	20	645	0.121	78	0.2	0.2	6.437	A
C-A	79	20			79				
A-B	2	0.51			2				
A-C	94	23			94				

2029 FY, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D5 - 2029 FY, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
3	Aspenden Rd - Luynes Rise	T-Junction	Two-way		2.15	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D5	2029 FY	AM	Future Year	ONE HOUR	07:45	09:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - Aspenden Road S		ONE HOUR	✓	152	100.000
B - Luynes Rise		ONE HOUR	✓	71	100.000
C - Aspenden Road N		ONE HOUR	✓	168	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Aspenden Road S	B - Luynes Rise	C - Aspenden Road N
From	A - Aspenden Road S	0	7	145
	B - Luynes Rise	5	0	67
	C - Aspenden Road N	118	50	0

Proportions

		To		
		A - Aspenden Road S	B - Luynes Rise	C - Aspenden Road N
From	A - Aspenden Road S	0.00	0.05	0.95
	B - Luynes Rise	0.07	0.00	0.93
	C - Aspenden Road N	0.70	0.30	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Aspenden Road S	B - Luynes Rise	C - Aspenden Road N
From	A - Aspenden Road S	0	0	5
	B - Luynes Rise	0	0	0
	C - Aspenden Road N	2	0	0

Average PCU Per Veh

		To		
		A - Aspenden Road S	B - Luynes Rise	C - Aspenden Road N
From	A - Aspenden Road S	1.000	1.000	1.048
	B - Luynes Rise	1.000	1.000	1.000
	C - Aspenden Road N	1.017	1.000	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - Aspenden Road S	07:45-08:00	114	120
	08:00-08:15	137	143
	08:15-08:30	167	175
	08:30-08:45	167	175
	08:45-09:00	137	143
	09:00-09:15	114	120
B - Luynes Rise	07:45-08:00	54	54
	08:00-08:15	64	64
	08:15-08:30	79	79
	08:30-08:45	79	79
	08:45-09:00	64	64
	09:00-09:15	54	54
C - Aspenden Road N	07:45-08:00	127	128
	08:00-08:15	151	153
	08:15-08:30	185	188
	08:30-08:45	185	188
	08:45-09:00	151	153
	09:00-09:15	127	128

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.13	6.75	0.1	A	71	71
C-AB	0.11	6.15	0.2	A	62	62
C-A					108	108
A-B					7	7
A-C					152	152

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	64	16	620	0.103	64	0.1	0.1	6.470	A
C-AB	54	14	647	0.084	54	0.1	0.1	6.086	A
C-A	99	25			99				
A-B	6	2			6				
A-C	137	34			137				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	79	20	612	0.128	78	0.1	0.1	6.745	A
C-AB	69	17	657	0.106	69	0.1	0.2	6.142	A
C-A	118	30			118				
A-B	8	2			8				
A-C	167	42			167				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	79	20	612	0.128	79	0.1	0.1	6.748	A
C-AB	69	17	657	0.106	69	0.2	0.2	6.146	A
C-A	118	30			118				
A-B	8	2			8				
A-C	167	42			167				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	64	16	620	0.103	64	0.1	0.1	6.476	A
C-AB	54	14	647	0.084	54	0.2	0.1	6.094	A
C-A	99	25			99				
A-B	6	2			6				
A-C	137	34			137				

2029 FY, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D6 - 2029 FY, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
3	Aspenden Rd - Luynes Rise	T-Junction	Two-way		2.70	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D6	2029 FY	PM	Future Year	ONE HOUR	15:45	17:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - Aspenden Road S		ONE HOUR	✓	110	100.000
B - Luynes Rise		ONE HOUR	✓	49	100.000
C - Aspenden Road N		ONE HOUR	✓	180	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Aspenden Road S	B - Luynes Rise	C - Aspenden Road N
From	A - Aspenden Road S	0	2	108
	B - Luynes Rise	4	0	46
	C - Aspenden Road N	103	76	0

Proportions

		To		
		A - Aspenden Road S	B - Luynes Rise	C - Aspenden Road N
From	A - Aspenden Road S	0.00	0.02	0.98
	B - Luynes Rise	0.07	0.00	0.93
	C - Aspenden Road N	0.58	0.42	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Aspenden Road S	B - Luynes Rise	C - Aspenden Road N
From	A - Aspenden Road S	0	0	0
	B - Luynes Rise	0	0	0
	C - Aspenden Road N	1	1	0

Average PCU Per Veh

		To		
		A - Aspenden Road S	B - Luynes Rise	C - Aspenden Road N
From	A - Aspenden Road S	1.000	1.000	1.000
	B - Luynes Rise	1.000	1.000	1.000
	C - Aspenden Road N	1.010	1.013	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - Aspenden Road S	15:45-16:00	83	83
	16:00-16:15	99	99
	16:15-16:30	121	121
	16:30-16:45	121	121
	16:45-17:00	99	99
	17:00-17:15	83	83
B - Luynes Rise	15:45-16:00	37	37
	16:00-16:15	44	44
	16:15-16:30	54	54
	16:30-16:45	54	54
	16:45-17:00	44	44
	17:00-17:15	37	37
C - Aspenden Road N	15:45-16:00	135	137
	16:00-16:15	161	163
	16:15-16:30	198	200
	16:30-16:45	198	200
	16:45-17:00	161	163
	17:00-17:15	135	137

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.09	6.34	0.1	A	49	49
C-AB	0.16	6.59	0.2	A	92	92
C-A					89	89
A-B					2	2
A-C					108	108

Main Results for each time segment

16:00 - 16:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	44	11	628	0.071	44	0.1	0.1	6.163	A
C-AB	81	20	647	0.126	81	0.1	0.2	6.446	A
C-A	82	20			82				
A-B	2	0.53			2				
A-C	97	24			97				

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	54	14	622	0.087	54	0.1	0.1	6.341	A
C-AB	103	26	656	0.157	103	0.2	0.2	6.588	A
C-A	97	24			97				
A-B	3	0.65			3				
A-C	119	30			119				

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	54	14	622	0.087	54	0.1	0.1	6.341	A
C-AB	103	26	656	0.157	103	0.2	0.2	6.591	A
C-A	97	24			97				
A-B	3	0.65			3				
A-C	119	30			119				

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	44	11	628	0.071	44	0.1	0.1	6.167	A
C-AB	81	20	647	0.126	82	0.2	0.2	6.455	A
C-A	82	20			82				
A-B	2	0.53			2				
A-C	97	24			97				

2029 FY+DEV, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D7 - 2029 FY+DEV, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
3	Aspenden Rd - Luynes Rise	T-Junction	Two-way		2.03	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D7	2029 FY+DEV	AM	Future Year+Dev	ONE HOUR	07:45	09:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - Aspenden Road S		ONE HOUR	✓	174	100.000
B - Luynes Rise		ONE HOUR	✓	72	100.000
C - Aspenden Road N		ONE HOUR	✓	176	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Aspenden Road S	B - Luynes Rise	C - Aspenden Road N
From	A - Aspenden Road S	0	8	166
	B - Luynes Rise	5	0	67
	C - Aspenden Road N	126	50	0

Proportions

		To		
		A - Aspenden Road S	B - Luynes Rise	C - Aspenden Road N
From	A - Aspenden Road S	0.00	0.05	0.95
	B - Luynes Rise	0.07	0.00	0.93
	C - Aspenden Road N	0.71	0.29	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Aspenden Road S	B - Luynes Rise	C - Aspenden Road N
From	A - Aspenden Road S	0	0	4
	B - Luynes Rise	0	0	0
	C - Aspenden Road N	2	0	0

Average PCU Per Veh

		To		
		A - Aspenden Road S	B - Luynes Rise	C - Aspenden Road N
From	A - Aspenden Road S	1.000	1.000	1.042
	B - Luynes Rise	1.000	1.000	1.000
	C - Aspenden Road N	1.016	1.000	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - Aspenden Road S	07:45-08:00	131	136
	08:00-08:15	156	163
	08:15-08:30	192	199
	08:30-08:45	192	199
	08:45-09:00	156	163
	09:00-09:15	131	136
B - Luynes Rise	07:45-08:00	54	54
	08:00-08:15	64	64
	08:15-08:30	79	79
	08:30-08:45	79	79
	08:45-09:00	64	64
	09:00-09:15	54	54
C - Aspenden Road N	07:45-08:00	133	134
	08:00-08:15	158	160
	08:15-08:30	194	196
	08:30-08:45	194	196
	08:45-09:00	158	160
	09:00-09:15	133	134

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.13	6.84	0.1	A	72	72
C-AB	0.11	6.15	0.2	A	63	63
C-A					115	115
A-B					8	8
A-C					173	173

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	64	16	615	0.105	64	0.1	0.1	6.541	A
C-AB	55	14	648	0.085	55	0.1	0.1	6.086	A
C-A	105	26			105				
A-B	7	2			7				
A-C	155	39			155				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	79	20	605	0.130	79	0.1	0.1	6.838	A
C-AB	70	18	658	0.107	70	0.1	0.2	6.144	A
C-A	126	31			126				
A-B	9	2			9				
A-C	190	48			190				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	79	20	605	0.130	79	0.1	0.1	6.840	A
C-AB	71	18	658	0.107	71	0.2	0.2	6.149	A
C-A	125	31			125				
A-B	9	2			9				
A-C	190	48			190				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	64	16	615	0.105	65	0.1	0.1	6.544	A
C-AB	55	14	648	0.085	55	0.2	0.1	6.097	A
C-A	105	26			105				
A-B	7	2			7				
A-C	155	39			155				

2029 FY+DEV, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D8 - 2029 FY+DEV, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
3	Aspenden Rd - Luynes Rise	T-Junction	Two-way		2.55	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D8	2029 FY+DEV	PM	Future Year+Dev	ONE HOUR	15:45	17:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - Aspenden Road S		ONE HOUR	✓	118	100.000
B - Luynes Rise		ONE HOUR	✓	50	100.000
C - Aspenden Road N		ONE HOUR	✓	198	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Aspenden Road S	B - Luynes Rise	C - Aspenden Road N
From	A - Aspenden Road S	0	3	116
	B - Luynes Rise	4	0	46
	C - Aspenden Road N	122	76	0

Proportions

		To		
		A - Aspenden Road S	B - Luynes Rise	C - Aspenden Road N
From	A - Aspenden Road S	0.00	0.02	0.98
	B - Luynes Rise	0.08	0.00	0.92
	C - Aspenden Road N	0.61	0.39	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Aspenden Road S	B - Luynes Rise	C - Aspenden Road N
From	A - Aspenden Road S	0	0	0
	B - Luynes Rise	0	0	0
	C - Aspenden Road N	1	1	0

Average PCU Per Veh

		To		
		A - Aspenden Road S	B - Luynes Rise	C - Aspenden Road N
From	A - Aspenden Road S	1.000	1.000	1.000
	B - Luynes Rise	1.000	1.000	1.000
	C - Aspenden Road N	1.008	1.013	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - Aspenden Road S	15:45-16:00	89	89
	16:00-16:15	106	106
	16:15-16:30	130	130
	16:30-16:45	130	130
	16:45-17:00	106	106
	17:00-17:15	89	89
B - Luynes Rise	15:45-16:00	38	38
	16:00-16:15	45	45
	16:15-16:30	55	55
	16:30-16:45	55	55
	16:45-17:00	45	45
	17:00-17:15	38	38
C - Aspenden Road N	15:45-16:00	149	150
	16:00-16:15	178	180
	16:15-16:30	218	220
	16:30-16:45	218	220
	16:45-17:00	178	180
	17:00-17:15	149	150

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.09	6.41	0.1	A	50	50
C-AB	0.16	6.49	0.2	A	95	95
C-A					105	105
A-B					3	3
A-C					116	116

Main Results for each time segment

16:00 - 16:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	45	11	623	0.072	45	0.1	0.1	6.220	A
C-AB	84	21	656	0.127	83	0.1	0.2	6.361	A
C-A	96	24			96				
A-B	2	0.57			2				
A-C	104	26			104				

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	55	14	616	0.089	55	0.1	0.1	6.411	A
C-AB	107	27	668	0.160	107	0.2	0.2	6.487	A
C-A	113	28			113				
A-B	3	0.69			3				
A-C	127	32			127				

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	55	14	616	0.089	55	0.1	0.1	6.411	A
C-AB	107	27	668	0.160	107	0.2	0.2	6.493	A
C-A	113	28			113				
A-B	3	0.69			3				
A-C	127	32			127				

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	45	11	623	0.072	45	0.1	0.1	6.222	A
C-AB	84	21	656	0.127	84	0.2	0.2	6.367	A
C-A	96	24			96				
A-B	2	0.57			2				
A-C	104	26			104				

Appendix I.4

JUNCTION 4

Junctions 9

PICADY 9 - Priority Intersection Module

Filename: J4_Aspenden Rd - London Rd.j9
Path: C:\Users\INAA02374\Desktop\Buntingford JM\220706 - JM - Updated TFD Flows\J4
Report generation date: 06-07-2022 17:44:08

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	Existing Junction - 2022 Base							
Stream B-AC	0.9	15.76	0.47	C	0.5	11.16	0.31	B
Stream C-AB	0.4	5.20	0.19	A	0.3	5.71	0.17	A
	Existing Junction - 2024 Projected Base							
Stream B-AC	1.2	19.30	0.55	C	0.6	12.54	0.37	B
Stream C-AB	0.5	5.32	0.23	A	0.4	5.86	0.20	A
	Existing Junction - 2029 FY							
Stream B-AC	1.4	20.65	0.58	C	0.6	13.04	0.39	B
Stream C-AB	0.5	5.37	0.24	A	0.4	5.91	0.22	A
	Existing Junction - 2029 FY+DEV							
Stream B-AC	1.8	24.45	0.64	C	0.7	13.73	0.41	B
Stream C-AB	0.6	5.47	0.25	A	0.5	6.11	0.24	A

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

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

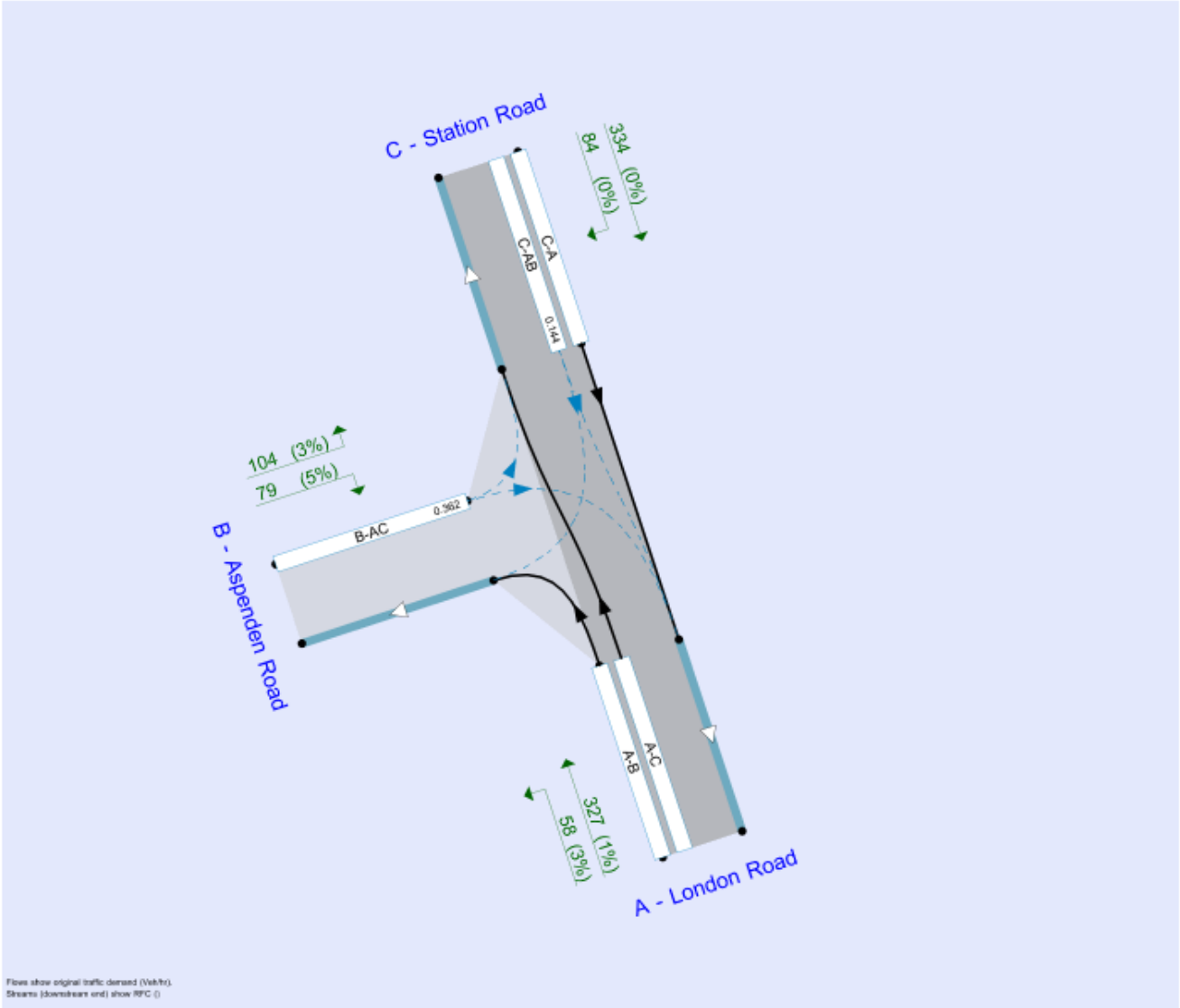
File summary

File Description

Title	Aspenden Road / Station Road
Location	Buntingford
Site number	4
Date	15-10-2014
Version	
Status	
Identifier	
Client	
Jobnumber	70007498
Enumerator	UKSXB076 [W13UK0135]
Description	51.94232091664699, -0.01564048578695628

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	PCU	perHour	s	-Min	perMin



The junction diagram reflects the last run of Junctions.

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D1	2022 Base	AM	Actual Base Year	ONE HOUR	07:45	09:15	15	✓	✓
D2	2022 Base	PM	Actual Base Year	ONE HOUR	15:45	17:15	15	✓	✓
D3	2024 Projected Base	AM	Projected Base Year	ONE HOUR	07:45	09:15	15	✓	✓
D4	2024 Projected Base	PM	Projected Base Year	ONE HOUR	15:45	17:15	15	✓	✓
D5	2029 FY	AM	Future Year	ONE HOUR	07:45	09:15	15	✓	✓
D6	2029 FY	PM	Future Year	ONE HOUR	15:45	17:15	15	✓	✓
D7	2029 FY+DEV	AM	Future Year+Dev	ONE HOUR	07:45	09:15	15	✓	✓
D8	2029 FY+DEV	PM	Future Year+Dev	ONE HOUR	15:45	17:15	15	✓	✓

Analysis Set Details

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

Existing Junction - 2022 Base, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D1 - 2022 Base, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
4	Aspendedn Rd/ London Rd	T-Junction	Two-way		3.73	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	London Road		Major
B	Aspenden Road		Minor
C	Station Road		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - Station Road	8.86			250.0	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B - Aspenden Road	One lane	2.98	61	30

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	511	0.082	0.206	0.130	0.294
B-C	642	0.086	0.218	-	-
C-B	719	0.244	0.244	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D1	2022 Base	AM	Actual Base Year	ONE HOUR	07:45	09:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - London Road		ONE HOUR	✓	385	100.000
B - Aspenden Road		ONE HOUR	✓	183	100.000
C - Station Road		ONE HOUR	✓	418	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - London Road	B - Aspenden Road	C - Station Road
From	A - London Road	0	58	327
	B - Aspenden Road	79	0	104
	C - Station Road	334	84	0

Proportions

		To		
		A - London Road	B - Aspenden Road	C - Station Road
From	A - London Road	0.00	0.15	0.85
	B - Aspenden Road	0.43	0.00	0.57
	C - Station Road	0.80	0.20	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - London Road	B - Aspenden Road	C - Station Road
From	A - London Road	0	3	1
	B - Aspenden Road	5	0	3
	C - Station Road	0	0	0

Average PCU Per Veh

		To		
		A - London Road	B - Aspenden Road	C - Station Road
From	A - London Road	1.000	1.034	1.012
	B - Aspenden Road	1.051	1.000	1.029
	C - Station Road	1.003	1.000	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - London Road	07:45-08:00	290	294
	08:00-08:15	346	352
	08:15-08:30	424	430
	08:30-08:45	424	430
	08:45-09:00	346	352
	09:00-09:15	290	294
B - Aspenden Road	07:45-08:00	138	143
	08:00-08:15	165	171
	08:15-08:30	201	209
	08:30-08:45	201	209
	08:45-09:00	165	171
	09:00-09:15	138	143
C - Station Road	07:45-08:00	315	315
	08:00-08:15	376	377
	08:15-08:30	460	461
	08:30-08:45	460	461
	08:45-09:00	376	377
	09:00-09:15	315	315

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.47	15.76	0.9	C	190	190
C-AB	0.19	5.20	0.4	A	141	141
C-A					278	278
A-B					60	60
A-C					331	331

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	171	43	471	0.362	170	0.4	0.6	12.389	B
C-AB	119	30	828	0.144	119	0.2	0.3	5.081	A
C-A	258	64			258				
A-B	54	13			54				
A-C	298	74			298				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	209	52	446	0.469	208	0.6	0.9	15.604	C
C-AB	163	41	857	0.190	162	0.3	0.4	5.192	A
C-A	298	75			298				
A-B	66	17			66				
A-C	364	91			364				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	209	52	446	0.469	209	0.9	0.9	15.761	C
C-AB	163	41	857	0.190	163	0.4	0.4	5.201	A
C-A	298	75			298				
A-B	66	17			66				
A-C	364	91			364				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	171	43	471	0.363	172	0.9	0.6	12.544	B
C-AB	119	30	829	0.144	120	0.4	0.3	5.093	A
C-A	258	64			258				
A-B	54	13			54				
A-C	298	74			298				

Existing Junction - 2022 Base, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D2 - 2022 Base, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
4	Aspendedn Rd/ London Rd	T-Junction	Two-way		2.58	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D2	2022 Base	PM	Actual Base Year	ONE HOUR	15:45	17:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - London Road		ONE HOUR	✓	398	100.000
B - Aspenden Road		ONE HOUR	✓	134	100.000
C - Station Road		ONE HOUR	✓	301	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - London Road	B - Aspenden Road	C - Station Road
From	A - London Road	0	70	328
	B - Aspenden Road	49	0	85
	C - Station Road	219	82	0

Proportions

		To		
		A - London Road	B - Aspenden Road	C - Station Road
From	A - London Road	0.00	0.18	0.82
	B - Aspenden Road	0.37	0.00	0.63
	C - Station Road	0.73	0.27	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - London Road	B - Aspenden Road	C - Station Road
From	A - London Road	0	1	1
	B - Aspenden Road	0	0	0
	C - Station Road	0	1	0

Average PCU Per Veh

		To		
		A - London Road	B - Aspenden Road	C - Station Road
From	A - London Road	1.000	1.014	1.009
	B - Aspenden Road	1.000	1.000	1.000
	C - Station Road	1.005	1.012	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - London Road	15:45-16:00	300	303
	16:00-16:15	358	361
	16:15-16:30	438	443
	16:30-16:45	438	443
	16:45-17:00	358	361
	17:00-17:15	300	303
B - Aspenden Road	15:45-16:00	101	101
	16:00-16:15	120	120
	16:15-16:30	148	148
	16:30-16:45	148	148
	16:45-17:00	120	120
	17:00-17:15	101	101
C - Station Road	15:45-16:00	227	228
	16:00-16:15	271	272
	16:15-16:30	331	334
	16:30-16:45	331	334
	16:45-17:00	271	272
	17:00-17:15	227	228

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.31	11.16	0.5	B	134	134
C-AB	0.17	5.71	0.3	A	117	117
C-A					186	186
A-B					71	71
A-C					331	331

Main Results for each time segment

16:00 - 16:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	120	30	492	0.245	120	0.2	0.3	9.669	A
C-AB	101	25	759	0.133	101	0.2	0.2	5.526	A
C-A	171	43			171				
A-B	64	16			64				
A-C	298	74			298				

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	148	37	470	0.314	147	0.3	0.4	11.124	B
C-AB	134	33	771	0.173	133	0.2	0.3	5.703	A
C-A	200	50			200				
A-B	78	20			78				
A-C	364	91			364				

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	148	37	470	0.314	148	0.4	0.5	11.161	B
C-AB	134	33	771	0.173	134	0.3	0.3	5.707	A
C-A	200	50			200				
A-B	78	20			78				
A-C	364	91			364				

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	120	30	492	0.245	121	0.5	0.3	9.714	A
C-AB	101	25	759	0.133	102	0.3	0.2	5.532	A
C-A	171	43			171				
A-B	64	16			64				
A-C	298	74			298				

Existing Junction - 2024 Projected Base, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D3 - 2024 Projected Base, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
4	Aspendedn Rd/ London Rd	T-Junction	Two-way		4.47	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D3	2024 Projected Base	AM	Projected Base Year	ONE HOUR	07:45	09:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - London Road		ONE HOUR	✓	436	100.000
B - Aspenden Road		ONE HOUR	✓	207	100.000
C - Station Road		ONE HOUR	✓	473	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - London Road	B - Aspenden Road	C - Station Road
From	A - London Road	0	66	370
	B - Aspenden Road	89	0	118
	C - Station Road	378	95	0

Proportions

		To		
		A - London Road	B - Aspenden Road	C - Station Road
From	A - London Road	0.00	0.15	0.85
	B - Aspenden Road	0.43	0.00	0.57
	C - Station Road	0.80	0.20	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - London Road	B - Aspenden Road	C - Station Road
From	A - London Road	0	3	1
	B - Aspenden Road	4	0	3
	C - Station Road	0	0	0

Average PCU Per Veh

		To		
		A - London Road	B - Aspenden Road	C - Station Road
From	A - London Road	1.000	1.030	1.011
	B - Aspenden Road	1.045	1.000	1.025
	C - Station Road	1.003	1.000	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - London Road	07:45-08:00	328	332
	08:00-08:15	392	397
	08:15-08:30	480	486
	08:30-08:45	480	486
	08:45-09:00	392	397
	09:00-09:15	328	332
B - Aspenden Road	07:45-08:00	156	161
	08:00-08:15	186	192
	08:15-08:30	228	236
	08:30-08:45	228	236
	08:45-09:00	186	192
	09:00-09:15	156	161
C - Station Road	07:45-08:00	356	357
	08:00-08:15	425	426
	08:15-08:30	521	522
	08:30-08:45	521	522
	08:45-09:00	425	426
	09:00-09:15	356	357

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.55	19.30	1.2	C	214	214
C-AB	0.23	5.32	0.5	A	172	172
C-A					302	302
A-B					68	68
A-C					374	374

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	192	48	457	0.421	192	0.5	0.7	13.976	B
C-AB	144	36	845	0.170	143	0.2	0.3	5.137	A
C-A	282	71			282				
A-B	61	15			61				
A-C	336	84			336				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	236	59	428	0.550	234	0.7	1.2	18.949	C
C-AB	200	50	879	0.228	199	0.3	0.5	5.314	A
C-A	322	80			322				
A-B	74	19			74				
A-C	412	103			412				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	236	59	428	0.550	236	1.2	1.2	19.300	C
C-AB	200	50	879	0.228	200	0.5	0.5	5.324	A
C-A	322	80			322				
A-B	74	19			74				
A-C	412	103			412				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	192	48	457	0.421	194	1.2	0.8	14.278	B
C-AB	144	36	845	0.170	144	0.5	0.3	5.152	A
C-A	282	71			282				
A-B	61	15			61				
A-C	336	84			336				

Existing Junction - 2024 Projected Base, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D4 - 2024 Projected Base, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
4	Aspendedn Rd/ London Rd	T-Junction	Two-way		2.87	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D4	2024 Projected Base	PM	Projected Base Year	ONE HOUR	15:45	17:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - London Road		ONE HOUR	✓	451	100.000
B - Aspenden Road		ONE HOUR	✓	152	100.000
C - Station Road		ONE HOUR	✓	341	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - London Road	B - Aspenden Road	C - Station Road
From	A - London Road	0	79	371
	B - Aspenden Road	55	0	96
	C - Station Road	248	93	0

Proportions

		To		
		A - London Road	B - Aspenden Road	C - Station Road
From	A - London Road	0.00	0.18	0.82
	B - Aspenden Road	0.37	0.00	0.63
	C - Station Road	0.73	0.27	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - London Road	B - Aspenden Road	C - Station Road
From	A - London Road	0	1	1
	B - Aspenden Road	0	0	0
	C - Station Road	0	1	0

Average PCU Per Veh

		To		
		A - London Road	B - Aspenden Road	C - Station Road
From	A - London Road	1.000	1.013	1.008
	B - Aspenden Road	1.000	1.000	1.000
	C - Station Road	1.004	1.011	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - London Road	15:45-16:00	339	342
	16:00-16:15	405	409
	16:15-16:30	496	501
	16:30-16:45	496	501
	16:45-17:00	405	409
	17:00-17:15	339	342
B - Aspenden Road	15:45-16:00	114	114
	16:00-16:15	136	136
	16:15-16:30	167	167
	16:30-16:45	167	167
	16:45-17:00	136	136
	17:00-17:15	114	114
C - Station Road	15:45-16:00	257	258
	16:00-16:15	306	308
	16:15-16:30	375	377
	16:30-16:45	375	377
	16:45-17:00	306	308
	17:00-17:15	257	258

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.37	12.54	0.6	B	152	152
C-AB	0.20	5.86	0.4	A	140	140
C-A					203	203
A-B					80	80
A-C					374	374

Main Results for each time segment

16:00 - 16:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	136	34	479	0.285	136	0.3	0.4	10.477	B
C-AB	119	30	766	0.156	119	0.2	0.3	5.619	A
C-A	189	47			189				
A-B	72	18			72				
A-C	337	84			337				

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	167	42	454	0.368	166	0.4	0.6	12.479	B
C-AB	160	40	780	0.205	159	0.3	0.4	5.851	A
C-A	218	54			218				
A-B	88	22			88				
A-C	412	103			412				

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	167	42	454	0.368	167	0.6	0.6	12.541	B
C-AB	160	40	780	0.205	160	0.4	0.4	5.858	A
C-A	218	54			218				
A-B	88	22			88				
A-C	412	103			412				

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	136	34	479	0.285	137	0.6	0.4	10.544	B
C-AB	120	30	766	0.156	120	0.4	0.3	5.628	A
C-A	189	47			189				
A-B	72	18			72				
A-C	337	84			337				

Existing Junction - 2029 FY, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D5 - 2029 FY, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
4	Aspendedn Rd/ London Rd	T-Junction	Two-way		4.74	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D5	2029 FY	AM	Future Year	ONE HOUR	07:45	09:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - London Road		ONE HOUR	✓	450	100.000
B - Aspenden Road		ONE HOUR	✓	214	100.000
C - Station Road		ONE HOUR	✓	489	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - London Road	B - Aspenden Road	C - Station Road
From	A - London Road	0	68	382
	B - Aspenden Road	92	0	122
	C - Station Road	390	98	0

Proportions

		To		
		A - London Road	B - Aspenden Road	C - Station Road
From	A - London Road	0.00	0.15	0.85
	B - Aspenden Road	0.43	0.00	0.57
	C - Station Road	0.80	0.20	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - London Road	B - Aspenden Road	C - Station Road
From	A - London Road	0	3	1
	B - Aspenden Road	4	0	2
	C - Station Road	0	0	0

Average PCU Per Veh

		To		
		A - London Road	B - Aspenden Road	C - Station Road
From	A - London Road	1.000	1.029	1.010
	B - Aspenden Road	1.043	1.000	1.025
	C - Station Road	1.003	1.000	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - London Road	07:45-08:00	339	343
	08:00-08:15	405	410
	08:15-08:30	496	502
	08:30-08:45	496	502
	08:45-09:00	405	410
	09:00-09:15	339	343
B - Aspenden Road	07:45-08:00	161	166
	08:00-08:15	192	199
	08:15-08:30	236	243
	08:30-08:45	236	243
	08:45-09:00	192	199
	09:00-09:15	161	166
C - Station Road	07:45-08:00	368	369
	08:00-08:15	439	440
	08:15-08:30	538	539
	08:30-08:45	538	539
	08:45-09:00	439	440
	09:00-09:15	368	369

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.58	20.65	1.4	C	221	221
C-AB	0.24	5.37	0.5	A	182	182
C-A					308	308
A-B					70	70
A-C					386	386

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	199	50	453	0.439	198	0.5	0.8	14.515	B
C-AB	151	38	850	0.178	151	0.2	0.3	5.157	A
C-A	289	72			289				
A-B	63	16			63				
A-C	347	87			347				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	243	61	423	0.575	241	0.8	1.3	20.191	C
C-AB	212	53	885	0.239	211	0.3	0.5	5.354	A
C-A	327	82			327				
A-B	77	19			77				
A-C	425	106			425				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	243	61	423	0.575	243	1.3	1.4	20.645	C
C-AB	212	53	885	0.239	212	0.5	0.5	5.366	A
C-A	327	82			327				
A-B	77	19			77				
A-C	425	106			425				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	199	50	453	0.439	201	1.4	0.8	14.881	B
C-AB	151	38	850	0.178	152	0.5	0.3	5.174	A
C-A	289	72			289				
A-B	63	16			63				
A-C	347	87			347				

Existing Junction - 2029 FY, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D6 - 2029 FY, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
4	Aspendedn Rd/ London Rd	T-Junction	Two-way		2.97	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D6	2029 FY	PM	Future Year	ONE HOUR	15:45	17:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - London Road		ONE HOUR	✓	467	100.000
B - Aspenden Road		ONE HOUR	✓	157	100.000
C - Station Road		ONE HOUR	✓	353	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - London Road	B - Aspenden Road	C - Station Road
From	A - London Road	0	82	385
	B - Aspenden Road	57	0	100
	C - Station Road	257	96	0

Proportions

		To		
		A - London Road	B - Aspenden Road	C - Station Road
From	A - London Road	0.00	0.18	0.82
	B - Aspenden Road	0.37	0.00	0.63
	C - Station Road	0.73	0.27	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - London Road	B - Aspenden Road	C - Station Road
From	A - London Road	0	1	1
	B - Aspenden Road	0	0	0
	C - Station Road	0	1	0

Average PCU Per Veh

		To		
		A - London Road	B - Aspenden Road	C - Station Road
From	A - London Road	1.000	1.012	1.008
	B - Aspenden Road	1.000	1.000	1.000
	C - Station Road	1.004	1.010	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - London Road	15:45-16:00	352	355
	16:00-16:15	420	423
	16:15-16:30	514	519
	16:30-16:45	514	519
	16:45-17:00	420	423
	17:00-17:15	352	355
B - Aspenden Road	15:45-16:00	118	118
	16:00-16:15	141	141
	16:15-16:30	173	173
	16:30-16:45	173	173
	16:45-17:00	141	141
	17:00-17:15	118	118
C - Station Road	15:45-16:00	266	267
	16:00-16:15	317	319
	16:15-16:30	389	391
	16:30-16:45	389	391
	16:45-17:00	317	319
	17:00-17:15	266	267

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.39	13.04	0.6	B	157	157
C-AB	0.22	5.91	0.4	A	147	147
C-A					208	208
A-B					83	83
A-C					388	388

Main Results for each time segment

16:00 - 16:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	141	35	475	0.297	141	0.3	0.4	10.749	B
C-AB	125	31	768	0.163	125	0.2	0.3	5.650	A
C-A	194	48			194				
A-B	75	19			75				
A-C	349	87			349				

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	173	43	449	0.385	172	0.4	0.6	12.967	B
C-AB	168	42	783	0.215	168	0.3	0.4	5.904	A
C-A	223	56			223				
A-B	92	23			92				
A-C	427	107			427				

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	173	43	449	0.385	173	0.6	0.6	13.043	B
C-AB	169	42	783	0.215	169	0.4	0.4	5.914	A
C-A	222	56			222				
A-B	92	23			92				
A-C	427	107			427				

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	141	35	475	0.297	142	0.6	0.4	10.829	B
C-AB	126	31	768	0.163	126	0.4	0.3	5.661	A
C-A	194	48			194				
A-B	75	19			75				
A-C	349	87			349				

Existing Junction - 2029 FY+DEV, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D7 - 2029 FY+DEV, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
4	Aspendedn Rd/ London Rd	T-Junction	Two-way		5.73	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D7	2029 FY+DEV	AM	Future Year+Dev	ONE HOUR	07:45	09:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - London Road		ONE HOUR	✓	469	100.000
B - Aspenden Road		ONE HOUR	✓	235	100.000
C - Station Road		ONE HOUR	✓	497	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - London Road	B - Aspenden Road	C - Station Road
From	A - London Road	0	71	398
	B - Aspenden Road	101	0	134
	C - Station Road	394	103	0

Proportions

		To		
		A - London Road	B - Aspenden Road	C - Station Road
From	A - London Road	0.00	0.15	0.85
	B - Aspenden Road	0.43	0.00	0.57
	C - Station Road	0.79	0.21	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - London Road	B - Aspenden Road	C - Station Road
From	A - London Road	0	3	1
	B - Aspenden Road	4	0	2
	C - Station Road	0	0	0

Average PCU Per Veh

		To		
		A - London Road	B - Aspenden Road	C - Station Road
From	A - London Road	1.000	1.028	1.010
	B - Aspenden Road	1.039	1.000	1.022
	C - Station Road	1.003	1.000	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - London Road	07:45-08:00	353	358
	08:00-08:15	422	427
	08:15-08:30	517	523
	08:30-08:45	517	523
	08:45-09:00	422	427
	09:00-09:15	353	358
B - Aspenden Road	07:45-08:00	177	182
	08:00-08:15	211	217
	08:15-08:30	259	266
	08:30-08:45	259	266
	08:45-09:00	211	217
	09:00-09:15	177	182
C - Station Road	07:45-08:00	374	375
	08:00-08:15	447	448
	08:15-08:30	547	548
	08:30-08:45	547	548
	08:45-09:00	447	448
	09:00-09:15	374	375

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.64	24.45	1.8	C	242	242
C-AB	0.25	5.47	0.6	A	192	192
C-A					306	306
A-B					73	73
A-C					402	402

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	217	54	448	0.485	216	0.6	0.9	15.893	C
C-AB	159	40	849	0.188	159	0.3	0.4	5.230	A
C-A	288	72			288				
A-B	66	16			66				
A-C	362	90			362				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	266	67	417	0.638	263	0.9	1.7	23.609	C
C-AB	224	56	884	0.253	223	0.4	0.6	5.461	A
C-A	325	81			325				
A-B	80	20			80				
A-C	443	111			443				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	266	67	417	0.639	266	1.7	1.8	24.452	C
C-AB	224	56	884	0.254	224	0.6	0.6	5.474	A
C-A	324	81			324				
A-B	80	20			80				
A-C	443	111			443				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	217	54	448	0.485	220	1.8	1.0	16.494	C
C-AB	160	40	849	0.188	161	0.6	0.4	5.248	A
C-A	288	72			288				
A-B	66	16			66				
A-C	362	90			362				

Existing Junction - 2029 FY+DEV, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D8 - 2029 FY+DEV, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
4	Aspendedn Rd/ London Rd	T-Junction	Two-way		3.19	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D8	2029 FY+DEV	PM	Future Year+Dev	ONE HOUR	15:45	17:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - London Road		ONE HOUR	✓	484	100.000
B - Aspenden Road		ONE HOUR	✓	165	100.000
C - Station Road		ONE HOUR	✓	366	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - London Road	B - Aspenden Road	C - Station Road
From	A - London Road	0	91	393
	B - Aspenden Road	60	0	105
	C - Station Road	260	106	0

Proportions

		To		
		A - London Road	B - Aspenden Road	C - Station Road
From	A - London Road	0.00	0.19	0.81
	B - Aspenden Road	0.37	0.00	0.63
	C - Station Road	0.71	0.29	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - London Road	B - Aspenden Road	C - Station Road
From	A - London Road	0	1	1
	B - Aspenden Road	0	0	0
	C - Station Road	0	1	0

Average PCU Per Veh

		To		
		A - London Road	B - Aspenden Road	C - Station Road
From	A - London Road	1.000	1.011	1.008
	B - Aspenden Road	1.000	1.000	1.000
	C - Station Road	1.004	1.009	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - London Road	15:45-16:00	364	367
	16:00-16:15	435	439
	16:15-16:30	533	537
	16:30-16:45	533	537
	16:45-17:00	435	439
	17:00-17:15	364	367
B - Aspenden Road	15:45-16:00	124	124
	16:00-16:15	148	148
	16:15-16:30	182	182
	16:30-16:45	182	182
	16:45-17:00	148	148
	17:00-17:15	124	124
C - Station Road	15:45-16:00	276	277
	16:00-16:15	329	331
	16:15-16:30	403	405
	16:30-16:45	403	405
	16:45-17:00	329	331
	17:00-17:15	276	277

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.41	13.73	0.7	B	165	165
C-AB	0.24	6.11	0.5	A	163	163
C-A					205	205
A-B					92	92
A-C					396	396

Main Results for each time segment

16:00 - 16:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	148	37	471	0.315	148	0.3	0.5	11.116	B
C-AB	139	35	767	0.181	139	0.2	0.3	5.781	A
C-A	192	48			192				
A-B	82	21			82				
A-C	356	89			356				

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	182	45	444	0.409	181	0.5	0.7	13.634	B
C-AB	187	47	782	0.239	187	0.3	0.5	6.100	A
C-A	218	55			218				
A-B	101	25			101				
A-C	436	109			436				

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	182	45	444	0.409	182	0.7	0.7	13.726	B
C-AB	187	47	782	0.240	187	0.5	0.5	6.109	A
C-A	218	55			218				
A-B	101	25			101				
A-C	436	109			436				

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	148	37	471	0.315	149	0.7	0.5	11.213	B
C-AB	139	35	767	0.182	140	0.5	0.3	5.792	A
C-A	192	48			192				
A-B	82	21			82				
A-C	356	89			356				

Appendix I.5

JUNCTION 5

Junctions 9

ARCADY 9 - Roundabout Module

Filename: J5_A10-London Road Roundabout_with CF_intercept adj_AM.j9
Path: C:\Users\INAA02374\Desktop\Buntingford JM\220706 - JM - Updated TFD Flows\J5
Report generation date: 07-07-2022 17:31:01

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	2022 Base			
A - London Road	15.2	83.39	0.98	F
B - Sainsburys Depot Access	0.0	0.00	0.00	A
C - A10 (S)	0.9	3.01	0.45	A
D - A10 (N)	4.3	15.73	0.81	C
	2024 Projected Base			
A - London Road	72.4	320.57	1.22	F
B - Sainsburys Depot Access	0.0	0.00	0.00	A
C - A10 (S)	1.1	3.33	0.51	A
D - A10 (N)	10.6	36.07	0.93	E
	2029 FY			
A - London Road	92.2	447.33	1.29	F
B - Sainsburys Depot Access	0.0	0.00	0.00	A
C - A10 (S)	1.1	3.44	0.52	A
D - A10 (N)	15.6	50.59	0.96	F
	2029 FY+DEV			
A - London Road	119.3	629.34	1.34	F
B - Sainsburys Depot Access	0.0	0.00	0.00	A
C - A10 (S)	1.2	3.59	0.55	A
D - A10 (N)	39.1	105.72	1.04	F

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

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

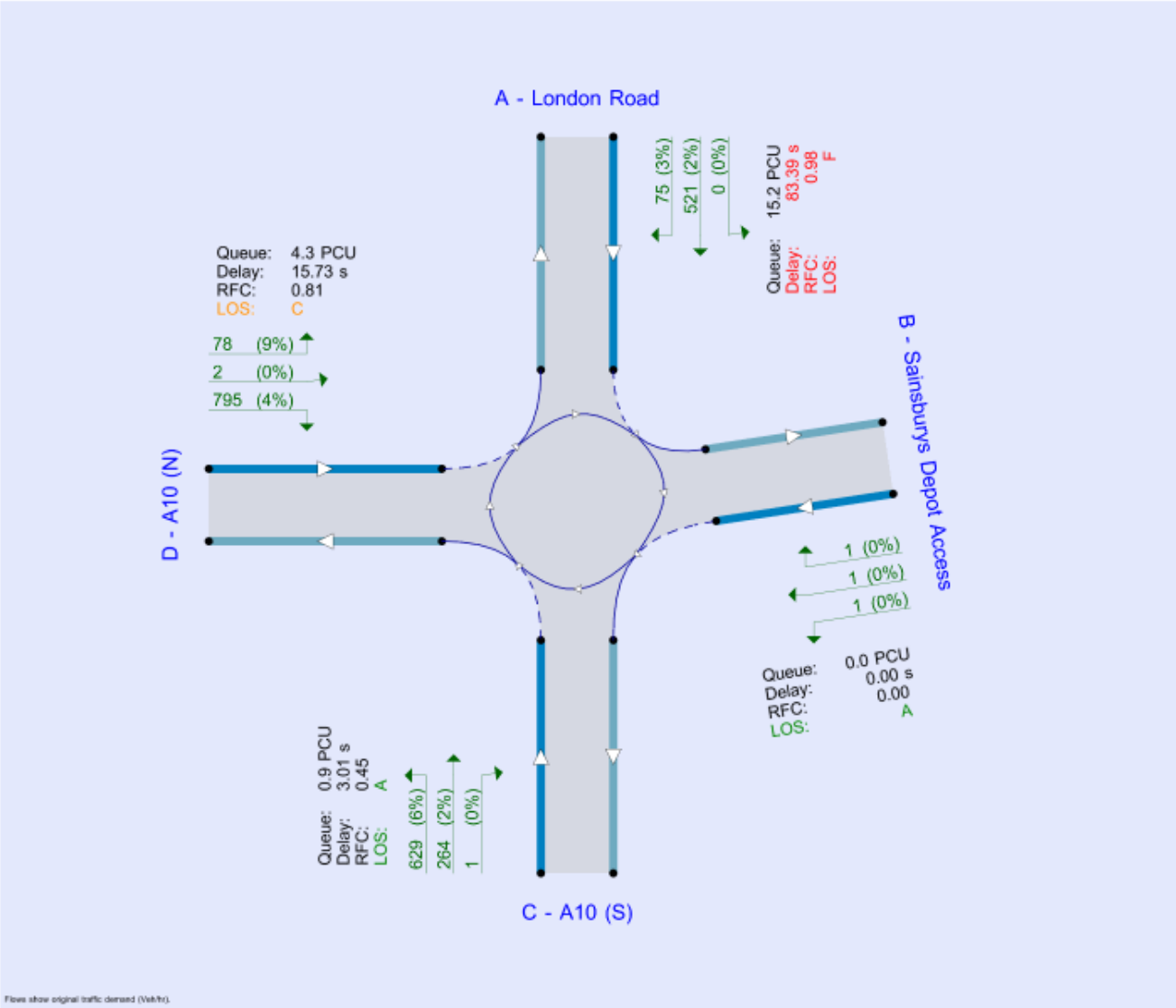
File summary

File Description

Title	A10 / London Road (Existing Junction Layout)
Location	Buntingford
Site number	5
Date	20-10-2014
Version	
Status	
Identifier	
Client	
Jobnumber	
Enumerator	UKSXB076 [W13UK0135]
Description	51.93632792467882, -0.0111908249540992

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	PCU	perHour	s	-Min	perMin



The junction diagram reflects the last run of Junctions.

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D1	2022 Base	AM	Actual Base Year	ONE HOUR	07:45	09:15	15	✓	✓
D2	2022 Base	PM	Actual Base Year	ONE HOUR	15:45	17:15	15	✓	✓
D3	2024 Projected Base	AM	Projected Base Year	ONE HOUR	07:45	09:15	15	✓	✓
D4	2024 Projected Base	PM	Projected Base Year	ONE HOUR	15:45	17:15	15	✓	✓
D5	2029 FY	AM	Future Year	ONE HOUR	07:45	09:15	15	✓	✓
D6	2029 FY	PM	Future Year	ONE HOUR	15:45	17:15	15	✓	✓
D7	2029 FY+DEV	AM	Future Year+Dev	ONE HOUR	07:45	09:15	15	✓	✓
D8	2029 FY+DEV	PM	Future Year+Dev	ONE HOUR	15:45	17:15	15	✓	✓

Analysis Set Details

ID	Include in report	Use specific Demand Set(s)	Specific Demand Set(s)	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	✓	D1,D3,D5,D7	100.000	100.000

2022 Base, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	C - A10 (S) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	D - A10 (N) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Demand Sets	D1 - 2022 Base, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
5	A10-London Road	Standard Roundabout		A, B, C, D	27.67	D

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
A	London Road	
B	Sainsburys Depot Access	
C	A10 (S)	
D	A10 (N)	

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)	Exit only
A - London Road	3.67	8.23	13.4	24.2	58.0	50.0	
B - Sainsburys Depot Access	2.41	7.62	14.3	21.9	123.0	53.0	
C - A10 (S)	4.41	8.01	43.5	46.9	54.5	17.0	
D - A10 (N)	4.04	7.63	39.9	39.8	70.9	30.0	

Slope / Intercept / Capacity

Arm Intercept Adjustments

Arm	Type	Reason	Direct intercept adjustment (PCU/hr)
A - London Road	Direct	AM	-475
B - Sainsburys Depot Access	None		
C - A10 (S)	None		
D - A10 (N)	Direct	AM	-700

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A - London Road	0.546	1190
B - Sainsburys Depot Access	0.381	1349
C - A10 (S)	0.728	2359
D - A10 (N)	0.573	1419

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D1	2022 Base	AM	Actual Base Year	ONE HOUR	07:45	09:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - London Road		ONE HOUR	✓	599	100.000
B - Sainsburys Depot Access		ONE HOUR	✓	3	100.000
C - A10 (S)		ONE HOUR	✓	898	100.000
D - A10 (N)		ONE HOUR	✓	875	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	3	0	521	75
	B - Sainsburys Depot Access	1	0	1	1
	C - A10 (S)	264	1	4	629
	D - A10 (N)	78	2	795	0

Proportions

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	0.01	0.00	0.87	0.13
	B - Sainsburys Depot Access	0.33	0.00	0.33	0.33
	C - A10 (S)	0.29	0.00	0.00	0.70
	D - A10 (N)	0.09	0.00	0.91	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	0	0	2	3
	B - Sainsburys Depot Access	0	0	0	0
	C - A10 (S)	2	0	50	6
	D - A10 (N)	9	0	4	0

Average PCU Per Veh

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	1.000	1.000	1.025	1.027
	B - Sainsburys Depot Access	1.000	1.000	1.000	1.000
	C - A10 (S)	1.019	1.000	1.500	1.064
	D - A10 (N)	1.090	1.000	1.040	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - London Road	07:45-08:00	451	462
	08:00-08:15	538	552
	08:15-08:30	660	676
	08:30-08:45	660	676
	08:45-09:00	538	552
	09:00-09:15	451	462
B - Sainsburys Depot Access	07:45-08:00	0	0
	08:00-08:15	0	0
	08:15-08:30	0	0
	08:30-08:45	0	0
	08:45-09:00	0	0
	09:00-09:15	0	0
C - A10 (S)	07:45-08:00	676	711
	08:00-08:15	807	850
	08:15-08:30	989	1040
	08:30-08:45	989	1040
	08:45-09:00	807	850
	09:00-09:15	676	711
D - A10 (N)	07:45-08:00	659	688
	08:00-08:15	787	822
	08:15-08:30	963	1006
	08:30-08:45	963	1006
	08:45-09:00	787	822
	09:00-09:15	659	688

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - London Road	0.98	83.39	15.2	F	614	614
B - Sainsburys Depot Access	0.00	0.00	0.0	A	0	0
C - A10 (S)	0.45	3.01	0.9	A	945	945
D - A10 (N)	0.81	15.73	4.3	C	914	914

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	552	138	749	782	0.706	547	320	1.2	2.3	15.458	C
B - Sainsburys Depot Access	0	0	1294	855	0.000	0	3	0.0	0.0	0.000	A
C - A10 (S)	850	212	71	2308	0.368	849	1222	0.5	0.6	2.595	A
D - A10 (N)	822	205	251	1275	0.644	819	670	1.2	1.8	8.185	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	676	169	912	693	0.976	641	392	2.3	11.1	52.446	F
B - Sainsburys Depot Access	0	0	1550	758	0.000	0	3	0.0	0.0	0.000	A
C - A10 (S)	1040	260	84	2299	0.453	1039	1467	0.6	0.9	3.005	A
D - A10 (N)	1006	252	307	1243	0.809	997	816	1.8	4.1	14.766	B

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	676	169	920	688	0.982	659	393	11.1	15.2	83.395	F
B - Sainsburys Depot Access	0	0	1576	748	0.000	0	3	0.0	0.0	0.000	A
C - A10 (S)	1040	260	86	2297	0.453	1040	1490	0.9	0.9	3.014	A
D - A10 (N)	1006	252	307	1243	0.810	1006	819	4.1	4.3	15.725	C

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	552	138	760	776	0.712	602	322	15.2	2.7	28.483	D
B - Sainsburys Depot Access	0	0	1359	830	0.000	0	3	0.0	0.0	0.000	A
C - A10 (S)	850	212	78	2302	0.369	851	1281	0.9	0.6	2.612	A
D - A10 (N)	822	205	251	1275	0.644	831	678	4.3	1.9	8.636	A

2024 Projected Base, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	C - A10 (S) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	D - A10 (N) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Demand Sets	D3 - 2024 Projected Base, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
5	A10-London Road	Standard Roundabout		A, B, C, D	94.34	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D3	2024 Projected Base	AM	Projected Base Year	ONE HOUR	07:45	09:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - London Road		ONE HOUR	✓	678	100.000
B - Sainsburys Depot Access		ONE HOUR	✓	3	100.000
C - A10 (S)		ONE HOUR	✓	1016	100.000
D - A10 (N)		ONE HOUR	✓	990	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	3	0	589	85
	B - Sainsburys Depot Access	1	0	1	1
	C - A10 (S)	299	1	5	712
	D - A10 (N)	88	2	899	0

Proportions

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	0.01	0.00	0.87	0.13
	B - Sainsburys Depot Access	0.33	0.00	0.33	0.33
	C - A10 (S)	0.29	0.00	0.00	0.70
	D - A10 (N)	0.09	0.00	0.91	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	0	0	2	2
	B - Sainsburys Depot Access	0	0	0	0
	C - A10 (S)	2	0	44	6
	D - A10 (N)	8	0	4	0

Average PCU Per Veh

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	1.000	1.000	1.022	1.024
	B - Sainsburys Depot Access	1.000	1.000	1.000	1.000
	C - A10 (S)	1.017	1.000	1.442	1.056
	D - A10 (N)	1.079	1.000	1.036	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - London Road	07:45-08:00	510	521
	08:00-08:15	609	623
	08:15-08:30	746	763
	08:30-08:45	746	763
	08:45-09:00	609	623
	09:00-09:15	510	521
B - Sainsburys Depot Access	07:45-08:00	0	0
	08:00-08:15	0	0
	08:15-08:30	0	0
	08:30-08:45	0	0
	08:45-09:00	0	0
	09:00-09:15	0	0
C - A10 (S)	07:45-08:00	765	800
	08:00-08:15	913	956
	08:15-08:30	1119	1170
	08:30-08:45	1119	1170
	08:45-09:00	913	956
	09:00-09:15	765	800
D - A10 (N)	07:45-08:00	745	775
	08:00-08:15	890	925
	08:15-08:30	1090	1133
	08:30-08:45	1090	1133
	08:45-09:00	890	925
	09:00-09:15	745	775

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - London Road	1.22	320.57	72.4	F	693	693
B - Sainsburys Depot Access	0.00	0.00	0.0	A	0	0
C - A10 (S)	0.51	3.33	1.1	A	1063	1063
D - A10 (N)	0.93	36.07	10.6	E	1029	1029

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	623	156	842	731	0.852	610	361	1.8	4.9	28.032	D
B - Sainsburys Depot Access	0	0	1449	796	0.000	0	3	0.0	0.0	0.000	A
C - A10 (S)	956	239	80	2302	0.415	955	1370	0.6	0.7	2.795	A
D - A10 (N)	925	231	283	1257	0.736	920	752	1.6	2.8	10.941	B

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	763	191	1013	638	1.196	629	440	4.9	38.3	140.450	F
B - Sainsburys Depot Access	0	0	1638	724	0.000	0	4	0.0	0.0	0.000	A
C - A10 (S)	1170	293	82	2300	0.509	1169	1556	0.7	1.1	3.325	A
D - A10 (N)	1133	283	345	1221	0.928	1107	905	2.8	9.2	27.983	D

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	763	191	1031	628	1.215	626	442	38.3	72.4	320.572	F
B - Sainsburys Depot Access	0	0	1654	718	0.000	0	4	0.0	0.0	0.000	A
C - A10 (S)	1170	293	82	2300	0.509	1170	1573	1.1	1.1	3.333	A
D - A10 (N)	1133	283	346	1221	0.928	1127	906	9.2	10.6	36.069	E

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	623	156	874	714	0.873	704	365	72.4	52.2	315.422	F
B - Sainsburys Depot Access	0	0	1574	748	0.000	0	3	0.0	0.0	0.000	A
C - A10 (S)	956	239	92	2293	0.417	957	1483	1.1	0.8	2.821	A
D - A10 (N)	925	231	284	1257	0.736	955	765	10.6	3.0	13.550	B

2029 FY, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	C - A10 (S) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	D - A10 (N) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Demand Sets	D5 - 2029 FY, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
5	A10-London Road	Standard Roundabout		A, B, C, D	131.33	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D5	2029 FY	AM	Future Year	ONE HOUR	07:45	09:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - London Road		ONE HOUR	✓	700	100.000
B - Sainsburys Depot Access		ONE HOUR	✓	4	100.000
C - A10 (S)		ONE HOUR	✓	1050	100.000
D - A10 (N)		ONE HOUR	✓	1023	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	4	0	609	88
	B - Sainsburys Depot Access	1	0	1	1
	C - A10 (S)	309	1	5	735
	D - A10 (N)	91	2	929	0

Proportions

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	0.01	0.00	0.87	0.13
	B - Sainsburys Depot Access	0.33	0.00	0.33	0.33
	C - A10 (S)	0.29	0.00	0.00	0.70
	D - A10 (N)	0.09	0.00	0.91	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	0	0	2	2
	B - Sainsburys Depot Access	0	0	0	0
	C - A10 (S)	2	0	43	5
	D - A10 (N)	8	0	3	0

Average PCU Per Veh

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	1.000	1.000	1.021	1.023
	B - Sainsburys Depot Access	1.000	1.000	1.000	1.000
	C - A10 (S)	1.016	1.000	1.428	1.054
	D - A10 (N)	1.077	1.000	1.034	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - London Road	07:45-08:00	527	538
	08:00-08:15	630	643
	08:15-08:30	771	787
	08:30-08:45	771	787
	08:45-09:00	630	643
	09:00-09:15	527	538
B - Sainsburys Depot Access	07:45-08:00	0	0
	08:00-08:15	0	0
	08:15-08:30	0	0
	08:30-08:45	0	0
	08:45-09:00	0	0
	09:00-09:15	0	0
C - A10 (S)	07:45-08:00	790	826
	08:00-08:15	944	986
	08:15-08:30	1156	1208
	08:30-08:45	1156	1208
	08:45-09:00	944	986
	09:00-09:15	790	826
D - A10 (N)	07:45-08:00	770	799
	08:00-08:15	920	955
	08:15-08:30	1126	1169
	08:30-08:45	1126	1169
	08:45-09:00	920	955
	09:00-09:15	770	799

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - London Road	1.29	447.33	92.2	F	715	715
B - Sainsburys Depot Access	0.00	0.00	0.0	A	0	0
C - A10 (S)	0.52	3.44	1.1	A	1097	1097
D - A10 (N)	0.96	50.59	15.6	F	1062	1062

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	643	161	868	717	0.897	625	372	2.0	6.4	35.044	E
B - Sainsburys Depot Access	0	0	1490	780	0.000	0	3	0.0	0.0	0.000	A
C - A10 (S)	986	246	81	2300	0.429	985	1409	0.6	0.8	2.859	A
D - A10 (N)	955	239	292	1252	0.763	949	775	1.7	3.2	12.093	B

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	787	197	1036	625	1.260	620	453	6.4	48.4	175.711	F
B - Sainsburys Depot Access	0	0	1652	719	0.000	0	4	0.0	0.0	0.000	A
C - A10 (S)	1208	302	81	2301	0.525	1206	1571	0.8	1.1	3.431	A
D - A10 (N)	1169	292	357	1215	0.962	1132	930	3.2	12.5	35.048	E

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	787	197	1058	613	1.285	612	455	48.4	92.2	410.144	F
B - Sainsburys Depot Access	0	0	1667	713	0.000	0	4	0.0	0.0	0.000	A
C - A10 (S)	1208	302	80	2301	0.525	1208	1587	1.1	1.1	3.437	A
D - A10 (N)	1169	292	357	1215	0.963	1157	930	12.5	15.6	50.589	F

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	643	161	917	690	0.932	682	378	92.2	82.4	447.327	F
B - Sainsburys Depot Access	0	0	1596	740	0.000	0	3	0.0	0.0	0.000	A
C - A10 (S)	986	246	89	2295	0.430	987	1507	1.1	0.8	2.879	A
D - A10 (N)	955	239	293	1251	0.763	1003	784	15.6	3.6	17.577	C

2029 FY+DEV, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	C - A10 (S) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	D - A10 (N) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Demand Sets	D7 - 2029 FY+DEV, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
5	A10-London Road	Standard Roundabout		A, B, C, D	193.67	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D7	2029 FY+DEV	AM	Future Year+Dev	ONE HOUR	07:45	09:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - London Road		ONE HOUR	✓	713	100.000
B - Sainsburys Depot Access		ONE HOUR	✓	4	100.000
C - A10 (S)		ONE HOUR	✓	1094	100.000
D - A10 (N)		ONE HOUR	✓	1103	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	4	0	617	93
	B - Sainsburys Depot Access	1	0	1	1
	C - A10 (S)	311	1	5	777
	D - A10 (N)	108	2	993	0

Proportions

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	0.00	0.00	0.87	0.13
	B - Sainsburys Depot Access	0.34	0.00	0.33	0.33
	C - A10 (S)	0.28	0.00	0.00	0.71
	D - A10 (N)	0.10	0.00	0.90	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	0	0	2	2
	B - Sainsburys Depot Access	0	0	0	0
	C - A10 (S)	2	0	43	5
	D - A10 (N)	6	0	3	0

Average PCU Per Veh

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	1.000	1.000	1.021	1.022
	B - Sainsburys Depot Access	1.000	1.000	1.000	1.000
	C - A10 (S)	1.016	1.000	1.428	1.051
	D - A10 (N)	1.065	1.000	1.032	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - London Road	07:45-08:00	537	548
	08:00-08:15	641	655
	08:15-08:30	785	802
	08:30-08:45	785	802
	08:45-09:00	641	655
	09:00-09:15	537	548
B - Sainsburys Depot Access	07:45-08:00	0	0
	08:00-08:15	0	0
	08:15-08:30	0	0
	08:30-08:45	0	0
	08:45-09:00	0	0
	09:00-09:15	0	0
C - A10 (S)	07:45-08:00	823	859
	08:00-08:15	983	1025
	08:15-08:30	1204	1256
	08:30-08:45	1204	1256
	08:45-09:00	983	1025
	09:00-09:15	823	859
D - A10 (N)	07:45-08:00	831	860
	08:00-08:15	992	1027
	08:15-08:30	1215	1258
	08:30-08:45	1215	1258
	08:45-09:00	992	1027
	09:00-09:15	831	860

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - London Road	1.34	629.34	119.3	F	728	728
B - Sainsburys Depot Access	0.00	0.00	0.0	A	0	0
C - A10 (S)	0.55	3.59	1.2	A	1141	1141
D - A10 (N)	1.04	105.72	39.1	F	1142	1142

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	655	164	922	687	0.953	627	389	2.4	9.3	47.377	E
B - Sainsburys Depot Access	0	0	1546	759	0.000	0	3	0.0	0.0	0.000	A
C - A10 (S)	1025	256	85	2298	0.446	1024	1461	0.6	0.8	2.947	A
D - A10 (N)	1027	257	294	1251	0.821	1018	815	2.1	4.3	15.413	C

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	802	200	1066	609	1.318	605	469	9.3	58.4	217.709	F
B - Sainsburys Depot Access	0	0	1668	713	0.000	0	4	0.0	0.0	0.000	A
C - A10 (S)	1256	314	82	2300	0.546	1254	1586	0.8	1.2	3.583	A
D - A10 (N)	1258	314	359	1213	1.036	1176	977	4.3	24.7	56.749	F

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	802	200	1088	597	1.344	596	472	58.4	109.8	512.479	F
B - Sainsburys Depot Access	0	0	1681	708	0.000	0	4	0.0	0.0	0.000	A
C - A10 (S)	1256	314	80	2301	0.546	1256	1600	1.2	1.2	3.591	A
D - A10 (N)	1258	314	359	1213	1.037	1200	977	24.7	39.1	105.719	F

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	655	164	1051	617	1.061	616	404	109.8	119.3	629.340	F
B - Sainsburys Depot Access	0	0	1664	714	0.000	0	3	0.0	0.0	0.000	A
C - A10 (S)	1025	256	83	2299	0.446	1027	1580	1.2	0.8	2.954	A
D - A10 (N)	1027	257	295	1250	0.821	1160	816	39.1	5.6	58.093	F

Junctions 9

ARCADY 9 - Roundabout Module

Filename: J5_A10-London Road Roundabout_with CF_intercept adj_PM.j9
Path: C:\Users\INAA02374\Desktop\Buntingford JM\220706 - JM - Updated TFD Flows\J5
Report generation date: 07-07-2022 17:25:49

Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
	2022 Base			
A - London Road	0.4	3.83	0.27	A
B - Sainsburys Depot Access	0.0	3.80	0.02	A
C - A10 (S)	1.4	3.81	0.57	A
D - A10 (N)	3.2	16.95	0.76	C
	2024 Projected Base			
A - London Road	0.5	4.22	0.32	A
B - Sainsburys Depot Access	0.0	4.02	0.03	A
C - A10 (S)	1.9	4.63	0.65	A
D - A10 (N)	7.4	36.60	0.89	E
	2029 FY			
A - London Road	0.5	4.35	0.33	A
B - Sainsburys Depot Access	0.0	4.09	0.03	A
C - A10 (S)	2.1	4.96	0.67	A
D - A10 (N)	11.0	52.07	0.94	F
	2029 FY+DEV			
A - London Road	0.5	4.45	0.34	A
B - Sainsburys Depot Access	0.0	4.14	0.03	A
C - A10 (S)	2.6	5.80	0.72	A
D - A10 (N)	20.5	86.82	1.00	F

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

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

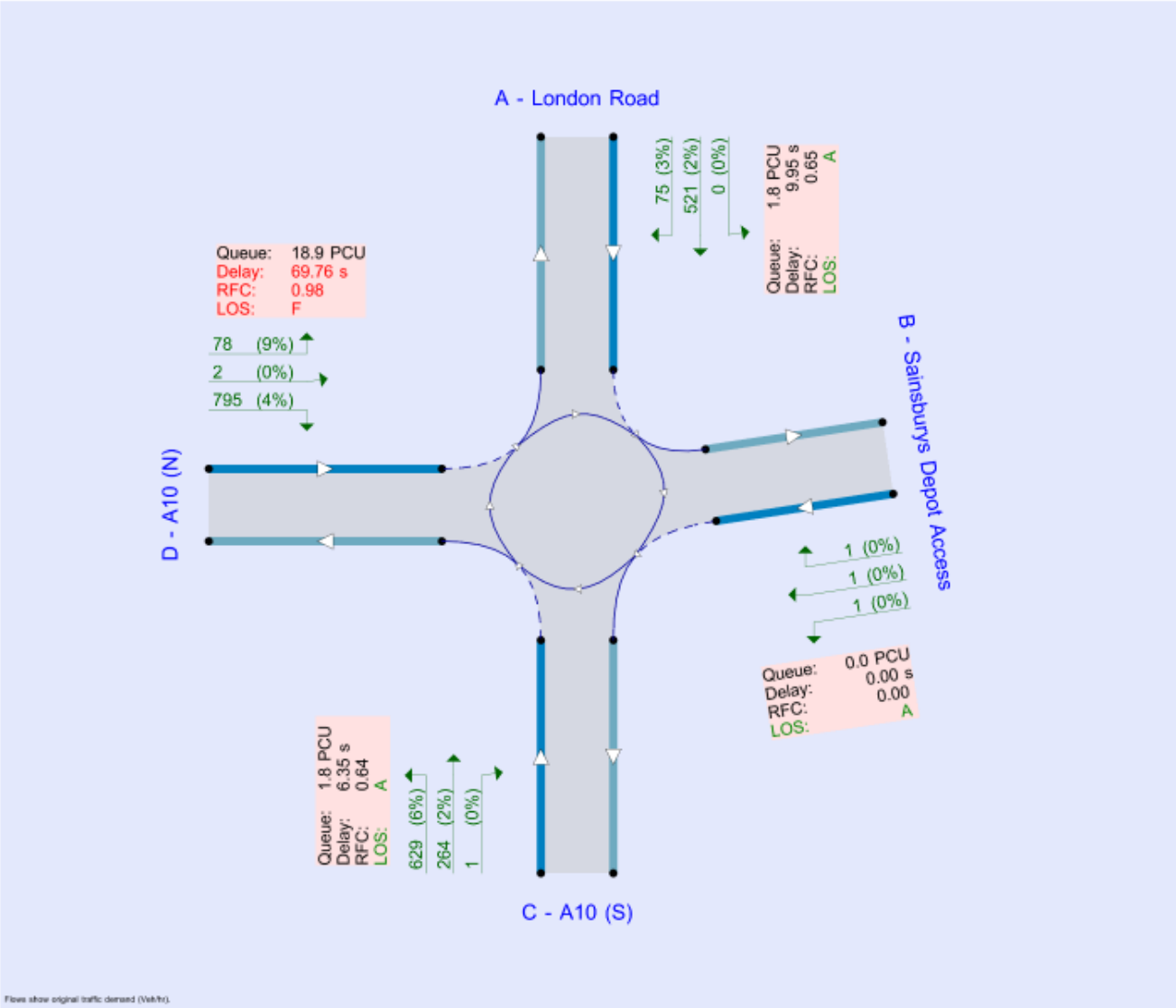
File summary

File Description

Title	A10 / London Road (Existing Junction Layout)
Location	Buntingford
Site number	5
Date	20-10-2014
Version	
Status	
Identifier	
Client	
Jobnumber	
Enumerator	UKSXB076 [W13UK0135]
Description	51.93632792467882, -0.0111908249540992

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	PCU	perHour	s	-Min	perMin



The junction diagram reflects the last run of Junctions.

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D1	2022 Base	AM	Actual Base Year	ONE HOUR	07:45	09:15	15	✓	✓
D2	2022 Base	PM	Actual Base Year	ONE HOUR	15:45	17:15	15	✓	✓
D3	2024 Projected Base	AM	Projected Base Year	ONE HOUR	07:45	09:15	15	✓	✓
D4	2024 Projected Base	PM	Projected Base Year	ONE HOUR	15:45	17:15	15	✓	✓
D5	2029 FY	AM	Future Year	ONE HOUR	07:45	09:15	15	✓	✓
D6	2029 FY	PM	Future Year	ONE HOUR	15:45	17:15	15	✓	✓
D7	2029 FY+DEV	AM	Future Year+Dev	ONE HOUR	07:45	09:15	15	✓	✓
D8	2029 FY+DEV	PM	Future Year+Dev	ONE HOUR	15:45	17:15	15	✓	✓

Analysis Set Details

ID	Include in report	Use specific Demand Set(s)	Specific Demand Set(s)	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	✓	D2,D4,D6,D8	100.000	100.000

2022 Base, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	C - A10 (S) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	D - A10 (N) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Demand Sets	D2 - 2022 Base, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
5	A10-London Road	Standard Roundabout		A, B, C, D	7.62	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
A	London Road	
B	Sainsburys Depot Access	
C	A10 (S)	
D	A10 (N)	

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)	Exit only
A - London Road	3.67	8.23	13.4	24.2	58.0	50.0	
B - Sainsburys Depot Access	2.41	7.62	14.3	21.9	123.0	53.0	
C - A10 (S)	4.41	8.01	43.5	46.9	54.5	17.0	
D - A10 (N)	4.04	7.63	39.9	39.8	70.9	30.0	

Slope / Intercept / Capacity

Arm Intercept Adjustments

Arm	Type	Reason	Direct intercept adjustment (PCU/hr)
A - London Road	None		
B - Sainsburys Depot Access	None		
C - A10 (S)	None		
D - A10 (N)	Direct	PM	-900

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A - London Road	0.546	1665
B - Sainsburys Depot Access	0.381	1349
C - A10 (S)	0.728	2359
D - A10 (N)	0.573	1219

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D2	2022 Base	PM	Actual Base Year	ONE HOUR	15:45	17:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - London Road		ONE HOUR	✓	322	100.000
B - Sainsburys Depot Access		ONE HOUR	✓	20	100.000
C - A10 (S)		ONE HOUR	✓	1159	100.000
D - A10 (N)		ONE HOUR	✓	604	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	3	0	265	54
	B - Sainsburys Depot Access	11	0	5	4
	C - A10 (S)	460	0	3	696
	D - A10 (N)	51	1	549	3

Proportions

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	0.01	0.00	0.82	0.17
	B - Sainsburys Depot Access	0.55	0.00	0.25	0.20
	C - A10 (S)	0.40	0.00	0.00	0.60
	D - A10 (N)	0.08	0.00	0.91	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	0	0	1	7
	B - Sainsburys Depot Access	0	0	0	0
	C - A10 (S)	1	0	0	5
	D - A10 (N)	6	0	4	0

Average PCU Per Veh

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	1.000	1.000	1.008	1.074
	B - Sainsburys Depot Access	1.000	1.000	1.000	1.000
	C - A10 (S)	1.011	1.000	1.000	1.049
	D - A10 (N)	1.059	1.000	1.044	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - London Road	15:45-16:00	242	247
	16:00-16:15	289	295
	16:15-16:30	355	361
	16:30-16:45	355	361
	16:45-17:00	289	295
	17:00-17:15	242	247
B - Sainsburys Depot Access	15:45-16:00	15	15
	16:00-16:15	18	18
	16:15-16:30	22	22
	16:30-16:45	22	22
	16:45-17:00	18	18
	17:00-17:15	15	15
C - A10 (S)	15:45-16:00	873	902
	16:00-16:15	1042	1077
	16:15-16:30	1276	1319
	16:30-16:45	1276	1319
	16:45-17:00	1042	1077
	17:00-17:15	873	902
D - A10 (N)	15:45-16:00	455	475
	16:00-16:15	543	567
	16:15-16:30	665	695
	16:30-16:45	665	695
	16:45-17:00	543	567
	17:00-17:15	455	475

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - London Road	0.27	3.83	0.4	A	328	328
B - Sainsburys Depot Access	0.02	3.80	0.0	A	20	20
C - A10 (S)	0.57	3.81	1.4	A	1198	1198
D - A10 (N)	0.76	16.95	3.2	C	631	631

Main Results for each time segment

16:00 - 16:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	295	74	519	1382	0.213	295	479	0.2	0.3	3.372	A
B - Sainsburys Depot Access	18	4	813	1039	0.017	18	0.90	0.0	0.0	3.526	A
C - A10 (S)	1077	269	71	2308	0.467	1076	760	0.7	0.9	3.017	A
D - A10 (N)	567	142	433	971	0.584	565	714	0.9	1.4	9.217	A

16:15 - 16:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	361	90	633	1320	0.274	361	586	0.3	0.4	3.819	A
B - Sainsburys Depot Access	22	6	992	970	0.023	22	1	0.0	0.0	3.795	A
C - A10 (S)	1319	330	87	2296	0.574	1317	927	0.9	1.4	3.791	A
D - A10 (N)	695	174	530	915	0.759	688	874	1.4	3.1	16.096	C

16:30 - 16:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	361	90	638	1317	0.274	361	587	0.4	0.4	3.834	A
B - Sainsburys Depot Access	22	6	998	968	0.023	22	1	0.0	0.0	3.804	A
C - A10 (S)	1319	330	87	2296	0.574	1319	933	1.4	1.4	3.807	A
D - A10 (N)	695	174	531	915	0.759	694	875	3.1	3.2	16.951	C

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	295	74	528	1378	0.214	295	480	0.4	0.3	3.391	A
B - Sainsburys Depot Access	18	4	822	1035	0.017	18	0.91	0.0	0.0	3.540	A
C - A10 (S)	1077	269	71	2308	0.467	1079	769	1.4	0.9	3.034	A
D - A10 (N)	567	142	434	970	0.585	574	716	3.2	1.5	9.640	A

2024 Projected Base, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	C - A10 (S) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	D - A10 (N) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Demand Sets	D4 - 2024 Projected Base, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
5	A10-London Road	Standard Roundabout		A, B, C, D	13.82	B

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D4	2024 Projected Base	PM	Projected Base Year	ONE HOUR	15:45	17:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - London Road		ONE HOUR	✓	365	100.000
B - Sainsburys Depot Access		ONE HOUR	✓	23	100.000
C - A10 (S)		ONE HOUR	✓	1312	100.000
D - A10 (N)		ONE HOUR	✓	684	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	3	0	300	61
	B - Sainsburys Depot Access	12	0	6	5
	C - A10 (S)	521	0	3	788
	D - A10 (N)	58	1	622	3

Proportions

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	0.01	0.00	0.82	0.17
	B - Sainsburys Depot Access	0.55	0.00	0.25	0.20
	C - A10 (S)	0.40	0.00	0.00	0.60
	D - A10 (N)	0.08	0.00	0.91	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	0	0	1	7
	B - Sainsburys Depot Access	0	0	0	0
	C - A10 (S)	1	0	0	4
	D - A10 (N)	5	0	4	0

Average PCU Per Veh

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	1.000	1.000	1.007	1.065
	B - Sainsburys Depot Access	1.000	1.000	1.000	1.000
	C - A10 (S)	1.010	1.000	1.000	1.043
	D - A10 (N)	1.052	1.000	1.039	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - London Road	15:45-16:00	275	279
	16:00-16:15	328	333
	16:15-16:30	401	408
	16:30-16:45	401	408
	16:45-17:00	328	333
	17:00-17:15	275	279
B - Sainsburys Depot Access	15:45-16:00	17	17
	16:00-16:15	20	20
	16:15-16:30	25	25
	16:30-16:45	25	25
	16:45-17:00	20	20
	17:00-17:15	17	17
C - A10 (S)	15:45-16:00	988	1017
	16:00-16:15	1180	1215
	16:15-16:30	1445	1488
	16:30-16:45	1445	1488
	16:45-17:00	1180	1215
	17:00-17:15	988	1017
D - A10 (N)	15:45-16:00	515	535
	16:00-16:15	615	639
	16:15-16:30	753	783
	16:30-16:45	753	783
	16:45-17:00	615	639
	17:00-17:15	515	535

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - London Road	0.32	4.22	0.5	A	371	371
B - Sainsburys Depot Access	0.03	4.02	0.0	A	23	23
C - A10 (S)	0.65	4.63	1.9	A	1351	1351
D - A10 (N)	0.89	36.60	7.4	E	711	711

Main Results for each time segment

16:00 - 16:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	333	83	584	1347	0.247	333	541	0.3	0.3	3.609	A
B - Sainsburys Depot Access	20	5	916	999	0.020	20	1	0.0	0.0	3.676	A
C - A10 (S)	1215	304	80	2301	0.528	1214	857	0.8	1.1	3.402	A
D - A10 (N)	639	160	490	939	0.681	635	804	1.2	2.1	12.193	B

16:15 - 16:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	408	102	703	1282	0.318	407	661	0.3	0.5	4.183	A
B - Sainsburys Depot Access	25	6	1109	926	0.027	25	1	0.0	0.0	3.996	A
C - A10 (S)	1488	372	98	2288	0.650	1485	1037	1.1	1.9	4.596	A
D - A10 (N)	783	196	599	876	0.894	765	984	2.1	6.6	29.765	D

16:30 - 16:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	408	102	717	1274	0.320	408	663	0.5	0.5	4.223	A
B - Sainsburys Depot Access	25	6	1123	920	0.027	25	1	0.0	0.0	4.020	A
C - A10 (S)	1488	372	98	2288	0.650	1488	1050	1.9	1.9	4.631	A
D - A10 (N)	783	196	600	875	0.894	780	986	6.6	7.4	36.601	E

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	333	83	606	1335	0.250	334	545	0.5	0.3	3.660	A
B - Sainsburys Depot Access	20	5	939	991	0.021	20	1	0.0	0.0	3.709	A
C - A10 (S)	1215	304	80	2301	0.528	1218	879	1.9	1.2	3.432	A
D - A10 (N)	639	160	491	938	0.682	660	807	7.4	2.3	14.360	B

2029 FY, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	C - A10 (S) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	D - A10 (N) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Demand Sets	D6 - 2029 FY, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
5	A10-London Road	Standard Roundabout		A, B, C, D	18.50	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D6	2029 FY	PM	Future Year	ONE HOUR	15:45	17:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - London Road		ONE HOUR	✓	378	100.000
B - Sainsburys Depot Access		ONE HOUR	✓	23	100.000
C - A10 (S)		ONE HOUR	✓	1360	100.000
D - A10 (N)		ONE HOUR	✓	709	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	4	0	311	63
	B - Sainsburys Depot Access	13	0	6	5
	C - A10 (S)	540	0	4	817
	D - A10 (N)	60	1	644	4

Proportions

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	0.01	0.00	0.82	0.17
	B - Sainsburys Depot Access	0.55	0.00	0.25	0.20
	C - A10 (S)	0.40	0.00	0.00	0.60
	D - A10 (N)	0.08	0.00	0.91	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	0	0	1	6
	B - Sainsburys Depot Access	0	0	0	0
	C - A10 (S)	1	0	0	4
	D - A10 (N)	5	0	4	0

Average PCU Per Veh

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	1.000	1.000	1.006	1.083
	B - Sainsburys Depot Access	1.000	1.000	1.000	1.000
	C - A10 (S)	1.009	1.000	1.000	1.042
	D - A10 (N)	1.050	1.000	1.037	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - London Road	15:45-16:00	284	289
	16:00-16:15	340	345
	16:15-16:30	416	423
	16:30-16:45	416	423
	16:45-17:00	340	345
	17:00-17:15	284	289
B - Sainsburys Depot Access	15:45-16:00	18	18
	16:00-16:15	21	21
	16:15-16:30	26	26
	16:30-16:45	26	26
	16:45-17:00	21	21
	17:00-17:15	18	18
C - A10 (S)	15:45-16:00	1024	1053
	16:00-16:15	1222	1257
	16:15-16:30	1497	1540
	16:30-16:45	1497	1540
	16:45-17:00	1222	1257
	17:00-17:15	1024	1053
D - A10 (N)	15:45-16:00	533	554
	16:00-16:15	637	661
	16:15-16:30	780	810
	16:30-16:45	780	810
	16:45-17:00	637	661
	17:00-17:15	533	554

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - London Road	0.33	4.35	0.5	A	384	384
B - Sainsburys Depot Access	0.03	4.09	0.0	A	23	23
C - A10 (S)	0.67	4.96	2.1	A	1399	1399
D - A10 (N)	0.94	52.07	11.0	F	736	736

Main Results for each time segment

16:00 - 16:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	345	86	604	1336	0.258	345	560	0.3	0.4	3.690	A
B - Sainsburys Depot Access	21	5	948	987	0.021	21	1	0.0	0.0	3.724	A
C - A10 (S)	1257	314	83	2299	0.547	1256	886	0.9	1.2	3.545	A
D - A10 (N)	661	165	507	929	0.712	657	832	1.3	2.4	13.526	B

16:15 - 16:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	423	106	720	1272	0.332	422	683	0.4	0.5	4.298	A
B - Sainsburys Depot Access	26	6	1141	914	0.028	26	1	0.0	0.0	4.054	A
C - A10 (S)	1540	385	101	2286	0.674	1537	1066	1.2	2.1	4.919	A
D - A10 (N)	810	202	620	864	0.938	783	1017	2.4	9.1	37.892	E

16:30 - 16:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	423	106	738	1263	0.335	423	686	0.5	0.5	4.352	A
B - Sainsburys Depot Access	26	6	1159	907	0.028	26	1	0.0	0.0	4.086	A
C - A10 (S)	1540	385	101	2286	0.674	1540	1084	2.1	2.1	4.965	A
D - A10 (N)	810	202	622	863	0.939	802	1020	9.1	11.0	52.067	F

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	345	86	638	1317	0.262	346	565	0.5	0.4	3.765	A
B - Sainsburys Depot Access	21	5	983	974	0.022	21	1	0.0	0.0	3.777	A
C - A10 (S)	1257	314	83	2299	0.547	1261	921	2.1	1.3	3.580	A
D - A10 (N)	661	165	509	927	0.713	694	835	11.0	2.7	18.028	C

2029 FY+DEV, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	C - A10 (S) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	D - A10 (N) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Demand Sets	D8 - 2029 FY+DEV, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
5	A10-London Road	Standard Roundabout		A, B, C, D	29.06	D

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D8	2029 FY+DEV	PM	Future Year+Dev	ONE HOUR	15:45	17:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - London Road		ONE HOUR	✓	384	100.000
B - Sainsburys Depot Access		ONE HOUR	✓	24	100.000
C - A10 (S)		ONE HOUR	✓	1456	100.000
D - A10 (N)		ONE HOUR	✓	751	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	4	0	313	67
	B - Sainsburys Depot Access	13	0	6	5
	C - A10 (S)	547	0	4	905
	D - A10 (N)	69	1	678	4

Proportions

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	0.01	0.00	0.82	0.17
	B - Sainsburys Depot Access	0.55	0.00	0.25	0.20
	C - A10 (S)	0.38	0.00	0.00	0.62
	D - A10 (N)	0.09	0.00	0.90	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	0	0	1	6
	B - Sainsburys Depot Access	0	0	0	0
	C - A10 (S)	1	0	0	4
	D - A10 (N)	4	0	4	0

Average PCU Per Veh

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	1.000	1.000	1.006	1.060
	B - Sainsburys Depot Access	1.000	1.000	1.000	1.000
	C - A10 (S)	1.009	1.000	1.000	1.038
	D - A10 (N)	1.043	1.000	1.035	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - London Road	15:45-16:00	289	293
	16:00-16:15	345	350
	16:15-16:30	423	429
	16:30-16:45	423	429
	16:45-17:00	345	350
	17:00-17:15	289	293
B - Sainsburys Depot Access	15:45-16:00	18	18
	16:00-16:15	21	21
	16:15-16:30	26	26
	16:30-16:45	26	26
	16:45-17:00	21	21
	17:00-17:15	18	18
C - A10 (S)	15:45-16:00	1096	1125
	16:00-16:15	1309	1344
	16:15-16:30	1603	1646
	16:30-16:45	1603	1646
	16:45-17:00	1309	1344
	17:00-17:15	1096	1125
D - A10 (N)	15:45-16:00	566	586
	16:00-16:15	675	700
	16:15-16:30	827	857
	16:30-16:45	827	857
	16:45-17:00	675	700
	17:00-17:15	566	586

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - London Road	0.34	4.45	0.5	A	390	390
B - Sainsburys Depot Access	0.03	4.14	0.0	A	24	24
C - A10 (S)	0.72	5.80	2.6	A	1495	1495
D - A10 (N)	1.00	86.82	20.5	F	778	778

Main Results for each time segment

16:00 - 16:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	350	88	633	1320	0.265	350	575	0.3	0.4	3.769	A
B - Sainsburys Depot Access	21	5	982	974	0.022	21	1	0.0	0.0	3.776	A
C - A10 (S)	1344	336	86	2297	0.585	1342	917	1.0	1.4	3.864	A
D - A10 (N)	700	175	514	925	0.757	694	914	1.5	3.0	15.747	C

16:15 - 16:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	429	107	740	1262	0.340	429	700	0.4	0.5	4.385	A
B - Sainsburys Depot Access	26	7	1167	904	0.029	26	1	0.0	0.0	4.101	A
C - A10 (S)	1646	411	105	2283	0.721	1641	1088	1.4	2.6	5.716	A
D - A10 (N)	857	214	628	859	0.998	811	1118	3.0	14.5	52.850	F

16:30 - 16:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	429	107	760	1251	0.343	429	703	0.5	0.5	4.449	A
B - Sainsburys Depot Access	26	7	1188	896	0.029	26	1	0.0	0.0	4.138	A
C - A10 (S)	1646	411	105	2283	0.721	1645	1108	2.6	2.6	5.797	A
D - A10 (N)	857	214	630	858	0.999	833	1121	14.5	20.5	86.819	F

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	350	88	700	1284	0.273	351	584	0.5	0.4	3.922	A
B - Sainsburys Depot Access	21	5	1049	949	0.022	21	1	0.0	0.0	3.883	A
C - A10 (S)	1344	336	87	2296	0.585	1348	984	2.6	1.5	3.916	A
D - A10 (N)	700	175	516	923	0.758	768	919	20.5	3.5	31.910	D

Junctions 9

ARCADY 9 - Roundabout Module

Filename: J5_A10-London Road Roundabout_without CF_intercept adj_AM.j9
Path: C:\Users\INAA02374\Desktop\Buntingford JM\220706 - JM - Updated TFD Flows\J5
Report generation date: 07-07-2022 17:28:58

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	2022 Base			
A - London Road	15.2	83.39	0.98	F
B - Sainsburys Depot Access	0.0	0.00	0.00	A
C - A10 (S)	0.9	3.01	0.45	A
D - A10 (N)	4.3	15.73	0.81	C
	2024 Projected Base			
A - London Road	23.7	119.25	1.03	F
B - Sainsburys Depot Access	0.0	0.00	0.00	A
C - A10 (S)	0.9	3.08	0.47	A
D - A10 (N)	5.0	18.07	0.83	C
	2029 FY			
A - London Road	37.8	176.04	1.09	F
B - Sainsburys Depot Access	0.0	0.00	0.00	A
C - A10 (S)	1.0	3.16	0.48	A
D - A10 (N)	6.2	21.92	0.87	C
	2029 FY+DEV			
A - London Road	59.1	269.14	1.17	F
B - Sainsburys Depot Access	0.0	0.00	0.00	A
C - A10 (S)	1.0	3.28	0.50	A
D - A10 (N)	11.9	39.49	0.94	E

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

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

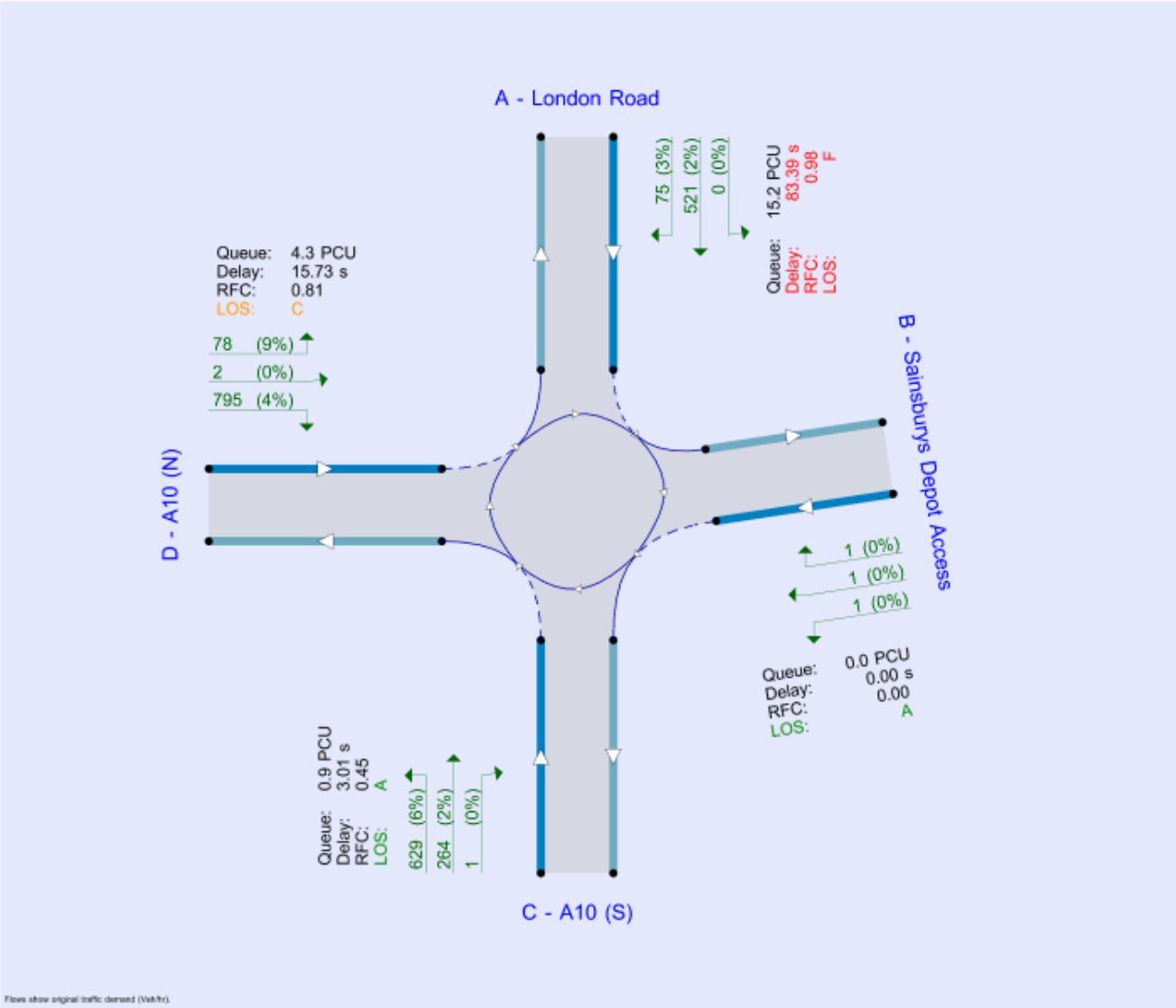
File summary

File Description

Title	A10 / London Road (Existing Junction Layout)
Location	Buntingford
Site number	5
Date	20-10-2014
Version	
Status	
Identifier	
Client	
Jobnumber	
Enumerator	UKSXB076 [W13UK0135]
Description	51.93632792467882, -0.0111908249540992

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	PCU	perHour	s	-Min	perMin



The junction diagram reflects the last run of Junctions.

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D1	2022 Base	AM	Actual Base Year	ONE HOUR	07:45	09:15	15	✓	✓
D2	2022 Base	PM	Actual Base Year	ONE HOUR	15:45	17:15	15	✓	✓
D3	2024 Projected Base	AM	Projected Base Year	ONE HOUR	07:45	09:15	15	✓	✓
D4	2024 Projected Base	PM	Projected Base Year	ONE HOUR	15:45	17:15	15	✓	✓
D5	2029 FY	AM	Future Year	ONE HOUR	07:45	09:15	15	✓	✓
D6	2029 FY	PM	Future Year	ONE HOUR	15:45	17:15	15	✓	✓
D7	2029 FY+DEV	AM	Future Year+Dev	ONE HOUR	07:45	09:15	15	✓	✓
D8	2029 FY+DEV	PM	Future Year+Dev	ONE HOUR	15:45	17:15	15	✓	✓

Analysis Set Details

ID	Include in report	Use specific Demand Set(s)	Specific Demand Set(s)	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	✓	D1,D3,D5,D7	100.000	100.000

2022 Base, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	C - A10 (S) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	D - A10 (N) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Demand Sets	D1 - 2022 Base, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
5	A10-London Road	Standard Roundabout		A, B, C, D	27.67	D

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
A	London Road	
B	Sainsburys Depot Access	
C	A10 (S)	
D	A10 (N)	

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)	Exit only
A - London Road	3.67	8.23	13.4	24.2	58.0	50.0	
B - Sainsburys Depot Access	2.41	7.62	14.3	21.9	123.0	53.0	
C - A10 (S)	4.41	8.01	43.5	46.9	54.5	17.0	
D - A10 (N)	4.04	7.63	39.9	39.8	70.9	30.0	

Slope / Intercept / Capacity

Arm Intercept Adjustments

Arm	Type	Reason	Direct intercept adjustment (PCU/hr)
A - London Road	Direct	AM	-475
B - Sainsburys Depot Access	None		
C - A10 (S)	None		
D - A10 (N)	Direct	AM	-700

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A - London Road	0.546	1190
B - Sainsburys Depot Access	0.381	1349
C - A10 (S)	0.728	2359
D - A10 (N)	0.573	1419

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D1	2022 Base	AM	Actual Base Year	ONE HOUR	07:45	09:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - London Road		ONE HOUR	✓	599	100.000
B - Sainsburys Depot Access		ONE HOUR	✓	3	100.000
C - A10 (S)		ONE HOUR	✓	898	100.000
D - A10 (N)		ONE HOUR	✓	875	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	3	0	521	75
	B - Sainsburys Depot Access	1	0	1	1
	C - A10 (S)	264	1	4	629
	D - A10 (N)	78	2	795	0

Proportions

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	0.01	0.00	0.87	0.13
	B - Sainsburys Depot Access	0.33	0.00	0.33	0.33
	C - A10 (S)	0.29	0.00	0.00	0.70
	D - A10 (N)	0.09	0.00	0.91	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	0	0	2	3
	B - Sainsburys Depot Access	0	0	0	0
	C - A10 (S)	2	0	50	6
	D - A10 (N)	9	0	4	0

Average PCU Per Veh

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	1.000	1.000	1.025	1.027
	B - Sainsburys Depot Access	1.000	1.000	1.000	1.000
	C - A10 (S)	1.019	1.000	1.500	1.064
	D - A10 (N)	1.090	1.000	1.040	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - London Road	07:45-08:00	451	462
	08:00-08:15	538	552
	08:15-08:30	660	676
	08:30-08:45	660	676
	08:45-09:00	538	552
	09:00-09:15	451	462
B - Sainsburys Depot Access	07:45-08:00	0	0
	08:00-08:15	0	0
	08:15-08:30	0	0
	08:30-08:45	0	0
	08:45-09:00	0	0
	09:00-09:15	0	0
C - A10 (S)	07:45-08:00	676	711
	08:00-08:15	807	850
	08:15-08:30	989	1040
	08:30-08:45	989	1040
	08:45-09:00	807	850
	09:00-09:15	676	711
D - A10 (N)	07:45-08:00	659	688
	08:00-08:15	787	822
	08:15-08:30	963	1006
	08:30-08:45	963	1006
	08:45-09:00	787	822
	09:00-09:15	659	688

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - London Road	0.98	83.39	15.2	F	614	614
B - Sainsburys Depot Access	0.00	0.00	0.0	A	0	0
C - A10 (S)	0.45	3.01	0.9	A	945	945
D - A10 (N)	0.81	15.73	4.3	C	914	914

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	552	138	749	782	0.706	547	320	1.2	2.3	15.458	C
B - Sainsburys Depot Access	0	0	1294	855	0.000	0	3	0.0	0.0	0.000	A
C - A10 (S)	850	212	71	2308	0.368	849	1222	0.5	0.6	2.595	A
D - A10 (N)	822	205	251	1275	0.644	819	670	1.2	1.8	8.185	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	676	169	912	693	0.976	641	392	2.3	11.1	52.446	F
B - Sainsburys Depot Access	0	0	1550	758	0.000	0	3	0.0	0.0	0.000	A
C - A10 (S)	1040	260	84	2299	0.453	1039	1467	0.6	0.9	3.005	A
D - A10 (N)	1006	252	307	1243	0.809	997	816	1.8	4.1	14.766	B

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	676	169	920	688	0.982	659	393	11.1	15.2	83.395	F
B - Sainsburys Depot Access	0	0	1576	748	0.000	0	3	0.0	0.0	0.000	A
C - A10 (S)	1040	260	86	2297	0.453	1040	1490	0.9	0.9	3.014	A
D - A10 (N)	1006	252	307	1243	0.810	1006	819	4.1	4.3	15.725	C

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	552	138	760	776	0.712	602	322	15.2	2.7	28.483	D
B - Sainsburys Depot Access	0	0	1359	830	0.000	0	3	0.0	0.0	0.000	A
C - A10 (S)	850	212	78	2302	0.369	851	1281	0.9	0.6	2.612	A
D - A10 (N)	822	205	251	1275	0.644	831	678	4.3	1.9	8.636	A

2024 Projected Base, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	C - A10 (S) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	D - A10 (N) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Demand Sets	D3 - 2024 Projected Base, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
5	A10-London Road	Standard Roundabout		A, B, C, D	37.47	E

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D3	2024 Projected Base	AM	Projected Base Year	ONE HOUR	07:45	09:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - London Road		ONE HOUR	✓	616	100.000
B - Sainsburys Depot Access		ONE HOUR	✓	3	100.000
C - A10 (S)		ONE HOUR	✓	924	100.000
D - A10 (N)		ONE HOUR	✓	900	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	3	0	536	77
	B - Sainsburys Depot Access	1	0	1	1
	C - A10 (S)	272	1	4	647
	D - A10 (N)	80	2	818	0

Proportions

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	0.01	0.00	0.87	0.13
	B - Sainsburys Depot Access	0.33	0.00	0.33	0.33
	C - A10 (S)	0.29	0.00	0.00	0.70
	D - A10 (N)	0.09	0.00	0.91	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	0	0	2	3
	B - Sainsburys Depot Access	0	0	0	0
	C - A10 (S)	2	0	49	6
	D - A10 (N)	9	0	4	0

Average PCU Per Veh

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	1.000	1.000	1.024	1.026
	B - Sainsburys Depot Access	1.000	1.000	1.000	1.000
	C - A10 (S)	1.018	1.000	1.486	1.062
	D - A10 (N)	1.087	1.000	1.039	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - London Road	07:45-08:00	464	475
	08:00-08:15	554	567
	08:15-08:30	678	695
	08:30-08:45	678	695
	08:45-09:00	554	567
	09:00-09:15	464	475
B - Sainsburys Depot Access	07:45-08:00	0	0
	08:00-08:15	0	0
	08:15-08:30	0	0
	08:30-08:45	0	0
	08:45-09:00	0	0
	09:00-09:15	0	0
C - A10 (S)	07:45-08:00	695	731
	08:00-08:15	830	873
	08:15-08:30	1017	1069
	08:30-08:45	1017	1069
	08:45-09:00	830	873
	09:00-09:15	695	731
D - A10 (N)	07:45-08:00	678	707
	08:00-08:15	809	844
	08:15-08:30	991	1034
	08:30-08:45	991	1034
	08:45-09:00	809	844
	09:00-09:15	678	707

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - London Road	1.03	119.25	23.7	F	631	631
B - Sainsburys Depot Access	0.00	0.00	0.0	A	0	0
C - A10 (S)	0.47	3.08	0.9	A	971	971
D - A10 (N)	0.83	18.07	5.0	C	939	939

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	567	142	769	771	0.736	562	329	1.3	2.7	17.221	C
B - Sainsburys Depot Access	0	0	1328	842	0.000	0	3	0.0	0.0	0.000	A
C - A10 (S)	873	218	73	2306	0.378	872	1255	0.5	0.6	2.636	A
D - A10 (N)	844	211	258	1271	0.664	841	688	1.2	2.0	8.662	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	695	174	936	680	1.022	645	402	2.7	15.2	66.362	F
B - Sainsburys Depot Access	0	0	1577	747	0.000	0	3	0.0	0.0	0.000	A
C - A10 (S)	1069	267	84	2298	0.465	1068	1493	0.6	0.9	3.070	A
D - A10 (N)	1034	258	315	1239	0.835	1023	836	2.0	4.8	16.616	C

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	695	174	945	675	1.030	661	404	15.2	23.7	119.248	F
B - Sainsburys Depot Access	0	0	1602	738	0.000	0	3	0.0	0.0	0.000	A
C - A10 (S)	1069	267	86	2297	0.465	1069	1516	0.9	0.9	3.079	A
D - A10 (N)	1034	258	316	1238	0.835	1033	839	4.8	5.0	18.069	C

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	567	142	782	763	0.743	649	332	23.7	3.3	47.104	E
B - Sainsburys Depot Access	0	0	1429	804	0.000	0	3	0.0	0.0	0.000	A
C - A10 (S)	873	218	85	2298	0.380	874	1344	0.9	0.6	2.659	A
D - A10 (N)	844	211	258	1271	0.664	856	700	5.0	2.1	9.278	A

2029 FY, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	C - A10 (S) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	D - A10 (N) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Demand Sets	D5 - 2029 FY, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
5	A10-London Road	Standard Roundabout		A, B, C, D	53.06	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D5	2029 FY	AM	Future Year	ONE HOUR	07:45	09:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - London Road		ONE HOUR	✓	637	100.000
B - Sainsburys Depot Access		ONE HOUR	✓	3	100.000
C - A10 (S)		ONE HOUR	✓	954	100.000
D - A10 (N)		ONE HOUR	✓	930	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	3	0	554	80
	B - Sainsburys Depot Access	1	0	1	1
	C - A10 (S)	281	1	4	668
	D - A10 (N)	83	2	845	0

Proportions

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	0.01	0.00	0.87	0.13
	B - Sainsburys Depot Access	0.33	0.00	0.33	0.33
	C - A10 (S)	0.29	0.00	0.00	0.70
	D - A10 (N)	0.09	0.00	0.91	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	0	0	2	3
	B - Sainsburys Depot Access	0	0	0	0
	C - A10 (S)	2	0	47	6
	D - A10 (N)	8	0	4	0

Average PCU Per Veh

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	1.000	1.000	1.023	1.025
	B - Sainsburys Depot Access	1.000	1.000	1.000	1.000
	C - A10 (S)	1.018	1.000	1.470	1.060
	D - A10 (N)	1.084	1.000	1.038	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - London Road	07:45-08:00	479	491
	08:00-08:15	572	586
	08:15-08:30	701	717
	08:30-08:45	701	717
	08:45-09:00	572	586
	09:00-09:15	479	491
B - Sainsburys Depot Access	07:45-08:00	0	0
	08:00-08:15	0	0
	08:15-08:30	0	0
	08:30-08:45	0	0
	08:45-09:00	0	0
	09:00-09:15	0	0
C - A10 (S)	07:45-08:00	718	754
	08:00-08:15	858	900
	08:15-08:30	1051	1103
	08:30-08:45	1051	1103
	08:45-09:00	858	900
	09:00-09:15	718	754
D - A10 (N)	07:45-08:00	700	729
	08:00-08:15	836	871
	08:15-08:30	1024	1067
	08:30-08:45	1024	1067
	08:45-09:00	836	871
	09:00-09:15	700	729

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - London Road	1.09	176.04	37.8	F	652	652
B - Sainsburys Depot Access	0.00	0.00	0.0	A	0	0
C - A10 (S)	0.48	3.16	1.0	A	1001	1001
D - A10 (N)	0.87	21.92	6.2	C	969	969

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	586	146	794	757	0.773	579	340	1.4	3.2	19.883	C
B - Sainsburys Depot Access	0	0	1389	826	0.000	0	3	0.0	0.0	0.000	A
C - A10 (S)	900	225	75	2305	0.391	900	1294	0.5	0.7	2.686	A
D - A10 (N)	871	218	266	1267	0.688	867	709	1.3	2.2	9.311	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	717	179	963	665	1.079	643	415	3.2	21.8	87.107	F
B - Sainsburys Depot Access	0	0	1602	738	0.000	0	3	0.0	0.0	0.000	A
C - A10 (S)	1103	276	84	2299	0.480	1101	1519	0.7	1.0	3.152	A
D - A10 (N)	1067	267	325	1233	0.865	1053	860	2.2	5.8	19.431	C

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	717	179	974	659	1.089	653	416	21.8	37.8	176.035	F
B - Sainsburys Depot Access	0	0	1624	729	0.000	0	4	0.0	0.0	0.000	A
C - A10 (S)	1103	276	85	2298	0.480	1102	1539	1.0	1.0	3.160	A
D - A10 (N)	1067	267	326	1232	0.866	1065	862	5.8	6.2	21.920	C

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	586	146	811	748	0.783	717	343	37.8	5.0	109.624	F
B - Sainsburys Depot Access	0	0	1525	767	0.000	0	3	0.0	0.0	0.000	A
C - A10 (S)	900	225	93	2292	0.393	901	1431	1.0	0.7	2.718	A
D - A10 (N)	871	218	267	1266	0.688	886	728	6.2	2.4	10.246	B

2029 FY+DEV, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	C - A10 (S) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	D - A10 (N) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Demand Sets	D7 - 2029 FY+DEV, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
5	A10-London Road	Standard Roundabout		A, B, C, D	81.09	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D7	2029 FY+DEV	AM	Future Year+Dev	ONE HOUR	07:45	09:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - London Road		ONE HOUR	✓	650	100.000
B - Sainsburys Depot Access		ONE HOUR	✓	3	100.000
C - A10 (S)		ONE HOUR	✓	998	100.000
D - A10 (N)		ONE HOUR	✓	1010	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	3	0	562	85
	B - Sainsburys Depot Access	1	0	1	1
	C - A10 (S)	283	1	4	710
	D - A10 (N)	100	2	908	0

Proportions

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	0.00	0.00	0.86	0.13
	B - Sainsburys Depot Access	0.34	0.00	0.33	0.33
	C - A10 (S)	0.28	0.00	0.00	0.71
	D - A10 (N)	0.10	0.00	0.90	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	0	0	2	2
	B - Sainsburys Depot Access	0	0	0	0
	C - A10 (S)	2	0	47	6
	D - A10 (N)	7	0	4	0

Average PCU Per Veh

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	1.000	1.000	1.023	1.024
	B - Sainsburys Depot Access	1.000	1.000	1.000	1.000
	C - A10 (S)	1.018	1.000	1.470	1.056
	D - A10 (N)	1.070	1.000	1.035	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - London Road	07:45-08:00	489	500
	08:00-08:15	584	597
	08:15-08:30	715	732
	08:30-08:45	715	732
	08:45-09:00	584	597
	09:00-09:15	489	500
B - Sainsburys Depot Access	07:45-08:00	0	0
	08:00-08:15	0	0
	08:15-08:30	0	0
	08:30-08:45	0	0
	08:45-09:00	0	0
	09:00-09:15	0	0
C - A10 (S)	07:45-08:00	751	787
	08:00-08:15	897	940
	08:15-08:30	1099	1151
	08:30-08:45	1099	1151
	08:45-09:00	897	940
	09:00-09:15	751	787
D - A10 (N)	07:45-08:00	761	790
	08:00-08:15	908	943
	08:15-08:30	1112	1155
	08:30-08:45	1112	1155
	08:45-09:00	908	943
	09:00-09:15	761	790

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - London Road	1.17	269.14	59.1	F	665	665
B - Sainsburys Depot Access	0.00	0.00	0.0	A	0	0
C - A10 (S)	0.50	3.28	1.0	A	1045	1045
D - A10 (N)	0.94	39.49	11.9	E	1049	1049

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	597	149	849	727	0.822	588	357	1.6	4.1	24.812	C
B - Sainsburys Depot Access	0	0	1434	802	0.000	0	3	0.0	0.0	0.000	A
C - A10 (S)	940	235	80	2302	0.408	939	1354	0.5	0.7	2.764	A
D - A10 (N)	943	236	268	1265	0.745	938	750	1.6	2.9	11.240	B

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	732	183	1020	634	1.154	622	434	4.1	31.6	120.541	F
B - Sainsburys Depot Access	0	0	1638	724	0.000	0	3	0.0	0.0	0.000	A
C - A10 (S)	1151	288	84	2298	0.501	1149	1554	0.7	1.0	3.279	A
D - A10 (N)	1155	289	328	1231	0.938	1126	906	2.9	10.1	29.714	D

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	732	183	1039	623	1.174	621	437	31.6	59.1	269.143	F
B - Sainsburys Depot Access	0	0	1657	717	0.000	0	3	0.0	0.0	0.000	A
C - A10 (S)	1151	288	84	2298	0.501	1151	1573	1.0	1.0	3.284	A
D - A10 (N)	1155	289	328	1231	0.938	1148	907	10.1	11.9	39.488	E

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	597	149	885	707	0.844	695	382	59.1	34.6	243.240	F
B - Sainsburys Depot Access	0	0	1577	747	0.000	0	3	0.0	0.0	0.000	A
C - A10 (S)	940	235	94	2291	0.410	941	1483	1.0	0.7	2.796	A
D - A10 (N)	943	236	269	1265	0.746	978	766	11.9	3.2	14.439	B

Junctions 9

ARCADY 9 - Roundabout Module

Filename: J5_A10-London Road Roundabout_without CF_intercept adj_PM.j9
Path: C:\Users\INAA02374\Desktop\Buntingford JM\220706 - JM - Updated TFD Flows\J5
Report generation date: 07-07-2022 17:29:37

Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
2022 Base				
A - London Road	0.4	3.84	0.27	A
B - Sainsburys Depot Access	0.0	3.80	0.02	A
C - A10 (S)	1.4	3.81	0.57	A
D - A10 (N)	3.2	16.93	0.76	C
2024 Projected Base				
A - London Road	0.4	3.92	0.28	A
B - Sainsburys Depot Access	0.0	3.85	0.02	A
C - A10 (S)	1.5	3.96	0.59	A
D - A10 (N)	3.7	19.33	0.79	C
2029 FY				
A - London Road	0.4	4.02	0.30	A
B - Sainsburys Depot Access	0.0	3.91	0.02	A
C - A10 (S)	1.6	4.18	0.61	A
D - A10 (N)	4.6	23.46	0.83	C
2029 FY+DEV				
A - London Road	0.4	4.14	0.31	A
B - Sainsburys Depot Access	0.0	3.98	0.03	A
C - A10 (S)	2.0	4.75	0.66	A
D - A10 (N)	6.8	33.25	0.88	D

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

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

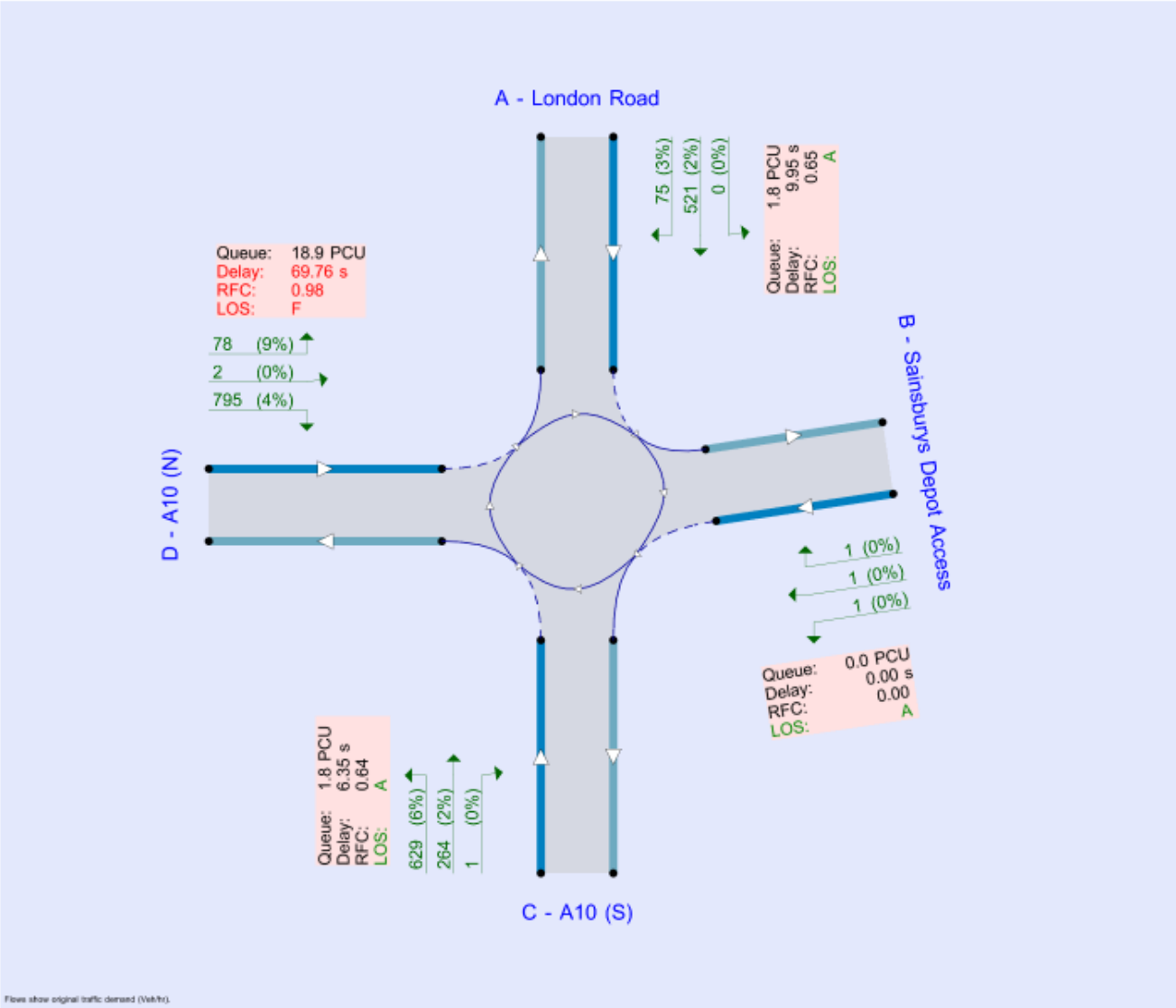
File summary

File Description

Title	A10 / London Road (Existing Junction Layout)
Location	Buntingford
Site number	5
Date	20-10-2014
Version	
Status	
Identifier	
Client	
Jobnumber	
Enumerator	UKSXB076 [W13UK0135]
Description	51.93632792467882, -0.0111908249540992

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	PCU	perHour	s	-Min	perMin



The junction diagram reflects the last run of Junctions.

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D1	2022 Base	AM	Actual Base Year	ONE HOUR	07:45	09:15	15	✓	✓
D2	2022 Base	PM	Actual Base Year	ONE HOUR	15:45	17:15	15	✓	✓
D3	2024 Projected Base	AM	Projected Base Year	ONE HOUR	07:45	09:15	15	✓	✓
D4	2024 Projected Base	PM	Projected Base Year	ONE HOUR	15:45	17:15	15	✓	✓
D5	2029 FY	AM	Future Year	ONE HOUR	07:45	09:15	15	✓	✓
D6	2029 FY	PM	Future Year	ONE HOUR	15:45	17:15	15	✓	✓
D7	2029 FY+DEV	AM	Future Year+Dev	ONE HOUR	07:45	09:15	15	✓	✓
D8	2029 FY+DEV	PM	Future Year+Dev	ONE HOUR	15:45	17:15	15	✓	✓

Analysis Set Details

ID	Include in report	Use specific Demand Set(s)	Specific Demand Set(s)	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	✓	D2,D4,D6,D8	100.000	100.000

2022 Base, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	C - A10 (S) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	D - A10 (N) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Demand Sets	D2 - 2022 Base, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
5	A10-London Road	Standard Roundabout		A, B, C, D	7.62	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
A	London Road	
B	Sainsburys Depot Access	
C	A10 (S)	
D	A10 (N)	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
A - London Road	3.67	8.23	13.4	24.2	58.0	50.0	
B - Sainsburys Depot Access	2.41	7.62	14.3	21.9	123.0	53.0	
C - A10 (S)	4.41	8.01	43.5	46.9	54.5	17.0	
D - A10 (N)	4.04	7.63	39.9	39.8	70.9	30.0	

Slope / Intercept / Capacity

Arm Intercept Adjustments

Arm	Type	Reason	Direct intercept adjustment (PCU/hr)
A - London Road	None		
B - Sainsburys Depot Access	None		
C - A10 (S)	None		
D - A10 (N)	Direct	PM	-900

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A - London Road	0.546	1665
B - Sainsburys Depot Access	0.382	1350
C - A10 (S)	0.728	2359
D - A10 (N)	0.573	1219

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D2	2022 Base	PM	Actual Base Year	ONE HOUR	15:45	17:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - London Road		ONE HOUR	✓	322	100.000
B - Sainsburys Depot Access		ONE HOUR	✓	20	100.000
C - A10 (S)		ONE HOUR	✓	1159	100.000
D - A10 (N)		ONE HOUR	✓	604	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	3	0	265	54
	B - Sainsburys Depot Access	11	0	5	4
	C - A10 (S)	460	0	3	696
	D - A10 (N)	51	1	549	3

Proportions

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	0.01	0.00	0.82	0.17
	B - Sainsburys Depot Access	0.55	0.00	0.25	0.20
	C - A10 (S)	0.40	0.00	0.00	0.60
	D - A10 (N)	0.08	0.00	0.91	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	0	0	1	7
	B - Sainsburys Depot Access	0	0	0	0
	C - A10 (S)	1	0	0	5
	D - A10 (N)	6	0	4	0

Average PCU Per Veh

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	1.000	1.000	1.008	1.074
	B - Sainsburys Depot Access	1.000	1.000	1.000	1.000
	C - A10 (S)	1.011	1.000	1.000	1.049
	D - A10 (N)	1.059	1.000	1.044	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - London Road	15:45-16:00	242	247
	16:00-16:15	289	295
	16:15-16:30	355	361
	16:30-16:45	355	361
	16:45-17:00	289	295
	17:00-17:15	242	247
B - Sainsburys Depot Access	15:45-16:00	15	15
	16:00-16:15	18	18
	16:15-16:30	22	22
	16:30-16:45	22	22
	16:45-17:00	18	18
	17:00-17:15	15	15
C - A10 (S)	15:45-16:00	873	902
	16:00-16:15	1042	1077
	16:15-16:30	1276	1319
	16:30-16:45	1276	1319
	16:45-17:00	1042	1077
	17:00-17:15	873	902
D - A10 (N)	15:45-16:00	455	475
	16:00-16:15	543	567
	16:15-16:30	665	695
	16:30-16:45	665	695
	16:45-17:00	543	567
	17:00-17:15	455	475

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - London Road	0.27	3.84	0.4	A	328	328
B - Sainsburys Depot Access	0.02	3.80	0.0	A	20	20
C - A10 (S)	0.57	3.81	1.4	A	1198	1198
D - A10 (N)	0.76	16.93	3.2	C	631	631

Main Results for each time segment

16:00 - 16:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	295	74	519	1381	0.213	295	479	0.2	0.3	3.374	A
B - Sainsburys Depot Access	18	4	813	1040	0.017	18	0.90	0.0	0.0	3.522	A
C - A10 (S)	1077	269	71	2308	0.467	1076	760	0.7	0.9	3.017	A
D - A10 (N)	567	142	433	971	0.584	565	714	0.9	1.4	9.212	A

16:15 - 16:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	361	90	633	1320	0.274	361	586	0.3	0.4	3.821	A
B - Sainsburys Depot Access	22	6	992	971	0.023	22	1	0.0	0.0	3.791	A
C - A10 (S)	1319	330	87	2296	0.574	1317	927	0.9	1.4	3.791	A
D - A10 (N)	695	174	530	916	0.759	688	874	1.4	3.1	16.082	C

16:30 - 16:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	361	90	638	1317	0.274	361	587	0.4	0.4	3.836	A
B - Sainsburys Depot Access	22	6	998	969	0.023	22	1	0.0	0.0	3.800	A
C - A10 (S)	1319	330	87	2296	0.574	1319	933	1.4	1.4	3.807	A
D - A10 (N)	695	174	531	915	0.759	694	875	3.1	3.2	16.935	C

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	295	74	528	1377	0.214	295	480	0.4	0.3	3.392	A
B - Sainsburys Depot Access	18	4	822	1036	0.017	18	0.91	0.0	0.0	3.537	A
C - A10 (S)	1077	269	71	2308	0.467	1079	769	1.4	0.9	3.034	A
D - A10 (N)	567	142	434	971	0.584	574	716	3.2	1.5	9.633	A

2024 Projected Base, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	C - A10 (S) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	D - A10 (N) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Demand Sets	D4 - 2024 Projected Base, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
5	A10-London Road	Standard Roundabout		A, B, C, D	8.41	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D4	2024 Projected Base	PM	Projected Base Year	ONE HOUR	15:45	17:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - London Road		ONE HOUR	✓	331	100.000
B - Sainsburys Depot Access		ONE HOUR	✓	21	100.000
C - A10 (S)		ONE HOUR	✓	1193	100.000
D - A10 (N)		ONE HOUR	✓	622	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	3	0	273	56
	B - Sainsburys Depot Access	11	0	5	4
	C - A10 (S)	474	0	3	716
	D - A10 (N)	52	1	565	3

Proportions

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	0.01	0.00	0.82	0.17
	B - Sainsburys Depot Access	0.55	0.00	0.25	0.20
	C - A10 (S)	0.40	0.00	0.00	0.60
	D - A10 (N)	0.08	0.00	0.91	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	0	0	1	7
	B - Sainsburys Depot Access	0	0	0	0
	C - A10 (S)	1	0	0	5
	D - A10 (N)	6	0	4	0

Average PCU Per Veh

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	1.000	1.000	1.007	1.072
	B - Sainsburys Depot Access	1.000	1.000	1.000	1.000
	C - A10 (S)	1.011	1.000	1.000	1.047
	D - A10 (N)	1.057	1.000	1.042	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - London Road	15:45-16:00	250	254
	16:00-16:15	298	303
	16:15-16:30	365	372
	16:30-16:45	365	372
	16:45-17:00	298	303
	17:00-17:15	250	254
B - Sainsburys Depot Access	15:45-16:00	15	15
	16:00-16:15	19	19
	16:15-16:30	23	23
	16:30-16:45	23	23
	16:45-17:00	19	19
	17:00-17:15	15	15
C - A10 (S)	15:45-16:00	898	928
	16:00-16:15	1073	1108
	16:15-16:30	1314	1357
	16:30-16:45	1314	1357
	16:45-17:00	1073	1108
	17:00-17:15	898	928
D - A10 (N)	15:45-16:00	468	488
	16:00-16:15	559	583
	16:15-16:30	685	714
	16:30-16:45	685	714
	16:45-17:00	559	583
	17:00-17:15	468	488

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - London Road	0.28	3.92	0.4	A	337	337
B - Sainsburys Depot Access	0.02	3.85	0.0	A	21	21
C - A10 (S)	0.59	3.96	1.5	A	1232	1232
D - A10 (N)	0.79	19.33	3.7	C	649	649

Main Results for each time segment

16:00 - 16:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	303	76	534	1374	0.221	303	492	0.2	0.3	3.423	A
B - Sainsburys Depot Access	19	5	836	1031	0.018	18	0.92	0.0	0.0	3.555	A
C - A10 (S)	1108	277	73	2306	0.480	1107	782	0.7	0.9	3.095	A
D - A10 (N)	583	146	445	964	0.605	581	734	1.0	1.6	9.741	A

16:15 - 16:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	372	93	649	1311	0.284	371	602	0.3	0.4	3.899	A
B - Sainsburys Depot Access	23	6	1019	961	0.024	23	1	0.0	0.0	3.835	A
C - A10 (S)	1357	339	89	2295	0.591	1354	953	0.9	1.5	3.946	A
D - A10 (N)	714	179	545	907	0.788	706	898	1.6	3.5	18.046	C

16:30 - 16:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	372	93	656	1307	0.284	372	604	0.4	0.4	3.918	A
B - Sainsburys Depot Access	23	6	1026	958	0.024	23	1	0.0	0.0	3.847	A
C - A10 (S)	1357	339	89	2294	0.591	1357	960	1.5	1.5	3.963	A
D - A10 (N)	714	179	546	906	0.788	714	900	3.5	3.7	19.328	C

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	303	76	544	1368	0.222	304	495	0.4	0.3	3.443	A
B - Sainsburys Depot Access	19	5	847	1027	0.018	19	0.94	0.0	0.0	3.572	A
C - A10 (S)	1108	277	73	2306	0.480	1110	792	1.5	1.0	3.111	A
D - A10 (N)	583	146	447	963	0.605	591	736	3.7	1.6	10.311	B

2029 FY, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	C - A10 (S) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	D - A10 (N) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Demand Sets	D6 - 2029 FY, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
5	A10-London Road	Standard Roundabout		A, B, C, D	9.74	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D6	2029 FY	PM	Future Year	ONE HOUR	15:45	17:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - London Road		ONE HOUR	✓	343	100.000
B - Sainsburys Depot Access		ONE HOUR	✓	21	100.000
C - A10 (S)		ONE HOUR	✓	1236	100.000
D - A10 (N)		ONE HOUR	✓	644	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	3	0	283	58
	B - Sainsburys Depot Access	12	0	5	4
	C - A10 (S)	491	0	3	742
	D - A10 (N)	54	1	586	3

Proportions

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	0.01	0.00	0.82	0.17
	B - Sainsburys Depot Access	0.55	0.00	0.25	0.20
	C - A10 (S)	0.40	0.00	0.00	0.60
	D - A10 (N)	0.08	0.00	0.91	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	0	0	1	7
	B - Sainsburys Depot Access	0	0	0	0
	C - A10 (S)	1	0	0	5
	D - A10 (N)	6	0	4	0

Average PCU Per Veh

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	1.000	1.000	1.007	1.089
	B - Sainsburys Depot Access	1.000	1.000	1.000	1.000
	C - A10 (S)	1.010	1.000	1.000	1.046
	D - A10 (N)	1.055	1.000	1.041	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - London Road	15:45-16:00	259	263
	16:00-16:15	309	314
	16:15-16:30	378	385
	16:30-16:45	378	385
	16:45-17:00	309	314
	17:00-17:15	259	263
B - Sainsburys Depot Access	15:45-16:00	16	16
	16:00-16:15	19	19
	16:15-16:30	23	23
	16:30-16:45	23	23
	16:45-17:00	19	19
	17:00-17:15	16	16
C - A10 (S)	15:45-16:00	931	960
	16:00-16:15	1111	1146
	16:15-16:30	1361	1404
	16:30-16:45	1361	1404
	16:45-17:00	1111	1146
	17:00-17:15	931	960
D - A10 (N)	15:45-16:00	485	505
	16:00-16:15	579	603
	16:15-16:30	709	739
	16:30-16:45	709	739
	16:45-17:00	579	603
	17:00-17:15	485	505

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - London Road	0.30	4.02	0.4	A	349	349
B - Sainsburys Depot Access	0.02	3.91	0.0	A	21	21
C - A10 (S)	0.61	4.18	1.6	A	1275	1275
D - A10 (N)	0.83	23.46	4.6	C	671	671

Main Results for each time segment

16:00 - 16:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	314	79	552	1364	0.230	314	510	0.2	0.3	3.489	A
B - Sainsburys Depot Access	19	5	865	1020	0.019	19	0.95	0.0	0.0	3.596	A
C - A10 (S)	1146	287	75	2305	0.497	1145	809	0.7	1.0	3.200	A
D - A10 (N)	603	151	461	955	0.632	601	759	1.1	1.7	10.504	B

16:15 - 16:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	385	96	670	1299	0.296	384	623	0.3	0.4	4.001	A
B - Sainsburys Depot Access	23	6	1053	948	0.025	23	1	0.0	0.0	3.893	A
C - A10 (S)	1404	351	92	2292	0.612	1402	984	1.0	1.6	4.158	A
D - A10 (N)	739	185	565	896	0.825	729	929	1.7	4.3	21.217	C

16:30 - 16:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	385	96	678	1295	0.297	385	625	0.4	0.4	4.024	A
B - Sainsburys Depot Access	23	6	1062	945	0.025	23	1	0.0	0.0	3.907	A
C - A10 (S)	1404	351	92	2292	0.613	1404	993	1.6	1.6	4.180	A
D - A10 (N)	739	185	566	895	0.825	738	931	4.3	4.6	23.464	C

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	314	79	565	1357	0.232	315	512	0.4	0.3	3.518	A
B - Sainsburys Depot Access	19	5	878	1015	0.019	19	0.98	0.0	0.0	3.615	A
C - A10 (S)	1146	287	76	2304	0.497	1149	822	1.6	1.0	3.221	A
D - A10 (N)	603	151	463	954	0.632	614	762	4.6	1.8	11.376	B

2029 FY+DEV, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	C - A10 (S) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	D - A10 (N) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Demand Sets	D8 - 2029 FY+DEV, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
5	A10-London Road	Standard Roundabout		A, B, C, D	12.92	B

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D8	2029 FY+DEV	PM	Future Year+Dev	ONE HOUR	15:45	17:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - London Road		ONE HOUR	✓	349	100.000
B - Sainsburys Depot Access		ONE HOUR	✓	22	100.000
C - A10 (S)		ONE HOUR	✓	1332	100.000
D - A10 (N)		ONE HOUR	✓	687	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	3	0	285	61
	B - Sainsburys Depot Access	12	0	5	4
	C - A10 (S)	498	0	3	831
	D - A10 (N)	64	1	619	3

Proportions

		To			
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	0.01	0.00	0.82	0.18
	B - Sainsburys Depot Access	0.55	0.00	0.25	0.20
	C - A10 (S)	0.37	0.00	0.00	0.62
	D - A10 (N)	0.09	0.00	0.90	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To				
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	0	0	1	7
	B - Sainsburys Depot Access	0	0	0	0
	C - A10 (S)	1	0	0	4
	D - A10 (N)	5	0	4	0

Average PCU Per Veh

	To				
		A - London Road	B - Sainsburys Depot Access	C - A10 (S)	D - A10 (N)
From	A - London Road	1.000	1.000	1.007	1.065
	B - Sainsburys Depot Access	1.000	1.000	1.000	1.000
	C - A10 (S)	1.010	1.000	1.000	1.041
	D - A10 (N)	1.047	1.000	1.039	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - London Road	15:45-16:00	263	268
	16:00-16:15	314	320
	16:15-16:30	385	391
	16:30-16:45	385	391
	16:45-17:00	314	320
	17:00-17:15	263	268
B - Sainsburys Depot Access	15:45-16:00	16	16
	16:00-16:15	19	19
	16:15-16:30	24	24
	16:30-16:45	24	24
	16:45-17:00	19	19
	17:00-17:15	16	16
C - A10 (S)	15:45-16:00	1003	1032
	16:00-16:15	1197	1232
	16:15-16:30	1467	1509
	16:30-16:45	1467	1509
	16:45-17:00	1197	1232
	17:00-17:15	1003	1032
D - A10 (N)	15:45-16:00	517	538
	16:00-16:15	618	642
	16:15-16:30	756	786
	16:30-16:45	756	786
	16:45-17:00	618	642
	17:00-17:15	517	538

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - London Road	0.31	4.14	0.4	A	355	355
B - Sainsburys Depot Access	0.03	3.98	0.0	A	22	22
C - A10 (S)	0.66	4.75	2.0	A	1371	1371
D - A10 (N)	0.88	33.25	6.8	D	714	714

Main Results for each time segment

16:00 - 16:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	320	80	582	1348	0.237	319	525	0.2	0.3	3.560	A
B - Sainsburys Depot Access	19	5	900	1007	0.019	19	0.95	0.0	0.0	3.645	A
C - A10 (S)	1232	308	79	2302	0.535	1231	840	0.8	1.2	3.455	A
D - A10 (N)	642	160	468	951	0.675	638	842	1.2	2.1	11.827	B

16:15 - 16:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	391	98	701	1282	0.305	391	641	0.3	0.4	4.106	A
B - Sainsburys Depot Access	24	6	1091	934	0.025	24	1	0.0	0.0	3.956	A
C - A10 (S)	1509	377	97	2289	0.659	1506	1018	1.2	2.0	4.714	A
D - A10 (N)	786	197	573	891	0.882	770	1030	2.1	6.2	27.724	D

16:30 - 16:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	391	98	714	1275	0.307	391	644	0.4	0.4	4.141	A
B - Sainsburys Depot Access	24	6	1104	929	0.026	24	1	0.0	0.0	3.977	A
C - A10 (S)	1509	377	97	2289	0.659	1509	1031	2.0	2.0	4.752	A
D - A10 (N)	786	197	574	890	0.883	783	1032	6.2	6.8	33.251	D

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - London Road	320	80	601	1337	0.239	320	529	0.4	0.3	3.605	A
B - Sainsburys Depot Access	19	5	920	999	0.019	19	0.99	0.0	0.0	3.677	A
C - A10 (S)	1232	308	79	2302	0.535	1236	861	2.0	1.2	3.487	A
D - A10 (N)	642	160	470	950	0.676	660	845	6.8	2.3	13.646	B

Appendix I.6

JUNCTION 6

Junctions 9

PICADY 9 - Priority Intersection Module

Filename: J6_Baldock Rd-High St.j9
Path: C:\Users\INAA02374\Desktop\Buntingford JM\220706 - JM - Updated TFD Flows\J6
Report generation date: 06-07-2022 17:47:31

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	2022 Base							
Stream B-AC	0.9	15.10	0.48	C	0.5	12.63	0.35	B
Stream C-AB	1.4	9.36	0.49	A	1.0	9.06	0.42	A
	2024 Projected Base							
Stream B-AC	1.2	18.35	0.56	C	0.7	14.42	0.41	B
Stream C-AB	2.1	11.09	0.58	B	1.4	10.24	0.50	B
	2029 FY							
Stream B-AC	1.4	19.57	0.58	C	0.7	15.08	0.43	C
Stream C-AB	2.4	11.81	0.61	B	1.6	10.71	0.52	B
	2029 FY+DEV							
Stream B-AC	2.2	28.63	0.70	D	1.0	18.25	0.50	C
Stream C-AB	3.2	14.36	0.68	B	2.3	12.45	0.61	B

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

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

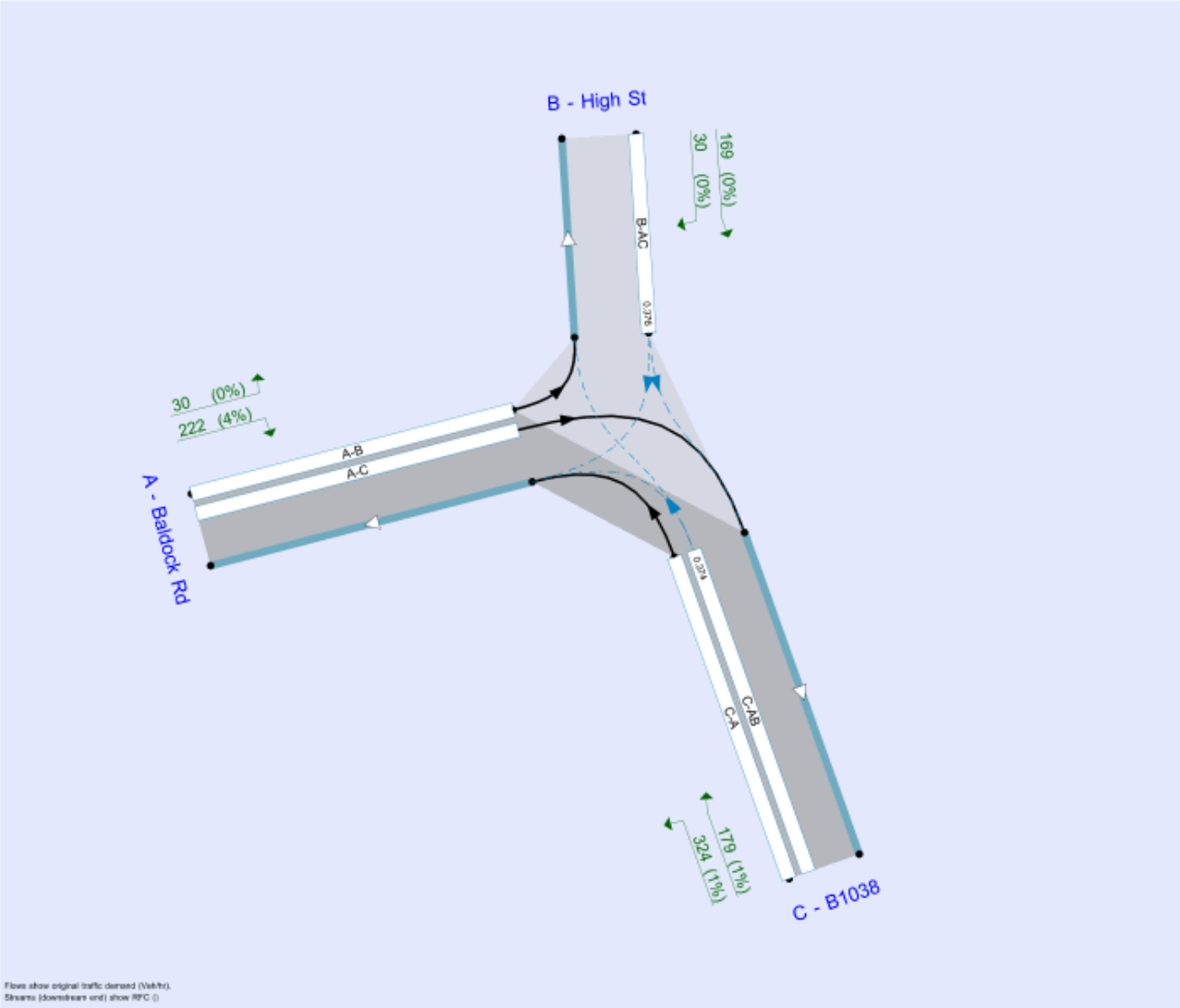
File summary

File Description

Title	Baldock Rd/ High St T-Junction
Location	Buntingford
Site number	
Date	14-04-2022
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	CORP\INAA02374
Description	51.94678662384818, -0.019069453750091538

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	PCU	perHour	s	-Min	perMin



The junction diagram reflects the last run of Junctions.

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D1	2022 Base	AM	Actual Base Year	ONE HOUR	07:45	09:15	15	✓	✓
D2	2022 Base	PM	Actual Base Year	ONE HOUR	15:45	17:15	15	✓	✓
D3	2024 Projected Base	AM	Projected Base Year	ONE HOUR	07:45	09:15	15	✓	✓
D4	2024 Projected Base	PM	Projected Base Year	ONE HOUR	15:45	17:15	15	✓	✓
D5	2029 FY	AM	Future Year	ONE HOUR	07:45	09:15	15	✓	✓
D6	2029 FY	PM	Future Year	ONE HOUR	15:45	17:15	15	✓	✓
D7	2029 FY+DEV	AM	Future Year+Dev	ONE HOUR	07:45	09:15	15	✓	✓
D8	2029 FY+DEV	PM	Future Year+Dev	ONE HOUR	15:45	17:15	15	✓	✓

Analysis Set Details

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

2022 Base, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D1 - 2022 Base, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
6	Baldock Rd/ High St	T-Junction	Two-way		6.26	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Baldock Rd		Major
B	High St		Minor
C	B1038		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - B1038	6.00			0.0	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B - High St	One lane	2.20	0	0

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	440	0.080	0.202	0.127	0.289
B-C	574	0.088	0.222	-	-
C-B	574	0.222	0.222	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D1	2022 Base	AM	Actual Base Year	ONE HOUR	07:45	09:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - Baldock Rd		ONE HOUR	✓	252	100.000
B - High St		ONE HOUR	✓	199	100.000
C - B1038		ONE HOUR	✓	503	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Baldock Rd	B - High St	C - B1038
From	A - Baldock Rd	0	30	222
	B - High St	30	0	169
	C - B1038	324	179	0

Proportions

		To		
		A - Baldock Rd	B - High St	C - B1038
From	A - Baldock Rd	0.00	0.12	0.88
	B - High St	0.15	0.00	0.85
	C - B1038	0.64	0.36	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Baldock Rd	B - High St	C - B1038
From	A - Baldock Rd	0	0	4
	B - High St	0	0	0
	C - B1038	1	1	0

Average PCU Per Veh

		To		
		A - Baldock Rd	B - High St	C - B1038
From	A - Baldock Rd	1.000	1.000	1.036
	B - High St	1.000	1.000	1.000
	C - B1038	1.012	1.011	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - Baldock Rd	07:45-08:00	190	196
	08:00-08:15	227	234
	08:15-08:30	277	286
	08:30-08:45	277	286
	08:45-09:00	227	234
	09:00-09:15	190	196
B - High St	07:45-08:00	150	150
	08:00-08:15	179	179
	08:15-08:30	219	219
	08:30-08:45	219	219
	08:45-09:00	179	179
	09:00-09:15	150	150
C - B1038	07:45-08:00	379	383
	08:00-08:15	452	458
	08:15-08:30	554	560
	08:30-08:45	554	560
	08:45-09:00	452	458
	09:00-09:15	379	383

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.48	15.10	0.9	C	199	199
C-AB	0.49	9.36	1.4	A	326	326
C-A					183	183
A-B					30	30
A-C					230	230

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	179	45	476	0.376	178	0.4	0.6	12.068	B
C-AB	274	68	732	0.374	273	0.6	0.8	7.946	A
C-A	184	46			184				
A-B	27	7			27				
A-C	207	52			207				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	219	55	458	0.479	218	0.6	0.9	14.945	B
C-AB	378	94	770	0.490	375	0.8	1.4	9.259	A
C-A	183	46			183				
A-B	33	8			33				
A-C	253	63			253				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	219	55	457	0.479	219	0.9	0.9	15.097	C
C-AB	379	95	771	0.491	379	1.4	1.4	9.365	A
C-A	182	45			182				
A-B	33	8			33				
A-C	253	63			253				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	179	45	476	0.376	180	0.9	0.6	12.226	B
C-AB	275	69	733	0.375	277	1.4	0.9	8.059	A
C-A	183	46			183				
A-B	27	7			27				
A-C	207	52			207				

2022 Base, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D2 - 2022 Base, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
6	Baldock Rd/ High St	T-Junction	Two-way		4.76	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D2	2022 Base	PM	Actual Base Year	ONE HOUR	15:45	17:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - Baldock Rd		ONE HOUR	✓	309	100.000
B - High St		ONE HOUR	✓	138	100.000
C - B1038		ONE HOUR	✓	403	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Baldock Rd	B - High St	C - B1038
From	A - Baldock Rd	0	31	278
	B - High St	28	0	110
	C - B1038	241	162	0

Proportions

		To		
		A - Baldock Rd	B - High St	C - B1038
From	A - Baldock Rd	0.00	0.10	0.90
	B - High St	0.20	0.00	0.80
	C - B1038	0.60	0.40	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Baldock Rd	B - High St	C - B1038
From	A - Baldock Rd	0	0	0
	B - High St	0	0	0
	C - B1038	1	0	0

Average PCU Per Veh

		To		
		A - Baldock Rd	B - High St	C - B1038
From	A - Baldock Rd	1.000	1.000	1.000
	B - High St	1.000	1.000	1.000
	C - B1038	1.008	1.000	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - Baldock Rd	15:45-16:00	233	233
	16:00-16:15	278	278
	16:15-16:30	340	340
	16:30-16:45	340	340
	16:45-17:00	278	278
	17:00-17:15	233	233
B - High St	15:45-16:00	104	104
	16:00-16:15	124	124
	16:15-16:30	152	152
	16:30-16:45	152	152
	16:45-17:00	124	124
	17:00-17:15	104	104
C - B1038	15:45-16:00	303	305
	16:00-16:15	362	364
	16:15-16:30	444	446
	16:30-16:45	444	446
	16:45-17:00	362	364
	17:00-17:15	303	305

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.35	12.63	0.5	B	138	138
C-AB	0.42	9.06	1.0	A	255	255
C-A					150	150
A-B					31	31
A-C					278	278

Main Results for each time segment

16:00 - 16:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	124	31	457	0.271	124	0.3	0.4	10.775	B
C-AB	217	54	669	0.324	216	0.5	0.6	7.983	A
C-A	147	37			147				
A-B	28	7			28				
A-C	250	62			250				

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	152	38	437	0.348	151	0.4	0.5	12.570	B
C-AB	292	73	692	0.422	291	0.6	1.0	9.000	A
C-A	154	38			154				
A-B	34	9			34				
A-C	306	77			306				

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	152	38	437	0.348	152	0.5	0.5	12.628	B
C-AB	292	73	693	0.422	292	1.0	1.0	9.064	A
C-A	153	38			153				
A-B	34	9			34				
A-C	306	77			306				

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	124	31	457	0.271	125	0.5	0.4	10.846	B
C-AB	218	54	670	0.325	219	1.0	0.7	8.061	A
C-A	146	37			146				
A-B	28	7			28				
A-C	250	62			250				

2024 Projected Base, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D3 - 2024 Projected Base, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
6	Baldock Rd/ High St	T-Junction	Two-way		7.83	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D3	2024 Projected Base	AM	Projected Base Year	ONE HOUR	07:45	09:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - Baldock Rd		ONE HOUR	✓	285	100.000
B - High St		ONE HOUR	✓	225	100.000
C - B1038		ONE HOUR	✓	569	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Baldock Rd	B - High St	C - B1038
From	A - Baldock Rd	0	34	251
	B - High St	34	0	191
	C - B1038	367	203	0

Proportions

		To		
		A - Baldock Rd	B - High St	C - B1038
From	A - Baldock Rd	0.00	0.12	0.88
	B - High St	0.15	0.00	0.85
	C - B1038	0.64	0.36	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Baldock Rd	B - High St	C - B1038
From	A - Baldock Rd	0	0	3
	B - High St	0	0	0
	C - B1038	1	1	0

Average PCU Per Veh

		To		
		A - Baldock Rd	B - High St	C - B1038
From	A - Baldock Rd	1.000	1.000	1.032
	B - High St	1.000	1.000	1.000
	C - B1038	1.011	1.010	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - Baldock Rd	07:45-08:00	215	221
	08:00-08:15	256	263
	08:15-08:30	314	323
	08:30-08:45	314	323
	08:45-09:00	256	263
	09:00-09:15	215	221
B - High St	07:45-08:00	169	169
	08:00-08:15	202	202
	08:15-08:30	248	248
	08:30-08:45	248	248
	08:45-09:00	202	202
	09:00-09:15	169	169
C - B1038	07:45-08:00	428	433
	08:00-08:15	512	517
	08:15-08:30	627	633
	08:30-08:45	627	633
	08:45-09:00	512	517
	09:00-09:15	428	433

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.56	18.35	1.2	C	225	225
C-AB	0.58	11.09	2.1	B	399	399
C-A					176	176
A-B					34	34
A-C					259	259

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	202	51	466	0.435	202	0.5	0.8	13.589	B
C-AB	331	83	754	0.439	330	0.7	1.1	8.597	A
C-A	186	46			186				
A-B	31	8			31				
A-C	233	58			233				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	248	62	444	0.558	246	0.8	1.2	18.011	C
C-AB	465	116	798	0.582	461	1.1	2.1	10.850	B
C-A	168	42			168				
A-B	37	9			37				
A-C	285	71			285				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	248	62	444	0.559	248	1.2	1.2	18.350	C
C-AB	467	117	799	0.584	466	2.1	2.1	11.095	B
C-A	167	42			167				
A-B	37	9			37				
A-C	285	71			285				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	202	51	465	0.435	204	1.2	0.8	13.891	B
C-AB	333	83	756	0.441	337	2.1	1.2	8.815	A
C-A	184	46			184				
A-B	31	8			31				
A-C	233	58			233				

2024 Projected Base, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D4 - 2024 Projected Base, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
6	Baldock Rd/ High St	T-Junction	Two-way		5.60	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D4	2024 Projected Base	PM	Projected Base Year	ONE HOUR	15:45	17:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - Baldock Rd		ONE HOUR	✓	350	100.000
B - High St		ONE HOUR	✓	156	100.000
C - B1038		ONE HOUR	✓	456	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Baldock Rd	B - High St	C - B1038
From	A - Baldock Rd	0	35	315
	B - High St	32	0	125
	C - B1038	273	183	0

Proportions

		To		
		A - Baldock Rd	B - High St	C - B1038
From	A - Baldock Rd	0.00	0.10	0.90
	B - High St	0.20	0.00	0.80
	C - B1038	0.60	0.40	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Baldock Rd	B - High St	C - B1038
From	A - Baldock Rd	0	0	0
	B - High St	0	0	0
	C - B1038	1	0	0

Average PCU Per Veh

		To		
		A - Baldock Rd	B - High St	C - B1038
From	A - Baldock Rd	1.000	1.000	1.000
	B - High St	1.000	1.000	1.000
	C - B1038	1.007	1.000	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - Baldock Rd	15:45-16:00	263	263
	16:00-16:15	315	315
	16:15-16:30	385	385
	16:30-16:45	385	385
	16:45-17:00	315	315
	17:00-17:15	263	263
B - High St	15:45-16:00	118	118
	16:00-16:15	140	140
	16:15-16:30	172	172
	16:30-16:45	172	172
	16:45-17:00	140	140
	17:00-17:15	118	118
C - B1038	15:45-16:00	344	345
	16:00-16:15	410	412
	16:15-16:30	502	505
	16:30-16:45	502	505
	16:45-17:00	410	412
	17:00-17:15	344	345

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.41	14.42	0.7	B	156	156
C-AB	0.50	10.24	1.4	B	307	307
C-A					151	151
A-B					35	35
A-C					315	315

Main Results for each time segment

16:00 - 16:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	140	35	446	0.315	140	0.3	0.5	11.745	B
C-AB	260	65	682	0.380	259	0.6	0.8	8.526	A
C-A	152	38			152				
A-B	32	8			32				
A-C	283	71			283				

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	172	43	422	0.408	171	0.5	0.7	14.308	B
C-AB	354	89	710	0.499	352	0.8	1.4	10.113	B
C-A	150	38			150				
A-B	39	10			39				
A-C	347	87			347				

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	172	43	422	0.408	172	0.7	0.7	14.417	B
C-AB	355	89	711	0.500	355	1.4	1.4	10.240	B
C-A	150	37			150				
A-B	39	10			39				
A-C	347	87			347				

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	140	35	445	0.316	141	0.7	0.5	11.877	B
C-AB	261	65	684	0.381	263	1.4	0.9	8.661	A
C-A	151	38			151				
A-B	32	8			32				
A-C	283	71			283				

2029 FY, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D5 - 2029 FY, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
6	Baldock Rd/ High St	T-Junction	Two-way		8.44	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D5	2029 FY	AM	Future Year	ONE HOUR	07:45	09:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - Baldock Rd		ONE HOUR	✓	295	100.000
B - High St		ONE HOUR	✓	233	100.000
C - B1038		ONE HOUR	✓	588	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Baldock Rd	B - High St	C - B1038
From	A - Baldock Rd	0	35	260
	B - High St	35	0	198
	C - B1038	379	209	0

Proportions

		To		
		A - Baldock Rd	B - High St	C - B1038
From	A - Baldock Rd	0.00	0.12	0.88
	B - High St	0.15	0.00	0.85
	C - B1038	0.64	0.36	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Baldock Rd	B - High St	C - B1038
From	A - Baldock Rd	0	0	3
	B - High St	0	0	0
	C - B1038	1	1	0

Average PCU Per Veh

		To		
		A - Baldock Rd	B - High St	C - B1038
From	A - Baldock Rd	1.000	1.000	1.031
	B - High St	1.000	1.000	1.000
	C - B1038	1.011	1.010	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - Baldock Rd	07:45-08:00	222	228
	08:00-08:15	265	272
	08:15-08:30	324	333
	08:30-08:45	324	333
	08:45-09:00	265	272
	09:00-09:15	222	228
B - High St	07:45-08:00	175	175
	08:00-08:15	209	209
	08:15-08:30	256	256
	08:30-08:45	256	256
	08:45-09:00	209	209
	09:00-09:15	175	175
C - B1038	07:45-08:00	443	447
	08:00-08:15	529	534
	08:15-08:30	647	654
	08:30-08:45	647	654
	08:45-09:00	529	534
	09:00-09:15	443	447

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.58	19.57	1.4	C	233	233
C-AB	0.61	11.81	2.4	B	422	422
C-A					172	172
A-B					35	35
A-C					268	268

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	209	52	463	0.452	208	0.6	0.8	14.099	B
C-AB	349	87	760	0.459	347	0.8	1.2	8.830	A
C-A	185	46			185				
A-B	32	8			32				
A-C	240	60			240				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	256	64	440	0.582	254	0.8	1.3	19.136	C
C-AB	492	123	806	0.611	488	1.2	2.3	11.488	B
C-A	162	41			162				
A-B	39	10			39				
A-C	295	74			295				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	256	64	440	0.583	256	1.3	1.4	19.571	C
C-AB	494	124	808	0.612	494	2.3	2.4	11.807	B
C-A	160	40			160				
A-B	39	10			39				
A-C	295	74			295				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	209	52	462	0.453	211	1.4	0.8	14.464	B
C-AB	352	88	763	0.461	356	2.4	1.3	9.098	A
C-A	182	46			182				
A-B	32	8			32				
A-C	240	60			240				

2029 FY, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D6 - 2029 FY, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
6	Baldock Rd/ High St	T-Junction	Two-way		5.93	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D6	2029 FY	PM	Future Year	ONE HOUR	15:45	17:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - Baldock Rd		ONE HOUR	✓	363	100.000
B - High St		ONE HOUR	✓	162	100.000
C - B1038		ONE HOUR	✓	473	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Baldock Rd	B - High St	C - B1038
From	A - Baldock Rd	0	36	326
	B - High St	33	0	129
	C - B1038	283	190	0

Proportions

		To		
		A - Baldock Rd	B - High St	C - B1038
From	A - Baldock Rd	0.00	0.10	0.90
	B - High St	0.20	0.00	0.80
	C - B1038	0.60	0.40	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Baldock Rd	B - High St	C - B1038
From	A - Baldock Rd	0	0	0
	B - High St	0	0	0
	C - B1038	1	0	0

Average PCU Per Veh

		To		
		A - Baldock Rd	B - High St	C - B1038
From	A - Baldock Rd	1.000	1.000	1.000
	B - High St	1.000	1.000	1.000
	C - B1038	1.007	1.000	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - Baldock Rd	15:45-16:00	273	273
	16:00-16:15	326	326
	16:15-16:30	399	399
	16:30-16:45	399	399
	16:45-17:00	326	326
	17:00-17:15	273	273
B - High St	15:45-16:00	122	122
	16:00-16:15	146	146
	16:15-16:30	178	178
	16:30-16:45	178	178
	16:45-17:00	146	146
	17:00-17:15	122	122
C - B1038	15:45-16:00	356	357
	16:00-16:15	425	427
	16:15-16:30	521	523
	16:30-16:45	521	523
	16:45-17:00	425	427
	17:00-17:15	356	357

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.43	15.08	0.7	C	162	162
C-AB	0.52	10.71	1.6	B	325	325
C-A					150	150
A-B					36	36
A-C					326	326

Main Results for each time segment

16:00 - 16:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	146	36	442	0.329	145	0.4	0.5	12.110	B
C-AB	274	68	687	0.398	272	0.6	0.9	8.725	A
C-A	153	38			153				
A-B	33	8			33				
A-C	293	73			293				

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	178	45	417	0.427	177	0.5	0.7	14.951	B
C-AB	375	94	715	0.524	372	0.9	1.5	10.559	B
C-A	148	37			148				
A-B	40	10			40				
A-C	359	90			359				

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	178	45	417	0.428	178	0.7	0.7	15.083	C
C-AB	376	94	716	0.525	376	1.5	1.6	10.715	B
C-A	147	37			147				
A-B	40	10			40				
A-C	359	90			359				

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	146	36	441	0.330	146	0.7	0.5	12.244	B
C-AB	275	69	688	0.399	277	1.6	0.9	8.886	A
C-A	152	38			152				
A-B	33	8			33				
A-C	293	73			293				

2029 FY+DEV, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D7 - 2029 FY+DEV, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
6	Baldock Rd/ High St	T-Junction	Two-way		11.05	B

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D7	2029 FY+DEV	AM	Future Year+Dev	ONE HOUR	07:45	09:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - Baldock Rd		ONE HOUR	✓	389	100.000
B - High St		ONE HOUR	✓	261	100.000
C - B1038		ONE HOUR	✓	614	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Baldock Rd	B - High St	C - B1038
From	A - Baldock Rd	0	53	336
	B - High St	42	0	220
	C - B1038	397	217	0

Proportions

		To		
		A - Baldock Rd	B - High St	C - B1038
From	A - Baldock Rd	0.00	0.14	0.86
	B - High St	0.16	0.00	0.84
	C - B1038	0.65	0.35	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Baldock Rd	B - High St	C - B1038
From	A - Baldock Rd	0	0	2
	B - High St	0	0	0
	C - B1038	1	1	0

Average PCU Per Veh

		To		
		A - Baldock Rd	B - High St	C - B1038
From	A - Baldock Rd	1.000	1.000	1.024
	B - High St	1.000	1.000	1.000
	C - B1038	1.010	1.009	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - Baldock Rd	07:45-08:00	293	299
	08:00-08:15	350	357
	08:15-08:30	428	437
	08:30-08:45	428	437
	08:45-09:00	350	357
	09:00-09:15	293	299
B - High St	07:45-08:00	197	197
	08:00-08:15	235	235
	08:15-08:30	288	288
	08:30-08:45	288	288
	08:45-09:00	235	235
	09:00-09:15	197	197
C - B1038	07:45-08:00	462	467
	08:00-08:15	552	558
	08:15-08:30	676	683
	08:30-08:45	676	683
	08:45-09:00	552	558
	09:00-09:15	462	467

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.70	28.63	2.2	D	261	261
C-AB	0.68	14.36	3.2	B	463	463
C-A					158	158
A-B					53	53
A-C					344	344

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	235	59	441	0.533	233	0.7	1.1	17.225	C
C-AB	379	95	757	0.501	377	0.9	1.5	9.600	A
C-A	178	45			178				
A-B	48	12			48				
A-C	309	77			309				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	288	72	413	0.697	284	1.1	2.1	27.070	D
C-AB	542	136	803	0.675	536	1.5	3.1	13.699	B
C-A	141	35			141				
A-B	59	15			59				
A-C	378	95			378				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	288	72	412	0.698	287	2.1	2.2	28.634	D
C-AB	546	137	806	0.677	546	3.1	3.2	14.362	B
C-A	137	34			137				
A-B	59	15			59				
A-C	378	95			378				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	235	59	440	0.534	239	2.2	1.2	18.236	C
C-AB	383	96	761	0.503	390	3.2	1.6	10.062	B
C-A	174	44			174				
A-B	48	12			48				
A-C	309	77			309				

2029 FY+DEV, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D8 - 2029 FY+DEV, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
6	Baldock Rd/ High St	T-Junction	Two-way		7.29	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D8	2029 FY+DEV	PM	Future Year+Dev	ONE HOUR	15:45	17:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - Baldock Rd		ONE HOUR	✓	391	100.000
B - High St		ONE HOUR	✓	177	100.000
C - B1038		ONE HOUR	✓	542	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Baldock Rd	B - High St	C - B1038
From	A - Baldock Rd	0	46	345
	B - High St	42	0	134
	C - B1038	333	209	0

Proportions

		To		
		A - Baldock Rd	B - High St	C - B1038
From	A - Baldock Rd	0.00	0.12	0.88
	B - High St	0.24	0.00	0.76
	C - B1038	0.61	0.39	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Baldock Rd	B - High St	C - B1038
From	A - Baldock Rd	0	0	0
	B - High St	0	0	0
	C - B1038	1	0	0

Average PCU Per Veh

		To		
		A - Baldock Rd	B - High St	C - B1038
From	A - Baldock Rd	1.000	1.000	1.000
	B - High St	1.000	1.000	1.000
	C - B1038	1.006	1.000	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
A - Baldock Rd	15:45-16:00	294	294
	16:00-16:15	352	352
	16:15-16:30	431	431
	16:30-16:45	431	431
	16:45-17:00	352	352
	17:00-17:15	294	294
B - High St	15:45-16:00	133	133
	16:00-16:15	159	159
	16:15-16:30	195	195
	16:30-16:45	195	195
	16:45-17:00	159	159
	17:00-17:15	133	133
C - B1038	15:45-16:00	408	409
	16:00-16:15	487	489
	16:15-16:30	596	599
	16:30-16:45	596	599
	16:45-17:00	487	489
	17:00-17:15	408	409

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.50	18.25	1.0	C	177	177
C-AB	0.61	12.45	2.3	B	392	392
C-A					152	152
A-B					46	46
A-C					345	345

Main Results for each time segment

16:00 - 16:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	159	40	421	0.377	158	0.4	0.6	13.643	B
C-AB	326	81	715	0.456	324	0.8	1.2	9.263	A
C-A	163	41			163				
A-B	41	10			41				
A-C	310	78			310				

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	195	49	392	0.496	193	0.6	0.9	17.962	C
C-AB	455	114	751	0.607	451	1.2	2.2	12.113	B
C-A	143	36			143				
A-B	51	13			51				
A-C	380	95			380				

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	195	49	392	0.497	195	0.9	1.0	18.249	C
C-AB	457	114	752	0.608	457	2.2	2.3	12.450	B
C-A	141	35			141				
A-B	51	13			51				
A-C	380	95			380				

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	159	40	421	0.378	160	1.0	0.6	13.895	B
C-AB	328	82	717	0.457	332	2.3	1.2	9.546	A
C-A	161	40			161				
A-B	41	10			41				
A-C	310	78			310				

Appendix I.7

SITE ACCESS

Junctions 10

ARCADY 10 - Roundabout Module

Version: 10.0.4.1693

For sales and distribution information, program advice and maintenance, contact TRL Software:
+44 (0)1344 379777 software@trl.co.uk trlsoftware.com

Filename: A10_Site Access Roundabout_OP01.j10
Path: \\uk.wspgroup.com\Central Data\Projects\70088xxx\70088938 - Land at Buntingford West_Application\03 WIP\Resubmission June 20203\TA Appendices
Report generation date: 29/06/2023 13:21:36

»Proposed Junction - 2029+Com+Dev, AM
»Proposed Junction - 2029+Com+Dev, PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (Veh)	Delay (s)	RFC	LOS	Set ID	Queue (Veh)	Delay (s)	RFC	LOS
	Proposed Junction - 2029+Com+Dev									
1 - Access	D1	0.2	3.73	0.18	A	D2	0.1	2.83	0.08	A
2 - A10 SE		1.4	5.71	0.59	A		1.6	5.95	0.62	A
3 - A10 NW		1.8	6.56	0.65	A		0.9	4.22	0.47	A

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

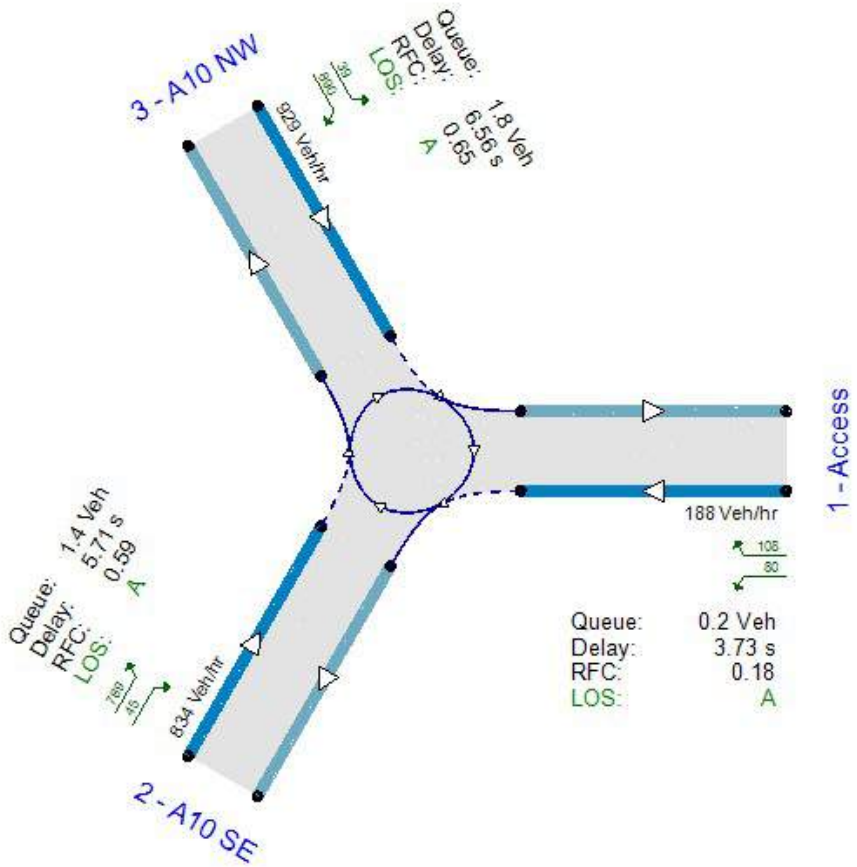
File summary

File Description

Title	A10/ Development Access
Location	Buntingford, Herts
Site number	
Date	20/06/2023
Version	
Status	(new file)
Identifier	
Client	Bovis Homes
Jobnumber	70007498
Enumerator	INJA05275
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



Flows show original traffic demand (Veh/h)

The junction diagram reflects the last run of Junctions.

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2029+Com+Dev	AM	ONE HOUR	07:45	09:15	15
D2	2029+Com+Dev	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	Name	Network flow scaling factor (%)
A1	Proposed Junction	100.000

Proposed Junction - 2029+Com+Dev, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 1	Standard Roundabout		1, 2, 3	5.94	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.94	A

Arms

Arms

Arm	Name	Description	No give-way line
1	Access		
2	A10 SE		
3	A10 NW		

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
1 - Access	3.65	7.50	16.9	50.0	56.0	25.0		
2 - A10 SE	3.96	7.50	10.2	35.0	56.0	30.6		
3 - A10 NW	4.19	7.50	9.3	30.0	56.0	32.1		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - Access	0.621	1864
2 - A10 SE	0.591	1740
3 - A10 NW	0.591	1753

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)
D1	2029+Com+Dev	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Access		✓	188	100.000
2 - A10 SE		✓	834	100.000
3 - A10 NW		✓	929	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		1 - Access	2 - A10 SE	3 - A10 NW

From	1 - Access	0	80	108
	2 - A10 SE	45	0	789
	3 - A10 NW	39	890	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1 - Access	2 - A10 SE	3 - A10 NW
From	1 - Access	0	2	2
	2 - A10 SE	2	0	8
	3 - A10 NW	2	10	0

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (Veh/hr)	Demand in PCU (PCU/hr)
07:45-08:00	1 - Access	142	144
	2 - A10 SE	628	676
	3 - A10 NW	699	767
08:00-08:15	1 - Access	169	172
	2 - A10 SE	750	807
	3 - A10 NW	835	916
08:15-08:30	1 - Access	207	211
	2 - A10 SE	918	989
	3 - A10 NW	1023	1122
08:30-08:45	1 - Access	207	211
	2 - A10 SE	918	989
	3 - A10 NW	1023	1122
08:45-09:00	1 - Access	169	172
	2 - A10 SE	750	807
	3 - A10 NW	835	916
09:00-09:15	1 - Access	142	144
	2 - A10 SE	628	676
	3 - A10 NW	699	767

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1 - Access	0.18	3.73	0.2	A
2 - A10 SE	0.59	5.71	1.4	A
3 - A10 NW	0.65	6.56	1.8	A

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Access	142	667	1380	0.103	141	0.1	2.905	A
2 - A10 SE	628	81	1570	0.400	625	0.7	3.797	A
3 - A10 NW	699	34	1580	0.443	696	0.8	4.057	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Access	169	799	1292	0.131	169	0.1	3.204	A
2 - A10 SE	750	97	1561	0.480	749	0.9	4.424	A
3 - A10 NW	835	40	1577	0.530	834	1.1	4.837	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service

1 - Access	207	977	1173	0.177	207	0.2	3.726	A
2 - A10 SE	918	119	1549	0.593	916	1.4	5.669	A
3 - A10 NW	1023	49	1572	0.651	1020	1.8	6.492	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Access	207	980	1171	0.177	207	0.2	3.733	A
2 - A10 SE	918	119	1549	0.593	918	1.4	5.705	A
3 - A10 NW	1023	50	1572	0.651	1023	1.8	6.557	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Access	169	803	1290	0.131	169	0.2	3.216	A
2 - A10 SE	750	97	1561	0.480	752	0.9	4.458	A
3 - A10 NW	835	41	1577	0.530	838	1.1	4.892	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Access	142	671	1378	0.103	142	0.1	2.912	A
2 - A10 SE	628	81	1570	0.400	629	0.7	3.831	A
3 - A10 NW	699	34	1580	0.443	701	0.8	4.099	A

Proposed Junction - 2029+Com+Dev, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junction 1	Standard Roundabout		1, 2, 3	5.07	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.07	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)
D2	2029+Com+Dev	PM	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Access		✓	99	100.000
2 - A10 SE		✓	914	100.000
3 - A10 NW		✓	693	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		1 - Access	2 - A10 SE	3 - A10 NW
From	1 - Access	0	42	57
	2 - A10 SE	92	0	822
	3 - A10 NW	60	633	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1 - Access	2 - A10 SE	3 - A10 NW
From	1 - Access	0	2	2
	2 - A10 SE	2	0	6
	3 - A10 NW	2	5	0

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (Veh/hr)	Demand in PCU (PCU/hr)
16:45-17:00	1 - Access	75	76
	2 - A10 SE	688	727
	3 - A10 NW	522	546
17:00-17:15	1 - Access	89	91
	2 - A10 SE	822	868
	3 - A10 NW	623	653
	1 - Access	109	111

17:15-17:30	2 - A10 SE	1006	1063
	3 - A10 NW	763	799
17:30-17:45	1 - Access	109	111
	2 - A10 SE	1006	1063
	3 - A10 NW	763	799
17:45-18:00	1 - Access	89	91
	2 - A10 SE	822	868
	3 - A10 NW	623	653
18:00-18:15	1 - Access	75	76
	2 - A10 SE	688	727
	3 - A10 NW	522	546

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1 - Access	0.08	2.83	0.1	A
2 - A10 SE	0.62	5.95	1.6	A
3 - A10 NW	0.47	4.22	0.9	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Access	75	475	1524	0.049	74	0.1	2.483	A
2 - A10 SE	688	43	1623	0.424	685	0.7	3.827	A
3 - A10 NW	522	69	1634	0.319	520	0.5	3.224	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Access	89	569	1464	0.061	89	0.1	2.618	A
2 - A10 SE	822	51	1618	0.508	821	1.0	4.506	A
3 - A10 NW	623	83	1626	0.383	622	0.6	3.583	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Access	109	696	1382	0.079	109	0.1	2.826	A
2 - A10 SE	1006	63	1612	0.624	1004	1.6	5.899	A
3 - A10 NW	763	101	1616	0.472	762	0.9	4.211	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Access	109	697	1382	0.079	109	0.1	2.828	A
2 - A10 SE	1006	63	1612	0.624	1006	1.6	5.945	A
3 - A10 NW	763	101	1616	0.472	763	0.9	4.221	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Access	89	570	1463	0.061	89	0.1	2.620	A
2 - A10 SE	822	51	1618	0.508	824	1.0	4.548	A
3 - A10 NW	623	83	1626	0.383	624	0.6	3.597	A

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Access	75	477	1522	0.049	75	0.1	2.488	A
2 - A10 SE	688	43	1623	0.424	689	0.7	3.860	A
3 - A10 NW	522	69	1634	0.319	522	0.5	3.239	A

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