Cambourne Growth Strategy Programme:

Annex 1: Transport Strategy Addendum

July 2026

Foreword

Cambourne's Spatial Framework

The Spatial Framework describes the opportunity to grow Cambourne to become a thriving regional town which is renowned for its natural environment. The arrival of East West Rail (EWR) and the Cambourne to Cambridge High Quality Public Transport (CtoC HQPT) corridor will increase the accessibility of Cambourne by public transport to Cambridge, Bedford, Milton Keynes and Oxford. This creates an opportunity for Cambourne to grow and provide new homes and jobs which will benefit from the improved connectivity.

The Spatial Framework illustrates the spatial form which Cambourne's expansion could take and describes the type of place it could be, supporting new neighbourhoods connected by a robust set of landscape features.

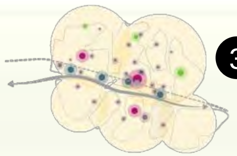
Cambourne's Spatial Framework and key moves

This Spatial Framework has been prepared in collaboration with the Greater Cambridge Shared Planning Service (GCSP) and other key local and national stakeholders. It draws on a suite of evidence base documents which have been specifically prepared to inform growth at Camborne and is a key document in informing the proposed strategic policy allocation in the Greater Cambridge Local Plan.

Developing a Spatial Framework for growth at this scale is complex and requires many considerations to be balanced against each other. The scale and nature of growth has been informed by the baseline evidence and engagement with technical and local stakeholders. Further details on the Spatial Framework are discussed in Section 4 of this report.

1 **Rooted in Nature** - A landscape-led approach will be central to the Spatial Framework.

2 **One Cambourne** - A strong integrated connectivity network with ample north-south and east-west links will deliver one cohesive future place, blurring the boundaries between 'existing' and the expansion of Cambourne



3 **Complete communities** - Walkable neighbourhoods realised by providing town centres with mix of uses, jobs and facilities at the doorstep of homes

Executive Summary

Executive Summary

Summary

This report forms part of the transport evidence base supporting the proposed strategic land allocation at Cambourne North (Policy S/CBN) in the emerging Greater Cambridge Local Plan. The draft Local Plan was consulted on under Regulation 18 between December 2025 and January 2026. This Stage 2 Transport Strategy Addendum builds on the evidence submitted at the Regulation 18 stage and is intended to demonstrate that the allocation can be supported by a credible, deliverable, and sustainable transport strategy for Regulation 19 consultation ahead of submission in December 2026.

The Regulation 18 evidence base comprised three complementary transport reports prepared by Arup (September 2025): the Transport Vision and Principles report, the CtoC Busway Integration Study, and the Rail Integration Study. Together, these established the overarching transport vision; set out design principles for active travel, public transport, and highways; assessed travel demand under baseline and vision-led scenarios for approximately 13,000 homes and 6,000 jobs; explored Cambourne to Cambridge High Quality Public Transport (CtoC HQPT) corridor extension route options; and examined how East West Rail (EWR) integration could catalyse sustainable growth.

This Stage 2 report responds to Regulation 18 consultation feedback and to wider stakeholder engagement including EWR proposals published in the May 2026 consultation. The overall effect is a more compact development footprint with wider landscape buffers, rebalanced development clusters, higher densities near the station, and ecological dark corridors.

The Stage 1 work recommended further strategic modelling, identification of mitigation, and continued engagement with National Highways, given the proximity to the A428, and EWR as necessary next steps.

The assessment demonstrates that the proposed allocation at Cambourne North is supported by a credible and deliverable transport strategy with further details provided in the accompanying *Cambourne North Stage 2 Transport Modelling report*. The assessment is proportionate to the plan-making stage and does not seek to predetermine the detailed design solutions that will be progressed through future planning applications.

Further engagement with EWR, National Highways and Cambridgeshire County Council will continue to take place to Local Plan examination to consider the need for any sensitivity testing. Further detailed assessment will also be required at the planning application stage to consider appropriate growth and mitigation at the time of application.

All diagrams and alignments presented in this report are indicative. Further design development will be required to confirm the precise alignments and ensure that they respond appropriately to existing constraints. For more information see the Spatial Framework Strategy Addendum Report.

Contents

This document should be read alongside the Stage 1 Transport Principles and Vision Report and Stage 2 Cambourne spatial framework update, GBI framework update, and Station Enhancement Study.

0 Introduction

This section introduces the purpose of this report, an overview of the context and the methodology used.

Introduction

This report sets out how the Spatial Framework for Cambourne North has developed in Stage 2, building on reporting for Regulation 18 consultation at the end of Stage 1

The Cambourne Growth Strategy Programme has been established to consider how Cambourne should grow to inform a future allocation in the Greater Cambridge Local Plan (GCLP). The programme will provide one repository of technical evidence to inform the GCLP, EWR's economic development work and GCSP's future responses to the EWR Development Consent Order (DCO).

Planning for the future of Cambourne must take account of the needs of the existing town and surrounding villages/communities; a level of development which is sustainable and responds to the housing, employment and infrastructure needs of Greater Cambridge; and an approach to development which is deliverable and addresses complex site and wider constraints. This report builds on the spatial framework set out for Regulation 18 consultation and provides transport evidence for Regulation 19 consultation.

Stakeholder Engagement

As part of this work, several engagement workshops have been held to collaboratively discuss Cambourne's future with a range of stakeholders. The outcomes of these discussions are summarised in Section 1 of this report and informs design development set out in Section 2.

Development of the spatial framework

The Spatial Framework in Stage 2 has been developed as set out below:

1. **Baseline information** building on the spatial framework reported for Reg 18 consultation and subsequent baseline information gathered and provided by stakeholders including responses to the DCO non-statutory consultation; and latest details of the EWR scheme.
2. **Stakeholder engagement** has been undertaken throughout this commission and feedback has informed design development as set out in Section 2.
3. **East West Rail** proposals are still developing in lieu of any DCO application. Emerging proposals for the DCO form a baseline for incorporation within the spatial framework with further enhancements considered and recommended to achieve better outcomes for development at Cambourne North.
4. **Non-transport workstreams** including Ecology (including Dark corridors and Ancient woodland), Landscape visual impact assessment and Green Blue Infrastructure have been integrated alongside transport into the design development process. Further details of non-transport workstreams are reported separately.
5. **Transport modelling** has been undertaken through Cambridgeshire County Council's Cambridge and Peterborough Combined Authority Model (CaPCAM). This has been supplemented by first principles assessment and previous CSRM2 outputs provided in Stage 1 to inform design development in lieu of detailed CaPCAM model runs. Further details are provided in Section 6.

The next phase of work, beyond this Spatial Framework, will be to assess development viability and approaches to funding infrastructure associated with the expansion of Cambourne. This may result in a revision to the Spatial Framework, which will then be reflected in the final policy recommendation for an expansion at Cambourne as part of the emerging GCLP. Transport modelling and associated mitigation proposals will also continue to be refined ahead of Local Plan submission for examination.

This introduction continues with a summary of how this report fits into the Local Plan process and the vision and objectives for development at Cambourne North.

Cambourne Growth Strategy Programme

Greater Cambridge Local Plan: Process & Evidence Base

How this Stage 2 Transport Strategy Addendum sits within the plan-making process and builds on the Regulation 18 evidence base

PLAN-MAKING STAGES

REGULATION 18
Draft Plan
Consultation Dec 2025 – Jan 2026

REGULATION 19
Proposed Submission
Summer 2026

SUBMISSION
To Secretary of State
December 2026

EXAMINATION
In Public
2027+

ADOPTION
2028+

OUTLINE PLANNING APPLICATION
2028+

DELIVERY
2034+

TRANSPORT EVIDENCE BASE

Transport Vision & Principles
Sept 2025

CtoC Busway Integration Study
Sept 2025

Rail Integration Study
Sept 2025

Stage 1 Evidence (Reg 18)

STAGE 2 TRANSPORT STRATEGY ADDENDUM
July 2026 — This Document

- Reg 18 consultation feedback
- EWR May 2026 consultation
- Stakeholder engagement
- GBI/ ecology assessments
- CaPCAM strategic modelling
- DS3 modelling scenario & outputs

FURTHER TECHNICAL WORK
To be supplemented as necessary
- Off-site highway impact assessment
- Mitigation & initial trip budget
- CaPCAM trip generation verification

OUTLINE PLANNING APPLICATION EVIDENCE
- Detailed junction assessment
- Transport Assessment & Travel Plan
- Detailed active travel/ PT design
- Construction access assessment

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Vision

Cambourne 2060

In 2060, Cambourne is a **well-connected**, **sustainable**, **thriving** and **prosperous** town that is **rooted in nature**. Cambourne is famous across the region for the forest which wraps around the town – allowing nature to flourish and improving the wellbeing of local residents, employees and visitors. As one of the best connected places in Cambridgeshire, Cambourne is **a fantastic place to live, work or base a business**. Everyone who calls Cambourne home has easy access to a wealth of employment opportunities, services and facilities. Cambourne's excellent transport connections have also helped to make it **a destination in its own right**, with the Cambourne Forest, Events Hub, Leisure Hub and Cultural Hub all acting as major draws for visitors.

Vision

Key elements of the vision explained

Well Connected Cambourne
Cambourne is one of the best-connected places in Cambridgeshire, with the Cambourne to Cambridge High Quality Public Transport corridor and East West Rail making it a fantastic place to live, work or base a business. New walking and cycling routes and excellent local transport connections mean that every neighbourhood is less than fifteen minutes from local amenities, the Town Centre and Station Quarter, making it easy to get to work and access services.

Destination Cambourne
Cambourne has become a destination in its own right. People travel from across Cambridgeshire and the wider Oxford-Cambridge Region to visit an exhibition at the Cultural Hub, take in a show at the Cambourne Events Hub, go for a swim at the Leisure Hub or spend time in Cambourne's Forest.

Prosperous Cambourne
Start ups, spin outs and mid-tech businesses have flocked to the new Cambourne Station Quarter due to its favourable location (and cheaper rents than Cambridge!). New employment locations are less than 10 minutes from the Cambridge Biomedical Campus by train, as well as less than thirty minutes from several economic hubs to the West. A new economic cluster is growing around an anchor institution which has moved its headquarters here - attracted by the improved quality of life Cambourne offers its employees.

Thriving Cambourne
Cambourne's southern centre has been complemented by a new Town Centre north of the A428, with a new civic square playing host to an everchanging series of events including a regular market. New and improved connections across the A428 and EWR stitch the growing Cambourne together, with a landmark new 'landbridge' acting as an iconic connection between the main centres, Station Quarter, Leisure Hub and Events Hub.

A Place to Call Home
Each new neighbourhood of Cambourne has a unique character, with sensitively designed high quality sustainable homes that are entwined with nature. At the centre of each neighbourhood is a place to gather, with community uses, a corner shop, flexible employment spaces and a café or pub. Flexibility and resilience are built in from the start. People love living here because they can walk their kids to school, cycle to work and have culture, leisure and nature on their doorstep.

Green Cambourne
Cambourne is famous across the region for the forest which wraps around the town - creating homes for nature and improving the wellbeing of local residents, employees and visitors. The whole town has nature at its core, with neighbourhoods and centres connected by green spaces and places, strengthening local ecosystems and creating a healthy, resilient and sustainable intergenerational community.

Objectives

What needs to be achieved to deliver on the vision for Cambourne

Rooted in Nature

1. Cambourne's expansion will create and enhance a comprehensive network of green links, spaces and places easily accessible to the public.
2. A new large-scale woodland will grow alongside the town, creating significant amenity, health and wellbeing value for both locals and visitors and creating a separation between Cambourne and surrounding villages.
3. Cambourne's expansion will protect, enhance and create homes and connections for nature, including the protection of 'nature-only' habitats and routes used by the rare species that call Cambourne home.
4. Buildings, spaces and neighbourhoods will be designed and built to ensure low levels of climate and resource impact and embed high levels of climate resilience.
5. The expansion of Cambourne will help mitigate the impacts and maximise the benefits of major infrastructure investment by integrating these sensibly into the wider landscape, and by integrating nature-based solutions into the implementation of infrastructure proposals.

One Cambourne

1. Cambourne will be centred around a landmark 'living station' at the heart of the town, which is a movement hub that also supports inclusive growth and acts as a focal point for healthy community life.
2. The town centre will be full of activity throughout the day, due to the mix of inclusive civic, cultural, community, commercial, retail, transport and residential uses. Local residents, and those in the surrounding villages and the wider area will be able to rely on Cambourne for their service needs.
3. Walking, cycling, wheeling and public transport will be the most convenient, safe and attractive choices for getting around, with high quality transport links between all neighbourhoods, centres, amenities and surrounding villages.
4. Cambourne will attract a range of a new employment opportunities that are complementary to those in the wider Region. It will secure an employment anchor tenant to become the cornerstone of a new economic cluster.
5. Cambourne will be a destination in the Region, with people choosing to travel by sustainable modes to access the high-quality jobs, services and amenities.

Complete Communities

1. Cambourne will be home to regionally significant cultural amenities, leisure/recreation/events facilities and green space. Together these will support the quality of life of people living in, working in or visiting Cambourne.
2. Neighbourhood centres in Cambourne will provide a range of services for daily life and public spaces for intergenerational communities to gather.
3. Homes in Cambourne will be designed to foster health and sustainability, accommodating people at all stages of life while offering opportunities for self-build and co-housing.
4. Buildings, public spaces, neighbourhoods, centres and services will all be designed to be flexible, allowing them to evolve to meet the changing needs of people, place and planet.
5. Stewardship of Cambourne's new assets will be community-led and managed, expanding Cambourne's distinctive community spirit and collaborative culture.

1 Stage 2 engagement

This section covers the engagement feedback received during Stage 2.

Stage 2 engagement

Overview

The Stage 2 transport strategy has been developed in response to feedback from Regulation 18 consultation and subsequent engagement as part of Stage 2.

This section provides a summary of feedback received:

- **Regulation 18 feedback**

- **Stage 2 engagement on the Stage 1 spatial framework** including:
  - Stakeholder workshop
  - Landowner Workshop
  - Transport officer group including East West Rail, National Highways, local highway authority

- **Stage 2 engagement on emerging Stage 2 spatial framework** including:
  - Stakeholder workshop
  - Landowner Workshop
  - Transport officer group including East West Rail, National Highways, local highway authority

Engagement will continue to inform the transport evidence through Regulation 19 and to submission for examination.

Regulation 18 feedback

Summary of key transport themes

The Regulation 18 consultation provided a formal mechanism for stakeholders to comment on the Stage 1 spatial framework and transport evidence base with a summary of transport related responses below:

Transport impacts and congestion	• Concern regarding cumulative impacts alongside other growth (e.g. Northstowe and Bourn Airfield), particularly on the A14 corridor and surrounding rural roads • Perception that modelling assumptions and trip budgets may underestimate real-world behaviour
Public transport realism	• Doubts over whether proposed bus and rail provision would sufficiently reduce car dependency • Requests for clarity on service frequency, coverage and early delivery
Connectivity and movement patterns	• Need to address north–south connectivity, not just east–west strategic routes • Desire for improved connections between Cambourne and surrounding villages
Phasing and infrastructure delivery	• Strong emphasis on delivering infrastructure early to support development • Requests for clearer links between development triggers and transport provision
Station access, parking and wider impacts	• Concerns regarding station parking overspill and potential impacts on nearby villages • Need to ensure station design supports mode shift rather than encouraging car-based access

These themes broadly align with feedback obtained through subsequent stakeholder workshops, which highlighted similar concerns around rural connectivity, realism of transport options, and connections with surrounding communities.

Stage 2 engagement on the Stage 1 spatial framework

Reducing impact on congestion across local villages

- Need to prioritise **north-south connectivity**, not just the new east-west systems (EWR, C2C) – both for access *to* and *from* Cambourne, and to mitigate impacts on villages north and south.
- Already dangerously **narrow roads** likely to take brunt of congestion.
- **Bypasses** suggested as legitimate solution – existing Papworth bypass seen as a good example.
- Suggestions of Cambourne gaining a connection to **trunk roads,** e.g. opening A14/A1198 to Cambourne traffic.
- **Roundabouts** recognised as potential **bottlenecks**, e.g. at Anderson Road, Wellington Way and junction near Buckingway Business Park.
- Suggestions of **road access** being opened up to **Cambourne West.**
- **Rat running** to the south of Cambourne (Caldecote, Bourn, Hardwick). Elsworth to the north. Scotland Road also concerning.
- Fears of **disruption during construction** – need multiple routes to alleviate traffic.
- If Cambourne gets **key amenities** (e.g.secondary school) that will reduce traffic *into* other villages
- Installing deterrences to car travel is understandable but **without alternatives, people will still travel by car**.
- Maps and graphics should "**go beyond the red line**" – important to reassure local residents that wider transport impacts are being considered.

Ensuring integration with local villages

- Need for **more public transport choice** overall.
- **Better bus connections** from Cambourne to villages (connect to station and CtoC) and bus availability in villages in general.
- **Buses to go *through* villages**, rather than just outskirts.
- **Distances mean active travel is not feasible** between villages/Cambourne for many (particularly older) residents.
- In contrast, fears that if villages become better connected, they could become **de facto Park and Ride locations** for Cambourne.

Stage 2 engagement on the Stage 1 spatial framework

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Learn from places like Freiburg and Netherlands

Vehicle loops around the edge of Cambourne and other towns

Potholes and **narrow roads** deter people from active travel

Suggestions for an active travel route along whole of **EWR corridor**

Bus only roads, not necessarily busways

Questions of whether Cambourne could be integrated into broader **regional greenway network** – at present, it stops at Hardwick.

Desire for **interchange hubs** and a variety of travel options

More **local services** in Cambourne to encourage active travel

Parking needed in early days of central station area to ensure it is well-visited as it develops.

Over **longer-term,** greater need to **reduce parking** in the area.

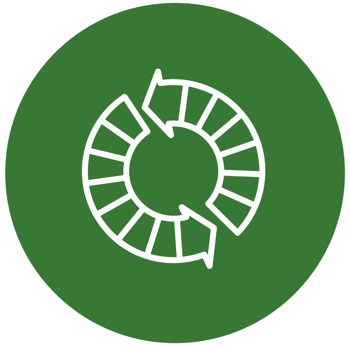
Need consider station's impact on residential parking, particularly if parking controls are implemented at station. **Resident parking schemes** as a possible solution.

Parking needed to **facilitate access to attractions** in Cambourne, not just the train station.

Contention over station parking

Stage 2 engagement on the Stage 1 spatial framework

Connectivity



Facilitating network-wide movement

Alongside east-west connectivity, plans need to look beyond this to consider north-south travel, ensuring Cambourne's growth does not put pressure on local routes.

Finding an urban-rural balance

Proposals need to ensure neighbouring villages can access the opportunities arising from Cambourne's development, while still retaining their rural feel.

Laying the groundwork early-on

Sequencing, phasing, and construction logistics are key. Transport infrastructure needs to be embedded from the start to support new homes, create a vibrant urban centre, and entrench sustainable habits.

Making active travel a possibility

While walking and cycling will not always be suitable for travelling to and from neighbouring villages, improvements to road quality and safer, continuous routes could make it viable for many.

Stage 2 engagement on the Stage 1 spatial framework

Cross cutting themes

Focusing on people

Ensuring that existing communities, especially those most impacted, receive early benefits from development.

Thinking beyond the red line

Consider a wider approach to design and planning to incorporate any necessary improvements to roads, access points, and infrastructure in the proposals.

Phasing & sequencing

Identify the appropriate levels of investment and development sequence to ensure successful delivery, prioritising early infrastructure and services, and a managed transition towards sustainable transportation methods.

Ambitious yet deliverable

Proposals need to align the potential of the opportunity with confidence in successful implementation.

Stage 2 engagement on emerging Stage 2 spatial framework

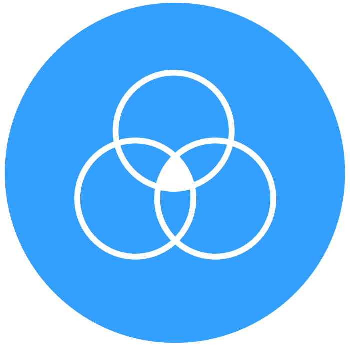
Cross cutting themes - boundaries, landscape, and connectivity

Addressing congestion through a holistic approach

Congestion remains a key concern. Proposals must be grounded in real-world experiences, ensuring sufficient access, resilience, and capacity to respond to servicing demands and regional growth.

Designing transport that works for all

Travel options must be realistic and inclusive, accounting for the needs of older and disabled residents, while considering connections in all directions from the site.



Delivering a joined-up, integrated framework

Joined-up delivery between transport and landscape, alongside coordination with EWR and developers, is needed to ensure a coherent and deliverable plan.

Clarity on ownership and obligations

Moving beyond proposals themselves, assurances on deliverability are needed to secure support – particularly around landscape buffers, bus provision, and long-term stewardship of GBI.

2 Design development

This section describes how the Stage 2 design responds to stakeholder feedback and non-transport workstreams.

Introduction

Key developments from Stage 1

Stage 1 established the overarching transport vision and principles to inform the Spatial Framework for the expansion of Cambourne. This work set out a vision-led, place-based approach, embedding transport planning from the outset to enable a significant reduction in car dependency and support long-term sustainable growth.

Key outcomes of Stage 1 included:

- A clear **transport vision** prioritising walking, cycling and public transport for most everyday journeys.
- An integrated strategy aligned with the delivery of **East West Rail (EWR)** and the **Cambourne to Cambridge High Quality Public Transport (CtoC HQPT) corridor**, supported by a hierarchy of mobility hubs.
- Principles for **walkable neighbourhoods**, early delivery of active travel and public transport, and land-use patterns that maximise trip internalisation.
- Identification of strategic constraints, including severance from the A428 and future EWR alignment, alongside the **need for coordinated crossings** and early infrastructure delivery.
- **Initial testing of travel demand** and trip budget to inform the scale and form of development.

Together, these elements defined a robust framework against which future spatial options could be developed and tested.

Stage 1 principles

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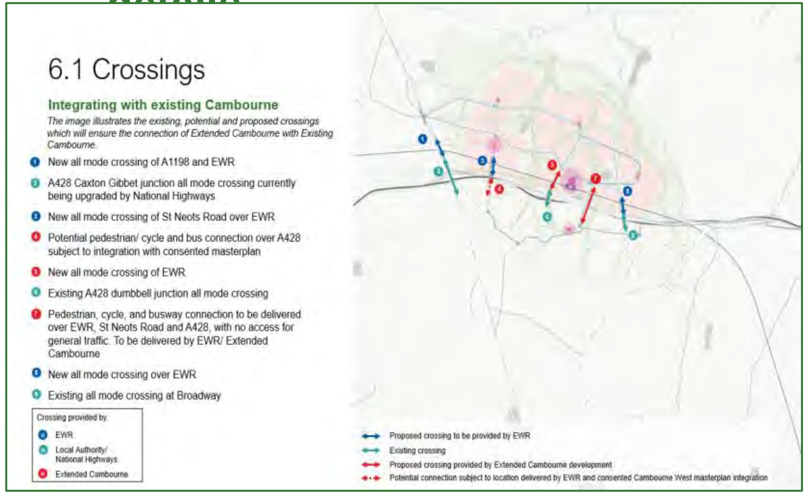
Snapshot of Stage 1 topics – see Stage 1 Transport Vision and Principles report for details



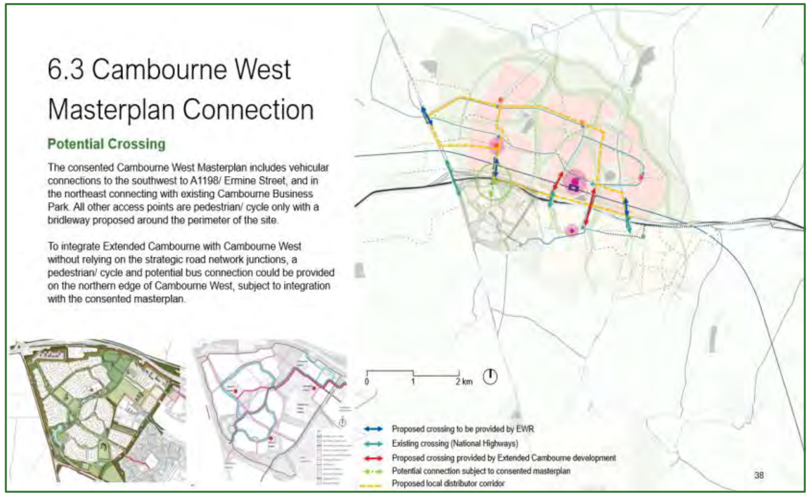
6.1 Crossings

Integrating with existing Cambourne

The image illustrates the existing, potential and proposed crossings which will ensure the connection of Extended Cambourne with Existing Cambourne.

1. New all mode crossing of A1198 and EWR
2. A428 Caxton Gibbet junction all mode crossing currently being upgraded by National Highways
3. New all mode crossing of St Neots Road over EWR
4. Potential pedestrian/ cycle and bus connection over A428 subject to integration with consented masterplan
5. New all mode crossing of EWR
6. Existing A428 dumbbell junction all mode crossing
7. Pedestrian, cycle, and busway connection to be delivered over EWR, St Neots Road and A428, with no access for general traffic. To be delivered by EWR/ Extended Cambourne
8. New all mode crossing over EWR
9. Existing all mode crossing at Broadway

Crossing provided by:
- EWR
- Local Authority/ National Highways
- Extended Cambourne

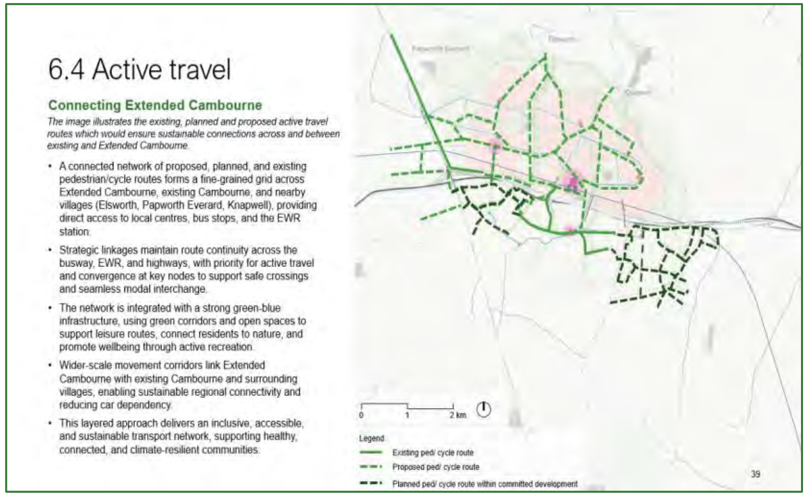


6.3 Cambourne West Masterplan Connection

Potential Crossing

The consented Cambourne West Masterplan includes vehicular connections to the southwest to A1198/ Ermine Street, and in the northeast connecting with existing Cambourne Business Park. All other access points are pedestrian/ cycle only with a bridleway proposed around the perimeter of the site.

To integrate Extended Cambourne with Cambourne West without relying on the strategic road network junctions, a pedestrian/ cycle and potential bus connection could be provided on the northern edge of Cambourne West, subject to integration with the consented masterplan.

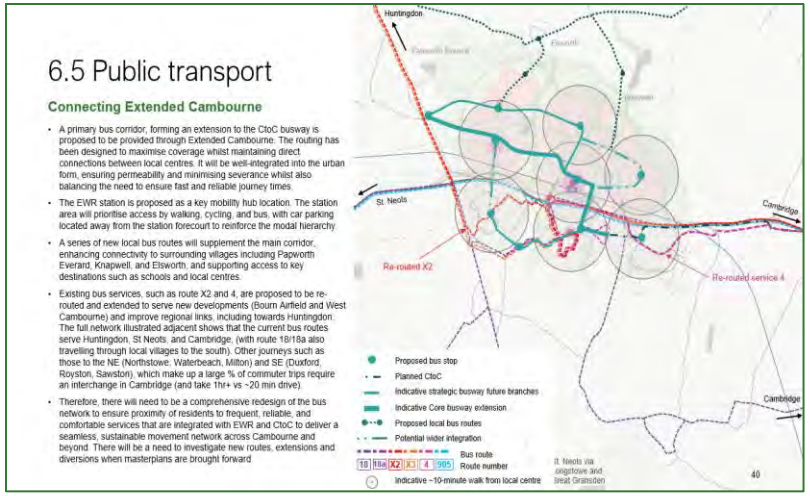


6.4 Active travel

Connecting Extended Cambourne

The image illustrates the existing, planned and proposed active travel routes which would ensure sustainable connections across and between existing and Extended Cambourne.

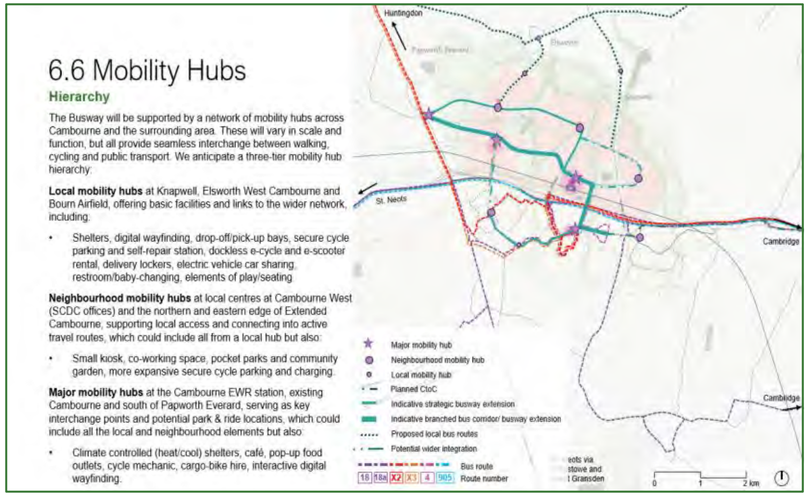
- A connected network of proposed, planned, and existing pedestrian/cycle routes forms a fine-grained grid across Extended Cambourne, existing Cambourne, and nearby villages (Elsworth, Papworth Everard, Knapwell), providing direct access to local centres, bus stops, and the EWR station.
- Strategic linkages maintain route continuity across the busway, EWR, and highways, with priority for active travel and convergence at key nodes to support safe crossings and seamless modal interchange.
- The network is integrated with a strong green-blue infrastructure, using green corridors and open spaces to support leisure routes, connect residents to nature, and promote wellbeing through active recreation.
- Wider-scale movement corridors link Extended Cambourne with existing Cambourne and surrounding villages, enabling sustainable regional connectivity and reducing car dependency.
- This layered approach delivers an inclusive, accessible, and sustainable transport network, supporting healthy, connected, and climate-resilient communities.



6.5 Public transport

Connecting Extended Cambourne

- A primary bus corridor, forming an extension to the CtoC busway is proposed to be provided through Extended Cambourne. The routing has been designed to maximise coverage whilst maintaining direct connections between local centres. It will be well-integrated into the urban form, ensuring permeability and minimising severance whilst also balancing the need to ensure fast and reliable journey times.
- The EWR station is proposed as a key mobility hub location. The station area will prioritise access by walking, cycling, and bus, with car parking located away from the station forecourt to reinforce the modal hierarchy.
- A series of new local bus routes will supplement the main corridor, enhancing connectivity to surrounding villages including Papworth Everard, Knapwell, and Elsworth, and supporting access to key destinations such as schools and local centres.
- Existing bus services, such as route X2 and 4, are proposed to be re-routed and extended to serve new developments (Bourn Airfield and West Cambourne) and improve regional links, including towards Huntingdon. The full network illustrated adjacent shows that the current bus routes serve Huntingdon, St Neots, and Cambridge, (with route 18/18a also travelling through local villages to the south). Other journeys such as those to the NE (Northstowe, Waterbeach, Milton) and SE (Duxford, Royston, Sawston), which make up a large % of commuter trips require an interchange in Cambridge (and take 1hr+ vs ~20 min drive).
- Therefore, there will need to be a comprehensive redesign of the bus network to ensure proximity of residents to frequent, reliable, and comfortable services that are integrated with EWR and CtoC to deliver a seamless, sustainable movement network across Cambourne and beyond. There will be a need to investigate new routes, extensions and diversions when masterplans are brought forward.



6.6 Mobility Hubs

Hierarchy

The Busway will be supported by a network of mobility hubs across Cambourne and the surrounding area. These will vary in scale and function, but all provide seamless interchange between walking, cycling and public transport. We anticipate a three-tier mobility hub hierarchy:

Local mobility hubs at Knapwell, Elsworth West Cambourne and Bourn Airfield, offering basic facilities and links to the wider network, including:

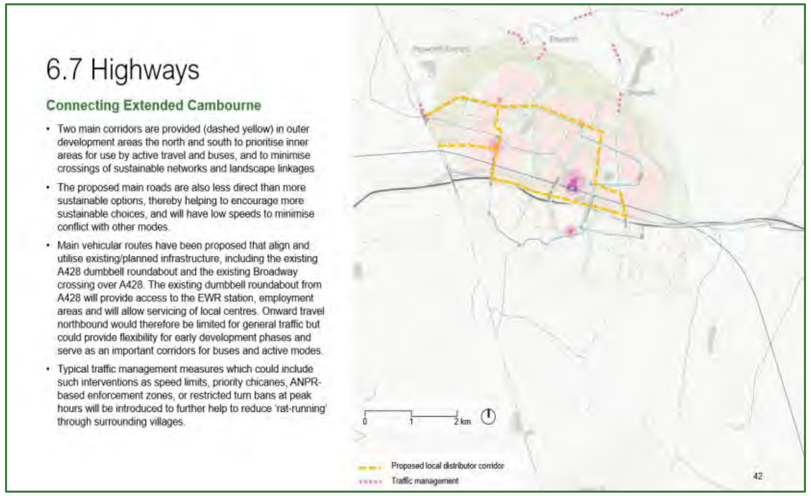
- Shelters, digital wayfinding, drop-off/pick-up bays, secure cycle parking and self-repair station, dockless e-cycle and e-scooter rental, delivery lockers, electric vehicle car sharing, restroom/baby-changing, elements of play/seating

Neighbourhood mobility hubs at local centres at Cambourne West (SCDC offices) and the northern and eastern edge of Extended Cambourne, supporting local access and connecting into active travel routes, which could include all from a local hub but also:

- Small kiosk, co-working space, pocket parks and community garden, more expansive secure cycle parking and charging.

Major mobility hubs at the Cambourne EWR station, existing Cambourne and south of Papworth Everard, serving as key interchange points and potential park & ride locations, which could include all the local and neighbourhood elements but also:

- Climate controlled (heat/cool) shelters, café, pop-up food outlets, cycle mechanic, cargo-bike hire, interactive digital wayfinding.



6.7 Highways

Connecting Extended Cambourne

- Two main corridors are provided (dashed yellow) in outer development areas the north and south to prioritise inner areas for use by active travel and buses, and to minimise crossings of sustainable networks and landscape linkages
- The proposed main roads are also less direct than more sustainable options, thereby helping to encourage more sustainable choices, and will have low speeds to minimise conflict with other modes.
- Main vehicular routes have been proposed that align and utilise existing/planned infrastructure, including the existing A428 dumbbell roundabout and the existing Broadway crossing over A428. The existing dumbbell roundabout from A428 will provide access to the EWR station, employment areas and will allow servicing of local centres. Onward travel northbound would therefore be limited for general traffic but could provide flexibility for early development phases and serve as an important corridors for buses and active modes.
- Typical traffic management measures which could include such interventions as speed limits, priority chicanes, ANPR-based enforcement zones, or restricted turn bans at peak hours will be introduced to further help to reduce 'rat-running' through surrounding villages.

Stage 2 key framework updates

Response to non-transport technical studies and engagement

The Stage 2 spatial framework represents a significant refinement of the Stage 1 proposals, driven by three main inputs: landscape and visual appraisal findings, ecological considerations (including ancient woodlands and dark corridors), and stakeholder engagement feedback. The overall effect is a framework that pulls development away from sensitive northern settlements, expands westward onto less sensitive ground, and weaves in a more rational green infrastructure network throughout the site.
Further details are provided in the accompanying *Cambourne spatial framework update* and *GBI framework update*.

Development Boundaries

Increase towards the West (LVIA-led opportunity). Boundary aligned with Parish boundaries (**1**) and field boundaries (**2**)
3 – Receded boundary to create landscape buffer to villages (LVIA Findings)
4 – Boundary alignment refined in response to LVIA findings, reducing development in visually prominent areas and improving plot deliverability.
5 – Alignment of eastern boundary with natural features

GBI-ecology led design

6 – Expansion of Ancient Woodlands to approximately 10ha in addition to a 50m landscape buffer
7 – 60m wide dark corridors
8 – EW landscape corridors between Ancient Woodlands

Stage 2 framework updates

Transport

Stage 2 builds on the principles identified in the Stage 1 framework and refines them in response to stakeholder feedback and non-transport workstreams.

Key transport updates in Stage 2 include:

- Refinement of spatial proposals to reflect the **GBI strategy** and **EWR DCO consultation scheme**. Further details are provided in Section 3.
- Updated and expanded future **bus network proposals**, including potential additional routes and a local Cambourne shuttle, to strengthen north–south connectivity and improve access to the EWR station, CtoC, and surrounding villages to further expand the benefits of growth at Cambourne North. Further details are provided in Section 4.
- A more detailed articulation of **active travel connectivity**, bringing together planned LCWIP routes and identifying potential strategic cycle connections to address strategic gaps in connectivity. Further details are provided in Section 4.
- Greater emphasis on **integration with existing Cambourne and nearby settlements**, ensuring proposed new infrastructure supports a "One Cambourne" approach and seeks to protect surrounding villages from increased vehicular traffic. Further details are provided in Section 4.
- Detailed **Transport modelling** to inform potential access junction considerations, on-site transport interventions and off-site mitigation to support development. Further details are provided in Section 6.

Stage 2 Emerging Strategy – see Sections **4 and 5 for further detail**

Stakeholder and Landowner engagement

Summary of feedback on the Stage 1 spatial framework

Two workshops were held at the start of Stage 2 to capture feedback on previous work and provide a clear baseline for Stage 2 going forward. Both workshops were held in-person in Cambourne, with the first focused on local residents and another including representatives of relevant landowners.

What we heard	How this has been taken forward
Concern that congestion/ impacts could worsen across surrounding villages including on narrow rural roads and existing bottlenecks, not just along east–west routes	Further work has been undertaken to refine the first principles trip generation and trip distribution based on CSRM transport modelling to better understand likely impact. Emerging proposals include **modal filters and restricted vehicle movements** between Cambourne North and villages to the north are being reviewed as part of wider mitigation options being tested within CaPCAM transport model.
Suggestions that new or improved bypass routes could help reduce through-traffic in villages	Bypass and other strategic routing options are being **considered alongside other mitigation measures,** but such interventions will have wide-ranging (non-transport) impacts. More sustainable solutions will be sought in the first instance, but we recognise that some larger scale interventions may be needed including beyond the Plan period.
Concern that relying on a single main route through Cambourne North could cause severe disruption during incidents or construction	Stage 2 work will **more clearly set out access proposals** and internal vehicle routing proposals including resilience and construction routing principles.
Ongoing issues with rat-running through villages north and south of Cambourne	The illustrative internal highway network and access proposals seek to ensure that higher category roads are used for longer trips with **further detail of the level of trips anticipated through the wider network to be provided** based on CaPCAM model outputs.

Stakeholder and Landowner engagement

Summary of feedback on the Stage 1 spatial framework

What we heard	How this has been taken forward
Suggestions to open up road access between Cambourne North and Cambourne West	Potential connections are being **explored in principle**, subject to landowner agreement, masterplan integration and the proposed EWR crossing locations
Acceptance that car use needs to be managed, but concern that alternatives must be realistic	Further details of travel demand including **credible alternatives to car travel**, potential bus improvements, potential strategic active travel connection and integration of EWR station are provided in Section 3.
Requests for reassurance that impacts beyond the site boundary are being considered	Further details of transport modelling including **wider impacts and mitigation proposals** are provided in Sections 6 and 7.
Desire for better public transport connections between Cambourne and nearby villages	**Potential additional bus routes have been identified** for testing through CaPCAM and potential strategic active travel connections identified. It should be noted that any services provided will be subject to bus operator viability assessments.
Concern that improved connections could turn villages into informal park-and-ride locations	Parking management and regulation options in surrounding villages will be **considered where this risk is identified.**
Mixed views on station parking – short-term need versus long-term restraint	EWR station parking estimates to be modelled through CaPCAM with **recommendations made to EWR** to complement/ better integrate with Cambourne North are set out in Section 3.

Stakeholder and Landowner engagement

Summary of feedback on the developing Stage 2 spatial framework

Two workshops were held approximately halfway through Stage 2 to capture feedback on the developing Stage 2 spatial framework. Both workshops were held in-person in Cambourne, with the first focused on local residents and another including representatives of relevant landowners.

What we heard	How this has been taken forward
Existing roads too narrow and likely to take brunt of congestion	Increasing road widths is likely to encourage more/ faster vehicular trips, conflicting with Cambourne North's objectives. However, bypasses around narrow villages to the north may need to be considered subject to A428 link capacity.
Increased vehicle trips through existing villages	May need to consider subject to CN DM outputs and A428 link capacity.
Lack of access points forces centralised vehicle movements alongside HGVs	Two access points provided from A1198 in Stage 1 Spatial Framework with flexibility in how the internal network could be delivered to increase separation of HGVs from other vehicles as appropriate.
Roundabouts recognised as potential bottlenecks (Anderson Rd, Wellington Way, Buckingway Business Park)	Increasing roundabout capacity at Anderson Road/ Buckingway Business Park is likely to increase NS movements through villages to the north. Wellington Way improvements to be considered once CN DM outputs received.
Limited road access for Cambourne West	Increasing access is subject to agreement and incorporation with Cambourne West consented masterplan.
Limited local bus routes to key locations; risk people will drive to station/HQPT	Additional routes with increased frequency are being explored to connect surrounding villages with the EWR station and CtoC HQPT.
Risk surrounding villages could become de-facto Park & Ride locations	Local parking enforcement/ regulation could be explored as the masterplan progresses.
Concerns that mobility needs of older and disabled residents	Proposals will be reviewed to ensure **inclusive access is embedded**, with a balanced approach combining active travel and public transport options, as well as car use to meet a wider range of mobility needs.

Stakeholder and Landowner engagement

Summary of feedback on the developing Stage 2 spatial framework

What we heard	How this has been taken forward
Bus-only roads could be used, not necessarily just busways	Modal filters have been explored to reduce impacts in surrounding villages at Elsworth and Knapwell
Ongoing concerns about understanding and trust in the transport modelling	Further work will **improve the clarity and communication of modelling outputs and assumptions**, including clearer explanation of scenarios and how mitigation is represented, supported by transparent reporting.
Concern that the strategy does not fully account for movement to and between nearby villages (north–south connectivity)	The transport strategy has been **further developed to better reflect local movement patterns**, including north–south connectivity and trips between surrounding settlements, alongside strategic movements.
Concerns regarding location, function and effectiveness of mobility hubs	The role and function of mobility hubs will be **further defined and tested**, including their integration with the wider transport network and potential impacts on the highway network.
Concerns about the deliverability of infrastructure outside the site boundary (ownership, responsibilities, and delivery mechanisms)	Ongoing engagement will support **clarification of delivery mechanisms, responsibilities and phasing**, including how off-site infrastructure could be secured and implemented.
Need to consider cumulative demand and a wider range of trip types, including servicing and visitor trips	Cumulative demand including wider Local Plan growth and planned growth from neighbouring authorities. Servicing and visitor trips are included in the strategic modelling assessment with further detailed assessment to be undertaken at planning application stage.
Desire for greater transparency and flexibility in the transport strategy	The evolving strategy will continue to be **presented as a flexible framework**, with options refined as further evidence emerges and ongoing engagement informs the approach.
There is potential for western access directly in the northern dumbbell of the Caxton Gibbet improvement scheme to provide more direct access into Cambourne North.	This would require detailed conversations with National Highways and Cambridgeshire County Council.

3 East West Rail

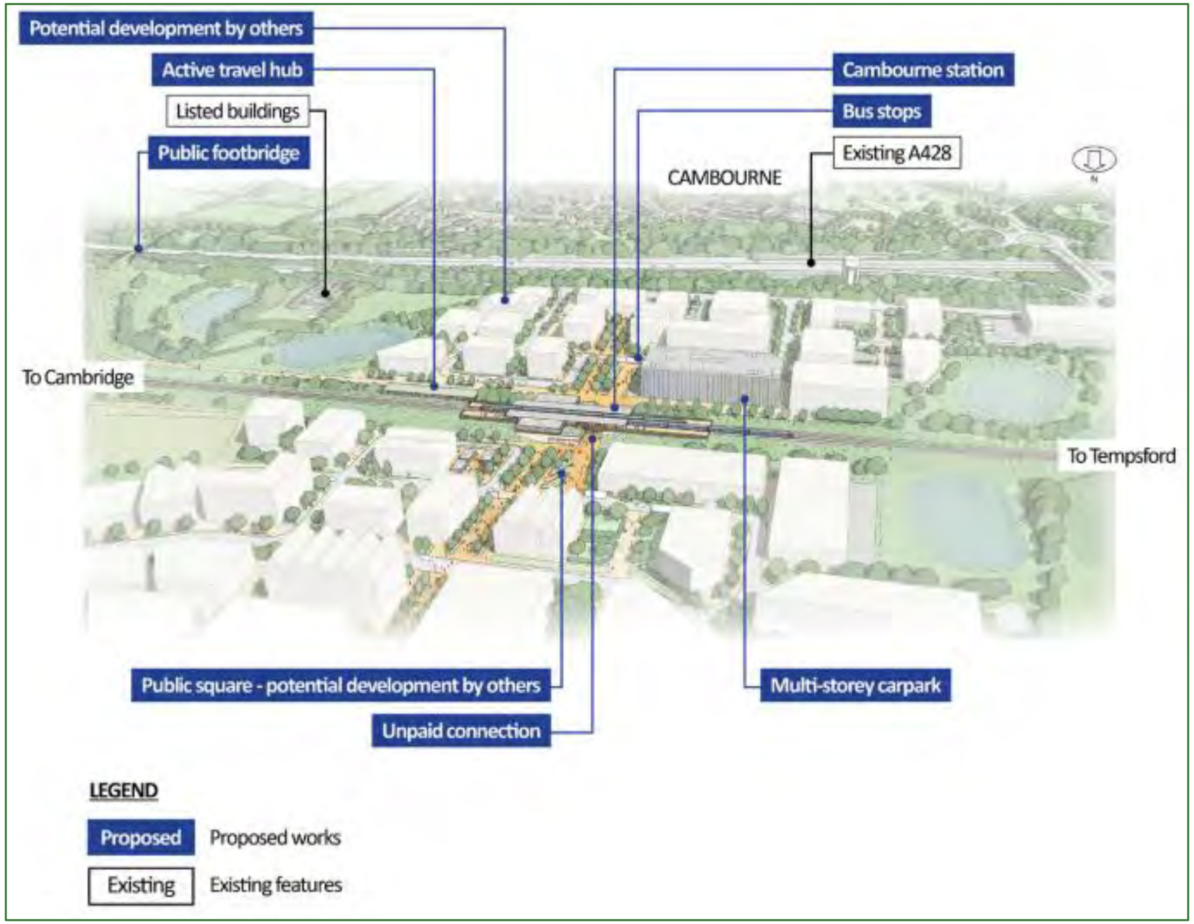
This section covers the latest EWR proposals based on the May 2026 consultation and their implications for Cambourne North. EWR proposals continue to evolve and ongoing engagement between EWR, GCSP, landowners and other stakeholders will inform the future development of both the rail scheme and the spatial framework including beyond EWR DCO submission/ consent as necessary.

EWR May 2026 Consultation

Cambourne Station design

The latest station layout proposals indicates a dual-sided station with public squares and access provided from both sides of the railway. The station is conceived to form part of a wider 'place', with potential for surrounding mixed-use development rather than a standalone transport hub or facility.

Although the station will attract trips from beyond Cambourne, it is not envisaged as a park-and-ride station. Rather, it is intended to act as a catalyst for Cambourne's growth, with access prioritised by walking, cycling and bus from surrounding neighbourhoods.



Source: EWR Consultation May 2026

EWR May 2026 Consultation

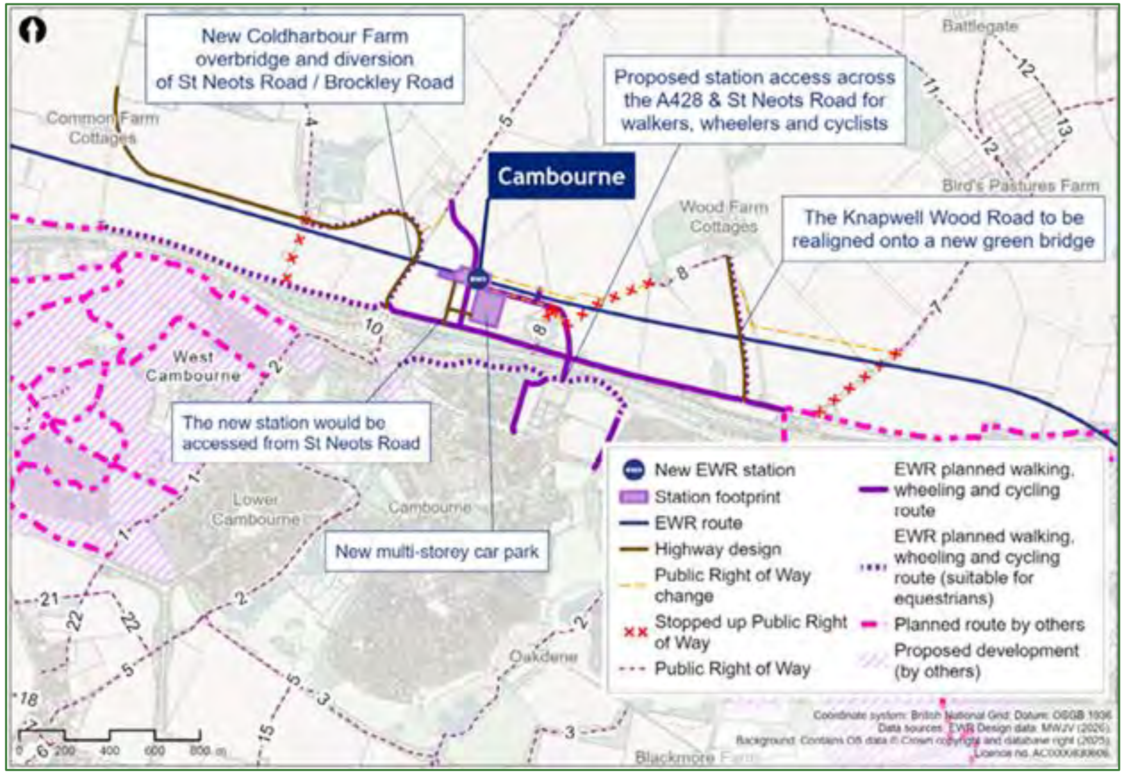
Car parking approach

The latest EWR plans show provision for a multi-storey car park at Cambourne station, located to one side of the station rather than dominating the main station square.

A managed approach to station car parking with minimal provision is preferred. While EWR's current proposals include provision for a multi-storey car park, parking provision should be carefully monitored and phased over time to support station accessibility whilst seeking to avoid unnecessary trips to the station by car.

The preferred approach is therefore to:

- prioritise access to the station by walking, wheeling and cycling and public transport;
- manage parking provision to support the station's role in serving Cambourne, Cambourne North and surrounding communities; and
- phase the introduction of car parking based on observed demand and highway impact. This will need to be reviewed over time as public transport connectivity, surrounding development and travel behaviour evolve.



Source: EWR Consultation May 2026

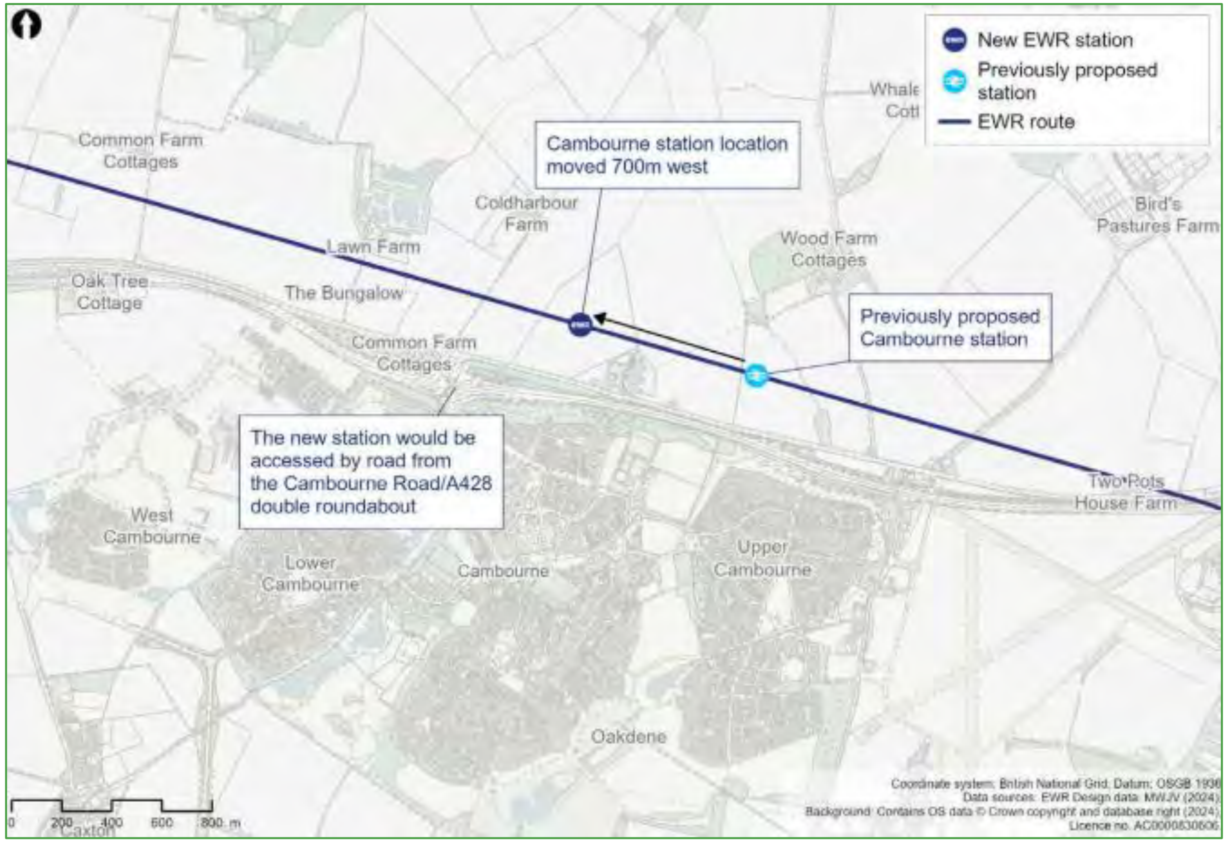
EWR May 2026 Consultation

Station location

The May 2026 consultation proposes relocating Cambourne station approximately 700m west of the previously proposed location, positioning it closer to the A428 Cambourne junction and improving access to the town centre and surrounding development areas.

This revised location responds to stakeholder feedback that the previous site was poorly connected to Cambourne and key movement corridors. It also supports future growth more effectively, including planned residential and employment development in the area.

The new alignment reduces environmental impacts by moving the station further away from Knapwell Wood and associated sensitive habitats. It also enables a more integrated layout, with improved connections to the highway network and opportunities to enhance walking, wheeling and cycling links to the station.



Source: EWR Consultation May 2026

EWR May 2026 Consultation

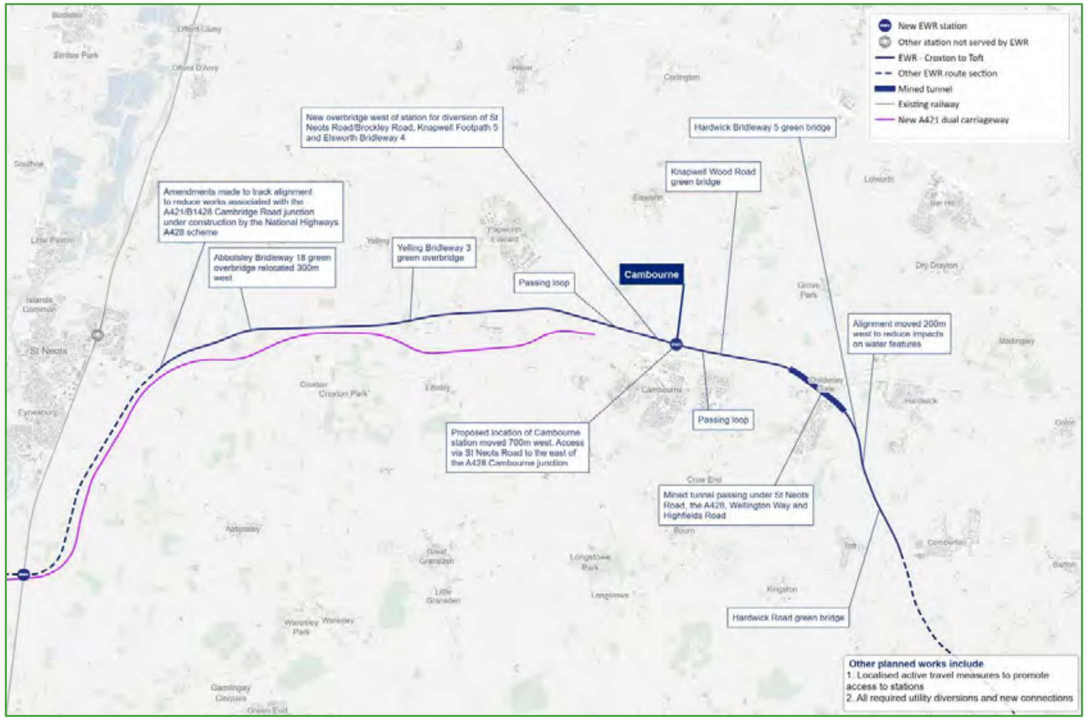
Rail alignment

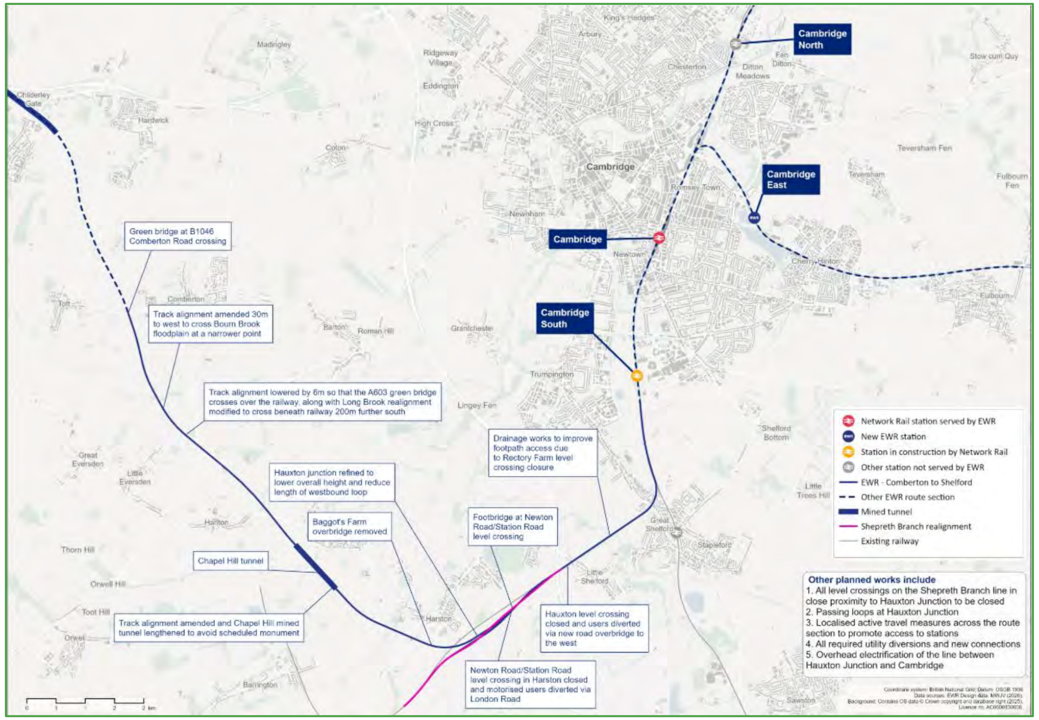
The updated proposals retain the overall route through Cambourne but include local refinements to the rail alignment to respond to the revised station location and environmental constraints.

The railway is slightly lowered in places and adjusted horizontally to reduce impacts on nearby features, including watercourses and landscape designations. These changes also influence the design and location of bridges, diversions and crossings along the route.

Passing loops are retained but have been repositioned to align with the new station location, improving operational efficiency while maintaining freight and passenger capacity.

Overall, the revised alignment reflects a more coordinated approach, integrating the railway, station, highway network and active travel connections while reducing environmental and landscape impacts compared to earlier proposals.





Source: EWR Consultation May 2026

EWR May 2026 Consultation

Key Differences from Previous Consultation

1. Station Location and Layout

- **Moved 700m west** compared to earlier proposals
- Now better aligned with A428 junction and future growth areas
- Reduced environmental impact as further from Knapwell Wood.

2. Station Access Design

- Shift from **footbridge with lifts/stairs → underpass**
- Improves permeability and more user-friendly step-free access

3. Active Travel Connectivity

- Shared-use bridge over A428 **moved 300m west**
- Greater emphasis on integrating with existing and planned routes
- Some **PRoW diversions simplified or shortened** (e.g. Yelling Bridleway 3 via new bridge)

4. Highway Strategy

- **Greater reliance on existing/re-aligned roads** (e.g. St Neots Road/Brockley Road) for both access and maintenance
- Removal of previously proposed **additional maintenance access tracks**

5. Rail Alignment and Structures

- Localised **lowering of rail embankments** in places
- Changes to crossings (e.g. loss of level crossing at West Brook, replaced by bridge)

6. Passing Loops

Relocated to reflect revised station position:

- Eastbound loop 700m further west
- Westbound loop 1.7km further east

7. Public Rights of Way and Crossings

Some previous proposals amended:

- Knapwell Footpath 5: from footbridge → **road bridge for all users**
- Knapwell Footpath 8: from bridge → **diversion via station underpass**

Overall trend towards **multi-user crossings**

8. Environment

- Increased focus on habitat connectivity through green bridges and planting, and flood mitigation and watercourse realignment
- Reduced land-take and ecological impact relative to earlier design

EWR May 2026 Consultation

EWR 2026 consultation key transport proposals

The image illustrates the potential and proposed crossings delivered by EWR which will ensure the connection of Cambourne North with Existing Cambourne.

1. All mode crossing over EWR
2. All mode crossing over EWR
3. Pedestrian and cycle permeability under EWR
4. Pedestrian and cycle crossing over A428
5. All mode crossing over EWR
6. Walking, wheeling, and cycling path between the A428 and EWR

Diagrams and alignments in this document are indicative, and further work will be required to ensure the exact alignment respects the existing constraints.

It should be noted that a crossing over EWR in the vicinity of Cambourne West is no longer proposed by EWR. Any crossing at this location would need agreement and funding from alternative sources. Further details of EWR proposals and options explored are included within the separate *Station Enhancement Study*.

4 Spatial Framework

This section covers the design evolution responding to landscape and ecology, GBI and dark corridors. This includes a set of overarching key moves and development principles and guidance for land use, movement and open space on the site.

Introduction

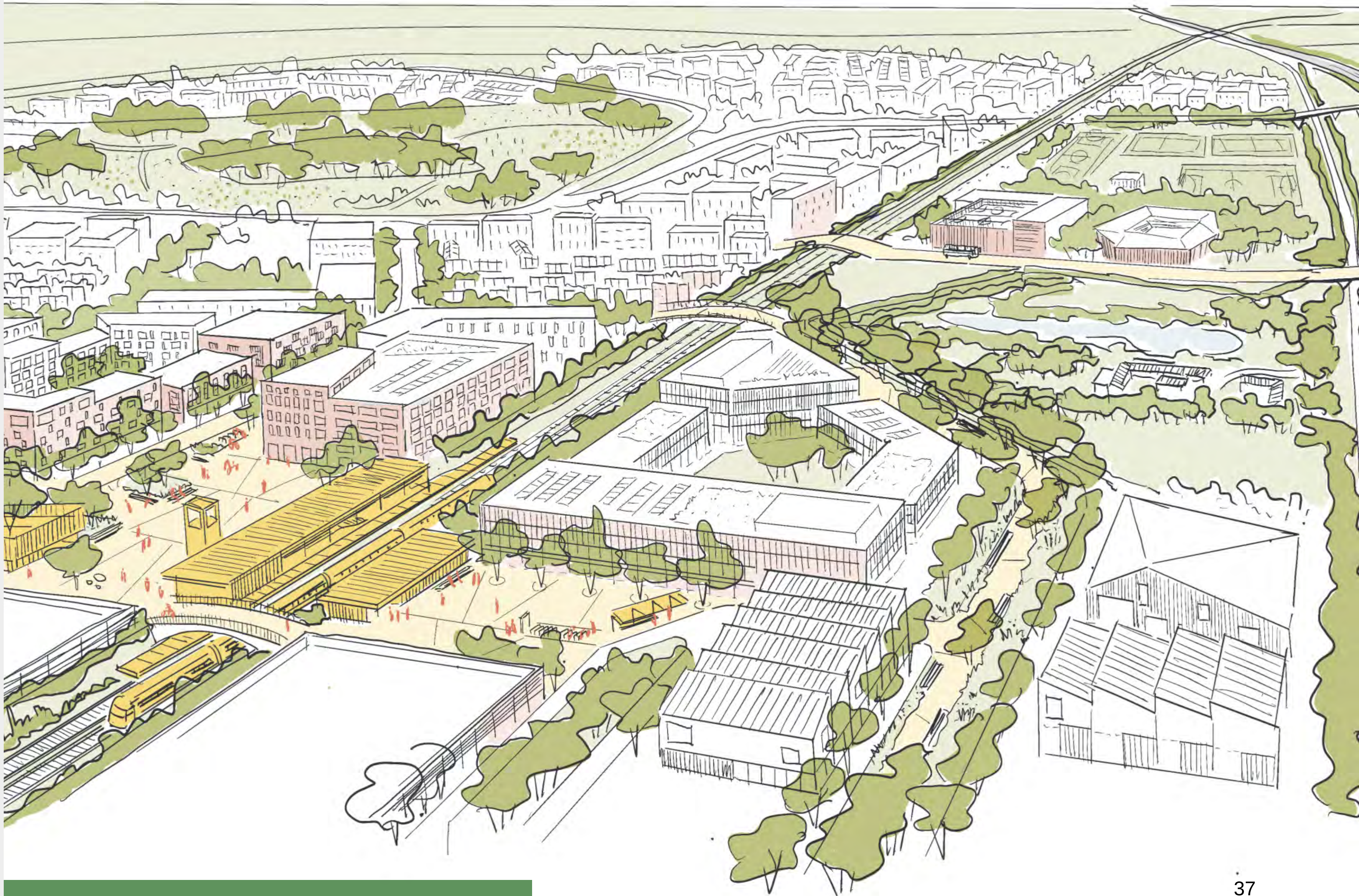
A future-proof framework

The arrival of East West Rail creates the opportunity for a step change in growth for Cambourne. By unlocking sustainable local and regional transport connectivity, EWR enables Cambourne to potentially grow to become the third largest urban agglomeration in the Combined Authority area. This growth needs to be optimised through planned, appropriately scaled expansion of Cambourne. The Spatial Framework lays out GCSP’s preferred approach to expansion.

The following pages outline the principles established for the framework, as well as general guidance on how open space, movement, development and land use should be established in this future place.

For further detail on the step change in growth and sequencing of Cambourne’s expansion , see Stage 1 Spatial Framework Report - Appendix 1.

For details on how the GBI approach integrates with adjacent sites, see the GBI Spatial Framework Report Addendum.



Cambourne New Station and Station Place development

Spatial Framework

Structure

Cambourne's expansion is structured around two main clusters of development comprised of compact and interconnected neighbourhoods, accommodating a range of densities scaled to deliver ~13,000 new homes and 6,000+ new jobs* integrated with high quality open spaces, a regionally significant forest and local services - with strong active travel links with existing Cambourne and to surrounding villages.

The facilities and improvements delivered as a result of this growth, will make Cambourne complete and enable it to function as a whole.

* Made up of around 4,000 office/R&D and mid-tech / light industrial jobs, and 2,000 retail and social infrastructure jobs.

The transport strategy for Cambourne North is set out in Section 5

Diagrams and alignments in this document are indicative, and further work will be required to ensure the exact alignment respects the existing constraints.

Connectivity

Framework principles and guidance

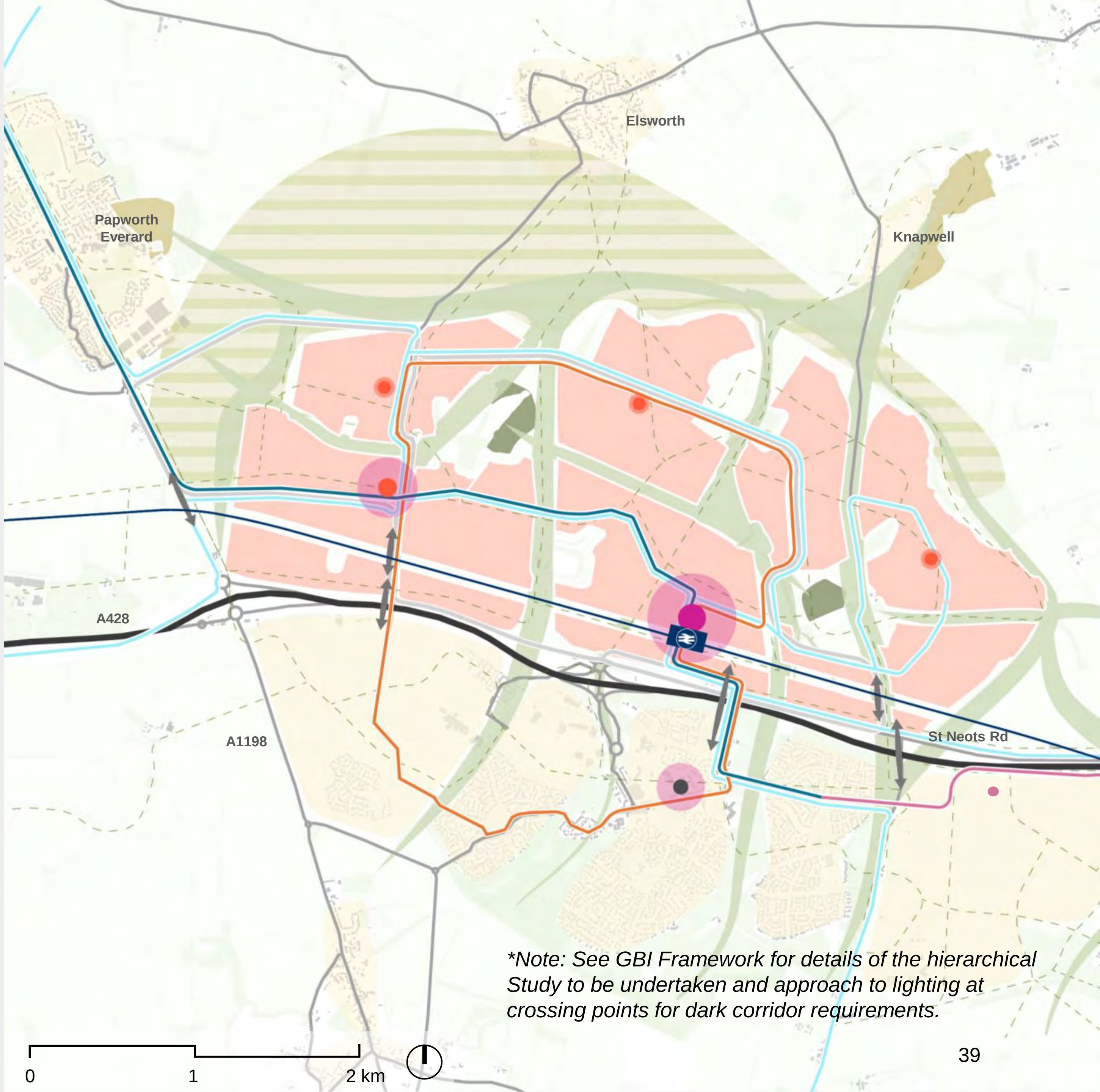
Cambourne's expansion will deliver enhanced connectivity within and between neighbourhoods and the town centre. Links to the railway station and activity centres will connect all new areas and severance of infrastructure corridors will be reduced by bringing existing and planned settlements together. This will ensure that the benefits of regional connectivity facilitated by a new EWR station and an extended Cambourne to Cambridge High Quality Public Transport (CtoC HQPT) corridor are available to all. The A428 will also continue to play an important role in providing strategic highway connectivity.

Cambourne connectivity will prioritise:

- Access to services and amenities, including green/open spaces for both existing and new residents, as well as surrounding villages. Connections will also be respectful of landscape linkages and where appropriate, lighting impacts will be mitigated to respect dark corridor designations.*
- Active travel provision and networks to link neighbourhoods and villages to the station, new town centre services and jobs.
- Integrated rail and station assets with well-planned public spaces, jobs, and leisure opportunities centred around a multimodal interchange.

Legend

- EWR proposed station
- EWR proposed alignment
- Strategic road
- Illustrative local distributor corridor
- Illustrative multi-modal links
- Planned CtoC HQPT corridor
- Indicative stop on HQPT route
- Illustrative CtoC HQPT extension
- Illustrative 'shuttle' bus route
- Illustrative active travel routes
- Existing town centre
- Town centre
- Local centre
- Neighbourhood centre



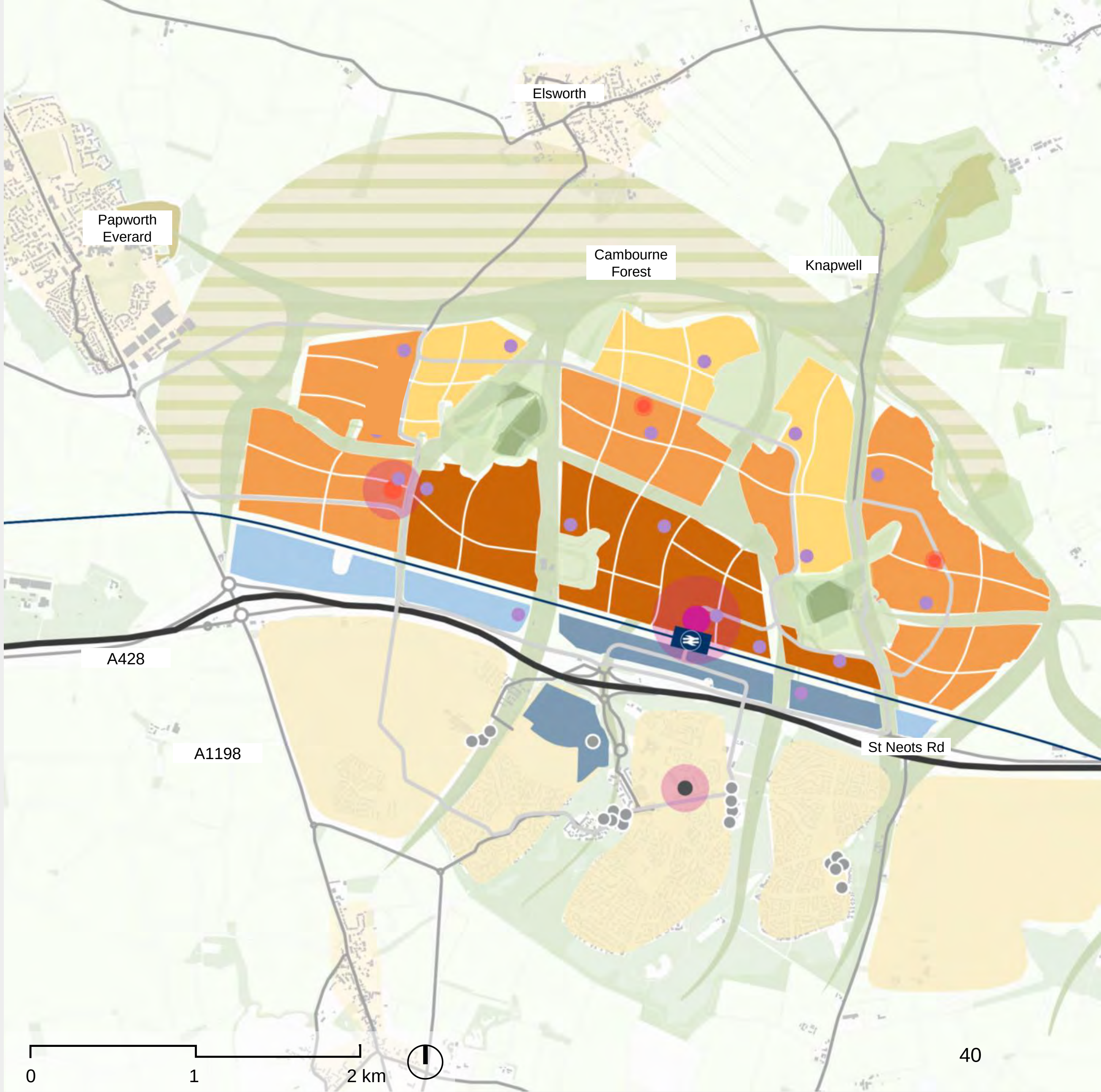
Note: See GBI Framework for details of the hierarchical Study to be undertaken and approach to lighting at crossing points for dark corridor requirements.

Land Use

Framework

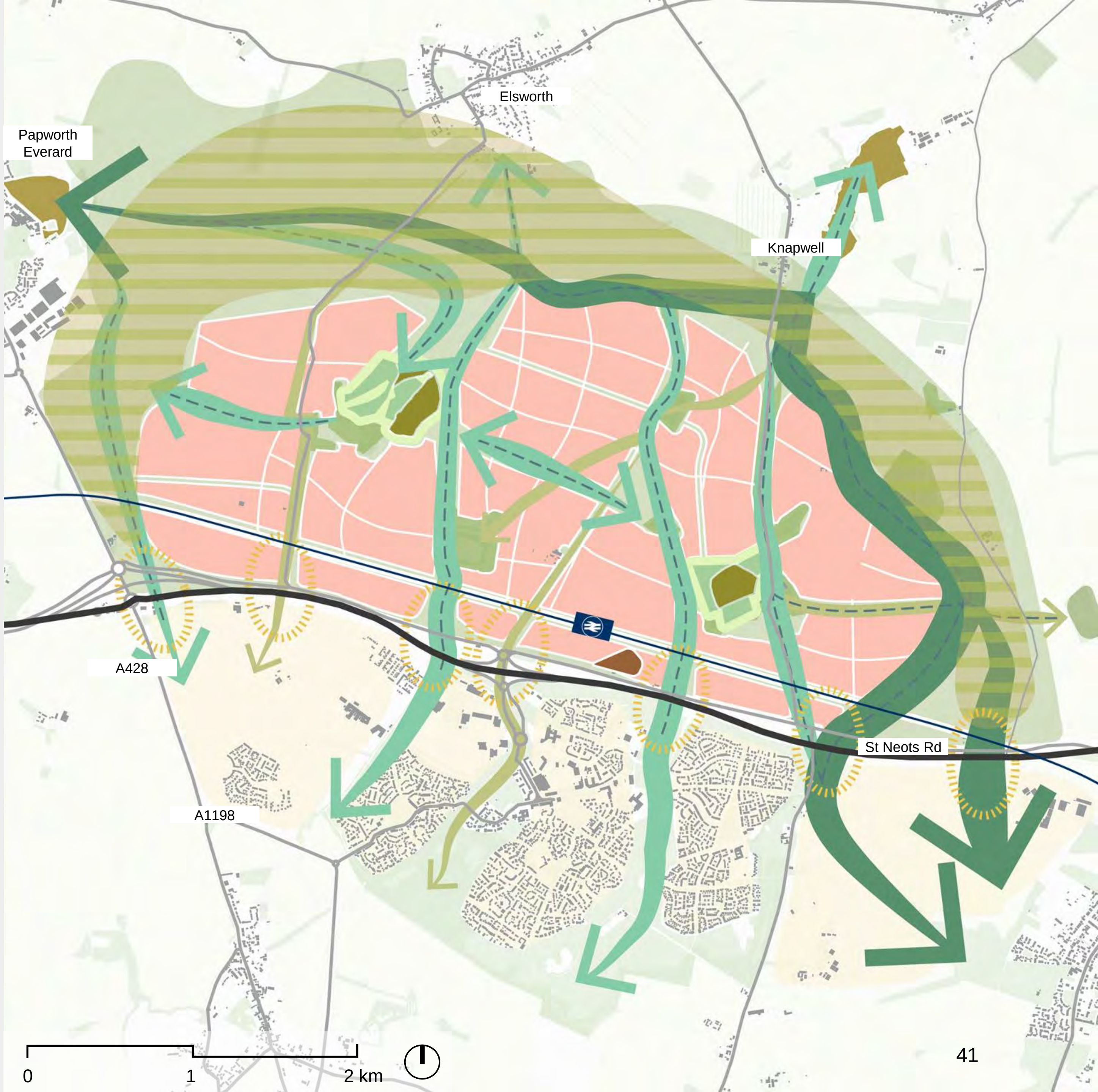
Legend

- Existing town centre
- Town centre
- Local centre
- Neighbourhood centre
- Existing community facility
- Proposed community facility
- Predominantly high density / mixed use (60-70 dph)
- Predominantly mid & high density residential (45-70 dph)
- Predominantly mid & low density residential (35-60 dph)
- Predominantly Workspace / commercial
- Predominantly Future Workspace / commercial
- Flexible working space
- Existing and Planned Cambourne
- Proposed green linkages
- Proposed green arc



Landscape

Framework



Legend

- Ancient woodland
- Proposed expansion and buffer to Ancient woodland
- Existing green areas
- Ecological protection and enhancement corridors
- Primary green linkages
- Secondary green linkages
- Tertiary green linkages
- Dark corridors
- Proposed Green Arc
- Proposed crossings
- Development clusters
- Existing and planned Cambourne

5 Transport strategy

This section sets out the transport strategy for the for the illustrative Stage 2 spatial framework. This builds on the transport principles set out in the Stage 1 Transport Vision and Principles report

Transport strategy

Overview

This section sets out the Stage 2 transport proposals for Cambourne North, developed in response to Regulation 18 consultation feedback, Stage 2 stakeholder engagement, EWR consultation, and the design development process.

The following pages set out the transport strategy which builds on the Stage 1 Transport vision and principles report to address the key themes raised including:

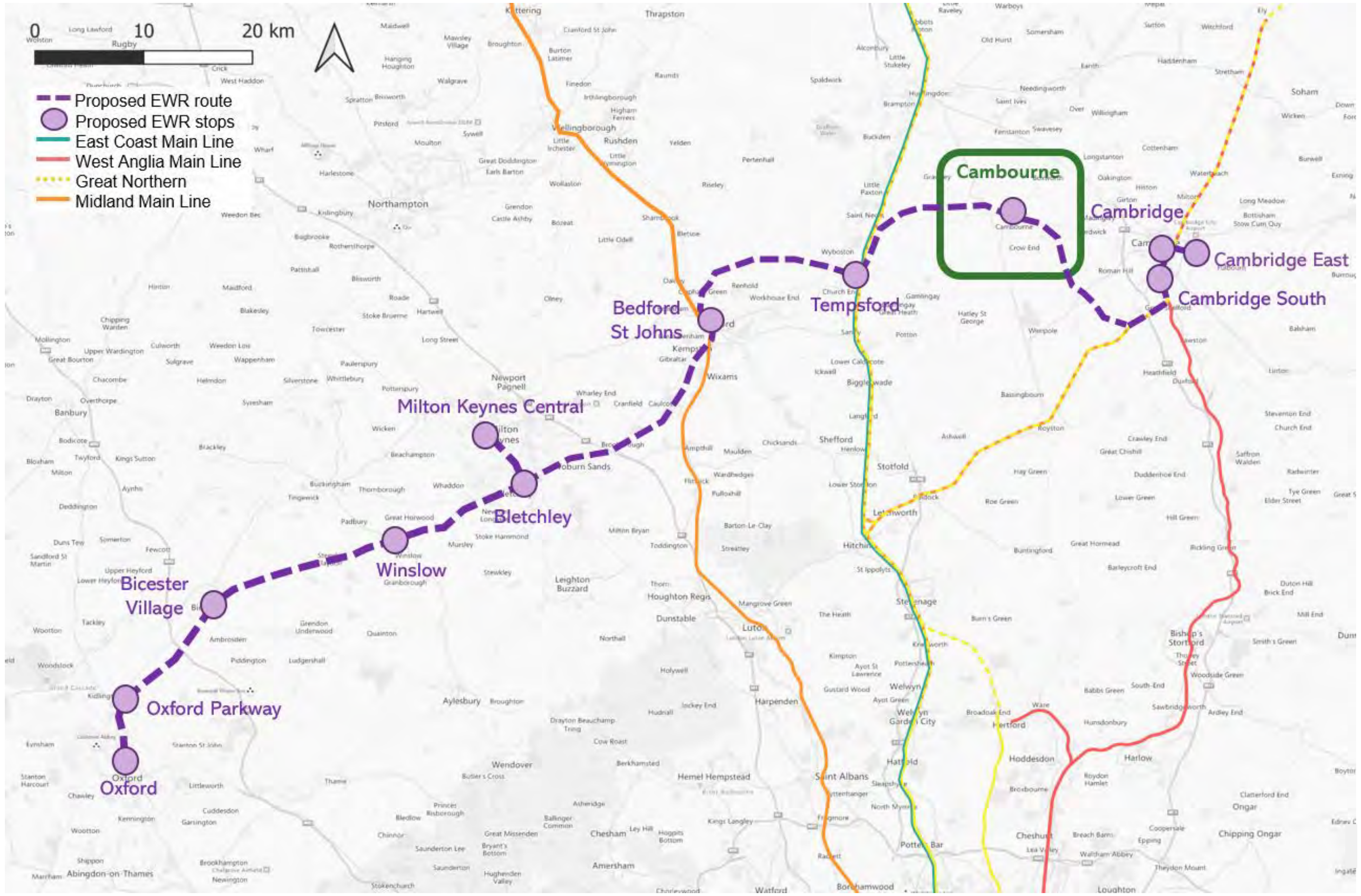
- **Strategic and local public transport** – EWR and the Cambourne to Cambridge High Quality Public Transport (CtoC HQPT) corridor proposals provide a layered public transport offer, responding to concerns about the realism and coverage of proposed services and the need for credible alternatives to car travel.
- **North–south connectivity and bus network expansion** – Potential additional bus routes address gaps in connectivity to surrounding villages and key destinations, responding to consistent feedback that plans must look beyond east–west corridors.
- **Active travel strategic network** – Additional strategic cycle connections have been identified to complement the planned LCWIP network, strengthening walking and cycling links to neighbouring settlements in response to calls for safer, continuous active travel routes.
- **Highway access and movement management** – Access junction locations and the internal highway layout are set out with modal filters identified at northern boundaries to address concerns about rat-running through villages to the north.
- **Construction access management** – Designated construction routes using the strategic road network address concerns about HGV impacts on local communities and surrounding settlements.
- **Resilience** – The transport strategy needs to have sufficient flexibility to adapt as major rail and bus infrastructure is constructed, and Cambourne North is delivered in a phased manner which evolves over time.
- **Monitor and Manage approach**– Cambourne North's development will need to be monitored with ongoing management to ensure that travel behaviours and vehicular traffic generation can continue to be supported as growth is delivered.

Transport strategy – Public transport

EWR

EWR will provide strategic connectivity beyond Cambridge, linking Cambourne to a wider network of regional centres across the Oxford–Cambridge corridor including the Cambridge Biomedical Campus, Cambridge Science Park and the major new expansion at Cambridge East, as well as strengthening connections to Bedford, Milton Keynes, Oxford and Tempsford, identified by Government as the location for a new town of up to 40,000 homes, planned around a new EWR interchange station with the East Coast Main Line.

By providing direct rail access to major employment, education and housing growth areas, EWR will expand the range of destinations accessible from Cambourne and support sustainable travel choices. The scheme will improve regional connectivity, increase access to jobs and services, and help integrate Cambourne within the wider economic geography of the Oxford-Cambridge Growth Corridor.



Transport strategy – Public transport

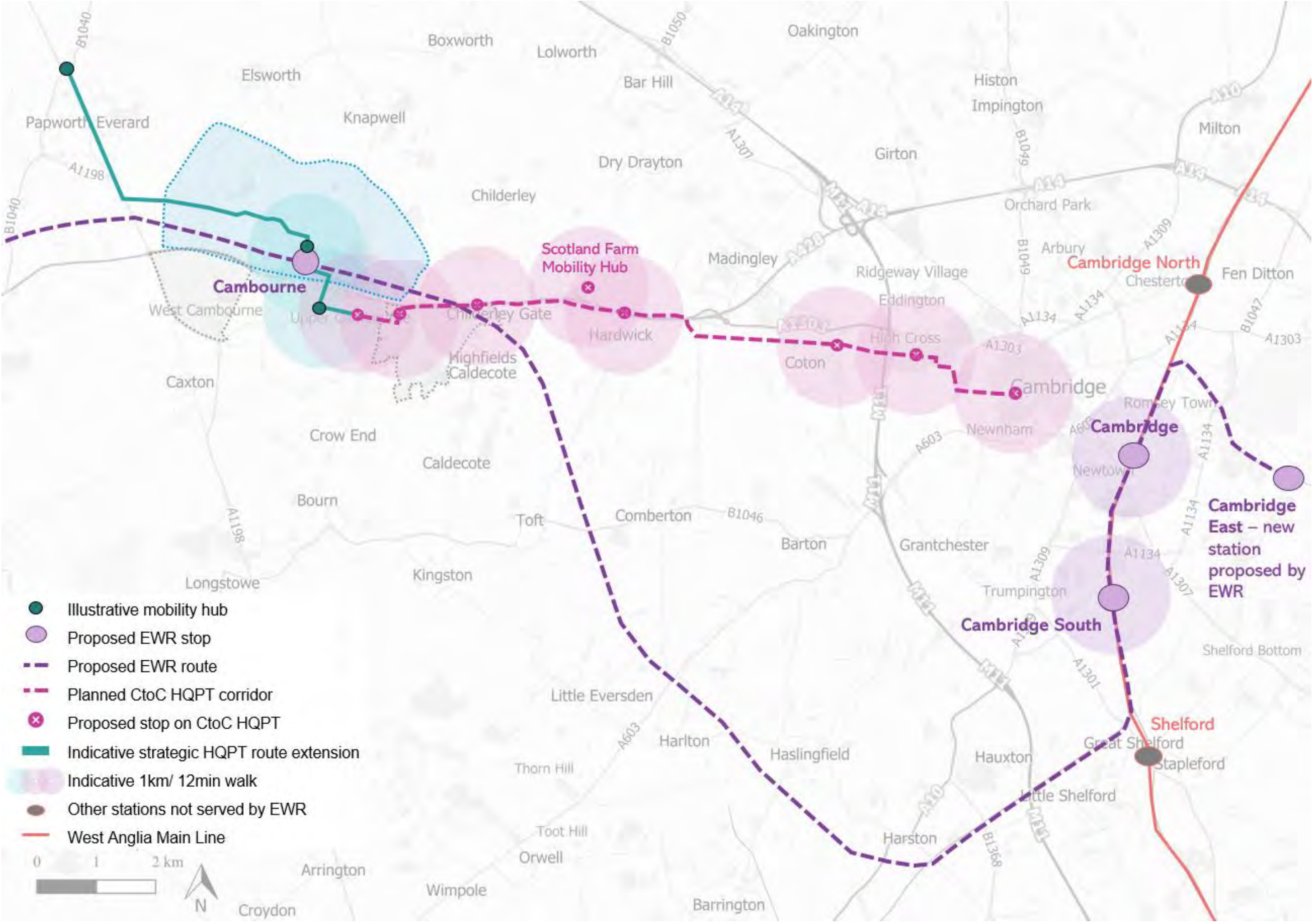
EWR and CtoC HQPT corridor with extension

Both the CtoC HQPT and EWR provide connections to Cambridge, but they serve different parts of the city and different travel needs and are therefore complementary.

The CtoC HQPT delivers a high-frequency, local and sub-regional connection into west and central Cambridge, serving intermediate settlements and key employment and education destinations including Cambourne Business Park, Bourn Airfield, Highfields Caldecote, Hardwick, and Cambridge West. It supports shorter to medium-length trips and provides strong accessibility for locations not directly served by the rail network. Importantly, the CtoC HQPT is expected to be delivered ahead of EWR, providing an initial high-quality public transport service to support early phases of development.

EWR will open up new areas that have not previously been within a reasonable commute time of Cambourne including Cambridge East, Bedford, Milton Keynes and Oxford.

Together, these proposed transport corridors provide a layered public transport offer, widening travel choice and supporting mode shift away from the private car.



Transport strategy– Public transport

Potential additional bus routes

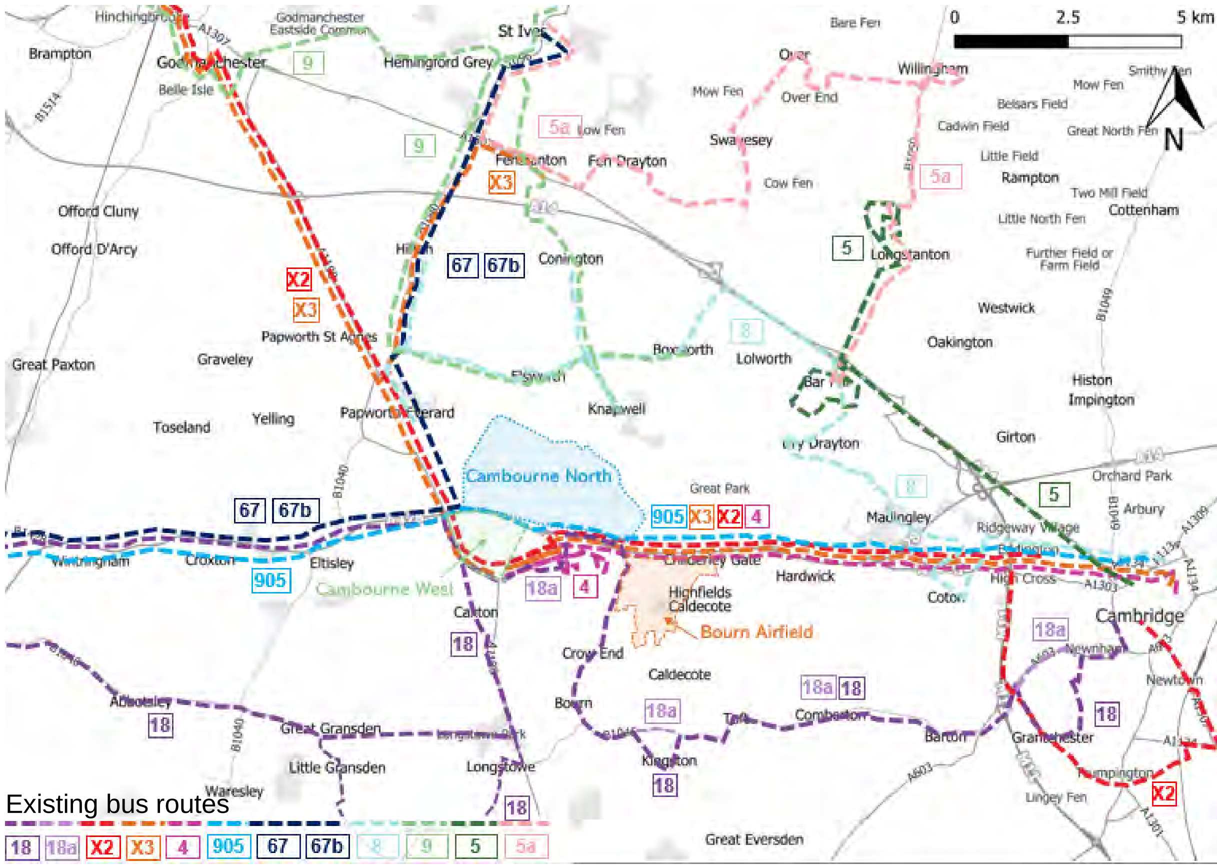
The existing bus network serving Cambourne, surrounding villages and key regional destinations has been mapped including existing service frequencies to identify gaps in connectivity and level of service.

Building on this, a set of potential additional bus routes has been identified. These routes are intended to address gaps in north–south connectivity and improve access between surrounding villages, Cambourne North, and key regional destinations, including the proposed EWR station. The potential routes have been identified to better serve villages that currently have limited or indirect public transport links to Cambourne, and to provide more direct, legible, higher frequency connections to make bus a realistic option for more journeys.

Potential routes between Cambourne North and St Neots, Huntingdon, St Ives, Longstanton/ Northstowe, and Royston would complement the existing bus network and better connecting surrounding villages to EWR station and new centres at Cambourne North.

A local bus loop linking Cambourne North with existing Cambourne has also been identified to provide a high-frequency local connection between existing Cambourne, Cambourne West and Cambourne North to help spread the benefits of growth to new and existing residents and support sustainable travel choices.

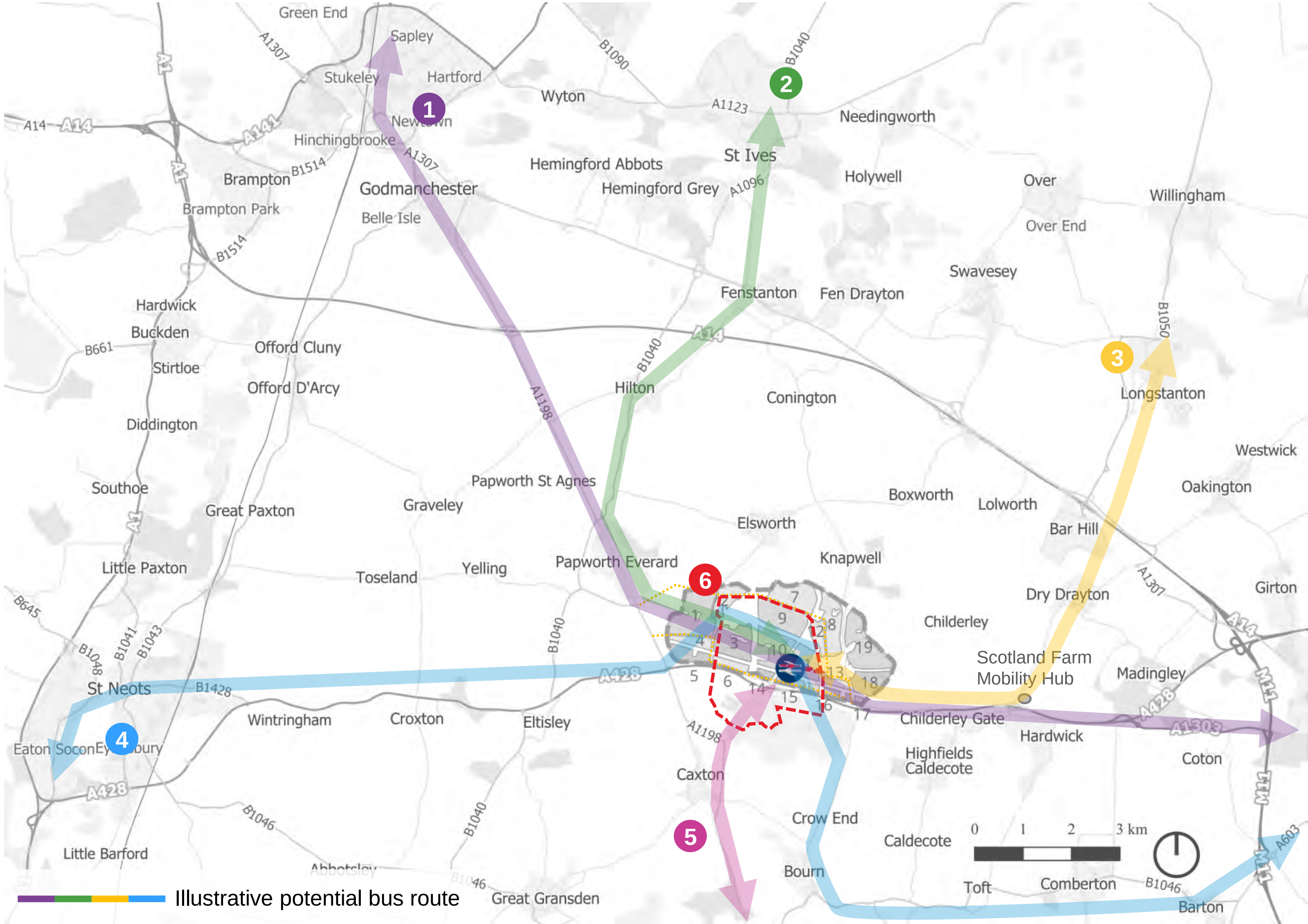
It should be noted that any bus services provided will be subject to bus operator viability assessments and appropriate funding mechanisms. The routes identified would provide broad geographical reach and can flexibly be incorporated within the spatial framework to provide an appropriate level of service and coverage in each development stage.



Transport strategy – Public transport

Illustrative additional bus routes explored

1. Huntingdon to Cambridge via Cambourne North and Scotland Farm mobility hub: This route compliments existing route X2/X3. Access to Cambourne North via A1198.
2. St Ives to Cambourne North via Fenstanton, Conington, and Elsworth. This route complements existing route 9 which runs from Huntingdon to St Ives via Elsworth, Knapwell and Boxworth but does not serve Cambourne. There are currently no routes that connect the villages to the north of Cambourne (Conington, Elsworth, Boxworth, Knapwell) to Cambourne.
3. Northstowe to Cambourne Station via Bar Hill, and Dry Drayton. There are no existing routes between Longstanton and Cambourne.
4. St Neots to Cambridge via Cambourne North: This route compliments existing route 905 and 18.
5. Cambourne North (EWR) to Royston
6. Cambourne Shuttle bus to connect existing Cambourne, Cambourne West, and Cambourne North.



Transport strategy – Public transport

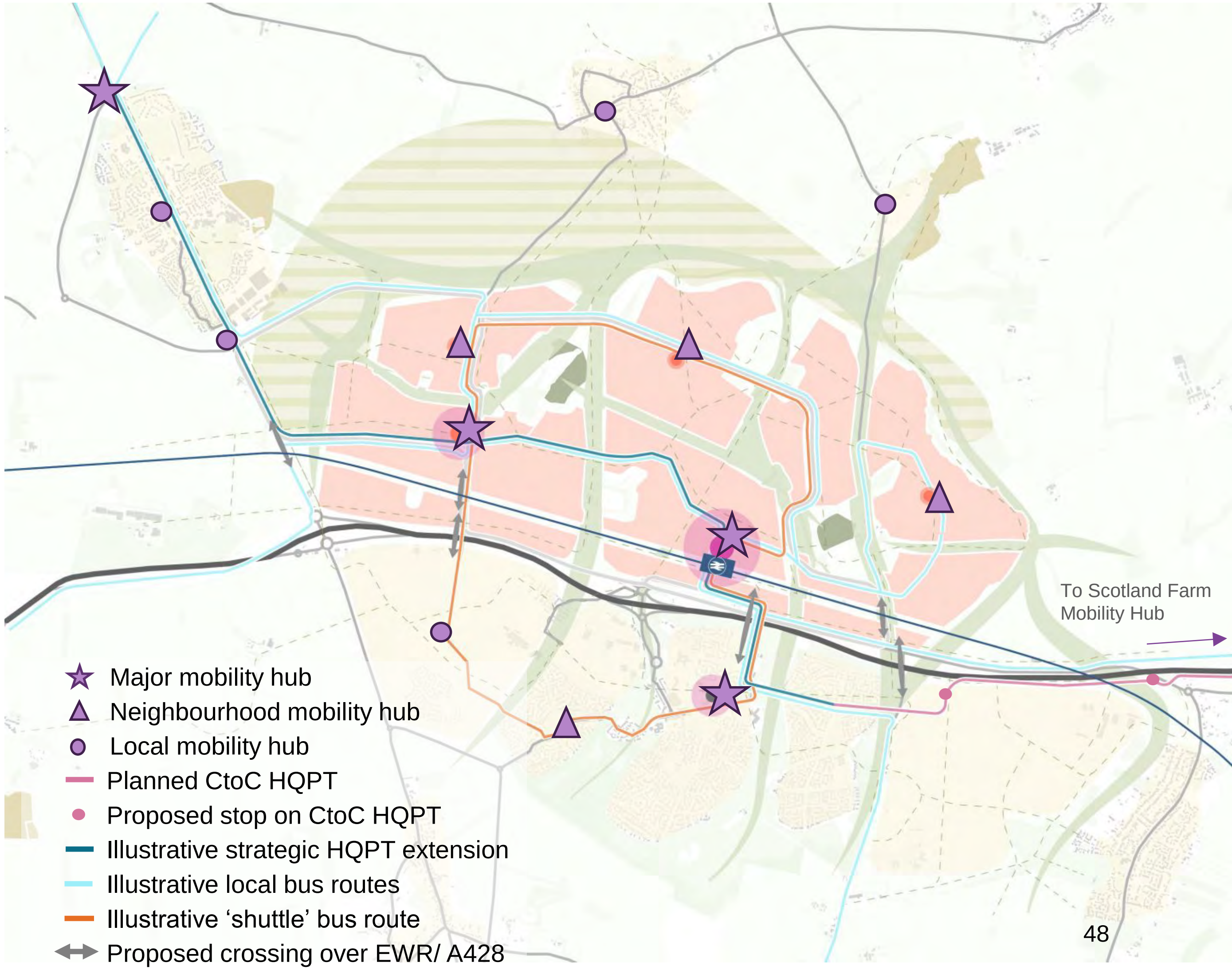
CtoC HQPT corridor and Mobility Hubs

The Stage 1 Transport Strategy established a **hierarchy of mobility hubs** to support the CtoC HQPT and wider public transport network across Cambourne and surrounding settlements. These hubs are intended to provide seamless interchange between walking, cycling and public transport, with scale and facilities responding to local context and role. The hierarchy comprises:

- **Local mobility hubs**, providing basic facilities and connections to the wider network;
- **Neighbourhood mobility hubs**, located at key centres and integrating with active travel routes to support local access; and
- **Major mobility hubs**, including the Cambourne EWR station and existing Cambourne, acting as key interchange points within the network.

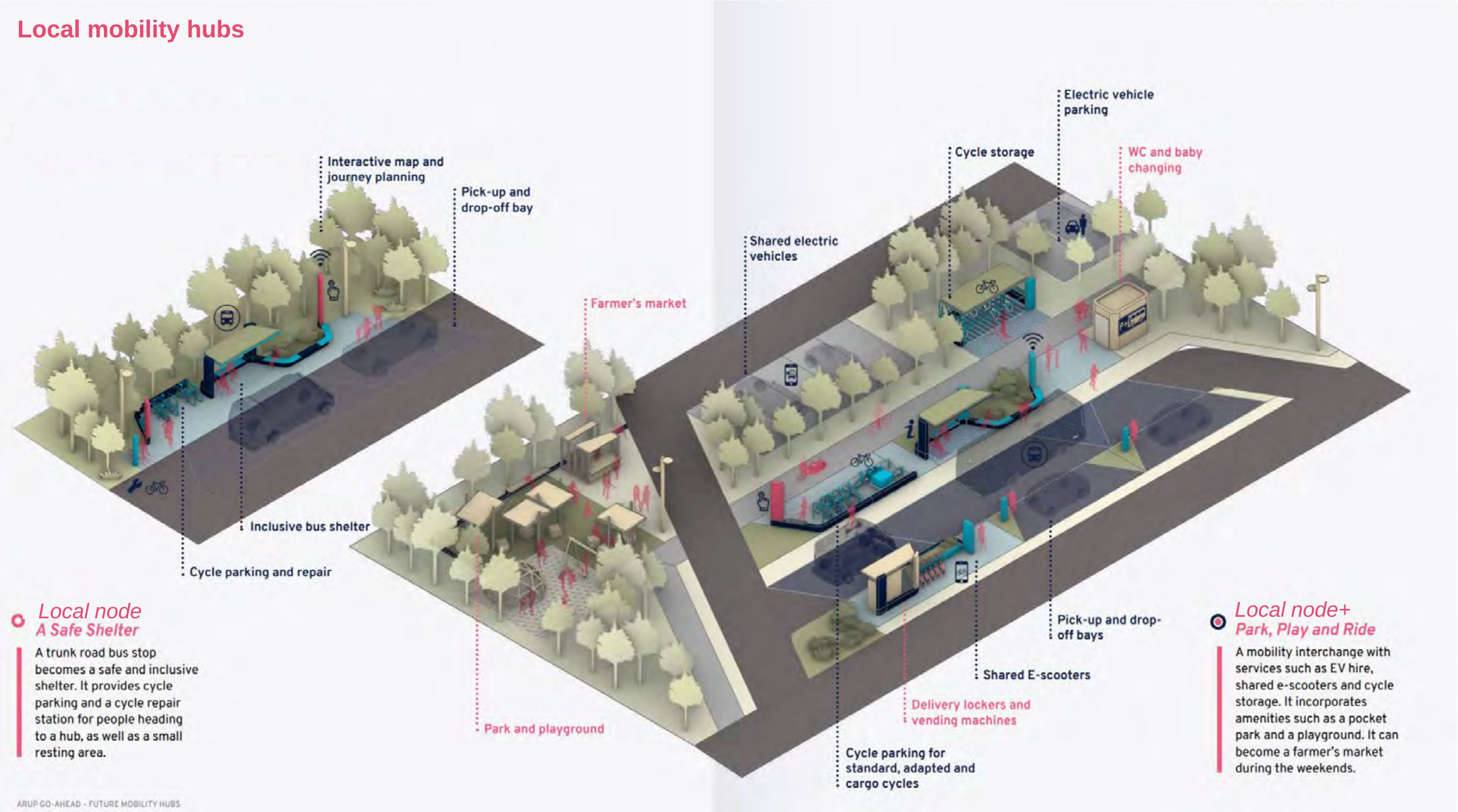
This approach remains unchanged at Stage 2 and continues to inform the emerging Spatial Framework, with further detail to be refined as proposals progress.

Illustrative examples of different types of hubs are provided overleaf.



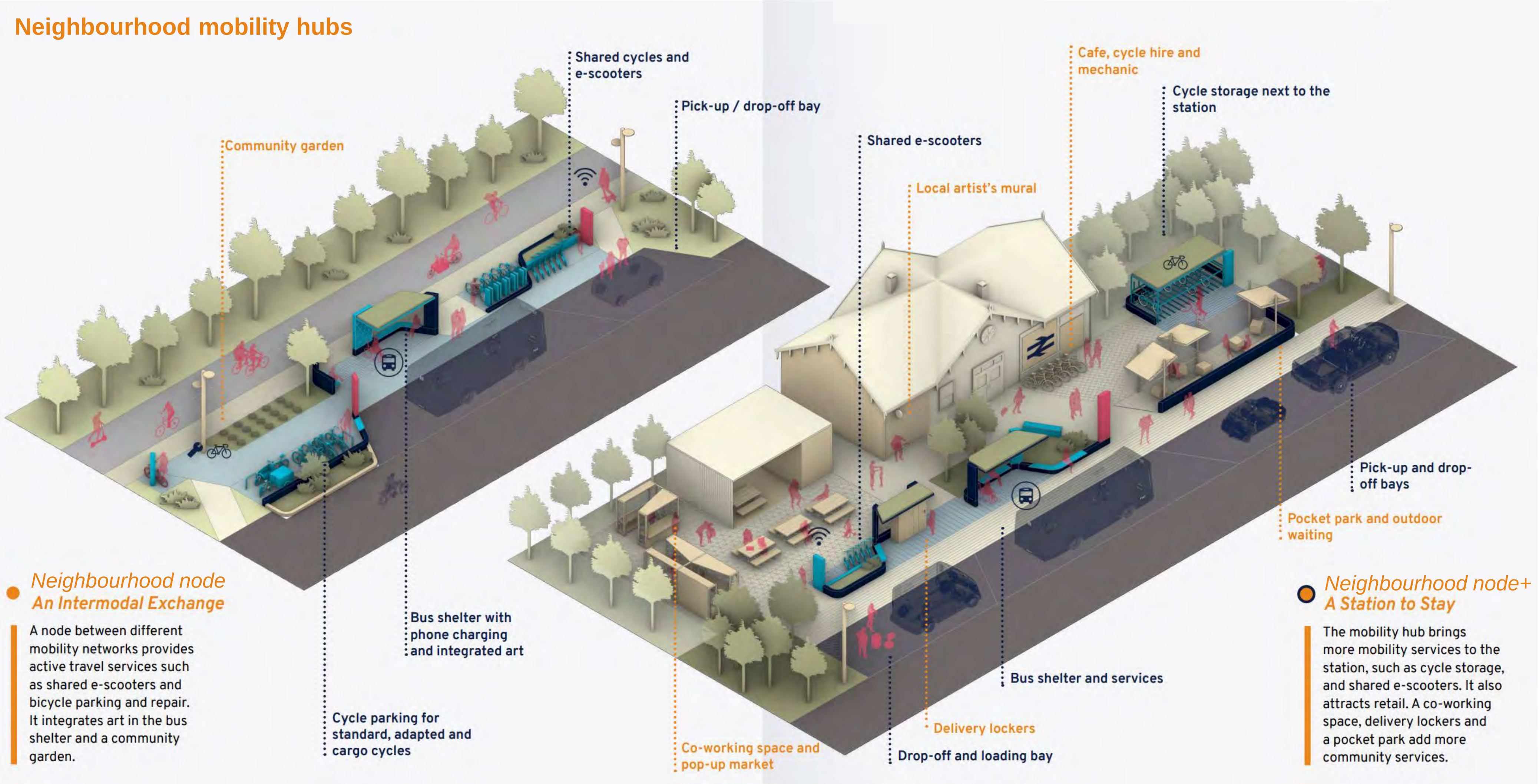
Transport strategy – Public transport

Illustrative mobility hubs - local



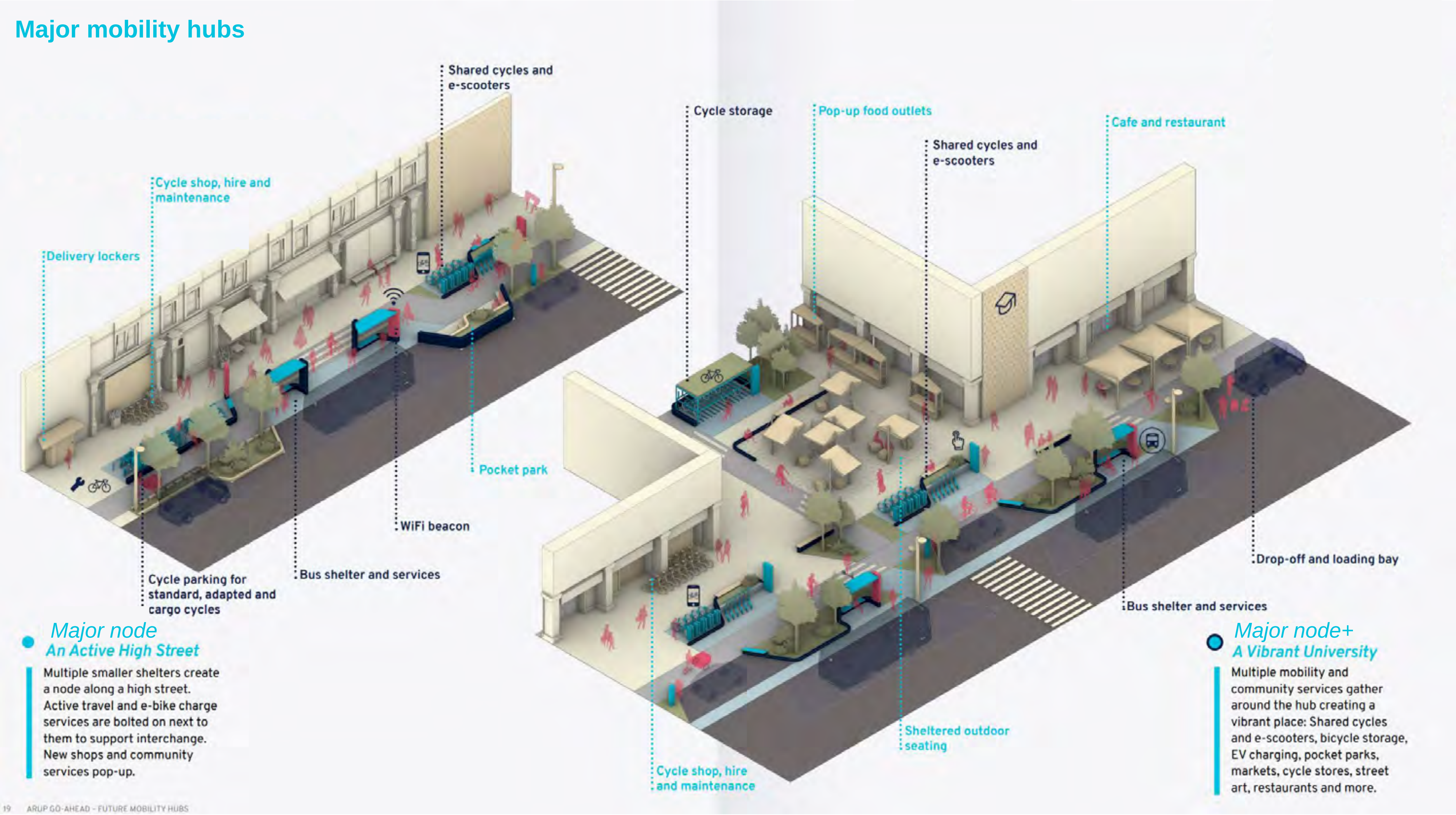
Transport strategy – Public transport

Illustrative mobility hubs - neighbourhood



Transport strategy – Public transport

Illustrative mobility hubs - major



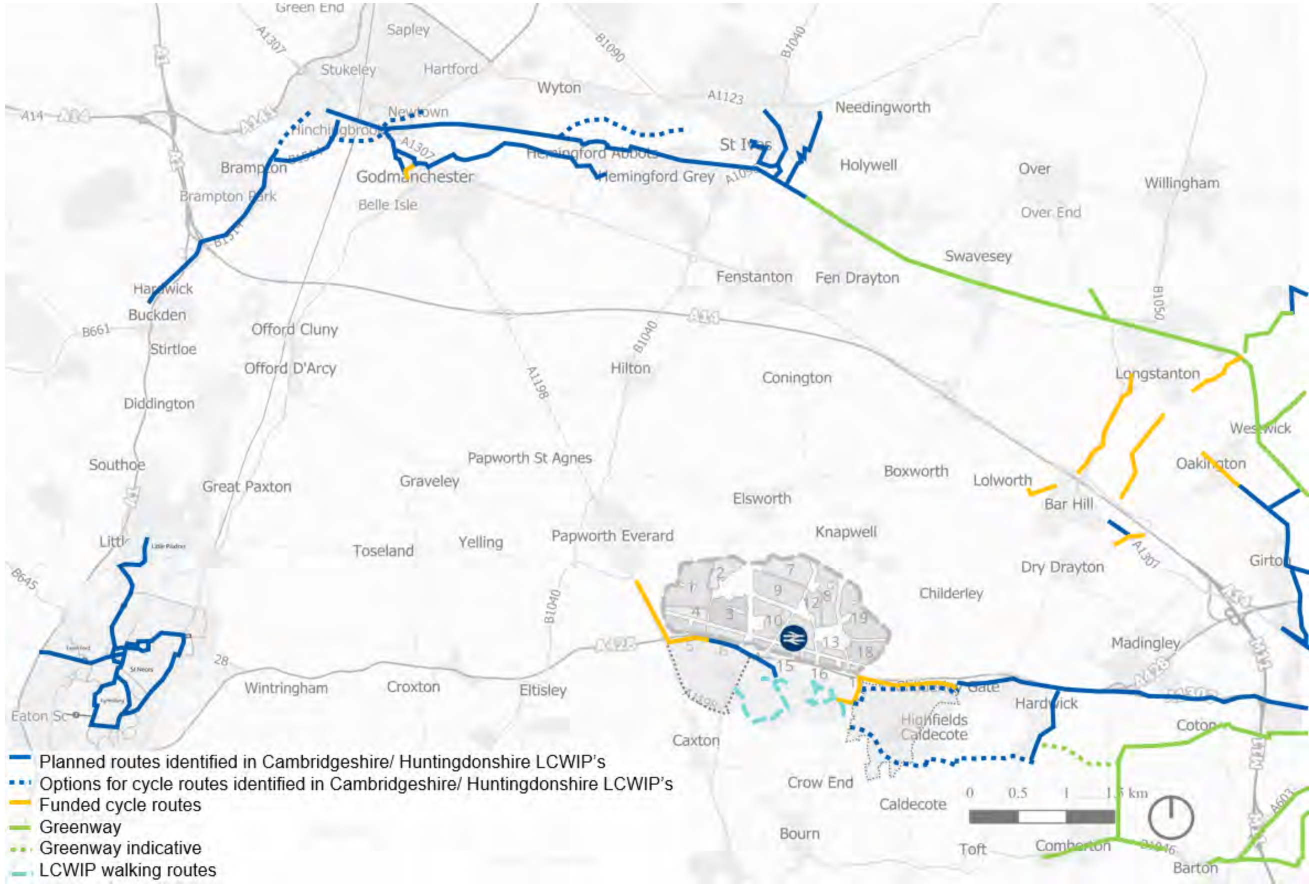
Transport strategy– Active travel

Planned walking and cycling connections

Building on Stage 1, a wider review of existing and planned walking and cycling infrastructure was undertaken. This focused on the Local Cycling and Walking Infrastructure Plan (LCWIP) routes identified by Cambridgeshire County Council which set out priority corridors for investment in active travel. The mapped LCWIP network identifies several strategic and local routes that would improve cycling and walking connectivity within Cambourne and nearby settlements.

While the LCWIP routes deliver key links, there are locations where routes are indirect or incomplete and do not fully deliver a connected active travel network to and from Cambourne.

Planned routes are indicative at this stage and will be subject to further design, assessment and coordination with relevant stakeholders.



Transport strategy – Active travel

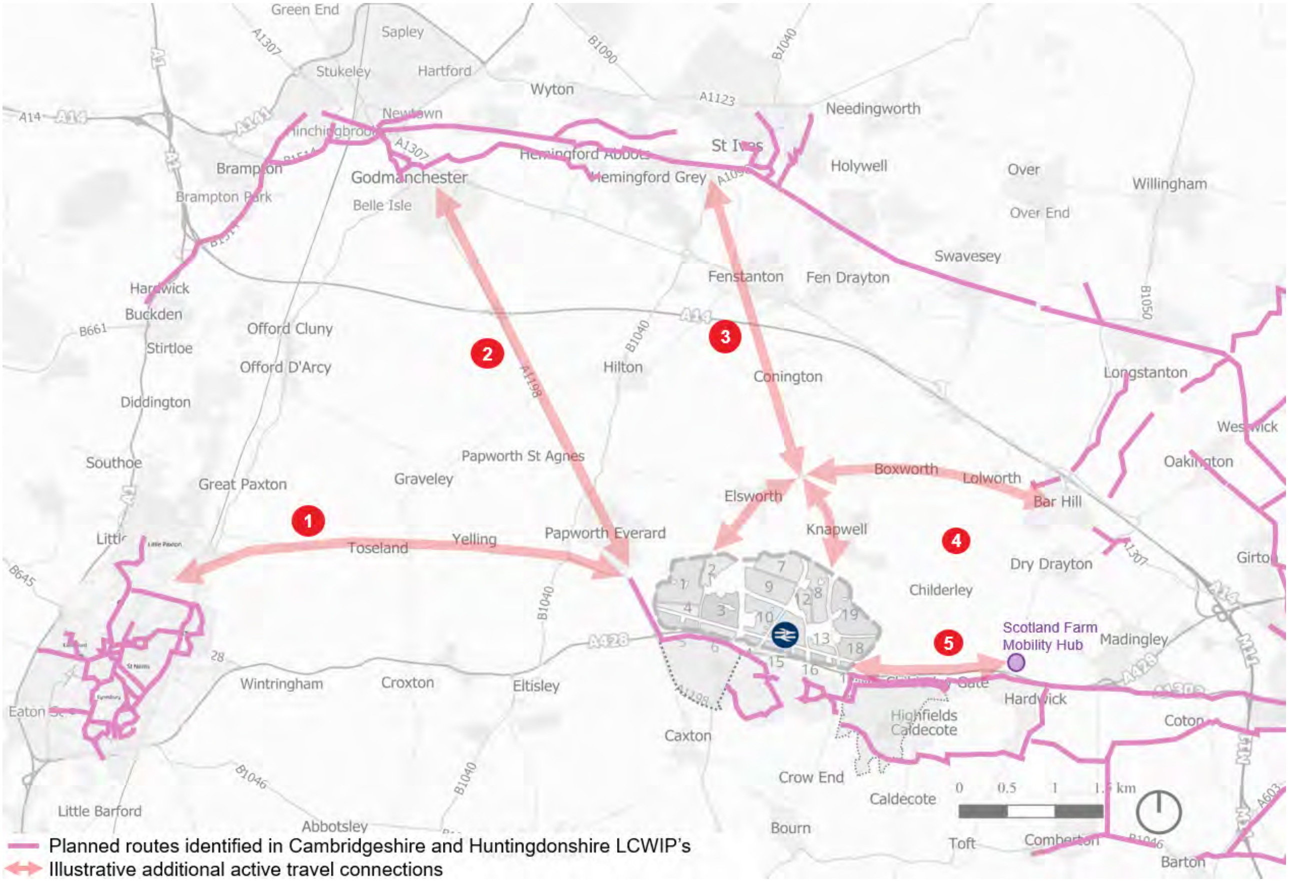
Potential additional cycle connections

To address these gaps, four potential additional strategic cycle connections have been identified, alongside the planned connection to Scotland Farm Mobility Hub. These routes are intended to complement the planned LCWIP network by extending and connecting existing corridors, rather than duplicating them. Together, they would strengthen north–south and east–west connectivity, improve access to Cambourne North, and create clearer, more legible links to neighbouring settlements and regional destinations.

The proposed connections also seek to integrate with other planned infrastructure, such as the Caxton Gibbet junction improvements and existing and illustrative green infrastructure. Where possible, the routes align with desire lines identified through stakeholder engagement and reflect opportunities to use quieter roads, greenways or segregated infrastructure to maximise comfort and safety.

All potential additional connections are illustrative at this stage and will be subject to further design, assessment and coordination with relevant stakeholders.

Overall, the LCWIP routes and the additional proposed cycle connections form a coherent, connected active travel network. This network is intended to support everyday local trips, provide realistic alternatives to the private car for longer journeys where feasible, and ensure that Cambourne North, the EWR station, and CtoC HQPT corridor are accessible by high-quality walking and cycling routes from both existing Cambourne and surrounding villages.



1. Potential strategic route to St Neots
2. Potential strategic route to Huntingdon along A1198
3. Potential strategic route to St Ives via Elsworth / Knapwell
4. Potential strategic route to Bar Hill
5. Active travel connection to Scotland Farm Mobility Hub

Transport strategy – Highway access

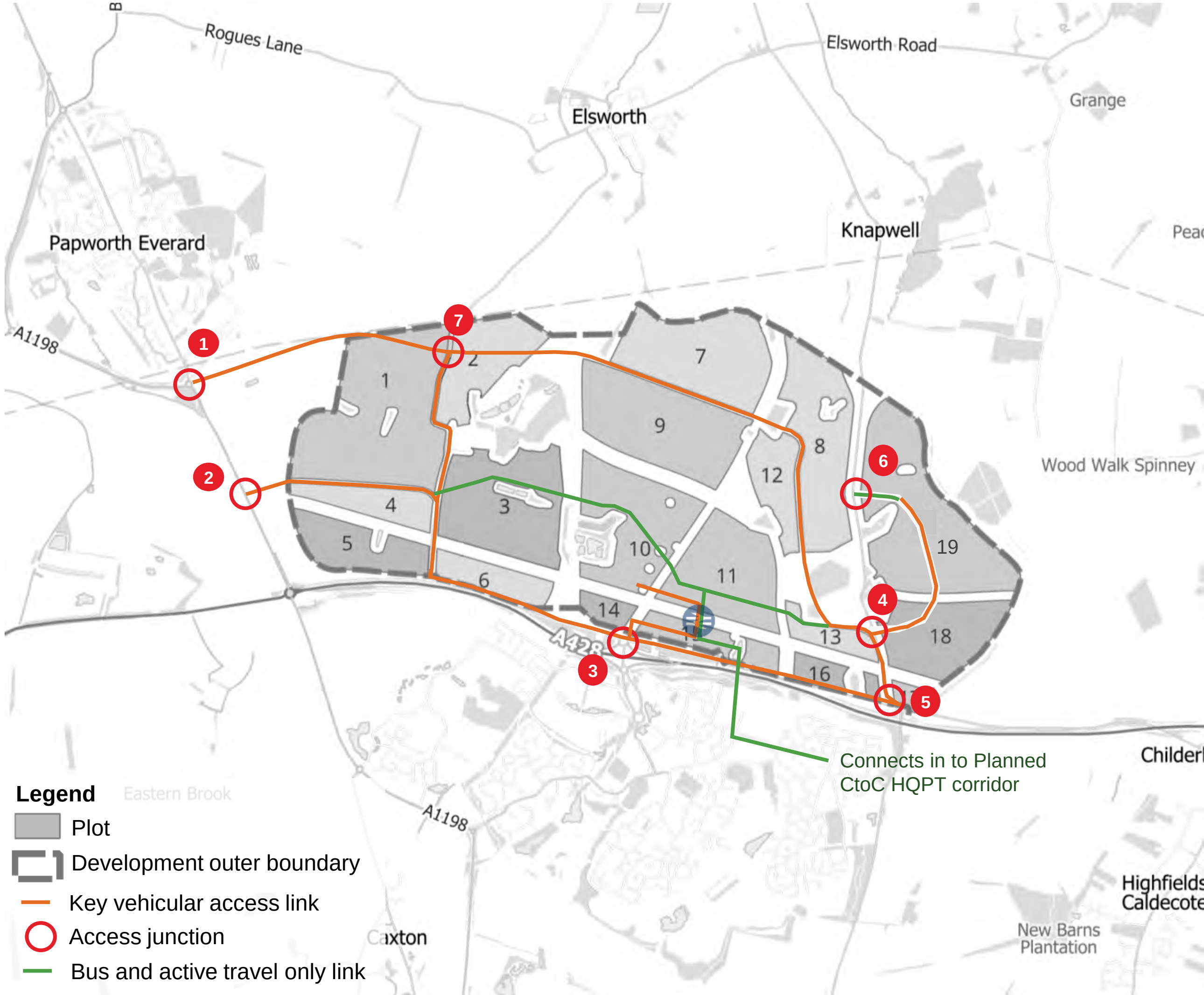
Access junction and internal routes

In line with the Stage 1 spatial framework, four main access junctions onto the strategic highway network have been identified to serve Cambourne North with two accesses via A1198 (junctions 1 and 2), direct access to the A428 (junction 3) and via existing connections to St Neots Road at junction 5 and on to Broadway.

Junctions 4, 6 and 7 should include or explore further modal filters and other movement restrictions to restrict or prevent rat-running through villages to the north. This creates opportunity for attractive active travel routes to be provided through the villages of Elsworth and Knapwell with potential for non-local traffic to utilise more strategic routes via A1198 and A428.

Within Cambourne North, internal routes for general traffic minimise crossing of key ecological corridors whilst maintaining access to plots, with a bus and active travel only corridor running through the centre of the site to help make trips by sustainable modes more attractive and convenient. Some limited vehicular access may also be required to the town plots at or near the EWR station. The form of station crossing is subject to ongoing discussion with EWR and will need to consider placemaking impacts at the station. Further details are included within the separate *Station Enhancement Study.*

Access junctions and internal roads are indicative at this stage and will be subject to further design and assessment at the planning application stage. Further details of how these junctions could come forward is provided in Section 7.



Transport strategy – Car Parking

Overview

Controlling the provision of car parking at Cambourne North will be a critical lever in shaping travel behaviour. A vision-led, evidence-based approach is required, which will be key to achieving the transport vision enabling sustainably walkable neighbourhoods to be delivered.

Overarching Policy - Vision-led Parking Provision Standards

The level of car parking provision should be determined through alignment with the transport strategy principles, aligning with a vision-led, context-sensitive approach, taking account of the varying connectivity by walking, cycling and public transport and the need to minimise car dependency.

The need for car parking should be robustly demonstrated through a Transport Assessment and how this contributes towards maximising sustainable mode shares. The figures represent indicative maximum levels of residential parking provision, to be refined through future masterplanning, transport assessment and parking strategy development.

– In the most connected areas with **high accessibility** to public transport options (such as in the vicinity of the EWR station, CtoC stops and mobility hubs parking should seek to be a maximum of 0.5 spaces per dwelling.

– For areas of **moderate accessibility**: a maximum of 1 space per dwelling

– For areas of **low accessibility:** maximum of 2 spaces per dwelling

Car Parking Design and Layout

The design and layout of Parking should prioritise streets as places and focus on delivering public realm, so it should be located away from primary frontages and provided In courts, car barns, or consolidated structures. Parking will be designed and located to support high quality place-making, ensuring that streets are people-focused rather than vehicle-dominated.

Phasing and Futureproofing

Car parking provision should have consideration to the future phasing and delivery of public transport services. Development proposals should avoid over-provision in early phases where this would lock in car dependency and unsustainable travel behaviours.

Car parking should also be capable of being repurposed over time by being converted to development plots, green space, or mobility hubs.

Where residential car parking is provided, spaces should include active EV charging provision and in communal/ employment settings, parking should include a significant proportion of active charge points and passive provision for future expansion.

Proposals should provide appropriate accessible parking in accordance with national guidance.

Management and Controls

Proposals must include a Parking Management Plan covering on-street parking controls, resident parking permits, mechanisms for allocation and monitoring of spaces, alongside robust enforcement strategies that prevent overspill parking into surrounding communities.

To enable adjustment of parking supply over time, monitoring and management of utilisation will be required to periodically review parking provision where appropriate recommend revised provision, including at EWR station, which should be controlled through planning obligations or conditions.

Transport strategy – Construction access

Recommended construction access routes for Cambourne North

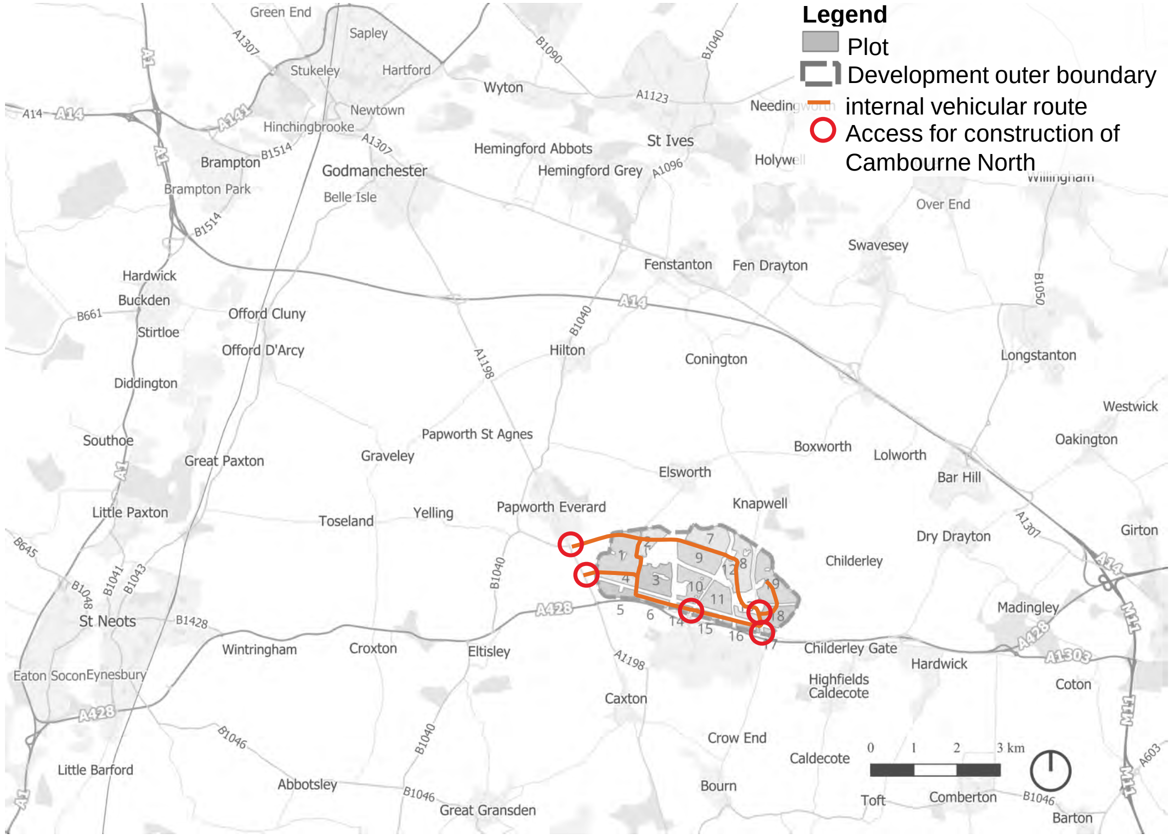
Construction vehicles travelling to and from the Cambourne North site will follow designated routes using the strategic road network to minimise impacts on local communities.

Vehicles approaching from the south and east will use the A428 dual carriageway, exiting at the Caxton Gibbet roundabout before heading north on the A1198 towards the site. Vehicles arriving from the north will travel south along the A1198 directly to the site access.

By keeping construction traffic on these major routes, the aim is to avoid HGV movements through Cambourne village, surrounding settlements, and unsuitable local roads. Drivers will be required to follow approved routes at all times, and signage will be provided at key points to guide vehicles.

As more formal planning is undertaken, local policies should be complied with and a formal Demolition and Construction Environmental Management Plan (DCEMP) or similar will be required to secure agreements around construction vehicle routing.

National Highways will be engaged in the preparation of a Construction Traffic Management Plan (CTMP) to agree construction routing, manage potential impacts on the Strategic Road Network, and consider measures to avoid peak commuter periods and address any abnormal load movements.



Transport strategy – Resilience

Managing uncertainty

The delivery of CtoC and EWR are major infrastructure moves that will be delivered in the longer-term.

To realise the opportunities they present for Cambourne North, early delivery phases must align to a clear vision for the future, but retain the flexibility to adapt and respond to design, delivery and political challenges as well as fluctuations in market confidence and potential delays.

Travel behaviours will therefore evolve as transport networks, shops, schools and other services and facilities develop over time. Early development phases will look and feel very different to later ones, but a clear vision will ensure that impacts are managed appropriately at each stage, so that the full benefits of CtoC and EWR can be captured over time.

The resilience of the A428 and wider Strategic Road Network will be a key concern for National Highways. National Highways will remain engaged over the long term and will promote the sustainable travel aims set out in DfT Circular 01/2022. Extended Cambourne must therefore minimise car-based trips by prioritising investment in high-quality sustainable transport networks with the capacity to support growth and reduce pressure on surrounding villages, junctions, and local roads.

More detailed transport modelling will need be undertaken to establish varying levels of development scenarios which will require differing levels of supporting transport infrastructure.

The construction of EWR and CtoC has potential to introduce additional severance over several years which also needs careful consideration with regards to railway construction access, phasing, and impact on the quality of any early phase development at Cambourne North.

The transport strategy illustrates several highway access locations with connections to the major/ strategic road network offering flexibility for construction access during the phased construction of both EWR and CtoC extension. Phased construction will therefore need careful alignment and co-operation to consider the potential for high-quality development in early phases of delivery at Cambourne North.

It is therefore important the development proposals brought forward will need to monitor and manage transport related effects and behaviours and ensure a flexible, long-term strategy is embedded to respond and manage uncertainty.

Transport strategy - Monitor and manage

A flexible framework

As stated previously, any development proposals that come forward at Cambourne North are likely to be delivered over a long timeframe, which brings inherent uncertainty around the timing of supporting infrastructure, the rate and form of build-out, and the influence of other growth occurring within the local and regional context.

As such, a monitor and manage approach is proposed to form a central requirement for development at Cambourne North in order to maximise the effectiveness of the policies and proposals set out in this strategy and to allow it to be adjusted if future issues are identified. This reflects the principle that a monitor and manage approach is needed where outcomes will evolve over time and where mitigation should be capable of being refined in response to observed conditions, rather than being fixed entirely at plan making stage.

For Cambourne North, this means linking the phasing of development to a structured programme of monitoring and evaluation, focused in particular on traffic flows across the surrounding highway network and changes in mode share over time. Monitoring would allow the assumptions made to support this strategy to be tested as successive phases of development come forward, including in relation to the extent to which travel demand is influenced by the delivery of infrastructure such as the Cambourne to Cambridge HQPT and the EWR station. Many of the proposals and mitigation measures identified within this strategy will therefore require further refinement and investigation with GCSP, Cambridgeshire County Council, EWR and National Highways as the site progresses.

In practice, this would enable different forms of mitigation to be implemented at different points in time, with some measures brought forward if congestion increases and growth is realised more quickly than expected, and others deferred, refined or replaced where sustainable travel uptake performs better than forecast.

This is consistent with best practice and approaches where trigger points (such as a trip budget) and related mitigation requirements may be revised following monitoring, modelling and agreement through appropriate governance processes.

A monitor and manage framework for Cambourne North should therefore establish a series of development and transport triggers against which performance can be assessed at regular intervals. These triggers should not relate solely to development quantum, but also to the real-world effects of development on network performance and travel behaviour.

Where outcomes diverge from those identified within this strategy, further investigation should be undertaken to identify the most appropriate response, with priority given to measures that support the uptake of sustainable travel, and with highways interventions treated as a last resort. This would provide a robust and flexible basis for delivery, reducing uncertainty by ensuring that mitigation is both proportionate and responsive to actual conditions, while also ensuring that infrastructure provision remains aligned with the evolving role of strategic interventions such as the CtoC HQPT and rail connectivity as they become operational.

Appropriate governance and funding arrangements will be established to ensure that monitoring, review and any required mitigation measures are deliverable, enforceable and capable of being implemented when agreed trigger thresholds are reached.

6 Strategy testing

This section provides a summary of transport modelling undertaken in Stage 2 to test the Transport Strategy

Transport modelling

Overview

First principles assessment
A first principles trip generation assessment has been undertaken, building on the initial Stage 1 trip generation assessment to inform design development in lieu of strategic transport modelling outputs and to sense check expected levels of external vehicular trip generation and associated internalisation of trips. Further details of the first principles assessment are provided in this section.

Strategic transport modelling
Strategic transport modelling has been undertaken using the Cambridgeshire and Peterborough Combined Authority Model (CaPCAM) to assess the transport implications of development at Cambourne North, within the context of planned regional growth up to 2046. Further details of the strategic transport modelling are provided in this section.

Trip budget
An initial draft trip budget for Cambourne North of 2,500 two-way vehicle trips (for the peak highway period) was set by initial modelling runs undertaken by CCC. This was inferred from trips generated through previous strategic modelling exercise using the previously adopted CSRM2 model. This initial trip budget will be superseded by the outputs coming from the most recent CaPCAM model runs.

Local junction modelling
Local junction assessments have not been undertaken as part of the Stage 2 work. Initial access junction layouts have been identified to accommodate CaPCAM forecast demand.

First principles assessment

Introduction to MoDES

MoDES, or Modal Demand & Externalisation of Settlements, is an Arup tool which forecasts multimodal travel demand at settlements, alongside the degree to which the demand is 'internal' and 'external' by different transport modes. For our initial assessment for Cambourne North, MoDES has been used to forecast **total external car trips** generated by the settlement during peak hours to assist with the initial development of the transport strategy.

Total travel demand has been forecast from the development mix (the number of dwellings, the mix of those dwellings, the number of jobs, and the scale of logistics land uses) drawing on data from the TRICS database.

Total internalisation and externalisation has been forecast based on the scale of the 'centre' and associated retail and community uses (such as schools) and the relationship between the number of jobs and the number of workers within the settlement, informed by observed relationships from Census data (2011).

Total travel demand has then been **disaggregated into multiple separate journey purposes** with reference to the National Trip End Model (NTEM) and the National Travel Survey (NTS).

A **baseline travel demand mode share for each journey purpose** has been informed by data from existing Cambourne (MSOA South Cambridgeshire 020) from NTEM and Census, as well as by the forecast level of internalisation. Census data has helped to set a locally specific baseline forecast for work journeys, and the relationship between the NTEM and NTS-derived work mode share and the locally specific Census work mode share, has been analysed to inform adjustments to the mode shares for other journey purposes. This results in the creation of a site-specific baseline mode share and outturn number of trips. The resulting baseline forecast of the number of external car trips generated by development Cambourne North was validated against surveys of 19 existing settlements, which allowed a confirmation and benchmarking that gives confidence of the MoDES base trip forecasts.

A **vision-based travel demand mode share for each journey purpose** is determined with reference to different land use and policy scenarios, as described overleaf. Propensity to walk is derived from the shape and size of the development, alongside the distance between each part of the development and the 'centre', drawing on relationships derived from the NTS. Rather than assuming a monocentric urban form, this was calculated separately for two large-scale neighbourhoods in Cambourne North (the western plots 1-6 and eastern plots 7-19), with the weighted average used to reflect walkability for the entire settlement. Propensity to travel by car is defined by the residual trips not made by other modes.

The forecast **internalised demand from resident workers** is aligned to the forecast internalised demand to jobs within the settlement to ensure balanced 'trip ends'.

Internalisation and externalisation by purpose and mode is forecast based on the anticipated mix of uses within the settlement, the level of physical and operational transport infrastructure provided for each mode within and beyond the settlement and always controlling to total internalisation and externalisation forecast at the start of the forecast process.

First principles assessment

MoDES vision-led scenarios

Future baseline → A → B1 → B2 → C1 → C2

Future baseline

As described in the previous page, a future baseline models the new settlement of Cambourne North without the introduction of new public transport infrastructure. As such, physical settlement characteristics reflect those of Cambourne North, yet with the prevailing travel patterns of Existing Cambourne. This accounts for the settlement's expected number of dwellings, jobs, and schools, alongside the fact that all neighbourhoods are walkable.

A: Future baseline with public transport enhancements

Scenario A models Cambourne North with 'natural' travel patterns arising from the illustrative settlement mix, the proposed settlement shape, and the proposed and illustrative public transport infrastructure (EWR, CtoC, greater local bus provision), but without policy interventions to discourage car travel.

This draws on Ely and Sawston as benchmark locations.

B1: Trip end restriction at Cambridge

Scenario B1 builds on Scenario A to reflect emerging policy in the draft interim Greater Cambridge Transport Strategy which seeks to widen travel choice across all modes, including supporting the further uptake in use of the proposed public transport infrastructure and services.

Resident mode share was calculated by reducing car trips to Cambridge by 50%, considering origin-destination Census patterns. This draws on Kidlington as a benchmark.

Inward employee mode share is shifted compared with Scenario A through the application of non-residential parking restraint in Cambourne.

B2: Enhanced trip end restriction at Cambridge

Scenario B2 extends Scenario B1 by excluding 100% of resident commuter car trips to/from Cambridge, as per 2011 Census origin-destination patterns. This effectively doubles the restraint applied in Scenario B1. It also doubles the inward employee trip restraint compared with Scenario B1.

This degree of restraint/shift extends beyond observed benchmarks and is unlikely to be realistic in terms of a simple shift, but equivalent outcomes may be achievable through a combination of ambitious regional transport and spatial planning policies, beyond what has been achieved elsewhere previously.

C1: Shift in commute distribution to Cambridge

Scenario C1 builds on Scenario B1 by adding the effect of possible regional spatial planning policy interventions in the Cambridge area to redistribute work locations for resident commuters. Interventions could include higher jobs growth compared with households in Cambridge.

Total resident commuter trips to Cambridge are assumed to increase by 30% compared with Scenario B1, as a 'reasonable judgement'.

Employee mode share is unchanged from Scenario B1.

C2: Shift in commute distribution to Cambridge + Tempsford / EWR westward

Scenario C2 builds on Scenario C1 by adding the effect of possible regional spatial planning policy interventions elsewhere on the EWR corridor to redistribute work locations for resident commuters.

This assumes significant jobs growth to the west of Cambourne accessible by rail.

Total resident commuter trips to Tempsford or EWR westward are assumed to increase to half of the number of rail trips to Cambridge in Scenario C1, all of which are made by rail, as a 'reasonable judgement'.

Employee mode share is unchanged from Scenario B1.

First principles assessment

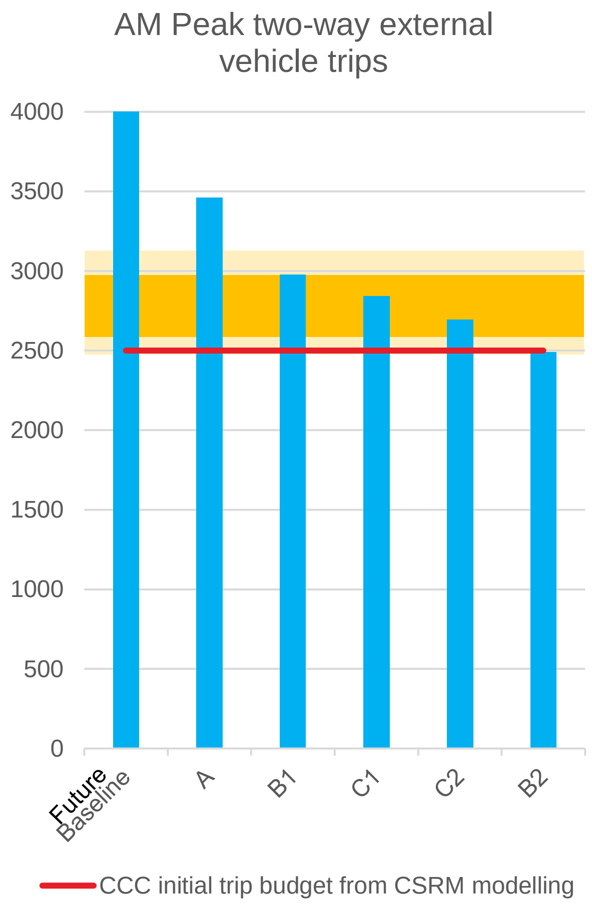
MoDES summary of findings

The first principles assessment shows one combination of measures which could be applied to achieve the initial trip budget identified for the Stage 1 spatial framework based on adjustments to existing travel patters. It should be recognised that different combinations of measures could be applied and there will likely significant changes to future travel patterns resulting from the delivery of EWR and associated large scale development in Cambridge to the east, and stations to the west including at the proposed new town at Tempsford.

A range of 2,700-2,900 external car trips represents a credible and achievable number of external car trips from Cambourne North which reflects reference benchmarks, if supported realistic external policy interventions enabling ‘good growth’.

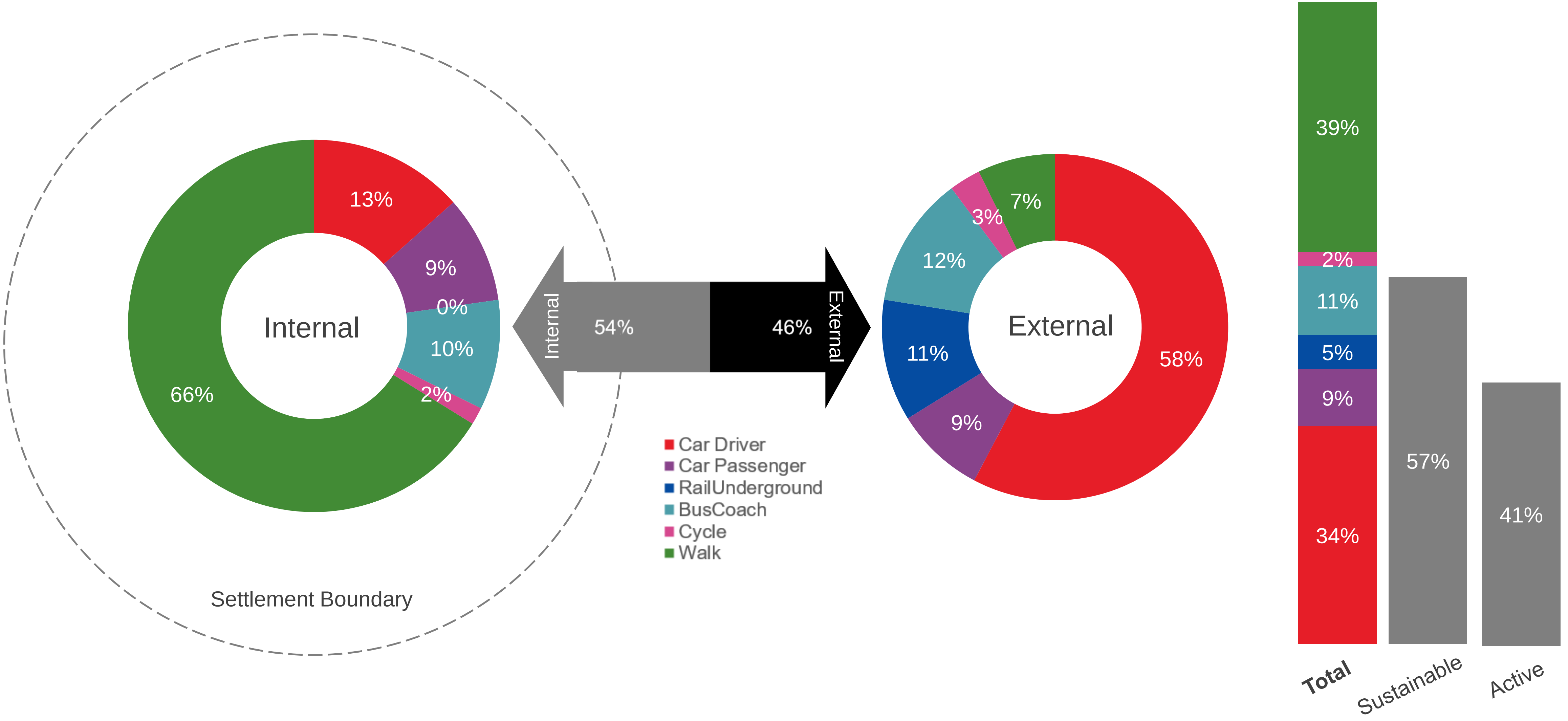
Note that the external car trips which are presented here relate to Cambourne North only. Some of these external trips are to/from existing Cambourne and as such some trips will have very limited spatial impact.

A demand of 2,500 is within the scope of possible outcomes from the central forecasts presented for Scenario B1, C1 and C2. This will be subject to the level of ambition contained within regional transport and land use policy interventions. Such policies may also affect not only new development but also existing journeys, particularly within existing Cambourne with potential to create headroom in the highway network for additional trips.



First principles assessment

MoDES future baseline resident & employee mode shares - AM peak



Strategic transport modelling

CaPCAM

The **Cambridgeshire and Peterborough Combined Authority Model** (CaPCAM) is a transport planning tool developed by Cambridgeshire County Council (CCC) to help decision-makers understand how people travel across the Cambridgeshire and Peterborough region. It **simulates travel behaviour** for all major modes of transport — including car, bus, rail, walking, and cycling — so that proposed changes to roads, public transport services, housing developments, or transport policies can be tested before they are implemented. The model covers the entire Combined Authority area, with particular detail for Cambridge, Peterborough, and key strategic corridors, and represents a typical weekday in 2023.

CaPCAM draws on a **wide range of real-world data** to build an accurate picture of how people travel today. These include mobile phone travel data, traffic counts, public transport timetables and passenger numbers, Census population and employment figures, and national travel survey statistics. The model also accounts for practical factors that influence travel choices, such as parking availability and charges, public transport fares, road congestion, and the quality of walking and cycling routes.

The model produces **forecasts of travel demand** and traffic flows across the region's road and public transport networks. This allows planners to assess the likely effects of new infrastructure schemes, housing or commercial developments, changes in parking policy, or improvements to bus and rail services. It also provides information on journey times, mode shares (i.e. the proportion of journeys made by car, bus, rail, walking, or cycling), and can feed into wider assessments of carbon emissions and transport sustainability.

The CaPCAM **2023 baseline** represents a typical working weekday in spring 2023, chosen to reflect post-Covid travel patterns across Cambridgeshire and Peterborough. It includes the region's full road network, all scheduled bus and rail services, Park & Ride sites, walking and cycling routes, parking charges and capacity constraints, and population and employment data at a local level — all **calibrated against real-world data including** traffic counts, passenger numbers, and journey times to ensure it provides a reliable foundation for testing future transport schemes, development proposals, and policy changes.

How is CaPCAM being used?

CaPCAM is being used to assess the **transport impacts of Cambourne North** to **inform the development of a package of mitigation.** Through this work, GCSP and their consultant Arup have supported the refinement of an appropriate vision-led initial trip budget. This initial trip-budget has been identified and tested through the use of CCC’s CaPCAM model and discussed and agreed with CCC as the highway authority.

Strategic transport modelling

CaPCAM – future year assessments

The CaPCAM 2046 Reference Case represents the region's expected future transport conditions, combining planned housing and employment growth from Local Plan allocations across six planning authorities along with committed transport infrastructure.

- Cambridge City
- South Cambridgeshire
- East Cambridgeshire
- Huntingdonshire
- Fenland
- Peterborough City

On the demand side, it includes around 53,700 new dwellings and 54,300 new jobs drawn from each local authority's development pipeline — only sites rated "near certain" or "more than likely" are included, in line with guidance set out by DfT, along with windfall allowances, meaning growth exceeds national forecasts.

On the supply side, the Reference Case includes over 40 committed transport schemes: major highway improvements such as the A428 Black Cat to Caxton Gibbet dualling and the A47 Wansford to Sutton dualling; new rail infrastructure including Cambridge South station and the relocated Waterbeach station; public transport and Park & Ride schemes such as Cambourne to Cambridge (CtoC) with a new high-frequency bus route between Scotland Farm and the city centre, the Waterbeach to Cambridge North busway, Cambridge South West Travel Hub, and Eastern Access; plus a network of Greenway cycling routes connecting surrounding villages to Cambridge. East West Rail (EWR) is not included in the Reference Case scenario.

The model forecasts increased car travel demand driven by lower vehicle operating costs and higher public transport fares (including removal of the bus fare cap), with longer average car trip lengths, reduced bus patronage overall, and significant rail growth — particularly at Peterborough, March, and the new Cambridge South station.

CaPCAM 2046 Cambourne North 'Do Nothing' Scenario

The CaPCAM 2046 reference case has been adapted as the future baseline for assessment of development at Cambourne North by:

- Removing any pre-existing growth assumptions at Cambourne North,
- Adding Cambourne to Cambridge High Quality Public Transport corridor (CtoC HQPT) to existing Cambourne, and
- Adding EWR proposals as an essential catalyst for development at Cambourne North.

Planned growth may not come forward in full or be fully realised. Therefore, it should be noted that as part of this cumulative assessment not all network impacts can be fully attributable to development at Cambourne North.

Detailed Transport Assessment will be required at the planning application stage to consider appropriate growth at the time of application.

Strategic transport modelling

CaPCAM – future year assessments

CaPCAM 2046 Cambourne North 'Do Minimum' Scenario
The 'Do Minimum' scenario builds on the 'Do Nothing' scenario by including the Cambourne North Stage 1 spatial framework development schedule (as the Stage 2 schedule was not fixed at the time of model development).

Highway access junctions at Cambourne North were 'unconstrained' in this scenario to highlight where vehicular traffic wants to route without constraint. This represents the starting point for the development of a package of interventions to mitigate localised and wider impacts and inform access junction layouts.

CaPCAM 2046 Cambourne North 'Do Something' Scenarios
Three incremental packages of interventions have been developed through incremental testing through CaPCAM 'Do Something' scenarios. This has allowed consideration of the model response in each iteration to inform information refinement.

Subsequent figures presented in this report are based on scenario 'DS3a' which represents the most comprehensive 'Do Something' scenario comprising a package of public transport and highway interventions developed and refined through the iterative modelling process with a vision-led initial trip budget of 4,000 two-way car trips applied for those to/from Cambourne North.

Further details of the three 'Do Something' scenarios are provided in the separate Cambourne North Stage 2 Transport Modelling report.

Initial trip budget

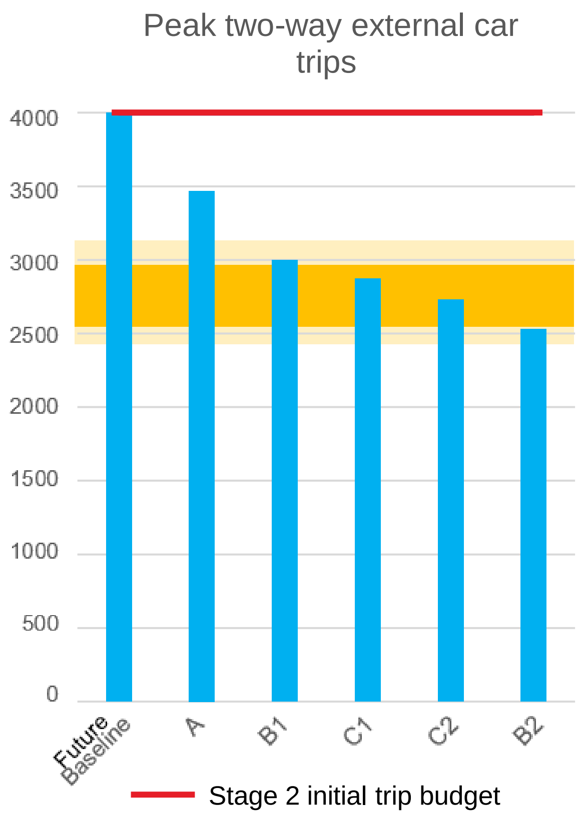
For consideration going forward

The first principles assessment demonstrates how existing travel patterns could respond to incremental interventions at Cambourne North and with incremental policy shifts at varying levels of ambition. This shows that c.4,000 peak hour two-way vehicle trips could reasonably be achieved based on the number of dwellings, jobs, and schools set out in the Stage 2 spatial framework if delivered in line with walkable neighbourhood principles.

This level of trip generation has been discussed and agreed with CCC as a reasonable initial trip budget for Cambourne North with potential for further refinement as the delivery programmes of key public transport interventions (CtoC and EWR) increase in certainty and as wider transport policies are defined. An initial trip budget at this level will provide some headroom should these delivery programmes not come forward as expected.

The CaPCAM strategic transport modelling shows that the highway network can accommodate this level of peak hour two-way vehicular trip generation at Cambourne North with further details provided in Section 7 and the separate Cambourne North Stage 2 Transport Modelling report.

Further engagement with EWR, National Highways and Cambridgeshire County Council will continue to take place to Local Plan examination to consider the need for any sensitivity testing. Further detailed assessment will also be required at the planning application stage to consider appropriate growth at the time of application.



Initial trip budget

CaPCAM output summary – traffic flows

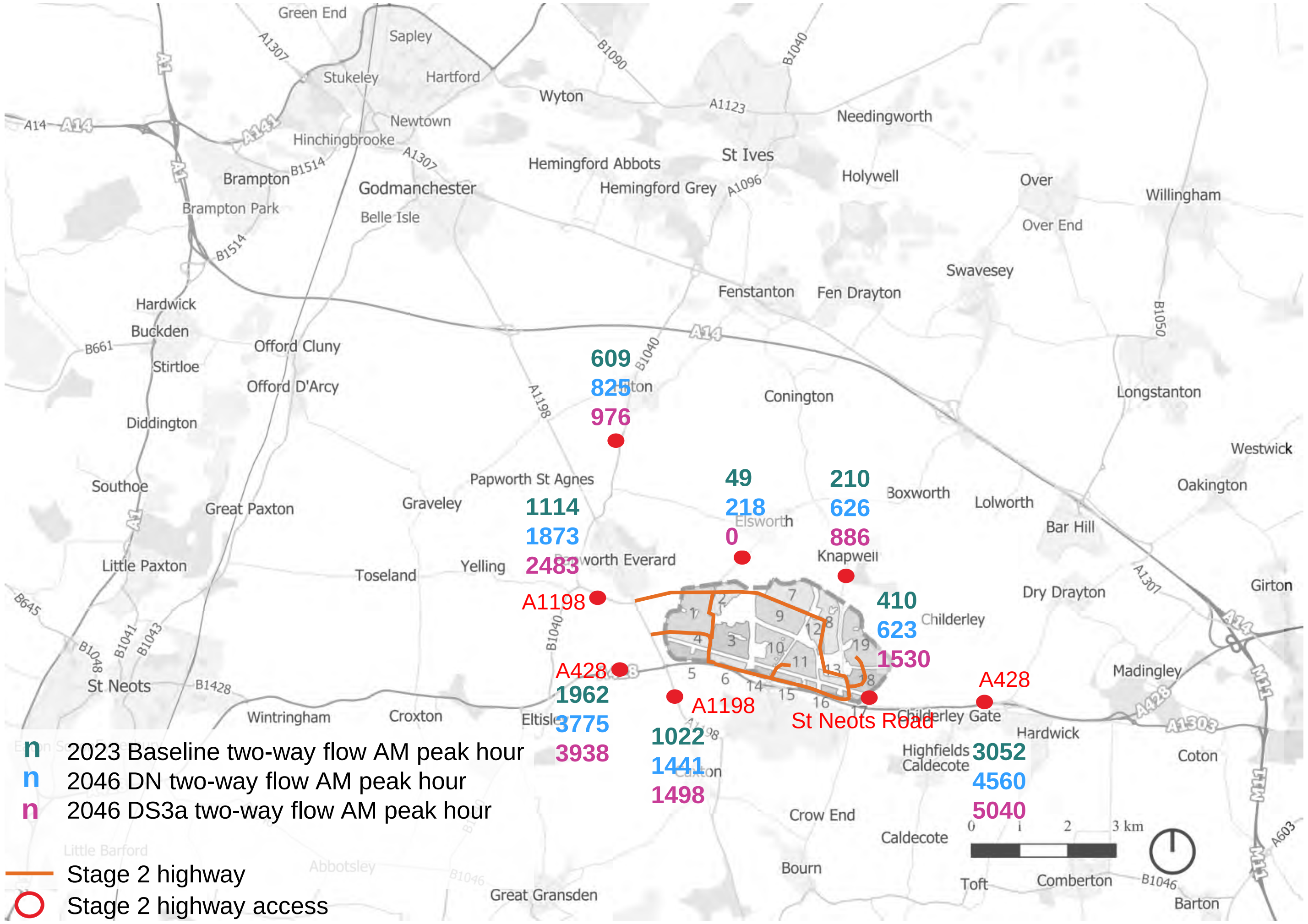
Traffic flow changes on key links surrounding Cambourne North are summarised for the following CaPCAM scenarios with further details provided in the Cambourne North Stage 2 Transport Modelling report:

- 2023 Baseline
- 2046 DN
- 2046 DS3a with initial trip budget

Through stakeholder engagement, Knapwell High Street was identified as particularly sensitive to increases in traffic flow. CaPCAM modelling shows 2023 baseline two-way flows of 210 in the AM peak hour, equating to c.3-4 vehicles per minute at peak times or 1-2 vehicles per minute in each direction.

The Cambourne North development is shown to add 260 two-way vehicles at c.4 vehicles per minute, with a further 416 vehicles added through wider background traffic growth should all growth modelled be realised. In combination, this would result in c.7-8 vehicles per minute in each direction.

The stage 2 spatial framework has sought to restrict Cambourne North related turning movements to/ from Knapwell High Street and existing priority chicanes with narrow lanes currently serve to discourage traffic through Knapwell. Consideration of further measures to protect the local character through surrounding villages could be explored through sensitivity testing with further detailed assessment of impacts with associated mitigation required at the planning application stage.



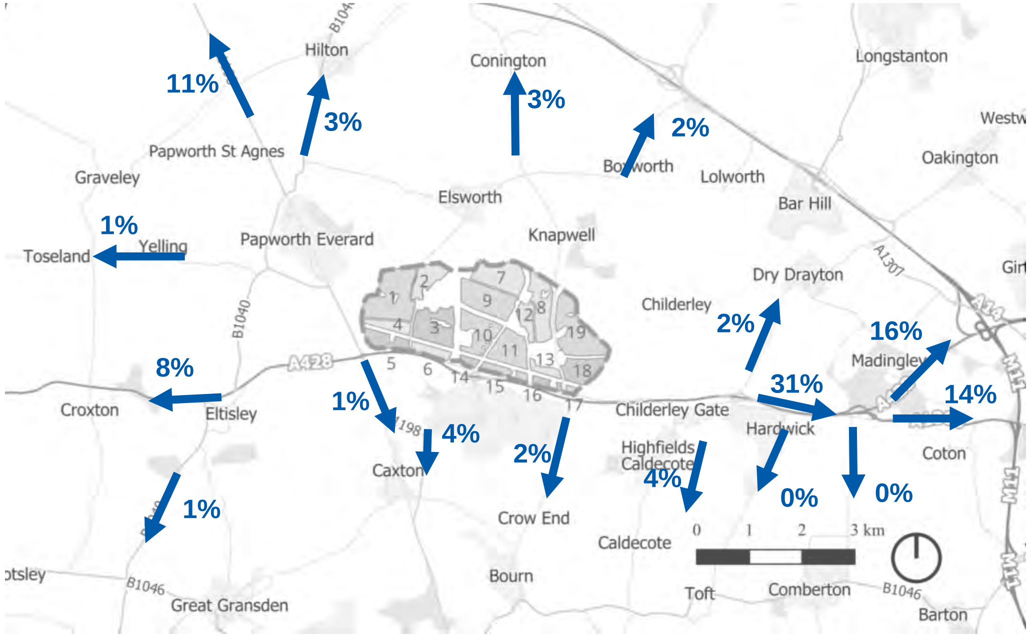
Initial trip budget

CaPCAM output summary – Highway trip assignment

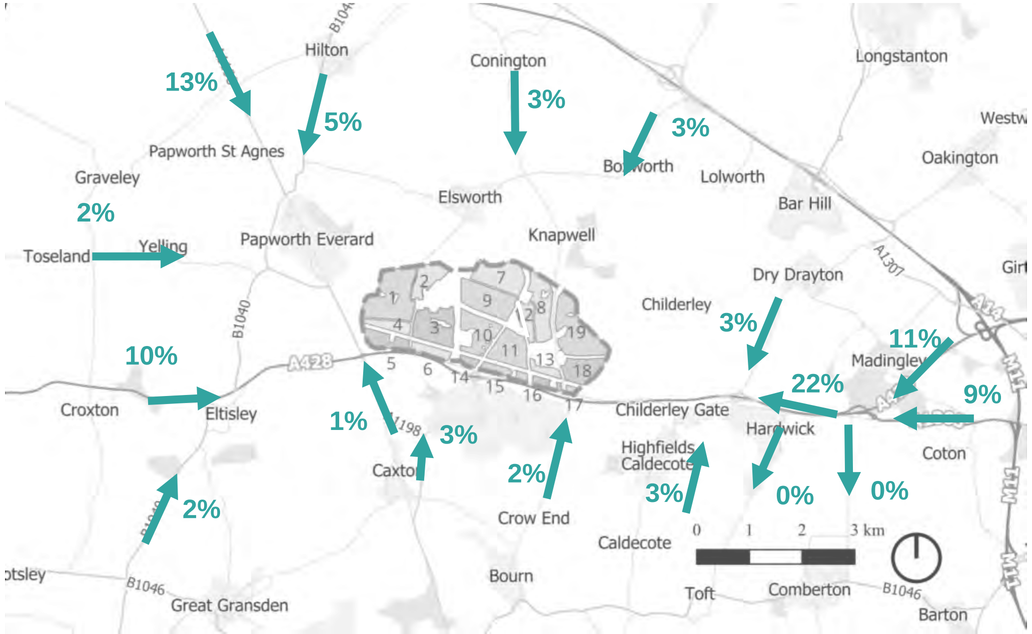
A summary of the highway assignment of trips to and from Cambourne North zones modelled in the AM peak is provided below. (2046 with initial trip budget) Outbound trips in the morning peak are dominated by movements via the A428 corridor towards Cambridge (31%), with further significant movements via A1198 to the north and A428 to the west. Inbound trips following a similar pattern. Note values will not total 100% due to rounding and trips completing within the cordon.

Detailed highway assignment and flow change plots are included in the separate Cambourne North Stage 2 Transport Modelling report.

AM Peak outbound



AM Peak inbound



7 Proof of concept

This section summarises transport interventions identified in the transport strategy and associated junction performance. Further technical details of transport modelling are included within the separate Transport Modelling report.

Proof of concept

Introduction

This Section provides a summary of transport interventions identified through the transport strategy and provides an illustrative form of junction at key access locations and off-site junction mitigation supported by local junction and merge/ diverge assessments.

Further detail of the transport modelling undertaken to underpin the assessment is set out in the accompanying Cambourne North Stage 2 Transport Modelling report.

The assessment provides a proof of concept that the proposed allocation at Cambourne North is supported by a credible and deliverable transport strategy. The assessment is proportionate to the plan-making stage and does not seek to predetermine the detailed design solutions that will be progressed through future planning applications.

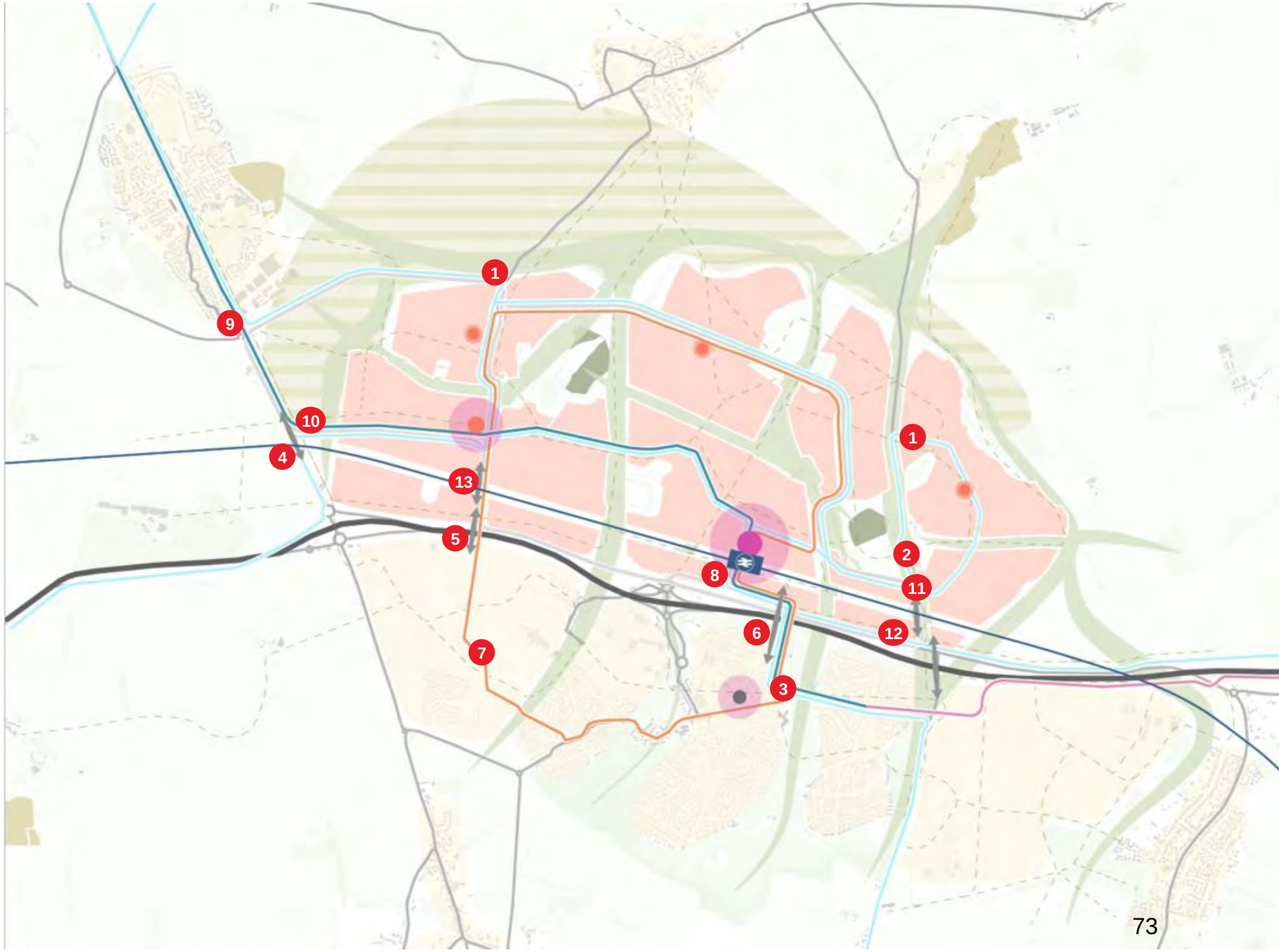
It should be noted that assessments are based on strategic model outputs with the Stage 2 initial trip budget applied (DS3a). This scenario includes significant background growth and so forms a cumulative assessment where not all network impacts can be fully attributable to development at Cambourne North.

Further engagement with EWR, National Highways and Cambridgeshire County Council will continue to take place to Local Plan examination to consider the need for any sensitivity testing. Further detailed assessment will also be required at the planning application stage to consider appropriate growth and mitigation at the time of application.

Transport interventions summary

On-site interventions

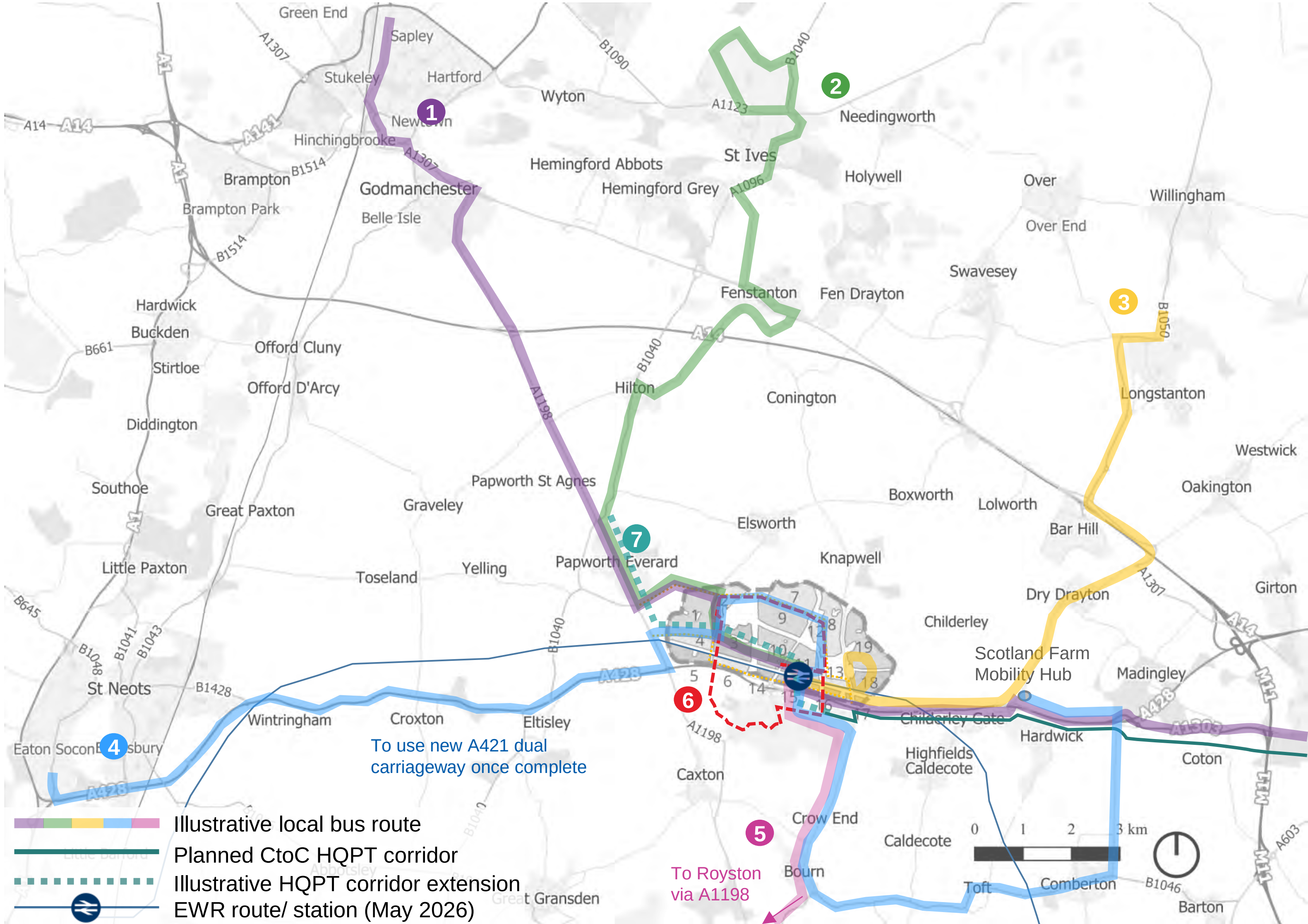
1. Modal filter on Brockley Road to Elsworth and to the east of Knapwell Road to restrict traffic through villages
2. Modal filter or restricted vehicle turning movements Between Cambourne North and Knapwell High St to the north
3. Extension of CtoC to EWR station and Papworth Everard
4. All mode crossing over EWR
5. Pedestrian, cycle and bus connection into Cambourne West subject to integration with Cambourne West masterplan
6. Pedestrian, cycle and bus connection over A428 to EWR
7. New bus loop between existing Cambourne, EWR station and Cambourne North
8. Pedestrian, cycle and bus connection under EWR station with limited all-mode connection between Cambourne A428 junction and town centre plots to the north of EWR.
9. New access arm onto existing A1198 roundabout
10. New signalised T-junction access onto A1198
11. Knapwell High Street access 'mini'-roundabout
12. New T-junction to St Neots Road
13. All mode crossing over EWR



Transport interventions summary

Local interventions

1. Huntingdon to Cambridge via Cambourne North and Scotland Farm mobility hub: This route compliments existing route X2/X3. Access to Cambourne North via A1198.
2. St Ives to Cambourne North via Fenstanton, Conington, and Elsworth. This route compliments existing route 9 which runs from Huntingdon to St Ives via Elsworth, Knapwell and Boxworth but does not serve Cambourne.
3. Longstanton to Cambourne Station via Bar Hill and Dry Drayton. There are no existing routes between Longstanton and Cambourne.
4. St Neots to Scotland Farm via Cambourne North: This route compliments existing route 18/ 18A.
5. Cambourne North (EWR) to Royston on A1198 via Arrington
6. Cambourne Shuttle bus to connect existing Cambourne, Cambourne West, and Cambourne North.
7. Extension of CtoC through Cambourne North and Papworth Everard

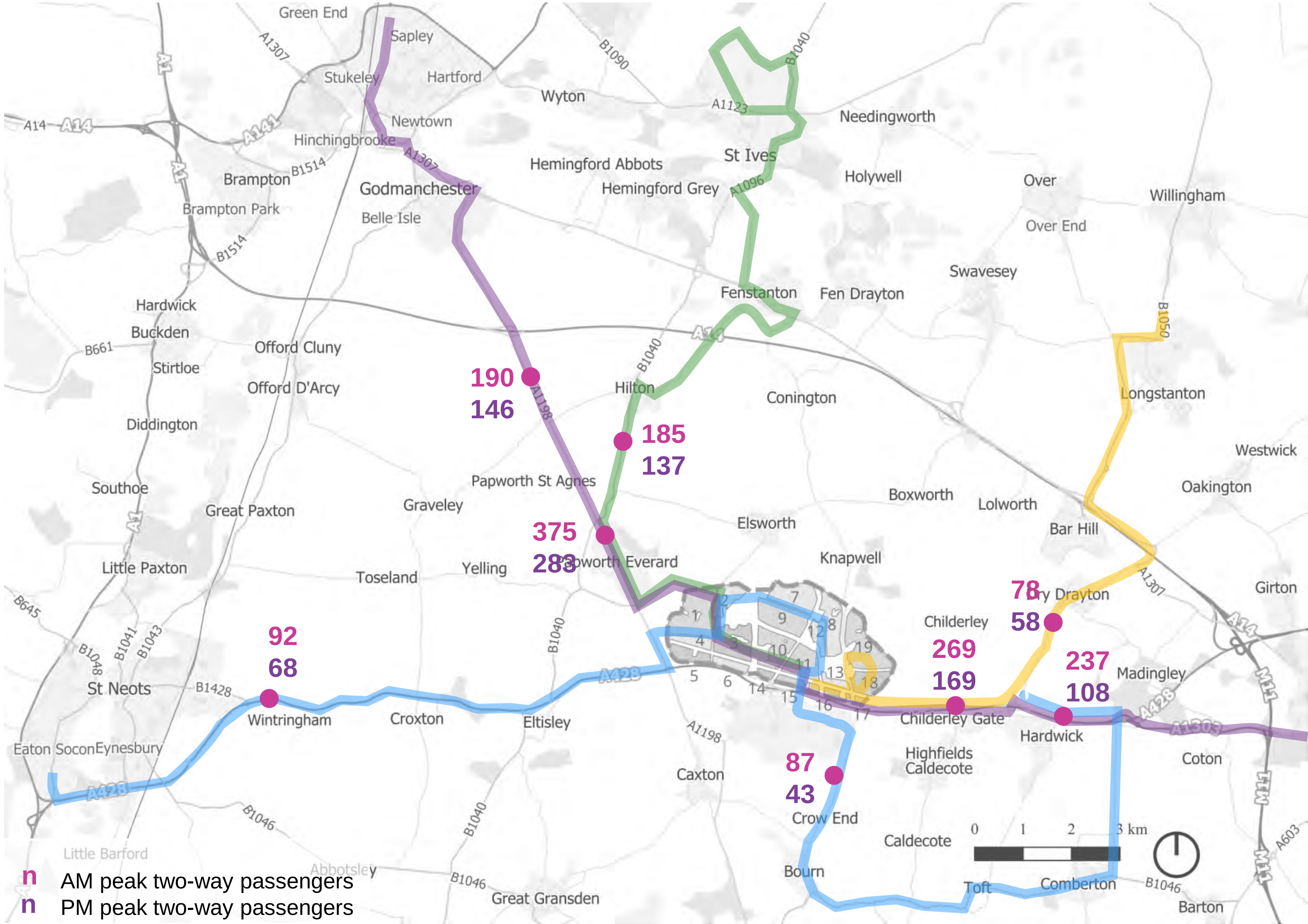


Public transport demand

CaPCAM output summary

A summary of modelled peak hour bus passenger demand from strategic model outputs (DS3a) is highlighted for the morning and evening peak hours.

Further details are provided in the separate Cambourne North Stage 2 Transport Modelling report.



Highway assessment

Local junction assessments

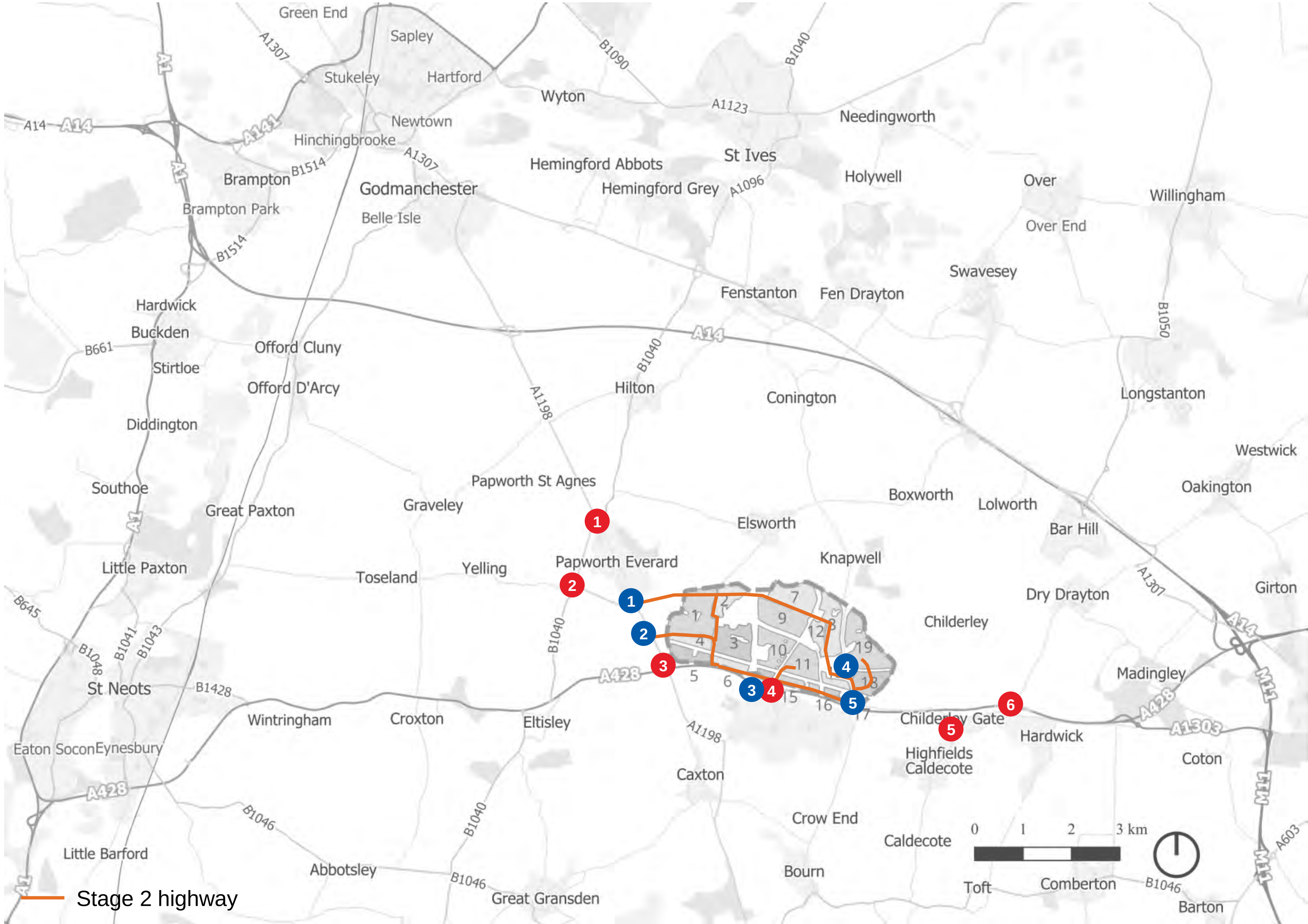
Following review of CaPCAM strategic model outputs, the following access and off-site junctions have been identified for local junction assessment.

Access junctions

1. Ermine St/ A1198/ New site access roundabout
2. A1198/ New site access signalised junction
3. Cambourne A428 dumbbell junction (north)
4. Knapwell High Street site access
5. Knapwell High Street/ St Neots Road

Off-site junctions

1. A1198/ Ermine St/ St Ives Road
2. Ermine St/ St Ives Road
3. Caxton Gibbet
4. Cambourne A428 dumbbell junction (north and south)
5. St Neots Road/ Wellington Way/ Highfields Road
6. Scotland Road A428 dumbbell junction



Highway access

Indicative form of access

The indicative form of Cambourne North key access junctions is outlined below based on modelling of initial trip budget. Detailed junction parameters are included in Cambourne North Stage 2 Transport Modelling report. Further engagement and design development will continue to take place with EWR, National Highways and Cambridgeshire County Council to Local Plan examination.

1

Ermine St/ A1198/ site access:

Existing priority roundabout with additional site access arm to the east with two-lane approaches and flared northern arm.

2

New site access onto A1198:

New signalised T-junction with:

- A1198 SB - two entry/exit lanes
- A1198 NB - one entry + flare and one exit lane NB
- Site access - one approach lane +flare

3

Cambourne dumbbell (Cambourne Road):

Northern roundabout: Existing priority roundabout at northern dumbbell with new/ realigned site access arm to the north with two-lane approach and widening of EB off-slip entry.

4

Knapwell High Street access (north of EWR):

New priority ‘mini’ roundabout with site access onto Knapwell High Street.

5

Knapwell High Street/ St Neots Rd (south of EWR):

New priority T-junction with St Neots Road (west) as the minor arm.

Highway mitigation

Off-site highway mitigation

The indicative form of Cambourne North key access junctions is outlined below based on modelling of initial trip budget. Detailed junction parameters are included in Cambourne North Stage 2 Transport Modelling report. Further engagement and design development will continue to take place with EWR, National Highways and Cambridgeshire County Council to Local Plan examination.

1

A1198 / St Ives Road/ Ermine Street

Existing roundabout with approach and entry width widening on A1198 and St Ives Road

2

A1198 / St Ives Road

Existing roundabout with approach and entry width widening on A1198 arms

3

Caxton Gibbet

New dumbbell arrangement under construction by National Highways. No further mitigation identified.

4

Cambourne dumbbell

Existing northern roundabout: EB off-slip widening to 8m. New site access arm with two lane approach from the north.

Existing southern roundabout: WB off-slip widening with flared approach.

5

St Neots Road/ Wellington Way/ Highfields Road

Existing roundabout with Approach and entry width widening on St Neots Road (E). Increased flare length on Wellington Way

6

Scotland Road dumbbell junction

Existing dumbbell junction. No mitigation identified.

Highway mitigation

Off-site highway mitigation

Merge/ Diverge assessments have been undertaken for grade separated junctions on A428 between Caxton Gibbet and Scotland Road in line with *Design* Manual for Roads and Bridges (DMRB) CD 122 Geometric design of grade separated junctions with assessment outputs included in **Appendix B**.

It should be noted that assessments are based on DS3a strategic model outputs and so include significant background growth. Therefore, it should be noted that as part of this cumulative assessment not all network impacts can be fully attributable to development at Cambourne North.

In line with Department for Transport Circular 01/2022 Strategic road network and the delivery of sustainable development, this assessment identifies the principle of capacity enhancements to accommodate growth should it come forward (cumulatively) as forecast. However, reasonable alternatives should continue to be explored to reduce car dependency before highway capacity enhancements are considered.

Further engagement with EWR, National Highways and Cambridgeshire County Council will continue to take place to Local Plan examination to consider the need for any sensitivity testing. Further detailed assessment will also be required at the planning application stage to consider appropriate growth at the time of application.

Ref	A428 junction	Description	Existing merge/ diverge type	Recommended mitigation
3	Caxton Gibbet	EB merge	Type B	Upgrade to Type D
3	Caxton Gibbet	WB merge	Type A	Upgrade to Type D
3	Caxton Gibbet	EB diverge	Type A	n/a
3	Caxton Gibbet	WB diverge	Type A	n/a
4	Cambourne dumbbell (Cambourne Rd)	EB merge	Type B	Upgrade to Type E
4	Cambourne dumbbell (Cambourne Rd)	WB merge	Type A	Upgrade to Type D
4	Cambourne dumbbell (Cambourne Rd)	EB diverge	Type A	n/a
4	Cambourne dumbbell (Cambourne Rd)	WB diverge	Type A	Upgrade to Type B
6	Scotland Road dumbbell	EB merge	Type A	Upgrade to Type B
6	Scotland Road dumbbell	WB merge	Type A	Upgrade to Type D
6	Scotland Road dumbbell	EB diverge	Type A	n/a
6	Scotland Road dumbbell	WB diverge	Type A	Upgrade to Type C

Contents

8 Phasing and funding

This section covers initial considerations of phasing and funding sources.

These are to be developed further through a subsequent Infrastructure Development Plan.

Indicative funding sources and sequence

To be developed further through the Infrastructure Delivery Plan

Indicative funding sources and indicative sequencing has been identified for transport interventions identified in the Cambourne North transport strategy and associated off-site highway mitigation to inform the Infrastructure Delivery Plan as part of the Delivery Strategy to follow the Stage 2 work.

This outlines:

- **Enabling** – prior to completion of CtoC extension to EWR station location and associated structures to maintain access routes during EWR construction.
- **First phase growth** – Early phase development on completion of CtoC extension and early phase development during EWR operations.
- **Second phase growth** – later stage development maximising the development opportunity Cambourne North resulting from delivery of EWR.

It should be noted that funding sources and sequencing is indicative only at this stage and will require further development to Local Plan examination and beyond.

Indicative funding sources and sequence

Transport interventions summary

Ref	Name	Description	Indicative priority	Indicative funding source	Sequence
1	Works on A428	Black Cat to Caxton Gibbet upgrade (under construction by National Highways)	Essential	National Highways	Enabling
2	Internal roads and access junctions	All internal roads including bus and active travel only links and access junctions	Essential	Developer	Enabling
3	Walking, Cycling and Public Transport Bridge	HQPT extension and ped/cycle link from planned CtoC terminus at Cambourne to EWR station.	Essential	EWR/ Developer Contribution/ CIL	Enabling
4	Modal filters	Modal filters and restricted turning movements to be provided to prevent 'rat-running' through villages to the north	Essential	Developer/ Developer contribution	Enabling
5	HQPT corridor extension to EWR station	Extension of CtoC HQPT from planned terminus in existing Cambourne to EWR station	Essential	Developer/ Developer contribution/ EWR	Enabling
6	All mode crossing over EWR	All mode crossings over EWR on: • A1198 • Knapwell High Street • St Neots Rd (connection between existing dumbbell junction and Brockley Road)	Essential	EWR	Enabling
7	Pedestrian and cycle permeability under station	Active travel routes underneath the station	Essential	EWR	Enabling
8	Walking and cycling connection over A428	Active travel connection from existing Cambourne over A428 to southern side of Cambourne Station	Essential	EWR	Enabling
9	Walking, wheeling, and cycling path between the A428 and EWR	Active travel connection between Cambourne West and Cambourne Station alongside A428	Essential	EWR	Enabling

Indicative funding sources and sequence

Transport interventions summary

Ref	Name	Description	Indicative priority	Indicative funding source	Sequence
10	Bus loop	Bus loop linking existing Cambourne and Cambourne West with EWR station and Cambourne North	Essential	Developer / EWR	First phase growth
11	Western all-mode Bridge	Highway that can accommodate Public Transport, walking and cycling routes over EWR (aligned to western local centre/ existing Brockley Road).	Essential	Developer Contribution	First phase growth
12	Connection beneath EWR station	Bus and active travel connection beneath EWR station to provide a direct link between the new town centre, station and existing Cambourne. Potential for this connection to also include limited plot access to be explored through Station Enhancement Study and ongoing stakeholder engagement.	Essential	EWR/ Developer Contribution	First phase growth
13	Mobility hubs	Facilities to provide interchange with bus services. Largest provision at EWR station.	Essential/ Desirable	Developer	First phase growth
14	Car parking	Car parking including surface/ Multi-storey Car Parks / Car Parking Barns	Essential	Developer	First phase growth
15	HQPT extension from EWR station to Papworth Everard	Extension of CtoC HQPT from EWR station in Cambourne North through to the northern end of Papworth Everard	Essential	Developer contribution/ EWR	Second phase growth
16	Junction improvements	Junction improvements at the following locations: • A1198/ St Ives Road/ Ermine Street roundabout • St Neots Rd/ Highfields Rd roundabout • Neots Rd/ Scotland Rd roundabout	Essential	Developer contribution	Second phase growth
17	A428 Cambourne junction improvements	Improvements to existing dumbbell arrangement	Essential	EWR/ Developer contribution	Second phase growth
18	Western Walking, Cycling and Public Transport Bridge	Bus and active travel bridge over A428 connecting Cambourne North to committed development at Cambourne West subject to integration with existing masterplan	Essential	Developer Contribution	Second phase growth

9 Policy recommendations

This section covers a high-level package of infrastructure and service interventions required to support the development.

Policy recommendations

This section sets out a high-level package of infrastructure and service interventions required to support the development. The recommendations focus on establishing a connected, accessible and sustainable transport network, while allowing for further refinement through detailed design and stakeholder coordination.

Strategic Approach

The development is expected to develop and demonstrate:

- Proposals that clearly prioritise sustainable access (walking, cycling and public transport) as the primary means of travel through the design of the transport and movement networks
- Develop proposals that provide safe and legible connections, both within the site, and externally to provide key strategic links to surrounding communities and key destinations, that are fully accessible.
- Provide appropriate levels of new highway infrastructure to support necessary vehicle movements without encouraging unnecessary car use
- Deliver sustainable transport and highway mitigation both on- and off-site, recognising the wider network context.

Core Infrastructure Provision (On-site)

The development is expected to develop and demonstrate:

- A clear road hierarchy, including primary distributor routes, secondary streets and local access roads, which prioritise sustainable movement.
- Develop deliverable access to the National Highways Strategic Road Network, subject to agreement and approval through coordination with relevant authorities.
- A series of walking and cycling routes, including segregated provision on key corridors and connections to adjacent developments and existing networks
- Provide strategic level links that overcomes severance (e.g. A428 and EWR alignment), including multi-modal connections to enable walking, cycling and public transport access to deliver a connected Cambourne.
- A network of mobility hubs to support interchange between modes and reduce reliance on private car use
- Car parking provision managed in a way that supports sustainable movement and efficient land use.

Public Transport Integration

The development proposals are expected to deliver:

- Bus infrastructure designed into the road and street network
- Integration with existing and planned public transport networks, including connections to Cambourne, surrounding settlements and EWR
- Potential for extension or diversion of existing services, and/or introduction of new routes, subject to further discussion with operators and authorities

Policy recommendations

Off-site Mitigation

In addition to on-site provision, a package of off-site measures will be required to mitigate impacts on the wider network. Future development proposals will need to demonstrate how and when:

- Improvements will be made to existing junctions and corridors (including the A428 and local network) to mitigate impacts of the development where required
- Enhancements to walking and cycling connections beyond the site boundary to provide the opportunity to make longer-distance trips to surrounding settlements
- Public transport improvements, including service enhancements or supporting infrastructure to support greater uptake of the local bus network.
- Network management or demand management measures, where appropriate to avoid potential and unforeseen consequences and protect the rural nature of surrounding settlements.

The scope and scale of off-site mitigation will be refined through ongoing more granular assessment of particular locations on the transport network and stakeholder engagement.

Flexibility and Phasing

The precise form, location and scale of interventions will be confirmed through subsequent stages of design and modelling. The strategy is intended to remain flexible to respond to:

- Evolving design development and refinement of the on-site land uses
- Outcomes of transport modelling and assessment
- Stakeholder input, including local authorities and infrastructure providers
- Infrastructure delivery will be aligned with the phasing of development to ensure appropriate provision is in place as demand arises.

Future development proposals should adopt a vision-led approach to transport planning, consistent with the principles of DfT Circular 01/2022, prioritising sustainable travel choices, managing traffic demand and ensuring that impacts on the Strategic Road Network are addressed through a combination of mode shift, mitigation and phased infrastructure delivery.

10 Next Steps

This section covers next steps to progress the Cambourne Growth Strategy Programme to the policy stage and beyond.

Next steps

Progressing from Spatial Framework to Policy

This Transport addendum report forms part of a Spatial Framework prepared to inform the preparation of an allocation in the Local Plan.

Further details of the next stages of work are set out in the accompanying Cambourne spatial framework update which includes:

- **Costing and Viability Testing**
- **Policy Drafting**

For transport, next steps will likely include:

- **Further technical evidence:** Further technical evidence will be needed to assess impacts at key locations. This will be undertaken in detail at the planning application stage. Further sensitivity testing is also likely to be required to be undertaken as appropriate for plan making prior to examination through continued engagement with transport stakeholders.
- Inputs to the **Infrastructure Delivery Plan**: Interventions identified within the transport strategy and transport modelling will be incorporated into an Infrastructure Delivery Plan. The approach to delivering growth at Cambourne North will need further development, including but not limited to considerations of delivery vehicles, governance, stewardship and long-term management and maintenance of assets and community engagement.

Cambourne Growth Strategy Programme: Annex 1: Transport Modelling Report

July 2026

Contents

This document should be read alongside the Stage 1 Transport Principles and Vision Report, Cambourne North Spatial Framework Strategy Addendum Report: Transport and Station Enhancement Study.

0 Introduction

This chapter introduces the purpose of this report and overview of the assessments undertaken to support the stage 2 Spatial Framework.

Introduction

This report provides an overview of the transport modelling and assessment undertaken in developing the stage 2 spatial framework for Cambourne North

Cambourne North is being promoted as a strategic mixed-use expansion to the existing settlement of Cambourne, new homes, employment space and supporting community infrastructure. To inform the emerging Spatial Framework and support ongoing engagement with Cambridgeshire County Council (CCC), the Cambridgeshire and Peterborough Combined Authority (CPCA), National Highways (NH), East West Rail (EWR) and other stakeholders, a programme of strategic transport modelling has been undertaken using the Cambridgeshire and Peterborough Combined Authority Model (CaPCAM). The modelling has been used to assess the transport implications of growth at Cambourne North and to support the development and testing of an appropriate package of mitigation measures. Further details of CapCAP modelling are set out in the *Cambourne North CaPCAM Technical Report* included in **Appendix A**.

A series of progressively refined future-year scenarios have been developed to understand the impacts of Cambourne North and identify an appropriate mitigation. The iterative approach has enabled the performance of individual interventions and packages of measures to be assessed, informing the refinement of the emerging transport strategy while maintaining alignment with the wider vision for Cambourne North.

The report summarises the strategic modelling outputs, including highway and public transport assignment results, changes in traffic flows and delay relative to the future baseline, and identifies locations for potential further consideration.

The assessment provides a ‘proof of concept’ that the proposed allocation at Cambourne North is supported by a credible and deliverable transport strategy. The assessment is proportionate to the plan-making stage and does not seek to predetermine the detailed design solutions that will be progressed through future planning applications.

Further engagement with EWR, National Highways and Cambridgeshire County Council will continue to take place to Local Plan examination to consider the need for any sensitivity testing. Further detailed assessment will also be required at the planning application stage to consider appropriate growth and mitigation at the time of application.

This document should be read in conjunction with *Cambourne North Spatial Framework Strategy Addendum Report: Transport* which sets out the Transport Strategy for the Cambourne North Spatial Framework and the accompanying *Station Enhancement Study.*

1 Model scenarios

This chapter provides an overview of the strategic modelling and assessment scenarios to support the stage 2 Spatial Framework. Further details are provided in the ‘Cambourne North CaPCAM Technical Report’ included in Appendix A

CaPCAM overview

Background

The Cambridgeshire and Peterborough Combined Authority Model (CaPCAM) is a transport planning tool developed by Cambridgeshire County Council (CCC) to help decision-makers understand how people travel across the Cambridgeshire and Peterborough region. It simulates travel behaviour for all major modes of transport — including car, bus, rail, walking, and cycling — so that proposed changes to roads, public transport services, housing developments, or transport policies can be tested before they are implemented. The model covers the entire Combined Authority area, with enhanced detail for Cambridge, Peterborough, and key strategic corridors, and represents a typical weekday in 2023.

CaPCAM draws on a wide range of real-world data to build an accurate picture of how people travel today. These include mobile phone travel data, traffic counts, public transport timetables and passenger numbers, Census population and employment figures, and national travel survey statistics. The model also accounts for practical factors that influence travel choices, such as parking availability and charges, public transport fares, road congestion, and the quality of walking and cycling routes.

The model produces forecasts of travel demand and traffic flows across the region's road and public transport networks. This allows planners to assess the likely effects of new infrastructure schemes, housing or commercial developments, changes in parking policy, or improvements to bus and rail services. It also provides information on journey times, mode shares (i.e. the proportion of journeys made by car, bus, rail, walking, or cycling), and can feed into wider assessments of carbon emissions and transport sustainability.

The CaPCAM 2023 baseline represents a typical working weekday in spring 2023, chosen to reflect post-Covid travel patterns across Cambridgeshire and Peterborough. It includes the region's full road network, all scheduled bus and rail services, Park & Ride sites, walking and cycling routes, parking charges and capacity constraints, and population and employment data at a local level — all calibrated against real-world data including traffic counts, passenger numbers, and journey times to ensure it provides a reliable foundation for testing future transport schemes, development proposals, and policy changes.

How is CaPCAM being used?

CaPCAM is being used to assess the transport impacts of Cambourne North to inform the development of a package of mitigation. Through this work, GCSP and their consultant Arup has supported the refinement of an appropriate vision-led initial trip budget. This initial trip-budget has been identified and tested through the use of CCC’s CaPCAM model and discussed and agreed with CCC as the highway authority.

CaPCAM overview

Future year assessments

The CaPCAM 2046 Reference Case represents the region's expected future transport conditions, combining planned housing and employment growth from Local Plan allocations across six planning authorities along with committed transport infrastructure. The authorities covered are:

- Cambridge City
- South Cambridgeshire
- East Cambridgeshire
- Huntingdonshire
- Fenland
- Peterborough City

On the demand side, it includes around 53,700 new dwellings and 54,300 new jobs drawn from each local authority's development pipeline; only sites rated "near certain" or "more than likely" are included, in line with guidance set out by DfT, along with windfall allowances, meaning growth exceeds national forecasts.

On the supply side, the Reference Case includes over 40 committed transport schemes:

- major highway improvements such as the A428 Black Cat to Caxton Gibbet dualling and the A47 Wansford to Sutton dualling
- new rail infrastructure including Cambridge South station and the relocated Waterbeach station
- public transport and Park & Ride schemes such as Cambourne to Cambridge (CtoC) with a new high-frequency bus route between Scotland Farm and the city centre, the Waterbeach to Cambridge North busway, Cambridge South West Travel Hub, and Eastern Access
- a network of Greenway cycling routes connecting surrounding villages to Cambridge.
- East West Rail is not included in the Reference Case scenario.

The model forecasts increased car travel demand driven by lower vehicle operating costs and higher public transport fares (including removal of the bus fare cap), with longer average car trip lengths, reduced bus patronage overall, and significant rail growth — particularly at Peterborough, March, and the new Cambridge South station.

Full details of subsequent scenarios are set out in the Cambourne North CaPCAM Technical Report included in **Appendix A**.

Future year scenarios

CaPCAM – Do Nothing and Do Minimum

CaPCAM 2046 Cambourne North 'Do Nothing' Scenario
The CaPCAM 2046 reference case has been adapted as the future baseline for assessment of development at Cambourne North by:

- Removing any pre-existing growth assumptions at Cambourne North,
- Adding Cambourne to Cambridge High Quality Public Transport corridor (CtoC HQPT) to existing Cambourne, and
- Adding East West Rail proposals as an essential catalyst for development at Cambourne North.

Planned growth may not come forward in full or be fully realised. Therefore, it should be noted that as part of this cumulative assessment not all network impacts can be fully attributable to development at Cambourne North.

Detailed Transport Assessment will be required at the planning application stage to consider appropriate growth at the time of application.

CaPCAM 2046 Cambourne North 'Do Minimum' Scenario
The 'Do Minimum' scenario builds on the 'Do Nothing' scenario by including the Cambourne North stage 1 spatial framework development schedule (as the Stage 2 schedule was not fixed at the time of model development).

Highway access junctions at Cambourne North were 'unconstrained' in this scenario to highlight where vehicular traffic wants to route without constraint. This represents the starting point for the development of a package of interventions to mitigate localised and wider impacts and inform access junction layouts.

Do Something scenarios

CaPCAM – future year ‘Do Something’ scenarios

CaPCAM 2046 Cambourne North ‘Do Something’ Scenarios
Three packages of interventions have been developed through incremental testing using CaPCAM. These ‘Do Something’ scenarios enabled active travel, local public transport and internal routing and access to be established in early runs and wider interventions and off-site mitigation layered on in later runs. This has allowed consideration of the model response in each iteration to inform further refinement and identify mitigation as appropriate while aligning with the vision for the site.

CaPCAM 2046 Cambourne North ‘Do Something 1’ (DS1)
Site-Focused Access and Local Connectivity Package
DS1 uses the same development demand assumptions as the Do Minimum scenario but introduces an initial package of interventions focused on the immediate Cambourne North area. The package is centred on site access arrangements, local movement management and sustainable travel connections, including active travel links, bus connections to Cambourne and the proposed EWR station, extension of the Cambourne to Cambridge High Quality Public Transport Corridor (CtoC HQPT) to the EWR station, and measures intended to reduce through-traffic in nearby villages including modal filters and restricted turning movements.

Key changes from Do Minimum:
- Introduction of Cambourne North site access arrangements.
- New and enhanced walking and cycling connections.
- Bus/ HQPT connectivity improvements between Cambourne North, Cambourne and the proposed EWR station.
- Measures aimed at reducing through-traffic within nearby villages.

CaPCAM 2046 Cambourne North ‘Do Something 2’ (DS2)
Enhanced Local Access and Public Transport Package
DS2 builds directly on DS1 by introducing refined access measures together with a wider package of public transport interventions. These include additional strategic bus connections serving Cambourne North, the EWR station, Papworth Everard, Scotland Farm Mobility Hub, St Neots, Huntingdon, Longstanton and Royston, as well as active travel enhancements including a new connection to Scotland Farm Mobility Hub.

Key changes from DS1:
- DS1 interventions retained.
- Additional strategic bus service enhancements with improved links between Cambourne North, the EWR station, surrounding settlements and mobility hub at Scotland Farm.
- Extension of CtoC HQPT from EWR station to A1198
- Further active travel enhancements.
- Refinements to local highway access measures.

Do Something scenarios

CaPCAM – future year ‘Do Something’ scenarios

CaPCAM 2046 Cambourne North ‘Do Something 3’ (DS3) Refined Mitigation Scenario
DS3 represents the most comprehensive ‘Do Something’ scenario and comprises a package of public transport and highway interventions developed and refined through the iterative modelling process. The scenario builds upon DS2 and incorporates targeted mitigation measures for assessing the impacts of growth at Cambourne North.

Key changes from DS2:
- DS2 interventions retained.
- Refinement of public transport service assumptions.
- Enhanced integration with EWR-related infrastructure.
- Extension of CtoC HQPT to Papworth Everard.

CaPCAM 2046 Cambourne North ‘Do Something 3a’ (DS3a)
The purpose of DS3a is to assess the impact of a realistic trip budget for Cambourne North on network performance. DS3a is a sensitivity test based on the DS3 intervention package but with a vision-led initial trip budget of 4,000 two-way car trips entering/ leaving Cambourne North. This has been identified through a MoDES first principles assessment as set out in the associated Cambourne North Spatial Framework Strategy Addendum Report: Transport and applied within CaPCAM to reflect a realistic scenario of how future levels of internalisation and mode share could change over time.

It is important to note that the MoDES first principles assessment in the Addendum Report represents one combination of measures which could be applied to reduce external car trip over time subject to the level of ambition contained within regional transport and land use policy interventions. Such policies may also affect not only new development but also existing journeys, particularly within existing Cambourne with potential to create headroom in the highway network for additional trips.

The inclusion of headroom for additional trips is important at this stage due to uncertainties relating to EWR designs and associated transport modelling which continue to develop ahead of DCO submission expected in 2027 and the A428 Black Cat to Caxton Gibbet scheme currently under construction is delivered with opening expected in 2027.

The initial trip budget of 4,000 two-way car trips entering/ leaving Cambourne North has been implemented within the CaPCAM highway assignment model with DS3a strategic outputs used to assess local junction performance and merge/ diverge assessments as presented in Chapter 7.

Key change from DS3:
- Application of the agreed initial trip budget to the DS3 intervention package.

Full details of scenarios are set out in the Cambourne North CaPCAM Technical Report included in **Appendix A**.

Contents

2 Model zoning

This chapter describes the development scenario assessed, how that translates to the model zone structure, and development scenario changes in the stage 2.

Development schedule

Spatial framework stage 1 approximate Households and jobs

The CaPCAM scenarios with Cambourne North reflect development schedule set out for the stage 1 spatial framework as the development schedule for Stage 2 was not fixed at the time of CaPCAM scenario development.

Plot	Households	Jobs
1	729	43
2	729	43
3	1,181	216
4	322	212
5	997	183
6	315	58
7	0	101
8	0	109
9	1,082	64
10	964	57
11	2,546	466
12	1,089	718
13	367	67
14	223	147
15	0	725
16	0	1,886
17	0	226
18	0	42
19	2,651	485
Totals	**13,195**	**5,851***

* Jobs made up of approximately 4,000 office/R&D and mid-tech / light industrial jobs with approximately 2,000 retail and social infrastructure jobs.

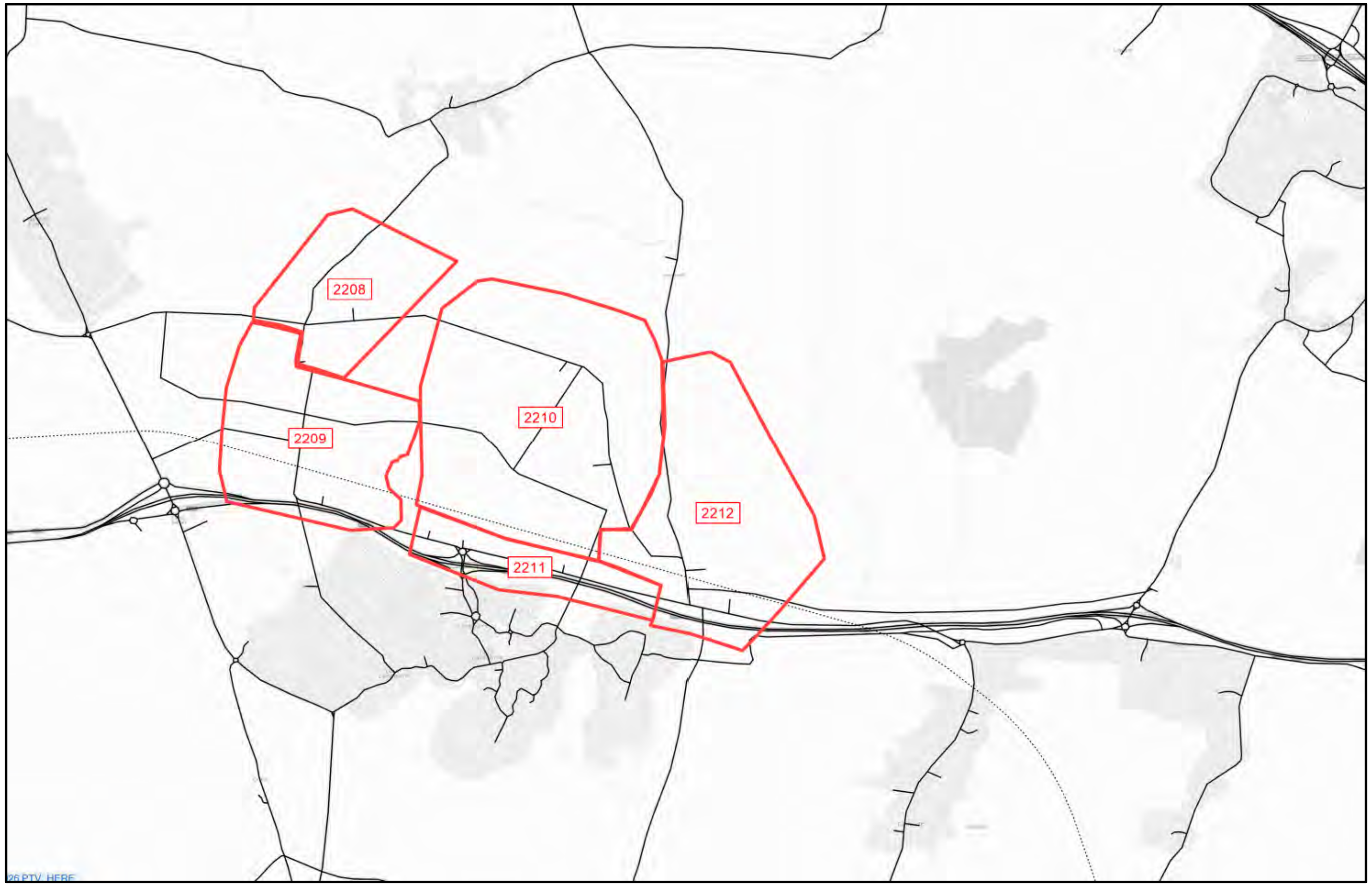
Network and Zone Structure

CaPCAM Model Zones

For the purposes of strategic modelling, Cambourne North has been represented as five development zones.

Full details of the model structure and are set out in the Cambourne North CaPCAM Technical Report included in **Appendix A** with the number of homes and jobs within each zone summarised in the table below.

Modelled (Stage 1 spatial framework)		
Zone	Households	Jobs
2208	1,780	298
2209	2,493	667
2210	6,048	1,372
2211	0	2,837
2212	2,874	674
Totals	**13,195**	**5848**



Stage 2 changes

Development schedule stage 2 changes

The Stage 1 development schedule has been modelled within CaPCAM as the development schedule for Stage 2 was not fixed at the time of CaPCAM scenario development.

However, the stage 2 development schedule is reflected in the first principles MoDES assessment which informs the initial trip budget in Do Something scenario 3a (DS3a).

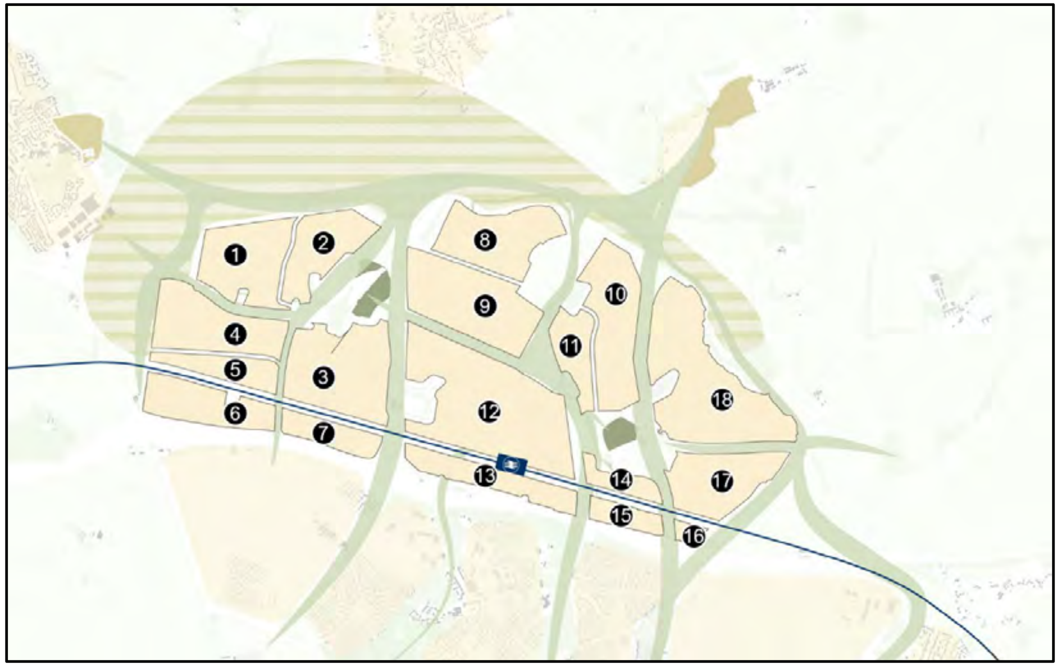
Changes in the Stage 2 development schedule compared with the Stage 1 modelled schedule are:

- Households decrease by 1,051 (-8.0%)
- Jobs increase by 825 (+14.1%)
- Development becomes slightly more employment-focused, with job growth concentrated in Zones 1 and 3
- Most housing reductions occur in Zone 3 (71%) and Zone 1 (24%)

These changes represent a redistribution of development rather than any increase growth overall with a reduction in the number of households and increase in the number of jobs.

Further sensitivity testing of the Stage 2 development schedule within CaPCAM is not considered necessary at this stage but could be considered as part of ongoing engagement with relevant stakeholders. The total number of trips modelled is consistent with the trip budget set for Stage 2.

Modelled (Stage 1)			Stage 2		Change	
Zone	Households	Jobs	Households	Jobs	Households	Jobs
1	1,780	298	1,530	438	-250	140
2	2,493	667	2,464	723	-29	56
3	6,048	1,372	5,302	2,300	-746	928
4	0	2,837	0	2,839	0	2
5	2,874	674	2,848	373	-26	-301
Totals	**13,195**	**5848**	**12,144**	**6673**	**-1,051**	**825**



3 Trip generation

This chapter sets out the trip generation for Cambourne North (full buildout) and actual trips completing journeys through the wider network. Further details are provided in the 'Cambourne North CaPCAM Technical Report' included in Appendix A

Trip Generation

Output from CaPCAM DS3a

Zone	AM Departures (Demand)	AM Departures (Actual)	AM Arrivals (Demand)	AM Arrivals (Actual)	AM Dep (difference)	AM Arr (difference)
2208	431	431	266	259	0	7
2209	590	590	412	400	0	12
2210	1364	1364	911	880	0	31
2211	223	223	634	615	0	19
2212	708	708	469	451	0	18
Total	**3316**	**3316**	**2692**	**2605**	**0**	**87**

Output from CaPCAM DS3a

Zone	PM Departures (Demand)	PM Departures (Actual)	PM Arrivals (Demand)	PM Arrivals (Actual)	PM Dep (difference)	PM Arr (difference)
2208	247	247	409	409	0	15
2209	374	374	564	564	0	21
2210	841	841	1308	1308	0	52
2211	442	442	172	172	0	4
2212	425	425	660	660	0	27
Total	**2329**	**2329**	**3113**	**3113**	**0**	**119**

The CaPCAM DS3a trip generation outputs show that departure demand is fully assigned in both the AM and PM peaks, with no difference between demand and actual departures across all zones.

For arrivals, actual modelled arrivals are slightly lower than demand in the AM and PM peak, although the difference in values is quite small.

The overall level of trip generation exceeds 4,000 vehicles as the trip budget is only associated with car-based trips to and from the development. Trips associate with freight, or east west rail would therefore be additional and explain the difference.

The locations where demand exceeds assigned flows are considered on the following pages.

Highway demand

DS3a AM – Demand minus Actual (min value 100)

The widest orange bars are concentrated on the strategic road network to the east of the development area, particularly around Cambridge on the A14 and M11 where several strategic routes converge.

These links carry the highest traffic volumes in the model, with flows at capacity for some periods of the day. Differences between demand and actual assignment approach 900 vehicles on some sections, although for the majority of locations all demand is met.

Trips that do not reach the development are therefore likely to be long-distance trips making use of the strategic road network or travelling from Cambridge.

In contrast, the roads immediately adjacent to the development parcels have small differences between demand and assigned flow.

Highway demand

DS3a PM – Demand minus Actual (min value 100)

The evening peak period shows a very similar pattern to the morning peak, with the widest orange bars concentrated on the strategic road network to the east of the development area, particularly around Cambridge on the A14 and M11 where several strategic routes converge. The scale of difference is much lower in the evening peak.

Trips that do not reach the development are still likely to be long-distance trips making use of the strategic road network or travelling from Cambridge.

In contrast, the roads immediately adjacent to the development parcels have small differences between demand and assigned flow.

4 Highway Assignment

This chapter shows the highway assignment of trips to and from full development at Cambourne North in the morning and evening peak hours with the initial trip budget applied.

Cambourne North - Highway Assignment

DS3a 2-way trip assignment (demand) – AM Peak, 100 Vehicle Threshold

The figures on this plot do not reflect the net change in flow on links surrounding the site, instead showing where the development specific trips go. In practice, the addition of new developments affects route choice within the study area, and a new equilibrium assignment is reached. This typically reduces the net change in flow in the vicinity of the site and is considered later in this report.

The development-generated traffic is heavily focused on the A428 east-west corridor passing immediately south of the development site and providing access to the SRN and Cambridge.

Development traffic on the corridor reaches around 800 vehicles on the section closest to the site access before gradually dispersing through the wider network. This indicates that the majority of trips generated by the development are oriented towards destinations to the east, highlighting the significance of Cambridge due to the provision of employment, retail, education and other key trip attractors.

The plot also shows that development traffic is distributed across a number of local access points within the development area before consolidating onto the strategic highway network. The highest of these movements in via the A1198 to the north, with limited movements on other corridors due to restrictions provided as part of the mitigation packages.

Cambourne North - Highway Assignment

DS3a 2-way trip assignment (demand) – PM Peak, 100 Vehicle Threshold

The evening peak plots shows almost identical trip patterns to and from the site when compared to the morning peak plot.

This is due to the tidal nature of trips and the return journeys made by travellers i.e. a trip to the site in the morning typically makes the return journey in the evening peak and vice versa.

5 Highway impact

This chapter sets out the highway impact with full development at Cambourne North with the initial trip budget applied.

Flow change (AM)

DS3a – DN Flow Difference Plot – AM Peak

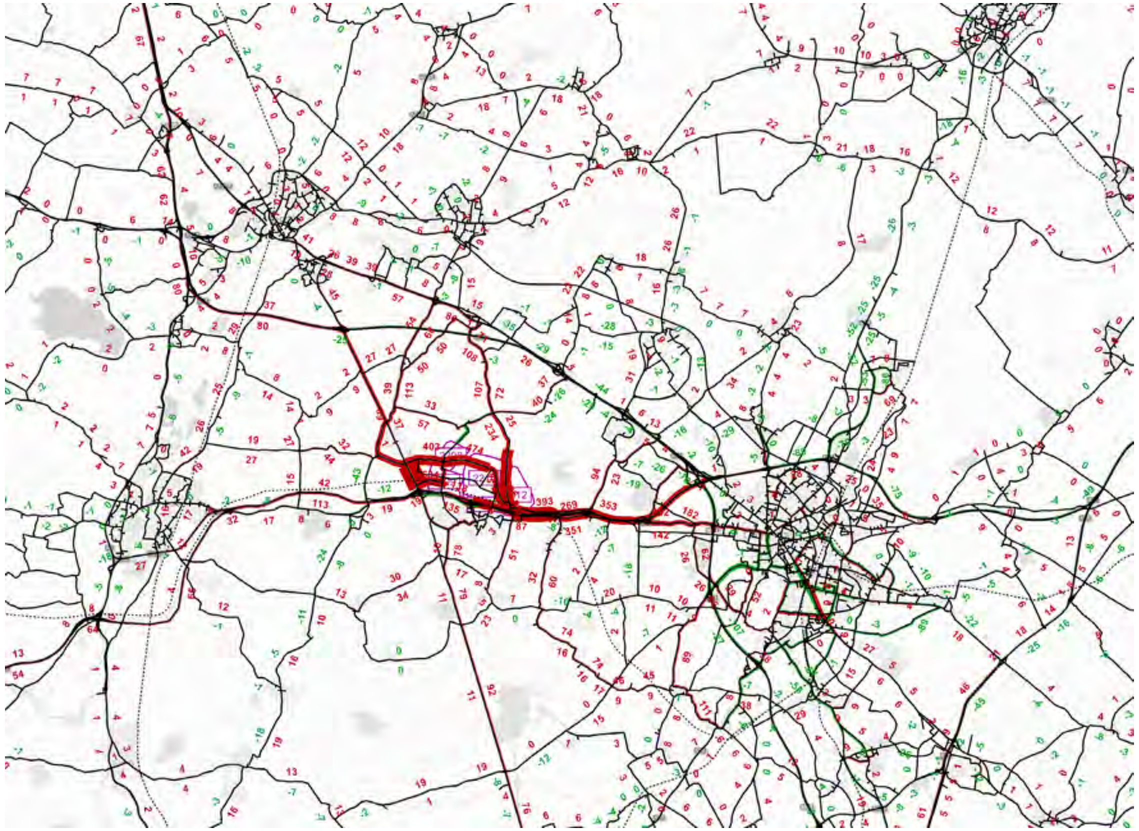
This difference plot illustrates the change in traffic as a result of the inclusion of the Cambourne North site in the morning peak period. It shows that the proposed development generates a concentrated increase in traffic on the roads immediately surrounding the site, before the additional vehicles disperse onto the wider highway network.

The largest increases are observed on the routes providing direct access to the development, where flow increases exceed 400 vehicles on some links and remain above 300 vehicles along the A428 corridor.

The magnitude of increases reduces progressively with distance from the site, indicating that development traffic is gradually dispersing across multiple routes as travellers reach different destinations throughout the network. The widespread nature of these increases reflects that the development has a broad range of trip destinations across the region meaning traffic flow changes quickly become negligible as you move away from the site.

There are several locations where flows reduce, shown by the green values. These decreases are generally small and occur where the presence of development traffic changes route choice patterns across the network. In effect, some existing traffic is reassigned onto alternative routes as new development trips enter the road network.

Overall, the development impact is very localised. The greatest traffic increases occur on the roads immediately serving the site and on corridors connecting the development to the wider Cambridge area. Away from these key routes, impacts reduce substantially as trips disperse across the wider network. The results therefore indicate that any potential transport impacts are likely to be focused on the site access arrangements, the A428 and the A1198.



Delay (AM)

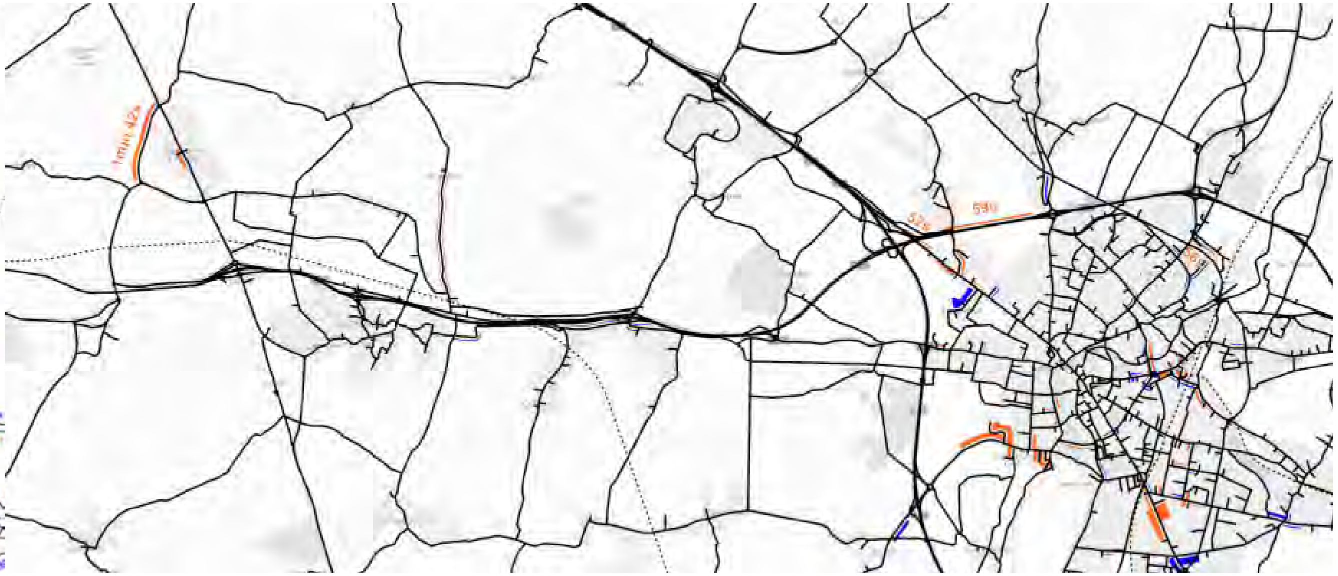
Delay Difference DS3a - DN Plot – AM Peak (seconds)

The plots below illustrates the change in delay per vehicle travelling on the network as a result of the inclusion of the Cambourne North development. The figure on the left shows the wider network impacts for all changes in delay, with many being very minor increases of less than 5 seconds. The plot on the right zooms in on locations with great increase in delay, highlighting those with over a 30 second increase.

This analysis highlights several locations that should be considered in greater detail and have been modelled and assessed as part of the detailed local junction assessments later in this report.

These include:

- A1198 Roundabout north of Papworth Everard
- Knapwell High Street within the site
- Site access junctions onto the wider highway network
- A428 Junctions



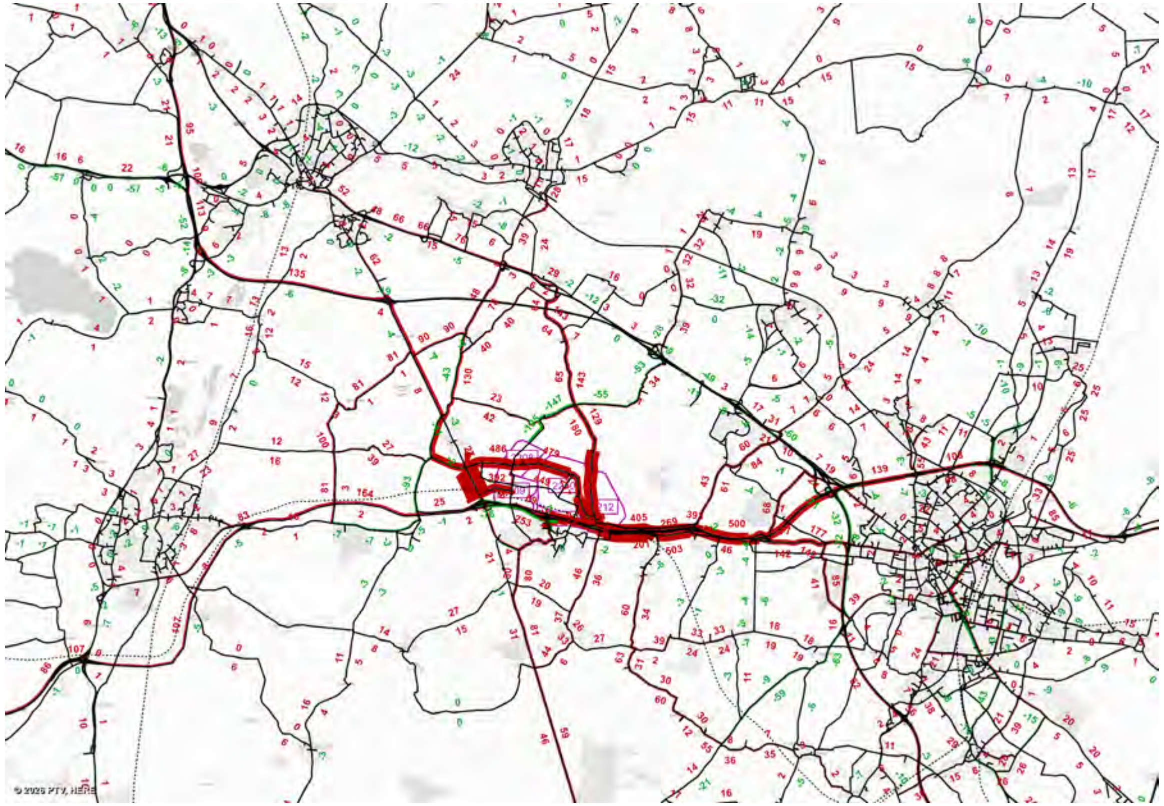
Flow change (PM)

DS3a – DN Flow Difference Plot – PM Peak

This difference plot illustrates the change in traffic as a result of the inclusion of the Cambourne North site in the evening peak period. It shows that the proposed development generates very similar impacts to those identified within the morning peak period. This includes:

- a concentrated increase in traffic on the roads immediately surrounding the site, before the additional vehicles disperse onto the wider highway network.
- The magnitude of increases reduces progressively with distance from the site, indicating that development traffic is gradually dispersing across multiple routes as travellers reach different destinations throughout the network.
- There are several locations where flows reduce (shown by the green values). These decreases are generally small and occur where the presence of development traffic changes route choice patterns across the network.

Overall, the development impact is very localised. The greatest traffic increases occur on the roads immediately serving the site and on corridors connecting the development to the wider Cambridge area. Away from these key routes, impacts reduce substantially as trips disperse across the wider network. The results therefore indicate that any potential transport impacts are likely to be focused on the site access arrangements, the A428 and the A1198 .



Delay (PM)

Delay Difference Plot DS3a – DN – PM Peak (seconds)

The plots below illustrates the change in delay per vehicle travelling on the network as a result of the inclusion of the Cambourne North development. The figure on the left shows the wider network impacts for all changes in delay, with many being very minor increases of less than 5 seconds. The plot on the right zooms in on locations with great increase in delay, highlighting those with over a 30 second increase.

This analysis highlights several locations that should be considered in greater detail and have been modelled and assessed as part of the detailed local junction assessments later in this report and they are consistent with the morning peak period.

These include:

- A1198 Roundabout north of Papworth Everard
- Knapwell High Street within the site
- Site access junctions onto the wider highway network
- A428 Junctions

Flow change (AM scenarios)

CaPCAM output summary

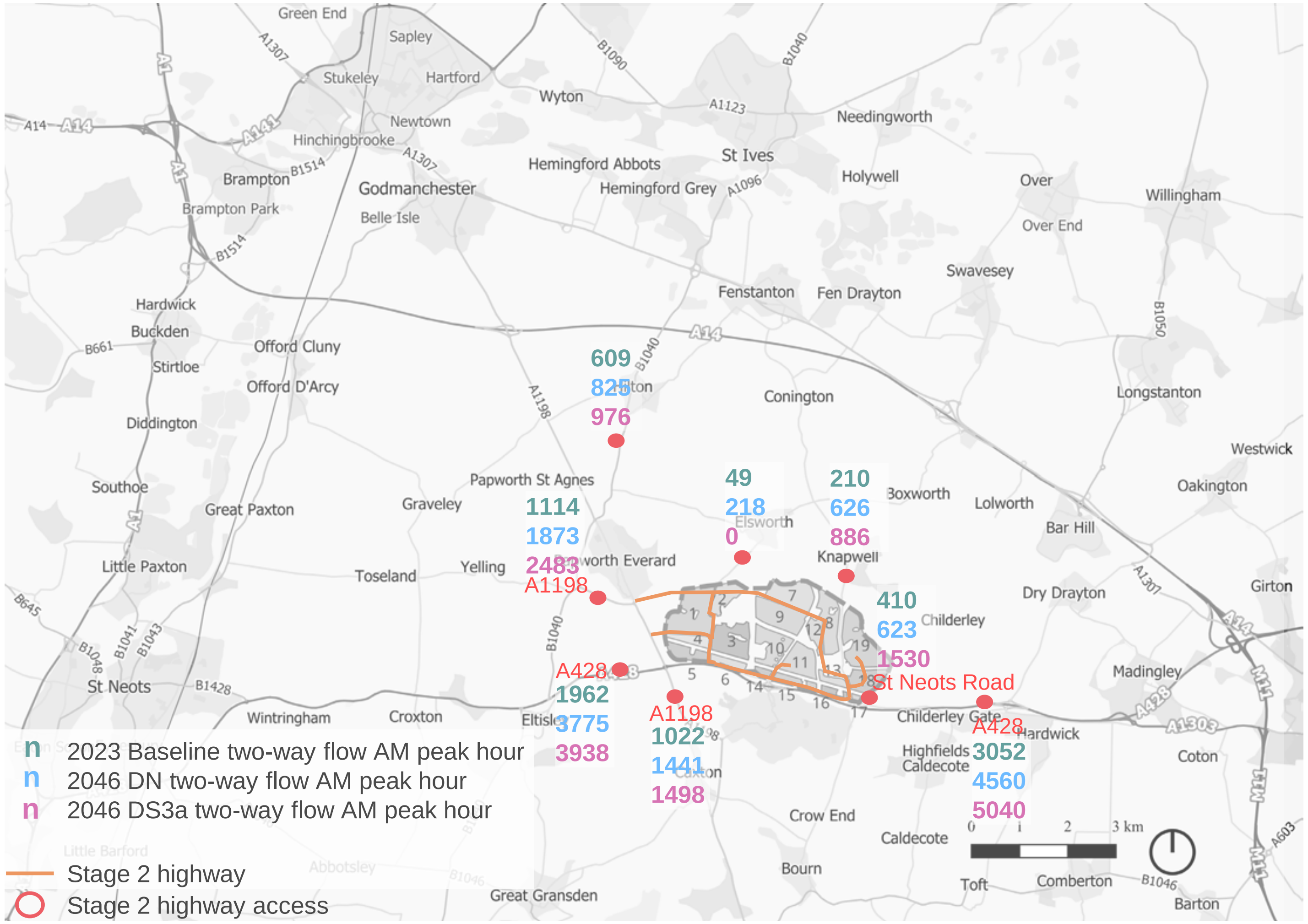
Flow changes on key links surrounding Cambourne North are summarised for the following CaPCAM scenarios :

- 2023 Baseline
- 2046 DN
- 2046 DS3a with trip budget

Through stakeholder engagement, Knapwell High Street was identified as particularly sensitive to increases in traffic flow. CaPCAM modelling shows 2023 baseline two-way flows of 210 in the AM peak hour, equating to c.3-4 vehicles per minute at peak times or 1-2 vehicles per minute in each direction.

The Cambourne North development is shown to add 260 two-way vehicles at c.4 vehicles per minute, with a further 416 vehicles added through wider background traffic growth should all growth modelled be realised. In combination, this would result in c.7-8 vehicles per minute in each direction.

The stage 2 spatial framework has sought to restrict Cambourne North related turning movements to/ from Knapwell High Street and existing priority chicanes with narrow lanes currently serve to discourage traffic through Knapwell. Consideration of further measures to protect the local character through surrounding villages could be explored through sensitivity testing with further detailed assessment of impacts with associated mitigation required at the planning application stage.



Cambourne Growth Strategy Programme

Local junction assessment

Access and off-site locations identified for local junction assessment

Following review of CaPCAM strategic model outputs for DS1- DS3a, the following access and off-site junctions have been identified for local junction assessment.

Access junctions

1. Ermine St/ A1198/ New site access roundabout
2. A1198/ New site access signalised junction
3. Cambourne A428 dumbbell junction (north)
4. Knapwell High Street site access
5. Knapwell High Street/ St Neots Road

Off-site junctions

1. A1198/ Ermine St/ St Ives Road
2. Ermine St/ St Ives Road
3. Caxton Gibbet
4. Cambourne A428 dumbbell junction (north and south)
5. St Neots Road/ Wellington Way/ Highfields Road
6. Scotland Road A428 dumbbell junction

6 Public transport

This chapter provides a summary of public transport demand with full development at Cambourne North.

Cambourne North - Bus Assignment

2-way trip assignment (demand) – AM Peak, 25 Passenger Threshold

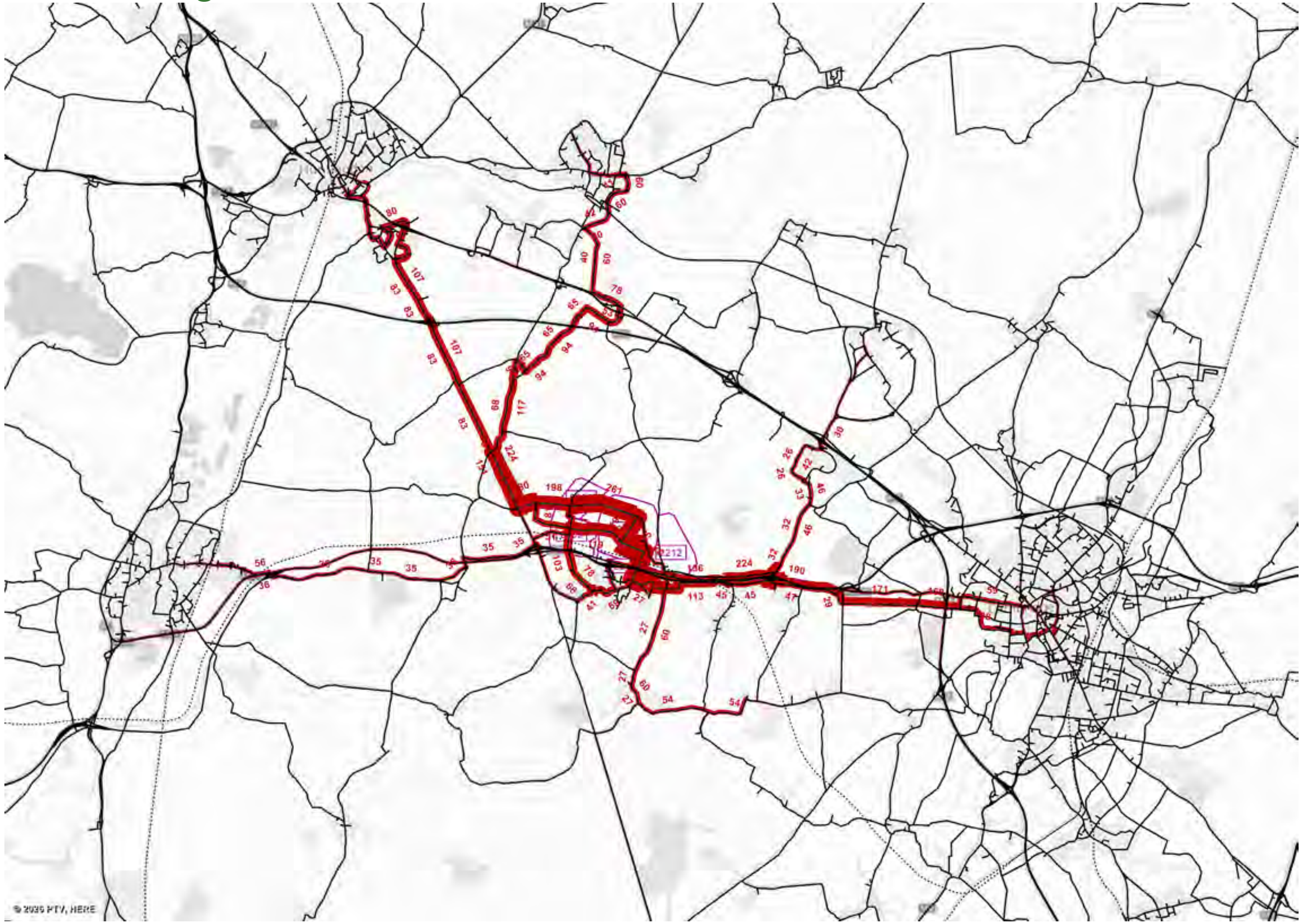
This DS3a CaPCAM output illustrates the forecast bus passenger demand associated with Cambourne North for the morning peak hour.

The output provides an indication of key demand between Cambourne North and neighbouring settlements and wider destinations including St Neots, Huntingdon and St Ives.

A range of public transport improvements were modelled to encourage PT mode share these included:

- Huntingdon to Cambridge via Cambourne North and Scotland Farm mobility hub
- St Ives to Cambourne North
- Longstanton to Cambourne Station
- St Neots to Scotland Farm via Cambourne North
- Cambourne Shuttle bus to connect existing Cambourne, Cambourne West, and Cambourne North.
- Extension of CtoC through Cambourne North and Papworth Everard

The results illustrates that these routes have had a positive impact on sustainable travel choices from the site, with peak period demand covering the key destinations targeted.



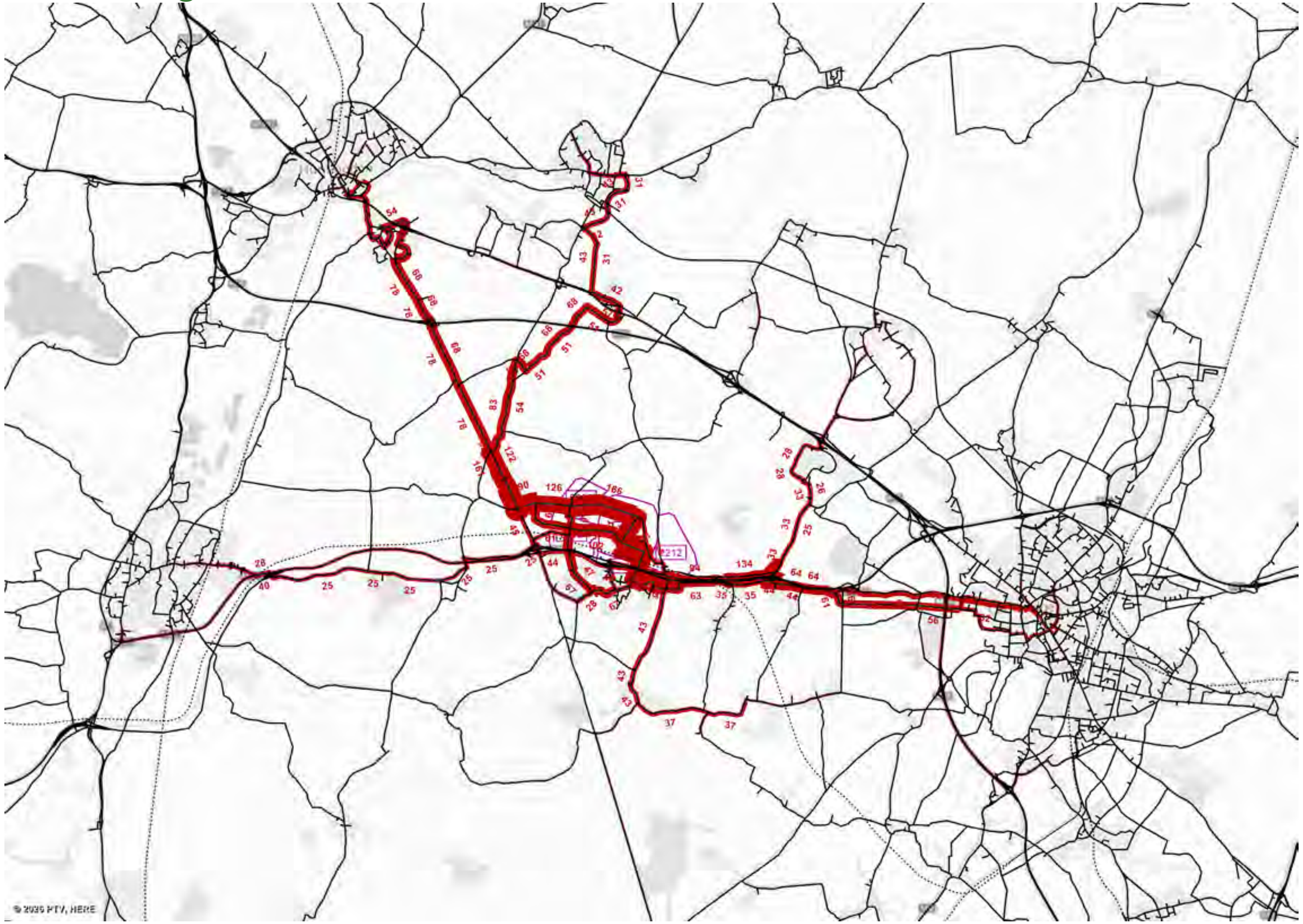
Cambourne North - Bus Assignment

2-way trip assignment (demand) – PM Peak, 25 Passenger Threshold

This DS3a CaPCAM output illustrates the forecast bus passenger demand associated with Cambourne North for the evening peak hour.

The output provides an indication of key demand between Cambourne North and neighbouring settlements and wider destinations including St Neots, Huntingdon and St Ives.

The results demonstrate very similar results to the morning peak hour, confirming high levels of public transport use from the site to key destinations.



Cambourne North - Rail Assignment

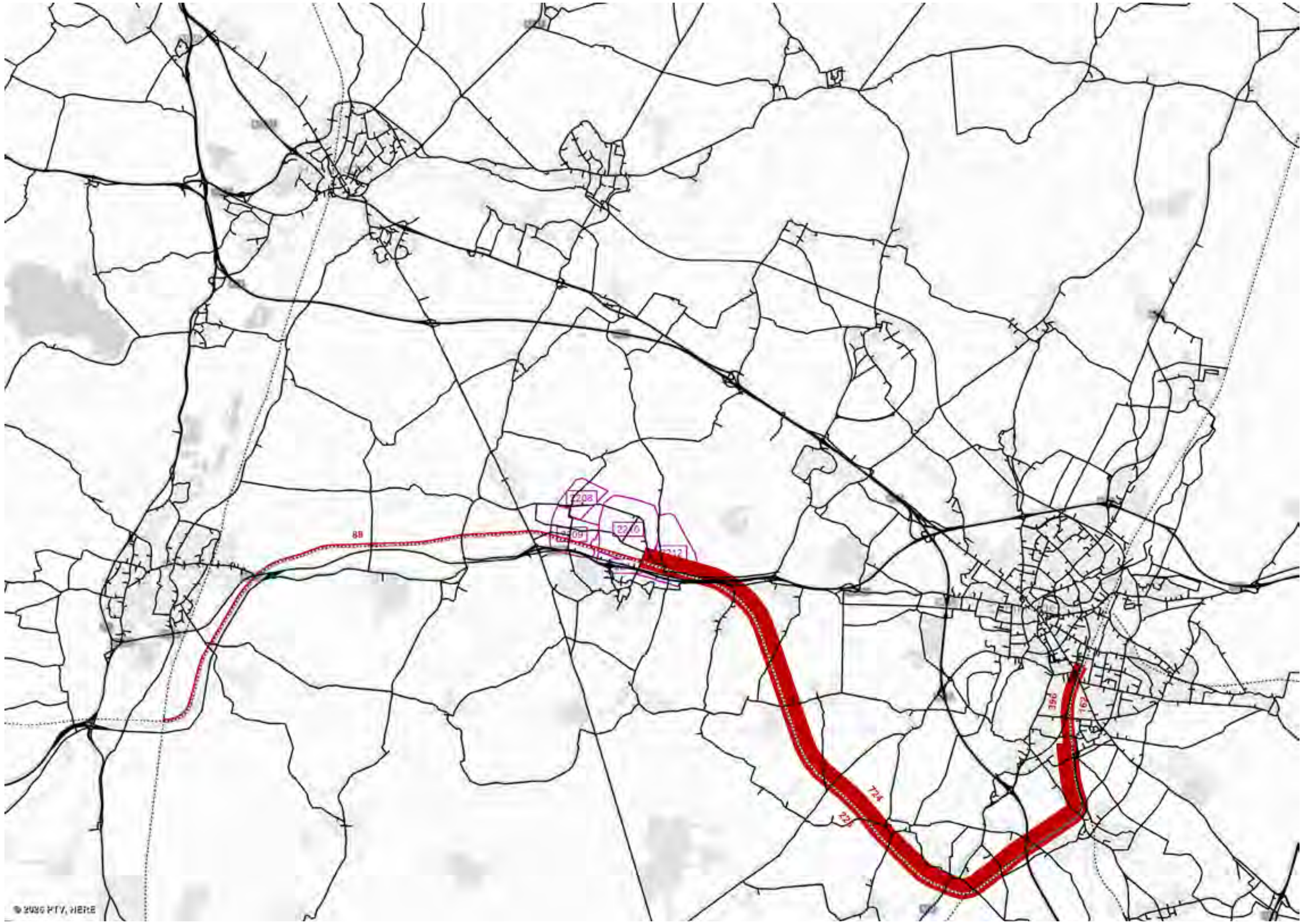
2-way trip assignment (demand) – AM Peak, 25 Passenger Threshold

This DS3a CaPCAM output illustrates the forecast rail passenger demand associated with Cambourne North.

The output shows a strong demand towards Cambridge in the morning peak hour.

Further engagement with EWR, National Highways and Cambridgeshire County Council will continue to take place to Local Plan examination to consider the need for any sensitivity testing and align EWR demand modelling with emerging proposals at Tempsford and growth to the east and EWR station and access proposals.

Combined with the highway assignment analysis, bus analysis and rail assignment, it is clear that public transport use is the preferred access mod for central Cambridge and aligns with the vison for Cabourne North to encourage non-car journeys.



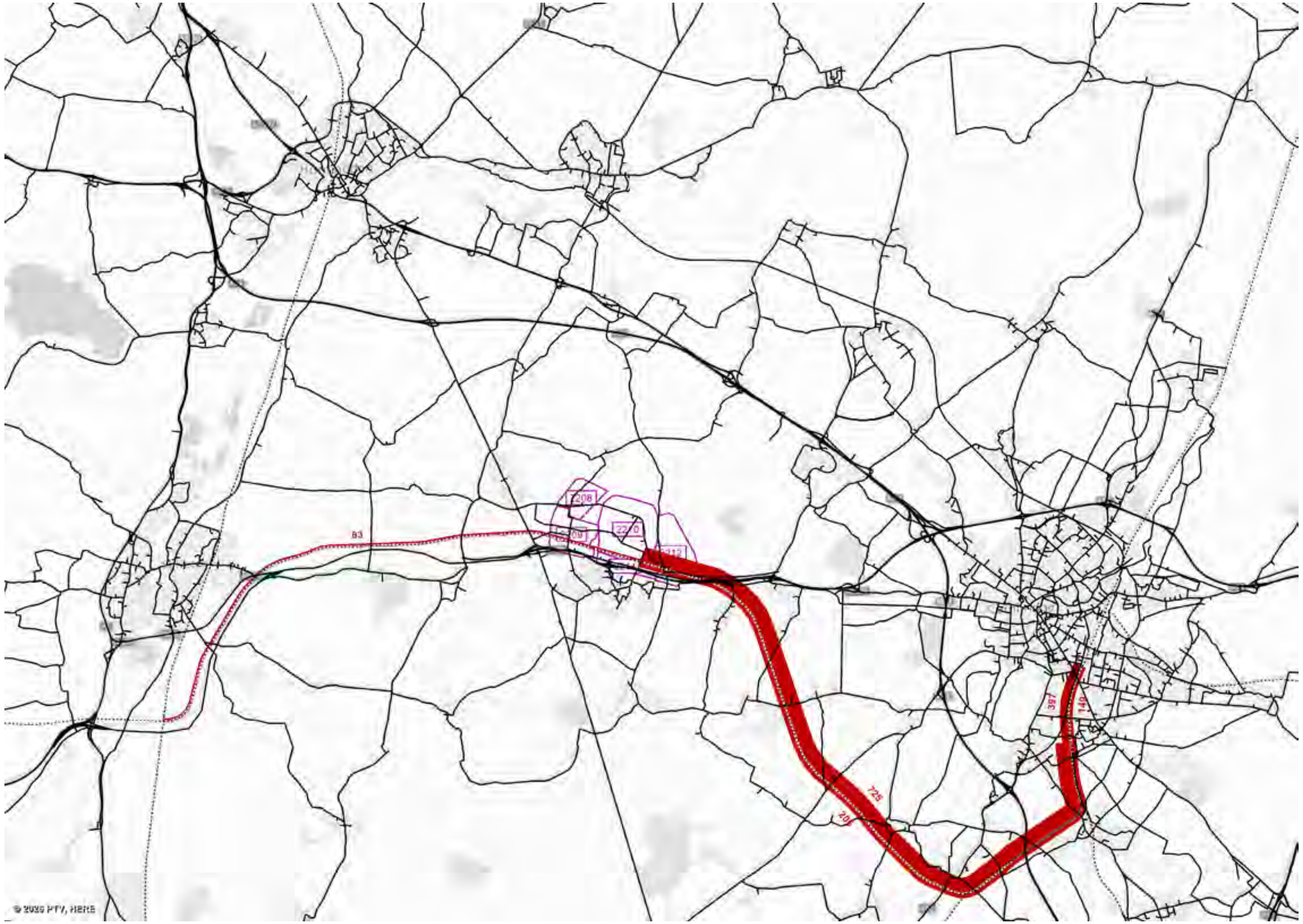
Cambourne North - Rail Assignment

2-way trip assignment (demand) – PM Peak, 25 Passenger Threshold

This DS3a CaPCAM output illustrates the forecast rail passenger demand associated with Cambourne North.

The output shows a strong demand towards Cambridge in the evening peak hour. Similar rail demand is noted in the PM peak as the AM peak, however arrivals and departures balance throughout the day, suggesting that return journeys from Cambridge may be completing outside the evening peak hour. A review of the demand model confirms that across the day rail journeys to and from Cambridge are balanced.

Further engagement with EWR, National Highways and Cambridgeshire County Council will continue to take place to Local Plan examination to consider the need for any sensitivity testing and align EWR demand modelling with emerging proposals at Tempsford and growth to the east and EWR station and access proposals.



7 Deliverability assessment

This chapter demonstrates that the proposed allocation at Cambourne North is supported by a credible and deliverable transport strategy with assessments proportionate to the plan-making stage.

Overview

Deliverability assessment

This chapter provides a summary of transport interventions identified through the transport strategy and provides an illustrative form of junction at key access locations and off-site junction mitigation which demonstrate that development at Cambourne North can be accommodated on the local and strategic highway network with appropriate mitigation.

Assessments include local access junctions, wider off-site junctions and A428 merge/diverge assessments based on CaPCAM strategic model outputs for the 'DS3a' scenario. This includes the full DS3 intervention package with a vision-led initial trip budget of 4,000 external car trips (two-way) applied within CaPCAM with further details provided in **Appendix A**.

Junction geometries have been identified based on reasonable assumptions at this stage (including some measurements from Google aerial mapping) in the absence of detailed topographical information. This high-level assessment has been undertaken to identify where there are potential junction performance issues and identify potential mitigation to resolve these issues.

At this stage, assessments consider highway capacity only, using Junctions 11 software for priority junctions and LinSig software for signalised junctions in the AM and PM peak hours. Potential mitigation has been identified and reflected in assessments where appropriate to demonstrate how growth at Cambourne North can be accommodated.

Assessment results are summarised with the maximum Ratio of Flow to Capacity (RFC) on any arm for priority junctions and maximum Degree of Saturation (DoS) for signalised junctions presented. Full assessment outputs are provided in **Appendix B**.

It is important to recognise that the deliverability assessment represents one scenario of how development at Cambourne North could come forward based on the package of interventions identified in DS3a.

As the Stage 2 spatial framework is not a detailed masterplan, continued engagement will take place with National Highways, EWR, CPCA, CCC and landowners to continue to refine assessments as appropriate for plan making through subsequent sensitivity testing.

Further detailed assessment of development proposals at Cambourne North will also be required at the planning application stage.

Local junction assessments

Cambourne Growth Strategy Programme

Deliverability assessment

Following review of CaPCAM strategic model outputs for DS1- DS3a, the following access and off-site junctions have been identified for local junction assessment.

Access junctions

1. Ermine St/ A1198/ New site access roundabout
2. A1198/ New site access signalised junction
3. Cambourne A428 dumbbell junction (north)
4. Knapwell High Street site access
5. Knapwell High Street/ St Neots Road

Off-site junctions

1. A1198/ Ermine St/ St Ives Road
2. Ermine St/ St Ives Road
3. Caxton Gibbet
4. Cambourne A428 dumbbell junction (north and south)
5. St Neots Road/ Wellington Way/ Highfields Road
6. Scotland Road A428 dumbbell junction

Highway access

Indicative form of access

The indicative form of Cambourne North key access junctions is outlined below based on modelling of initial trip budget. Detailed junction parameters are included in **Appendix A**. Further engagement and design development will continue to take place with EWR, National Highways and Cambridgeshire County Council to Local Plan examination.

1

Ermine St/ A1198/ site access:

Existing priority roundabout with additional site access arm to the east with two-lane approaches and flared northern arm.

2

New site access onto A1198:

New signalised T-junction with:

- A1198 SB - two entry/exit lanes
- A1198 NB - one entry + flare and one exit lane NB
- Site access - one approach lane +flare

3

Cambourne dumbbell (Cambourne Road):

Northern roundabout: Existing priority roundabout at northern dumbbell with new/ realigned site access arm to the north with two-lane approach and widening of EB off-slip entry.

4

Knapwell High Street access (north of EWR):

New priority ‘mini’ roundabout with site access onto Knapwell High Street.

5

Knapwell High Street/ St Neots Rd (south of EWR):

New priority T-junction with St Neots Road (west) as the minor arm.

Highway mitigation

Off-site highway mitigation

The indicative form of Cambourne North key access junctions is outlined below based on modelling of initial trip budget. Detailed junction parameters are included in **Appendix A**. Further engagement and design development will continue to take place with EWR, National Highways and Cambridgeshire County Council to Local Plan examination.

1

A1198 / St Ives Road/ Ermine Street

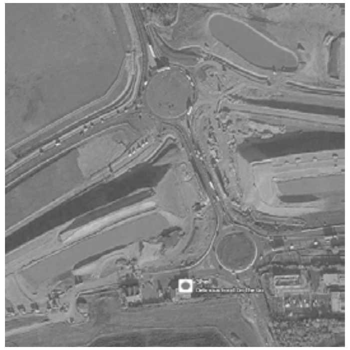
Existing roundabout with approach and entry width widening on A1198 and St Ives Road

2

A1198 / St Ives Road

Existing roundabout with approach and entry width widening on A1198 arms

3



Caxton Gibbet

New dumbbell arrangement under construction by National Highways. No further mitigation identified.

4

Cambourne dumbbell

Existing northern roundabout: EB off-slip widening to 8m. New site access arm with two lane approach from the north.

Existing southern roundabout: WB off-slip widening with flared approach.

5

St Neots Road/ Wellington Way/ Highfields Road

Existing roundabout with Approach and entry width widening on St Neots Road (E). Increased flare length on Wellington Way

6

Scotland Road dumbbell junction

Existing dumbbell junction. No mitigation identified.

Junction performance

Local junction assessments

Local junction assessments have been undertaken using Junctions 11 (for priority junctions) and LinSig (for signalised junctions) assessment software using DS3a strategic model outputs. A summary of morning (0800-0900) and evening (1700-1800) peak hour assessment results is provided below, showing maximum Ratio of Flow to Capacity (RFC) and Degree of Saturation (DoS) with proposed mitigation identified where appropriate. Full model outputs are included in **Appendix A**.

Ref	Access junction	Description	Proposed mitigation	Max RFC/DoS AM	Max RFC/DoS PM
1	Ermine St/ A1198/ New site access	New arm on existing roundabout	Enlarged roundabout with two-lane site access approach	0.68	0.66
2	A1198/ New site access	New signalised junction	n/a	70.8%	86.1%
3	Cambourne A428 dumbbell roundabout	Northern dumbbell with new site access	EB off-slip widening, new site access arm	0.81	0.66
4	Knapwell High Street site access	New roundabout	n/a	0.78	0.74
5	Knapwell High Street / St Neots Rd	New priority T-junction	n/a	0.60	0.86

Ref	Off-site junction	Description	Proposed mitigation	Max RFC/DoS AM	Max RFC/DoS PM
1	Ermine St/ A1198/ St Ives Rd	Existing roundabout	Approach and entry width widening on A1198 and St Ives Road	0.85	0.89
2	A1198/ St Ives Rd	Existing roundabout	Approach and entry width widening on A1198 arms	0.80	0.84
3	Caxton Gibbet dumbbell junction	Existing northern roundabout	n/a	0.80	0.80
		Existing southern roundabout	n/a	0.90	0.90
4	Cambourne A428 dumbbell junction	Existing northern roundabout	EB off-slip widening, new site access arm	0.81	0.66
		Existing southern roundabout	WB off-slip widening	0.74	0.83
5	St Neots Rd/ Wellington Way/ Highfields Rd	Existing junction	Approach and entry width widening on St Neots Road (E). Increased flare length on Wellington Way (beyond Bourn Airfield proposals)	0.89	0.81
6	Scotland Rd A428 dumbbell junction	Existing northern roundabout	n/a	0.65	0.61
		Existing southern roundabout	n/a	0.77	0.86

Merge/ Diverge assessments

A428

Merge/ Diverge assessments have been undertaken for grade separated junctions on A428 between Caxton Gibbet and Scotland Road in line with Design Manual for Roads and Bridges (DMRB) CD 122 Geometric design of grade separated junctions with assessment outputs included in **Appendix B**.

It should be noted that assessments are based on DS3a strategic model outputs and so include significant background growth and so form a cumulative assessment where not all network impacts can be fully attributable to development at Cambourne North.

In line with Department for Transport Circular 01/2022 Strategic road network and the delivery of sustainable development, this assessment identifies the principle of capacity enhancements to accommodate growth should it come forward (cumulatively) as forecast. However, reasonable alternatives should continue to be explored to reduce car dependency before highway capacity enhancements are considered.

Further engagement with EWR, National Highways and Cambridgeshire County Council will continue to take place to Local Plan examination to consider the need for any sensitivity testing. Further detailed assessment will also be required at the planning application stage to consider appropriate growth and mitigation at the time of application.

Ref	A428 junction	Description	Existing merge/ diverge type	Recommended mitigation
3	Caxton Gibbet	EB merge	Type B	Upgrade to Type D
		WB merge	Type A	Upgrade to Type D
		EB diverge	Type A	n/a
		WB diverge	Type A	n/a
4	Cambourne dumbbell (Cambourne Rd)	EB merge	Type B	Upgrade to Type E
		WB merge	Type A	Upgrade to Type D
		EB diverge	Type A	n/a
		WB diverge	Type A	Upgrade to Type B
6	Scotland Road dumbbell	EB merge	Type A	Upgrade to Type B
		WB merge	Type A	Upgrade to Type D
		EB diverge	Type A	n/a
		WB diverge	Type A	Upgrade to Type C

8 Next steps

Initial consideration of further stakeholder engagement and sensitivity testing.

Next steps

Cambourne North

Progressing from Strategic Modelling to Local Plan Examination

This transport modelling report forms part of the evidence base supporting the proposed strategic allocation at Cambourne North and should be read alongside the accompanying Cambourne North Spatial Framework Strategy Addendum Report: Transport. The assessment demonstrates that the DS3a scenario provides a credible basis for understanding the transport implications of growth at Cambourne North and identifying a package of sustainable transport and highway interventions capable of supporting development.

Further stakeholder engagement

Continued engagement will take place with Cambridgeshire County Council, the Cambridgeshire and Peterborough Combined Authority, National Highways, East West Rail and other stakeholders ahead of Local Plan examination. This engagement will inform any ongoing refinement of modelling assumptions, transport interventions, access arrangements and the consideration of any further sensitivity testing that may further support the technical evidence.

Sensitivity testing and model refinement

As the Stage 2 spatial framework is not a detailed masterplan, continued engagement will take place with National Highways, EWR, CPCA, CCC and landowners to continue to refine assessments as appropriate for plan making through subsequent sensitivity testing.

Further detailed assessment of development proposals at Cambourne North will also be required at the planning application stage.

Inputs to the Infrastructure Delivery Plan

The transport interventions, local junction assessments and strategic highway mitigation identified through the DS3a assessment will inform the emerging Infrastructure Delivery Plan and wider Delivery Strategy. This will include consideration of infrastructure sequencing, funding mechanisms, governance arrangements, monitoring requirements and the long-term management of transport assets necessary to support growth at Cambourne North.

Further detailed transport assessment and modelling will be required at the planning application stage to consider the scale, form and phasing of development at that time.

A

Appendix A

Cambourne North CaPCAM Technical Report

TECHNICAL NOTE

Cambourne North Development Strategic Modelling

SUBJECT
Quality Assurance Technical Note

PROJECT NO.
100122153

DATE
July 2026

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DISTRIBUTION

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2.0	Updated based on DS modelling	JM/CS	MH	MA		22/07/2026
2.1	Updated scenarios included	CS	MH	MA	CB	24/07/2026

Client signoff

Client	Cambridgeshire County Council & Greater Cambridge Shared Planning		
Project	Cambourne North Development Strategic Modelling	**Project No.**	100122153

1. Introduction

1.1 Context

AtkinsRéalis has been commissioned by Cambridgeshire County Council (CCC) on behalf of Greater Cambridge Shared Planning (GCSP) to undertake a transport modelling exercise for the proposed Cambourne North development using the Cambridge and Peterborough Combined Authority Model (CaPCAM). The proposed Cambourne North development is situated north of A428 and Cambourne and includes 13,195 dwellings with 5,848 jobs, primary and secondary schools and local centres.

This Technical Note summarises AtkinsRéalis' internal Quality Assurance (QA) review of the model inputs and outputs associated with the CaPCAM runs undertaken. The purpose of this note is to document key findings from the QA process and highlight any issues or considerations relevant to the modelling work.

1.2 Structure of document

The remainder of this Technical Note is organised as follows:

- **Section 1:** Provides an overview of the **model scenarios** tested.
- **Section 2:** Provides an overview of the **network changes** and **demand assumptions** associated with each scenario.
- **Section 3:** Summarises some of the **model outputs** reviewed as part of the QA exercise.
- **Section 4:** A **summary** of the document.

2. Model scenarios

Table 1 summarises the two CaPCAM 'Cambourne North' scenarios that have been developed, including the associated demand and infrastructure assumptions alongside the parent scenario for reference. The Cambourne North Do Nothing (DN) scenario represents the forecast local growth scenario excluding the proposed development at Cambourne North but inclusive of a combination of other developments associated with the emerging Greater Cambridge Local Plan (GCLP) and run in the year 2046. The Cambourne North Do Minimum (DM) scenario consists of the demand and network assumptions of the DN scenario with the addition of the proposed development. An internal road network has been coded in accordance with CaPCAM coding manual alongside the Cambourne to Cambridge
(CtoC) guided busway extension over the A428 into the site. Land use information used in this scenario was provided by Arup.

Further details regarding model assumptions are presented in the following sections, focusing only on the changes from the parent scenario.

Table 1 - CaPCAM Scenarios

Run ID	Scenario	Year	Demand	Infrastructure	Remarks
F2_11	*GCTS DM*	*2046*	*GCTS DM*	*GCTS DM*	▪ *Starting point for Cambourne North scenarios*
F8_01	Cambourne North 'Do Nothing' (DN)	2046	GCTS DM plus: ▪ The Lattenburys Masterplan (HDC Draft Allocation)	GCTS DM plus: ▪ East West Rail ▪ The Lattenburys Masterplan Mitigations	
F8_02	Cambourne North 'Do Minimum' (DM)	2046	DN plus: ▪ 13,195 dwellings ▪ 5,848 jobs	DN plus: ▪ 5 New Zones with two access links per zone ▪ Cambourne North Internal Road Network ▪ CtoC Guided Busway Extension over the A428 into and through Cambourne North	

Run ID	Scenario	Year	Demand	Infrastructure	Remarks
F8_03	Cambourne North ‘Do Something 1’ (DS1)	2046	DM	DM plus additional network mitigations.	
F8_04	Cambourne North ‘Do Something 2’ (DS2)	2046	DM plus: ▪ Factors to calculate School Places updated to CaPCAM standard factors.	DS1 plus additional network mitigations	
F8_05	Cambourne North ‘Do Something 3’ (DS3)	2046	DM	DS2 plus additional network mitigations	
F8_05A	Cambourne North ‘Do Something 3’ (DS3A)	2046	4,000 car trips to/from the site	DS2	Fixed Highway Assignment Run only

3. Network and Demand Assumptions

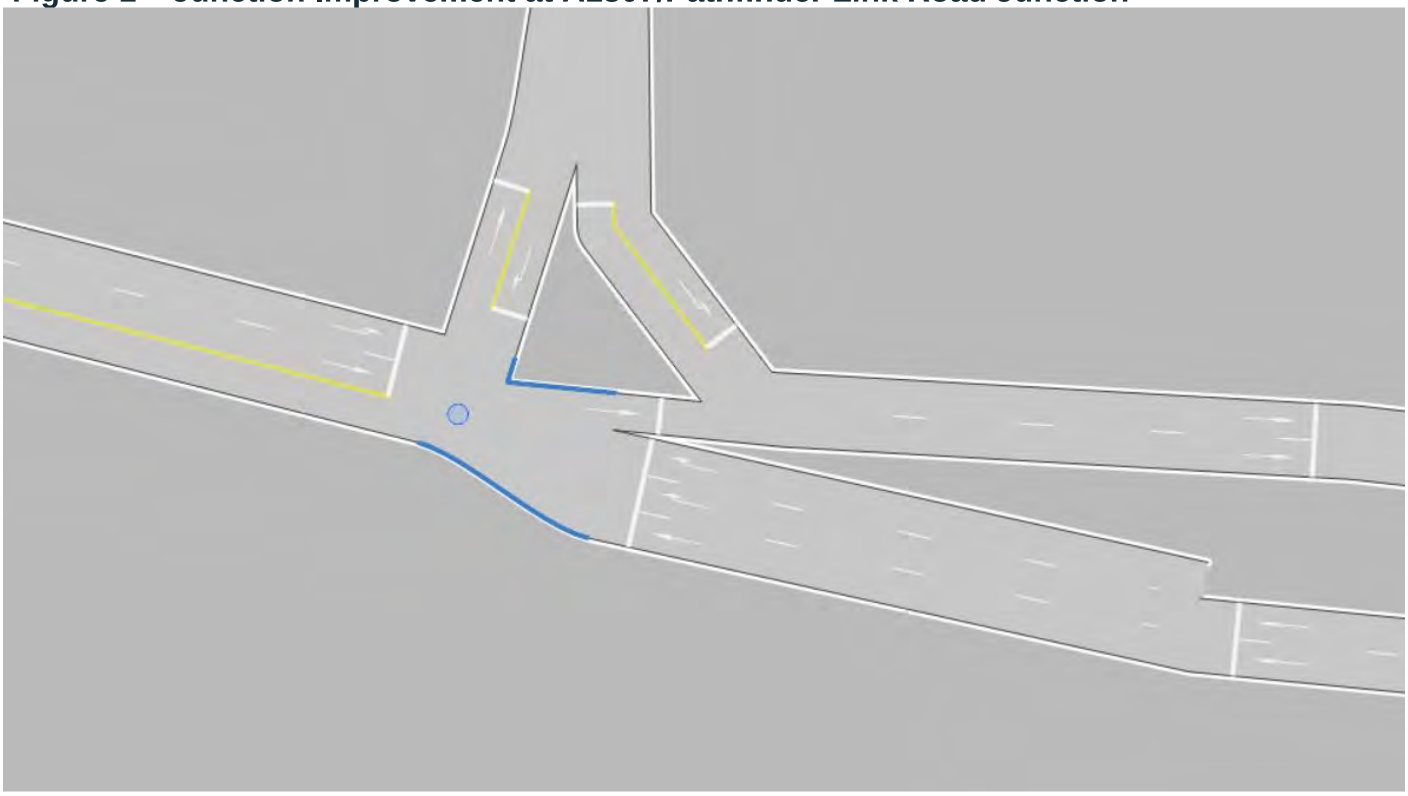
This section provides a detailed explanation of the Highway and Public Transport (PT) network changes developed as part of the five Cambourne North scenarios.

3.1 Do Nothing

3.1.1 Highway

The only change to the highway network between the DN scenario and the Reference Case is a junction improvement at A1307/Pathfinder Link Road Junction in Huntingdon which is a part of Lattenbury's Mitigation. Node 400662 was modified with additional 50m right-turn flare for west bound traffic travelling towards the junction. This change is outlined in Figure 1. Additionally, two roundabouts internal to the Lattenburys site that are part of the Lattenburys mitigations scheme but which are not considered as part of Cambourne North DN scenario have therefore been coded as "Uncontrolled" in order to replicate the development trips leaving and arriving at The Lattenburys site.

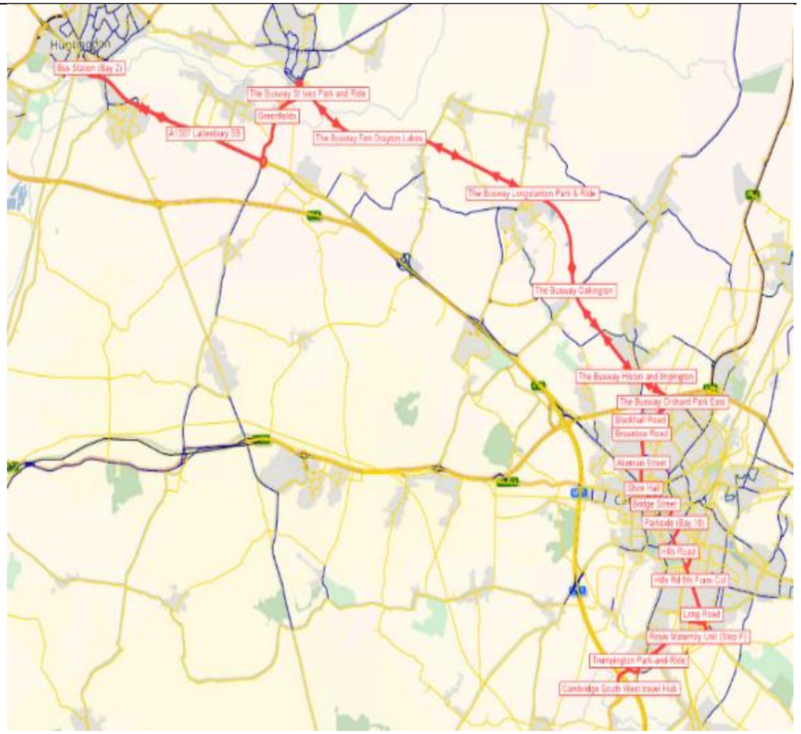
Figure 1 – Junction Improvement at A1307/Pathfinder Link Road Junction

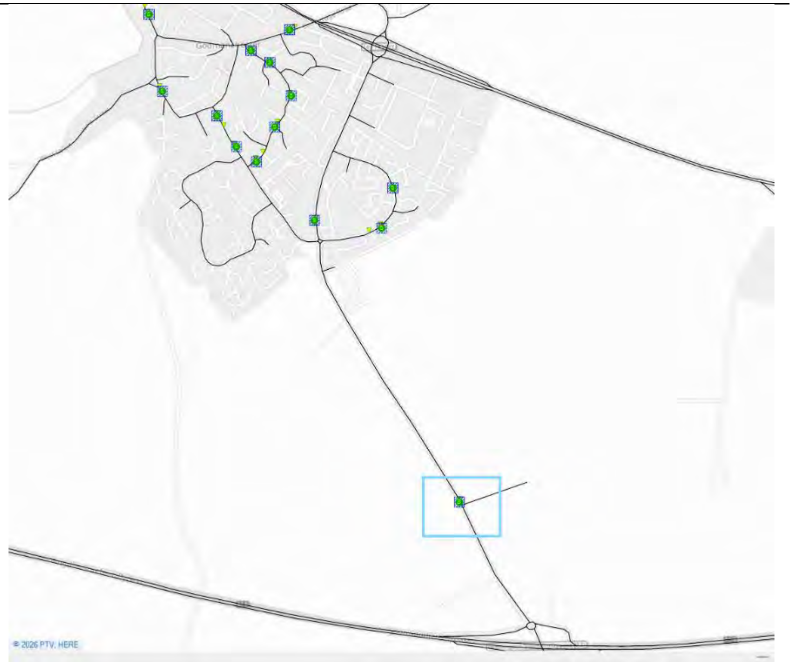


3.1.2 PT Network

Table 2 provides an overview of changes in the PT Network in Cambourne North DN Scenario over the reference case.

Table 2 - Changes to PT Network Cambourne North DN vs Reference Case

Type and Source	Description	Comment	Image
Guided Busway service - A141 Core OBC Scheme	Cambridgeshire Guided Busway route between Cambridge and Huntingdon Racecourse P&R, via St Ives P&R, the A1307, Huntingdon town centre, and Hinchingbrooke (6 bph).	C2H bus service added to the network but terminating at Huntingdon Bus station as Racecourse P&R zone doesn't exist in this scenario.	

Type and Source	Description	Comment	Image
Bus stop - The Lattenburys Masterplan	Bus stop on the A1198 outside South Lattenbury to serve the existing X2 / X3 bus services		

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Type and Source	Description	Comment	Image
Bus stop - The Lattenburys Masterplan	Bus stop within Great Lattenbury to serve the Cambridge to Huntingdon Racecourse service (implemented as part of the A141 improvement scheme / M22) and other buses using the A1307.	Bus stop added to northern access of The Lattenburys site with 2 stop points in each direction and services passing through them are made to stop at the point	

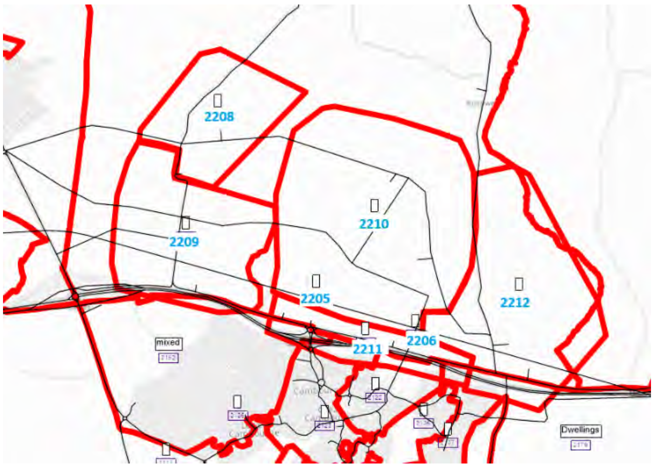
3.2 Do Minimum

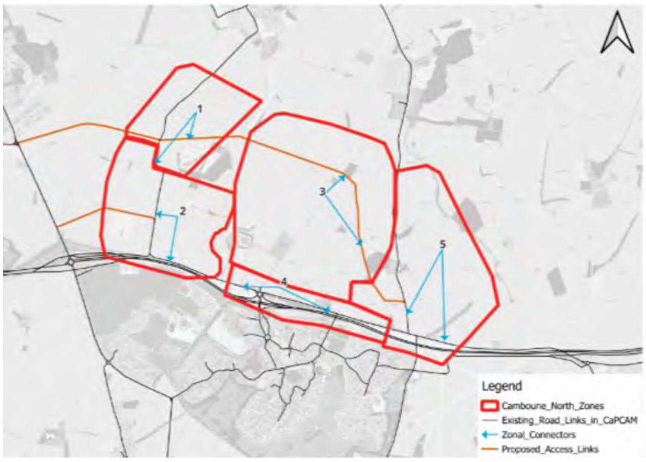
3.2.1 Highway

The addition of the Cambourne North development in the DM scenario required the creation of 5 new zones, numbered 2208, 2209, 2210, 2211 and 2212. Two Access points (zone connectors) per zone were coded with access junctions having unlimited capacity. The development's internal road network was coded as per specification with respect to speed and capacity and confirmed via e-mail correspondence with Arup. Access junctions to the internal Cambourne North site were coded as unconstrained (infinite capacity) to ensure traffic was able to access the surrounding local road network.

Figure 2 outlines the changes to the Highway Network between the DN and DM scenarios. A Reference image agreed by CCC and Arup regarding zoning and internal network is included for comparison.

Figure 2 - Changes to the Highway Network in Cambourne North DM





3.2.2 PT Services

Two proposed bus services associated with the Cambourne North development have been included in the DM scenario. The alignment reflects the existing Whippet service X2 between Huntingdon and Cambridge and is routed through the development in two separate service patterns one with 7 buses per hour and the other at 5 buses per hour which will join at Ermine Street with 12 buses per hour passing Cambourne EWR station. Figure 3 and Figure 4 show the two routings of services through the development.

Figure 3 – Route 1 with 7 buses per hour - Routing of Buses Through the Development

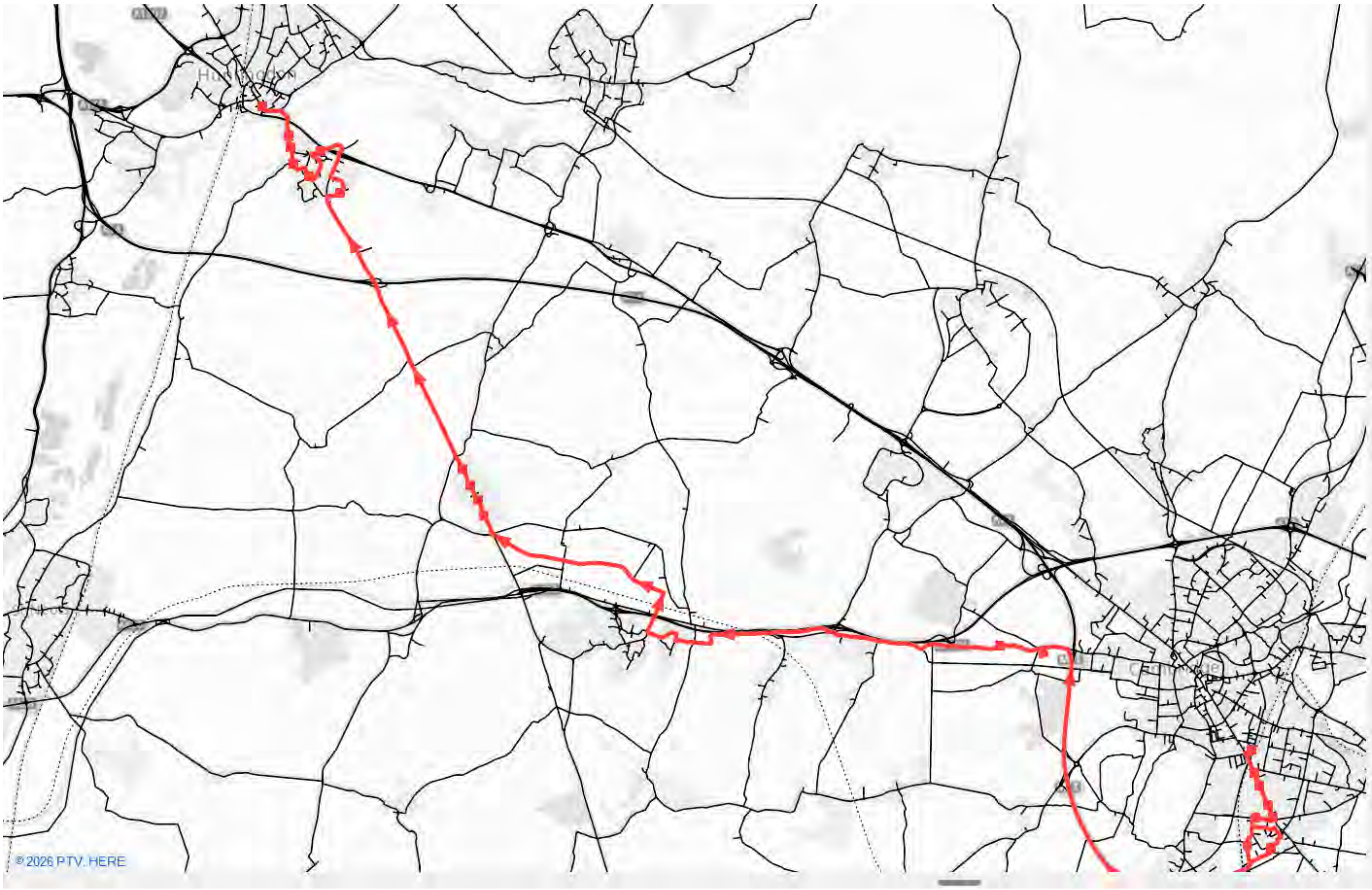


Figure 4 - Route 2 with 5 buses per hour - Routing of Buses Through the Development

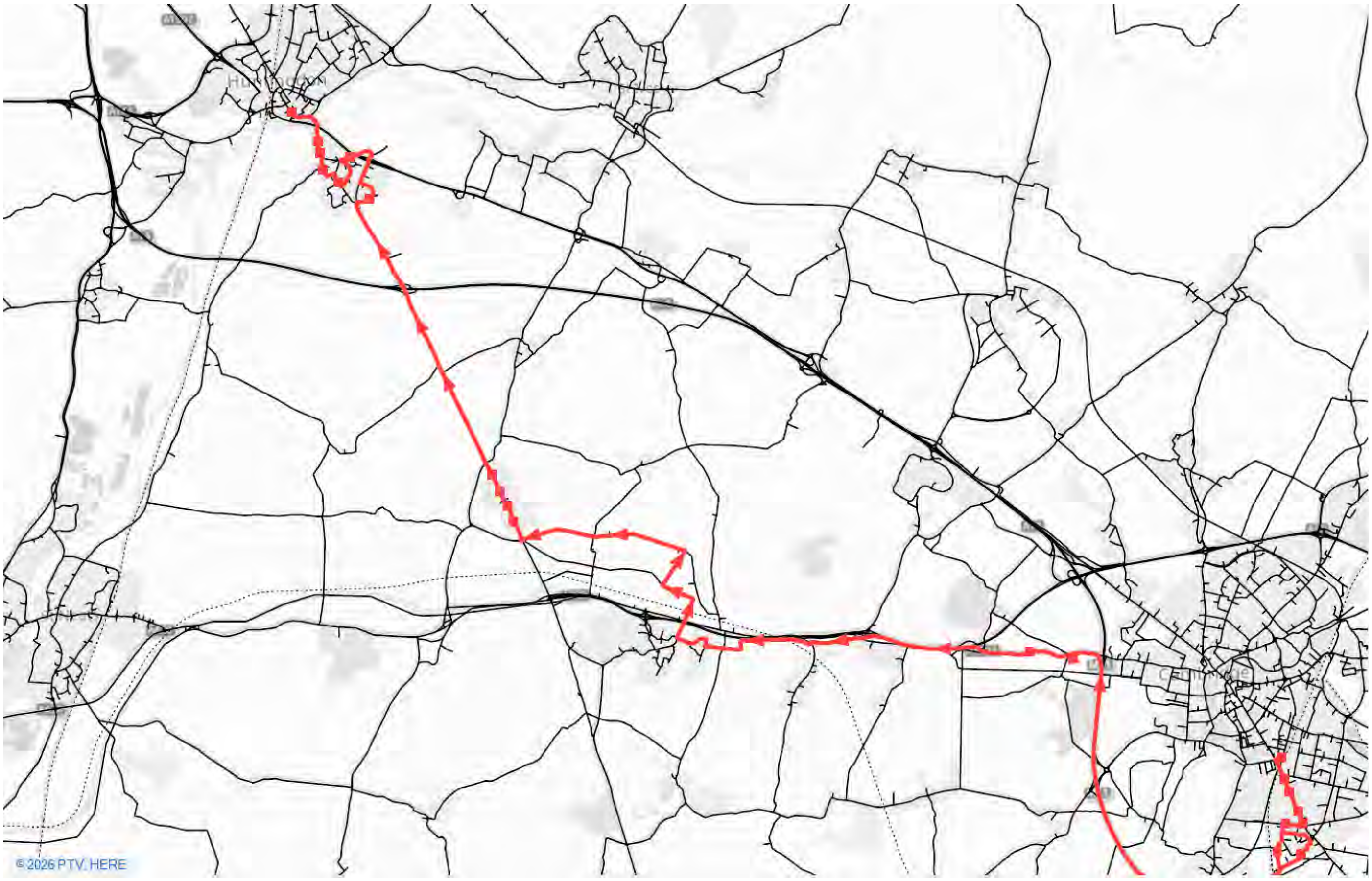


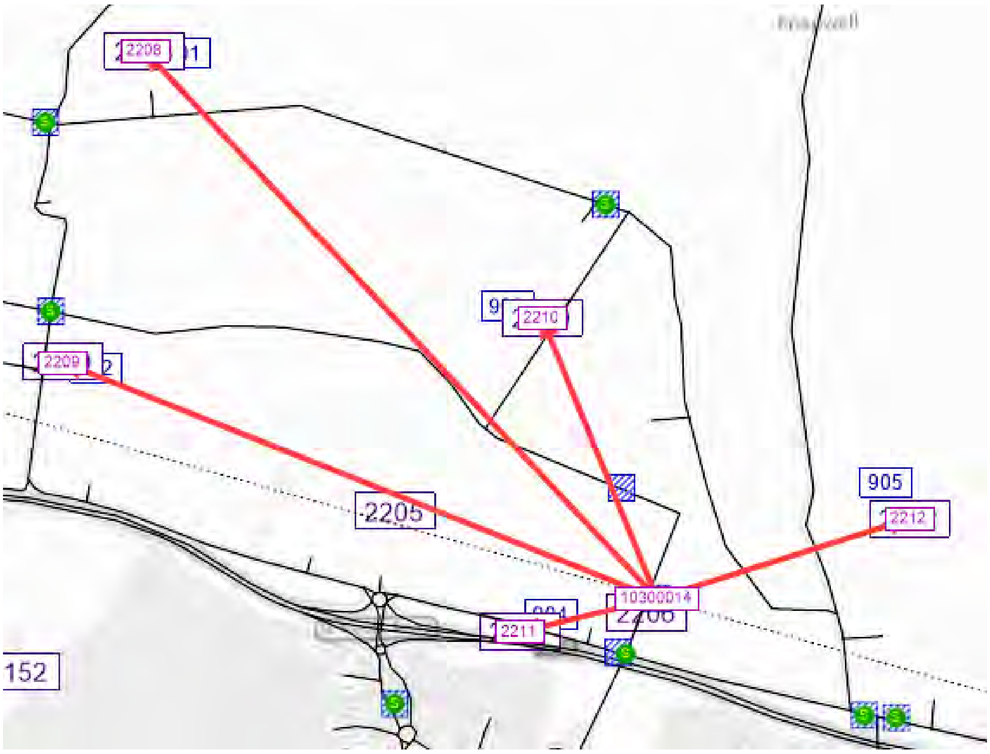
Figure 5 shows the coding and positioning of bus stops within the development with the Reference Image provided by Arup for comparison. 6 new bus stop points were added to the model numbered 10800001-6 with an additional stop 10300013 shared with Cambourne East-West Rail Station.

Figure 5 - Cambourne North DM - Location of Bus Stops Within the Development

Cambourne North DM	Reference Image
	

Additionally new connectors have been coded linking the development zones to Cambourne East-West Rail Station, shown in Figure 6.

Figure 6 - Cambourne North DM - Overview of Rail Connectors in the Development



3.3 Do Something 1

3.3.1 Highway

With the highway assumptions of Cambourne North DM scenario as a base, several additional mitigation measures have been coded in agreement with Arup and GCSP with a particular focus on active travel and PT connectivity. Table 3 outlines the changes to the highway network between DS1 and DM.

Table 3 - Changes to the local highway network between Cambourne North DS1 and DM

Mitigation	Changes	Image
Brockley Road Bus Gate	A bus gate has been coded on Brockley Road to Elsworth to restrict through traffic to the village. A new link 200217 has been coded between 200235 and 200234 with access for Bus, Walk and Cycle modes only.	

Mitigation	Changes Made	Image
Knapwell High Street turn restrictions	The right turn from Knapwell High Street into Cambourne North and the left turn from Cambourne North to Knapwell High Street has been banned. This was achieved by closing 200947-10800001-10800006 and 10800006-10800001-200947 for all modes except active travel and PT.	
Enlarged northern roundabout at Cambourne Junction	This roundabout has been coded as unconstrained with unlimited capacity for turns.	

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Mitigation	Changes Made	Image
Active travel and bus connection into Cambourne	A new link has been coded with access for Bus and Active travel only and connected to zone 2152.	
Walking and cycling link following A428 Knapwell High Street to Scotland Farm mobility hub	A new link has been coded with access for active travel only.	

3.3.2 PT Network

The DS1 scenario contains single additional bus loop between Cambourne North development and Cambourne Railway Station at 10-minute frequency with 6bph from 07:00-19:00. This is shown in Figure 7.

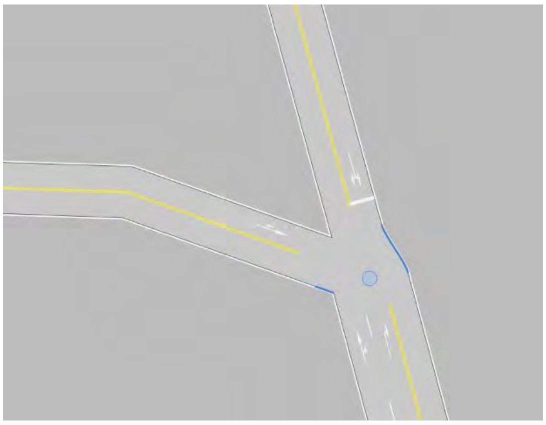
Figure 7 - Routing of the new Cambourne loop service serving Cambourne North and Cambourne Railway Station

3.4 Do Something 2

3.4.1 Highway

In the DS2 Scenario an additional suite of highway mitigation measures has been coded mostly pertaining to road layout on the existing local highway network. These are presented in Table 4.

Table 4 - Changes to the Highway Network in Cambourne North DS2

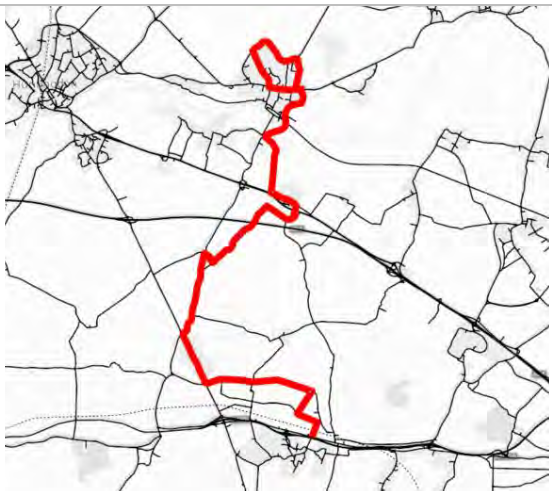
Mitigation	Changes Made	Image
Cambourne North/Knapwell High Street Junction	Node 10800001 changed to two way stop with capacity of 1500 in line with CaPCAM standard capacities instead of unrestrained capacity. The 'Major' flow direction has been changed to Knapwell Rd-Cambourne North Road junction (10800007-1080001-1080008)	
A1198/Ermine Street South Roundabout	Eastern link connecting the roundabout has been coded as a 2 lane road with one dedicated lane for buses in each direction.	
Cambourne North Site	Selected junctions within the internal road network of the development have been coded with capacity constrained instead of uncontrolled.	

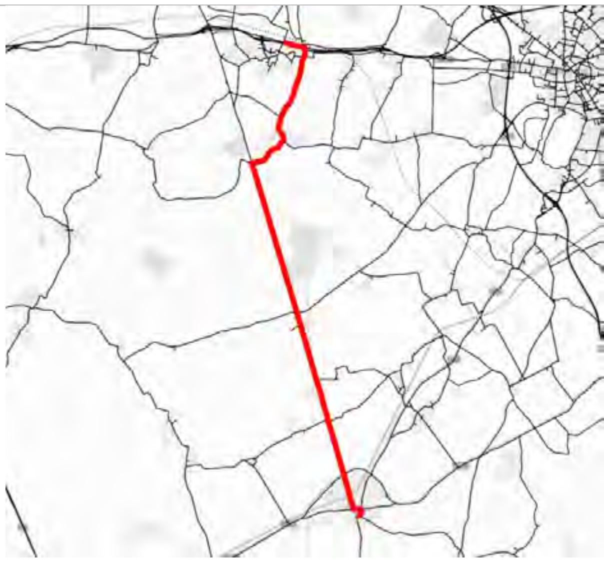
Mitigation	Changes Made	Image
St Neots Road	Node 200238 major flow direction changed to north to east movement to ensure that exit to or from the development site is free flow to St Neots Road.	

3.4.2 PT Services

In the Cambourne North DS2 scenario three entirely new routes have been coded and four existing services altered or extended to serve the development. These changes are outlined in Table 5.

Table 5 - Changes to PT services in Cambourne North DS2

Service	Changes Made	Image
X2/X3	The existing Huntingdon to Cambridge X2 and X3 services have been routed via Cambourne North and Scotland Farm mobility hub with an increase in frequency to four buses per hour.	
New Service: St Ives to Cambourne North	A new service serving St Ives and Cambourne North via Fenstanton, Hilton and Papworth Everard has been coded at a frequency of six buses per hour.	
New Service: Northstowe to Scotland Farm mobility hub	A new service serving Northstowe and Scotland Farm mobility hub via Boxworth, Knapwell and Cambourne Railway Station at a frequency of six buses per hour.	

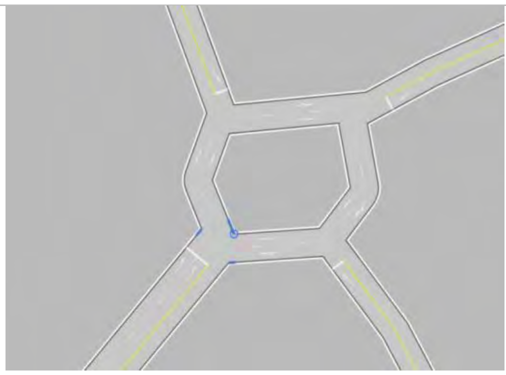
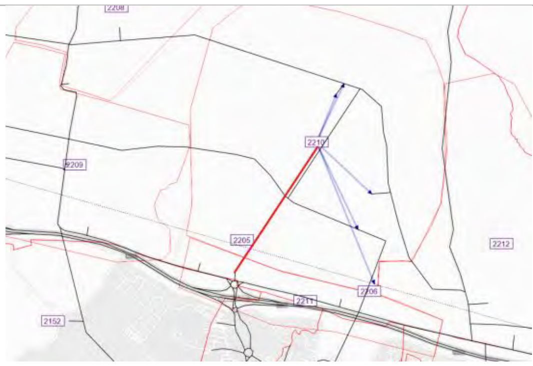
Service	Changes Made	Image
New Service: St Neots to Scotland Farm mobility hub	A new service serving St Neots and Scotland Farm mobility hub via Cambourne North and Comberton has been coded at a frequency of 6 buses per hour. This service is intended as a complement to the existing routes 905 and 8.	
Cambourne to Cambridge (CtoC) busway service	The CtoC bus service initially coded as part of the DM scenario to terminate at Cambourne bus stop is in the DS2 scenario extended to Papworth Mobility hub via the Cambourne North development. A frequency of six buses per hour is maintained on this route.	
New Service: Cambourne to Royston	A new service originating at Cambourne bus stop and connecting to Royston has been coded at a frequency of six buses per hour.	

3.5 Do Something 3

3.5.1 Highway

In the Cambourne North DS3 scenario additional mitigation measures were agreed with GCSP and Arup with a focus on junction improvements and the addition of a new zone connector. These changes are presented in Table 6.

Table 6 - Changes to the local highway network in DS3 scenario

Mitigation	Changes Made	Image
Papworth Bypass Junction Improvements	The eastbound approach turn capacity has been increased to 1620 from 1100. The Circulating arm capacity has been increased to 2770.	
St Neots Road Junction Improvements	Additional circulating arm is coded on both Northern and Southern roundabouts.	
New Connector from Cambourne North Zone 3 to dumbbell junction for Cambourne and A428.	A new connector has been coded from zone 2210 (zone 3) to the arm of northern dumbbell of Cambourne junction with A428.	

Mitigation	Changes Made	Image
Dumbbell Roundabout Junction Improvements over A428 near Cambourne	This junction was coded as uncontrolled in DS2 and in DS3 is reverted to its original turning capacities.	

3.5.2 PT services

In the Cambourne North DS3 scenario further revisions to the routing of services through the development have been coded as presented in Table 7 and the Royston service introduced in the DS2 scenario has been removed as agreed by GCSP and Arup.

Table 7 - Changes to PT Services in DS3 scenario

Mitigation	Changes Made	Image
Northstowe to Scotland Farm service rerouted to include Cambourne North town centre	This service has been revised to be routed through the development via town centre and Bar Hill. It's frequency has been reduced to four buses per hour.	
Extension of Cambourne to Cambridge busway service	The extension of the Cambourne to Cambridge busway service to Papworth mobility hub which is introduced in the DS2 scenario is further extended through Papworth to the northern roundabout.	
Cambourne to Royston service	In the DS3 scenario this route was removed entirely.	

3.6 Demand

As part of the Cambourne North modelling project, two demand scenarios were discussed and agreed for testing in the model. The demand details of these scenarios are presented in Table 8. The demand details presented in Table 8 represent the addition over each scenarios parent scenario. In the DN scenarios, The Lattenburys site produces an increase in jobs and workers in the Huntingdon Sector. However, this is more than offset by the removal of the Cambourne North development which leads to a fall in the number of workers despite an increase in population and jobs.

Table 8 - CaPCAM Cambourne North Scenarios Additional Demand Assumptions over Parent Scenarios.

	Cambourne DN	Cambourne DM	Cambourne DS1	Cambourne DS2 & DS3
Dwellings	The Lattenburys: +3,824 Cambourne North: -2,550 Total: +1,274	Cambourne North: +13,195	Same as DM	Same as DM
Population	+3,343	+30,813	Same as DM	Same as DM
Jobs	The Lattenburys: +1,689 Cambourne North: -210 Total: +1,479	+5,848	Same as DM	Same as DM
School Places per Dwelling	Primary: 0.40 Secondary: 0.25 Sixth Form: 0.05	Same as DN	Same as DN	Primary: 0.25 Secondary: 0.13 Sixth Form: 0.06

3.7 DS3 Fixed Demand Runs (DS3A)

In accordance with the agreed trip budget of 4,000 car trips from Cambourne to the rest of the study area during both the AM and PM peak periods, as agreed between GCSP and Arup, a series of fixed assignment model runs were undertaken on the DS3 highway network. To achieve this trip target, the inter-zonal Car Commute, Car Business and Car Other demand matrices were proportionally scaled to a total of 4,000 trips in each peak period. The trip distribution pattern from the parent model run was retained, ensuring that only the overall demand level was adjusted while preserving the original spatial distribution of trips. The resulting scaled matrices were then assigned to the DS3 network to assess the network impacts associated with the specified trip budget. The LGV and HGV matrices were not impacted by these runs and remained as per the demand in DS3.

4. Model outputs

The model results presented in this section show the impact of the proposed Cambourne North development on the surrounding transport networks. These outputs provide a visual and quantitative assessment of how traffic patterns are expected to change as a result of the proposed development. Comparisons have been drawn to provide assurance that the model response is directly attributable to the modified input scheme assumptions, rather than to provide interpretation of the impacts.

4.1 Model Results

This section will present model results with respect to the development at Cambourne North. Four technical results will be presented as follows:

- Overall model mode share in all ‘Cambourne North’ scenarios.
- Mode Shares of trips associated with the Cambourne North Development.
- The distribution of trips associated with the Cambourne North development throughout the network.
- Cambourne North Development internalisation.

Table 9 compares overall modal share in all ‘Cambourne North’ scenarios.

Table 9 - Comparison of overall model mode shares DM vs DN (Whole model area)

Mode Share	F8_01B DN	F8_02C DM	F8_03 DS1	F8_04 DS2	F8_05 DS3
Car	67.22%	67.31%	67.32%	67.22%	67.19%
Bus	3.94%	3.96%	3.98%	4.11%	4.10%
Rail	2.33%	2.40%	2.41%	2.37%	2.36%
Walk	18.44%	18.25%	18.27%	18.29%	18.32%
Cycle	6.64%	6.68%	6.63%	6.63%	6.64%
Bus PR	0.83%	0.81%	0.81%	0.82%	0.82%
Rail PR	0.61%	0.58%	0.58%	0.56%	0.56%

The addition of the development in the DM scenario has a very minor effect on overall mode shares with a small increase in car mode share and slight decrease in walk mode share. There is a small increase in bus mode share in the DS2 and DS3 scenarios consistent with the introduction of additional bus services introduced in these scenarios. Table 10 outlines the main mode share of productions within the development in all scenarios.

Table 10 – Main mode share of productions within the Cambourne North development in all scenarios

	Cambourne Zone	Car	Bus	Bus PR	Cycle	Walk	Rail	Rail PR
DM	Zone 1 (2208)	72.59%	3.13%	0.80%	6.90%	12.71%	3.36%	0.52%
	Zone 2 (2209)	70.76%	4.07%	0.81%	7.11%	13.86%	2.91%	0.47%
	Zone 3 (2210)	70.64%	2.37%	0.84%	7.25%	13.18%	5.23%	0.48%
	Zone 4 (2211)	71.35%	1.58%	0.35%	4.14%	16.79%	5.76%	0.03%
	Zone 5 (2212)	70.24%	1.78%	0.92%	7.60%	13.42%	5.36%	0.68%
DS1	Zone 1 (2208)	71.69%	3.23%	0.78%	7.30%	13.07%	3.41%	0.52%
	Zone 2 (2209)	69.16%	4.76%	0.78%	7.40%	14.73%	2.72%	0.45%
	Zone 3 (2210)	70.36%	2.77%	0.83%	7.27%	13.11%	5.20%	0.46%
	Zone 4 (2211)	71.45%	1.69%	0.35%	4.09%	16.67%	5.72%	0.03%
	Zone 5 (2212)	70.09%	1.78%	0.91%	7.68%	13.40%	5.46%	0.69%
DS2	Zone 1 (2208)	71.41%	4.96%	0.84%	7.22%	12.10%	2.99%	0.49%
	Zone 2 (2209)	68.42%	7.25%	0.84%	7.26%	13.87%	2.04%	0.32%
	Zone 3 (2210)	70.22%	3.91%	0.91%	7.22%	12.18%	5.07%	0.49%
	Zone 4 (2211)	71.14%	2.16%	0.36%	3.97%	16.71%	5.63%	0.02%
	Zone 5 (2212)	70.02%	2.75%	1.00%	7.59%	12.62%	5.27%	0.76%
DS3	Zone 1 (2208)	71.65%	4.78%	0.85%	7.13%	12.02%	3.02%	0.55%
	Zone 2 (2209)	68.27%	6.76%	0.79%	7.51%	14.07%	2.26%	0.35%
	Zone 3 (2210)	67.02%	3.23%	0.84%	8.38%	15.51%	4.45%	0.57%
	Zone 4 (2211)	70.48%	2.14%	0.36%	4.21%	17.13%	5.66%	0.02%
	Zone 5 (2212)	70.32%	2.62%	1.03%	7.48%	12.50%	5.22%	0.85%

Table 11 to Table 14 provide an overview of the distribution of all mode and purpose trips from the development zones across the model.

Table 11 - Distribution of trips from the development zones to sectors across the model in DM

F8_02 DM			**Cambourne Production Zone**		
Attraction Zone	**Zone 1 (2208)**	**Zone 2 (2209)**	**Zone 3 (2210)**	**Zone 4 (2211)**	**Zone 5 (2212)**
Cambridge City	573	869	2,517	230	1,304
City Fringe	352	561	1,463	216	781
South Cambs Outer	1,388	2,193	4,663	640	2,547
Ely	31	50	128	23	68
East Cambs Rural	65	100	255	37	133
Hunts Town & St. Ives	364	498	992	98	446
Huntingdon Fringe + A14	254	328	681	52	269
Huntingdon Rural	276	371	754	70	319
Peterborough	182	237	512	68	179
Rest of Peterborough	15	20	43	6	15
March, Wisbech and Whittlesey Towns	9	12	27	4	12
Rest of Fenland	24	31	69	8	32
Essex + Suffolk Towns	41	63	147	14	75
London	54	76	184	0	90
East of England	125	175	381	20	176
East Midlands	20	25	57	2	21
South East	16	21	47	0	22
South West	4	6	13	0	6

Table 12 - Distribution of trips from the development zones to sectors across the model in DS1

F8_03 DS1	Cambourne Production Zone				
Attraction Zone	**Zone 1 (2208)**	**Zone 2 (2209)**	**Zone 3 (2210)**	**Zone 4 (2211)**	**Zone 5 (2212)**
Cambridge City	578	849	2,507	229	1,314
City Fringe	352	557	1,459	217	779
South Cambs Outer	1,358	2,349	4,669	646	2,549
Ely	32	50	128	23	68
East Cambs Rural	65	100	255	37	134
Hunts Town & St. Ives	379	523	1,008	97	441
Huntingdon Fringe + A14	251	313	666	52	268
Huntingdon Rural	285	378	760	70	318
Peterborough	183	231	505	68	177
Rest of Peterborough	15	20	43	6	15
March, Wisbech and Whittlesey Towns	9	12	26	4	12
Rest of Fenland	24	30	67	8	33
Essex + Suffolk Towns	42	62	146	14	75
London	55	76	184	0	91
East of England	130	184	391	20	175
East Midlands	20	24	57	2	21
South East	16	23	49	0	22
South West	5	6	14	0	6

Table 13 - Distribution of trips from the development zones to sectors across the model in DS2

F8_04 DS2			**Cambourne Production Zone**		
Attraction Zone	**Zone 1 (2208)**	**Zone 2 (2209)**	**Zone 3 (2210)**	**Zone 4 (2211)**	**Zone 5 (2212)**
Cambridge City	582	892	2,540	241	1,304
City Fringe	351	562	1,480	232	766
South Cambs Outer	1,376	2,386	4,642	692	2,600
Ely	31	49	129	25	66
East Cambs Rural	65	99	258	40	131
Hunts Town & St. Ives	395	539	1,055	107	451
Huntingdon Fringe + A14	254	307	675	57	272
Huntingdon Rural	287	372	771	75	321
Peterborough	180	223	501	73	175
Rest of Peterborough	15	19	42	6	15
March, Wisbech and Whittlesey Towns	9	11	26	4	11
Rest of Fenland	24	29	67	8	32
Essex + Suffolk Towns	42	61	147	15	73
London	55	73	187	0	90
East of England	128	178	392	21	173
East Midlands	19	23	56	2	21
South East	16	22	49	0	22
South West	5	6	14	0	6

Table 14 - Distribution of trips from the development zones to sectors across the model in DS3

F8_05 DS3	Cambourne Production Zone				
Attraction Zone	**Zone 1 (2208)**	**Zone 2 (2209)**	**Zone 3 (2210)**	**Zone 4 (2211)**	**Zone 5 (2212)**
Cambridge City	585	844	2,350	236	1,328
City Fringe	359	536	1,423	223	801
South Cambs Outer	1,374	2,359	5,237	677	2,573
Ely	32	47	124	24	69
East Cambs Rural	66	95	246	39	137
Hunts Town & St. Ives	394	550	1,015	103	436
Huntingdon Fringe + A14	256	319	585	56	267
Huntingdon Rural	287	381	718	73	313
Peterborough	180	229	436	72	175
Rest of Peterborough	15	19	37	6	15
March, Wisbech and Whittlesey Towns	9	12	23	4	11
Rest of Fenland	24	30	58	8	31
Essex + Suffolk Towns	41	61	141	14	75
London	55	74	175	0	90
East of England	128	180	387	21	169
East Midlands	20	24	51	2	21
South East	16	22	50	0	21
South West	5	6	13	0	5

As would be expected with no changes to the demand assumptions between DM and DS scenarios there are only minor differences in sectoral breakdown of development trips. South Cambridge and Cambridge City are the largest attractors for trips generated as a result of the development.

Table 15 presents the distribution of all mode and purpose trips internal to the Cambourne North development.

Table 15 - Distribution of all mode and purpose trips within the Cambourne Zones in the DM Scenario

	Cambourne Zone	Zone 1 (2208)	Zone 2 (2209)	Zone 3 (2210)	Zone 4 (2211)	Zone 5 (2212)
DM	Zone 1 (2208)	445	349	476	170	104
	Zone 2 (2209)	293	879	362	432	116
	Zone 3 (2210)	425	389	3,355	668	704
	Zone 4 (2211)	26	77	116	442	82
	Zone 5 (2212)	93	124	714	483	945
DS1	Zone 1 (2208)	439	338	472	171	104
	Zone 2 (2209)	273	790	368	413	115
	Zone 3 (2210)	420	403	3,333	676	709
	Zone 4 (2211)	26	77	115	438	81
	Zone 5 (2212)	92	125	717	481	946
DS2	Zone 1 (2208)	362	292	384	183	84
	Zone 2 (2209)	209	633	271	425	86
	Zone 3 (2210)	337	328	2,830	719	590
	Zone 4 (2211)	20	63	92	469	65
	Zone 5 (2212)	69	98	563	502	772
DS3	Zone 1 (2208)	364	288	368	178	84
	Zone 2 (2209)	206	623	337	417	86
	Zone 3 (2210)	255	322	3,043	912	447
	Zone 4 (2211)	20	62	139	462	65
	Zone 5 (2212)	69	95	541	495	773

The volume and internalisation rate of trips produced as a result of the development is as follows:

- In the DM scenario the development produces a total of 42,648 trips of which 29% are internal
- In the DS1 scenario the development produces a total of 42,662 trips of which 28% are internal
- In the DS2 scenario the development produces a total of 41,320 trips of which 25% are internal

- In the DS3 scenario the development produces a total of 41,478 trips of which 25% are internal

4.2 Flow Plots

Link data has been used to produce visual outputs to illustrate how the demand generated by the proposed development is predicted to travel through the highway network. The following types of plots have been produced for the AM, IP and PM time periods:

- Link Actual Flow (Reference Case [RC], DN, DM, DS1, DS2, DS3) - vehicles/hr.
- Link Demand Flow (RC, DN, DM, DS1, DS2, DS3) - vehicles/hr.
- Link Flow Difference (DN-RC, DM-DN, DS1-DM, DS2-DS1, DS3-DS2) - vehicles/hr.
- Demand Flow Difference (DN-RC, DM-DN, DS1-DM, DS2-DS1, DS3-DS2) - vehicles/hr.
- Link Delay (RC, DN, DM, DS1, DS2,DS3) - seconds/vehicle.
- Link Delay Difference (DN-RC, DM-DN, DS1-DM, DS2-DS1, DS3-DS2) - seconds/vehicle.

For the purposes of brevity, only the Link Actual Flow, Link Actual Flow Difference, Link Delay Difference and Flow Bundle plots in DM, DS1, DS2 and DS3 scenarios are included in this document.

Figure 8 and Figure 9 show Link Actual Flow on the local highway network in the DM Scenario in AM and PM peak time periods respectively. Link Actual Flow represents the simulated real-world flow on the network inclusive of modelled traffic conditions and includes the effect of vehicles queued upstream.

Figure 8 - Cambourne North DM - Link Actual Flow AM Peak Hour

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Figure 9 - Cambourne North DM - Link Actual Flow PM Peak Hour

Figure 10 and Figure 11 show Link Actual Flows in the DS1 scenario in the AM and PM peak hours respectively.

Figure 10 - Cambourne North DS1 - Link Actual Flow AM Peak Hour

Figure 11 - Cambourne North DS1 - Link Actual Flow PM Peak Hour

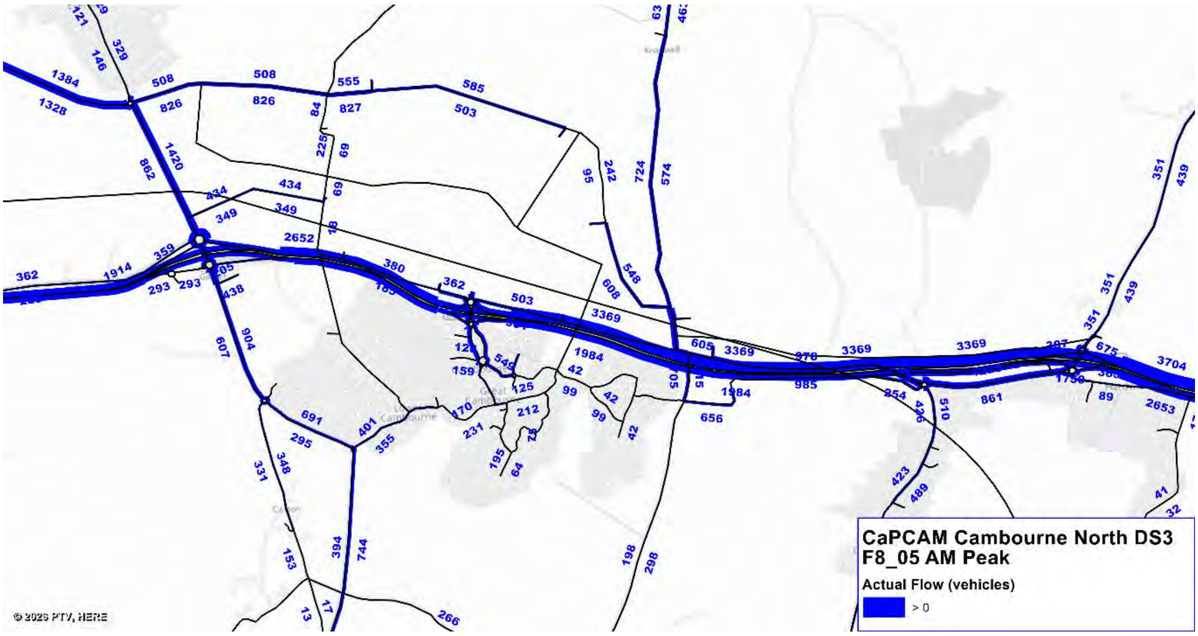
Figure 12 and Figure 13 show link actual flows in the DS2 scenario in the AM and PM peak hours respectively.

Figure 12 - Cambourne DS2 - Link Actual Flow AM Peak Hour

Figure 13 – Cambourne DS2 - Link Actual Flow PM Peak Hour

Figure 14 and Figure 15 show link actual flows in the DS3 scenario in the AM and PM peaks respectively

Figure 14 - Cambourne DS3 – Link Actual Flow AM Peak Hour



TECHNICAL NOTE

Figure 15 - Cambourne DS3 - Link Actual Flow PM Peak Hour

Figure 16 and Figure 17 show link actual flow differences for DM-DN in the AM and PM peaks.

Figure 16 - DM-DN – Link Actual Flow Differences AM Peak Hour

Figure 17 - DM-DN – Link Actual Flow Differences - PM Peak Hour

Figure 18 and Figure 19 show link actual flow differences for DS1-DM in the AM and PM peaks respectively

Figure 18 - DS1-DM - Link Actual Flow Differences - AM Peak Hour

Figure 19 - DS1-DM Link Actual Flow Differences - PM Peak Hour

Figure 20 and Figure 21 show link actual flow differences for DS2-DS1 in the AM and PM peaks respectively

Figure 20 - DS2-DS1 Link Actual Flow - AM Peak Hour

Figure 21 - DS2-DS1 Link Actual Flow - PM Peak Hour

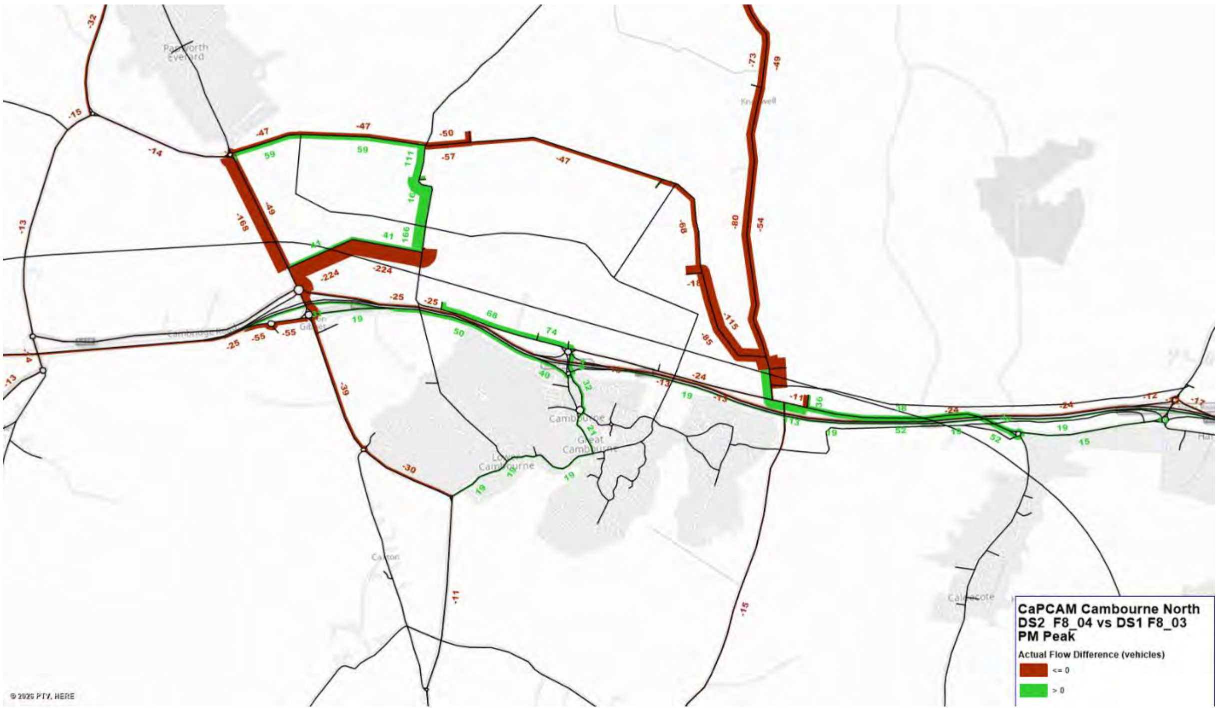


Figure 22 and Figure 23 show link actual flow difference for DS3-DS2 in the AM and PM peaks respectively.

Figure 22 - DS3-DS2 Link Actual Flow Differences - AM Peak Hour

Figure 23 – DS3-DS2 Link Actual Flow Differences - PM Peak Hour

Figure 24 and Figure 25 show link actual flow differences for DS3A-DN in the AM and PM peaks respectively.

Figure 24 - DS3A-DN Link Actual Flow Differences - AM Peak Hour

Figure 25 - DS3A-DN Link Actual Flow Differences - PM Peak Hour

In the DM scenario there is increased flow around the A428 and St Neots Road compared with DN scenario as a result of the addition of the Cambourne North Development across all time periods. There can also be observed an increase in traffic on Knapwell High Street and Highfields Road attributable to trips originating from the development. There is a reduction of traffic on the A14 north of Cambridge as some trips from Cambridge are now travelling to the development as well as a small modal shift towards buses with the additional bus service capacity.

In the DS1 scenario the provision of the bus gate at the road joining Cambourne North to Elsworth has reduced flows on that section which has resulted in some rerouting of traffic along Knapwell road. There is a reduction in flows around Caxton Gibbet junction as a result of rerouting via Cambourne North junction and an increase in flows on St Neots road as a result of the northern roundabout of Cambourne North junction being given unconstrained capacity in this scenario. There is an overall reduction in flow to the north of and within the development attributable to modal shift from car to active travel and bus modes. Minor changes in flow is observed in many links in the Cambridge area and can be attributed to model noise.

In the DS2 scenario there is a reduction of trips on access roads which is due to reduction in school places and subsequent education trip generation relative to DS1. Reduction of traffic on Knapwell road at the junction with the entrance to the development as a result of this link becoming the major arm and Knapwell road becoming the minor arm in this scenario. There can be observed a reduction in flow on St Neots road as a result of the alterations to priority at the junction of St Neots Road and Knapwell Road as well as the northern arm of Cambourne North junction reverting to constrained capacity in this scenario. There is a further reduction of flows in and around Cambourne North junction compared to DS1 as a result of mode shift consistent with the introduction of additional bus services.

In the DS3 scenario there is a further decrease of trips within Cambourne North due to the addition of the extra connector between zone 3 and Cambourne North Junction northern roundabout however flow on St Neots road has increased relative to DS2. Due to the increase in the number of lanes at Papworth roundabout, flow has increased compared to DS2. There is also a reduction in flow on the A14 towards Huntingdon as a result of the additional connector allowing traffic to use St Neots road and then move north along Knapwell road.

Figure 26 and Figure 27 show link delay difference for DM-DN in the AM and PM peak hours.

Figure 26 – DM-DN Link Delay Difference AM Peak Hour

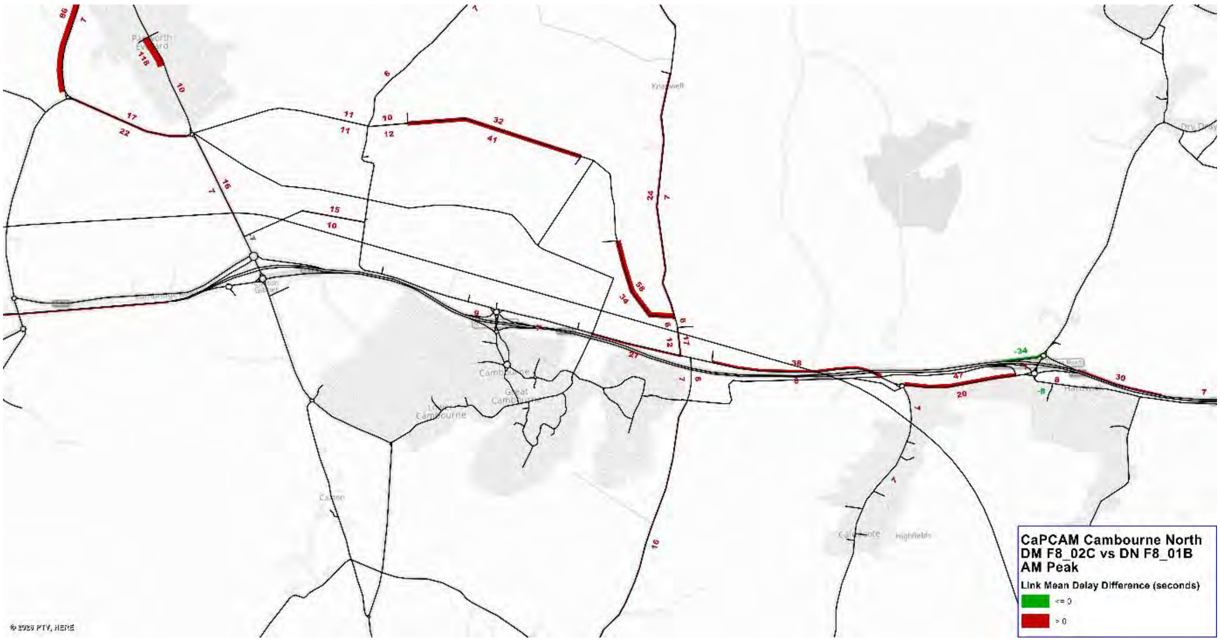


Figure 27 - Link Delay Difference DM-DN PM Peak Hour

Figure 28 and Figure 29 show link delay differences for DS1-DM in the AM and PM peak hours.

Figure 28 - DS1-DM Link Delay Difference - AM Peak Hour

Figure 29 - DS1-DM Link Delay Difference - PM Peak Hour

Figure 30 and Figure 31 show link delay differences for DS2-DS1 in the AM and PM peak hours.

Figure 30 - DS2-DS1 Link Delay Difference - AM Peak Hour

Figure 31 - DS2-DS1 Link Delay Difference - PM Peak Hour

Figure 32 and Figure 33 show link delay differences for DS3-DS2 in the AM and PM peak hours.

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Figure 32 - DS3-DS2 Link Delay Difference - AM Peak Hour

Figure 33 - DS3-DS2 Link Delay Difference - PM Peak Hour

Figure 34 and Figure 35 show link delay differences for DS3A-DN in the AM and PM peak hours.

Figure 34 - DS3A-DN Link Delay Difference - AM Peak Hour

Figure 35 - DS3A-DN Link Delay Difference - PM Peak Hour

In the DM scenario all the delay difference values on links coded as part of the development itself represent absolute values of the DM scenario link delays as these links do not exist in the DN. There can be observed relatively minor changes in delay on the network outside the development with the increase mainly observed on the internal road network of the development and on Ermine Street/A1198 roundabout. Despite the internal network being coded with infinite capacity at junctions, delay is still observed on some links as a result of insufficient capacity on the link itself.

In the DS1 scenario there are minor increases in delays of Knapwell Road accompanying the increased flow compared to the DM scenario. There are further minor increases in delay on the A428 as a result of increased flow from the Cambourne North roundabout. There are also differences in delay on links in the Cambridge area as a by-product of re-routing and model noise.

In the DS2 scenario there is significant delay on the link connecting St Neots Road and Ermine Street which leads to blocking back of eastbound traffic on St Neots Road at the junction with Knapwell Road.

In the DS3 scenario delay seen on St Neots Road junction in DS2 is significantly reduced which is a result of the new connector coded in this run. There is a further reduction in delay at Papworth roundabout due to the increase in the number of lanes. There can be observed a general reduction in delay across the Cambourne North development as a result of the reduced flow produced by modal shift.

4.2.1 Flow Bundles

Two sets of flow bundles have been produced for all scenarios. Origin flow bundles show the distribution of flow across the network with Cambourne North as the point of origin. Destination flow bundles show the distribution of flow across the network with Cambourne North as the destination.

Figure 36 and Figure 37 show origin flow bundles in the DM scenario and at AM and PM peak hours respectively.

TECHNICAL NOTE

Figure 36 - Cambourne North DM – Origin Flow Bundle AM Peak Hour

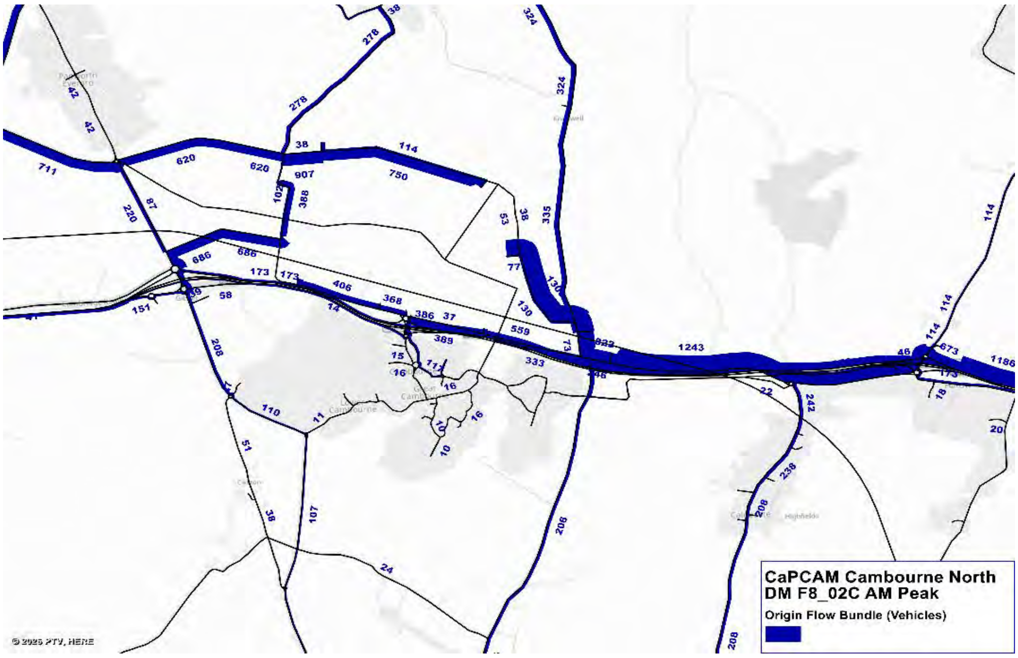


Figure 37 - Cambourne North DM - Origin Flow Bundle PM Peak Hour

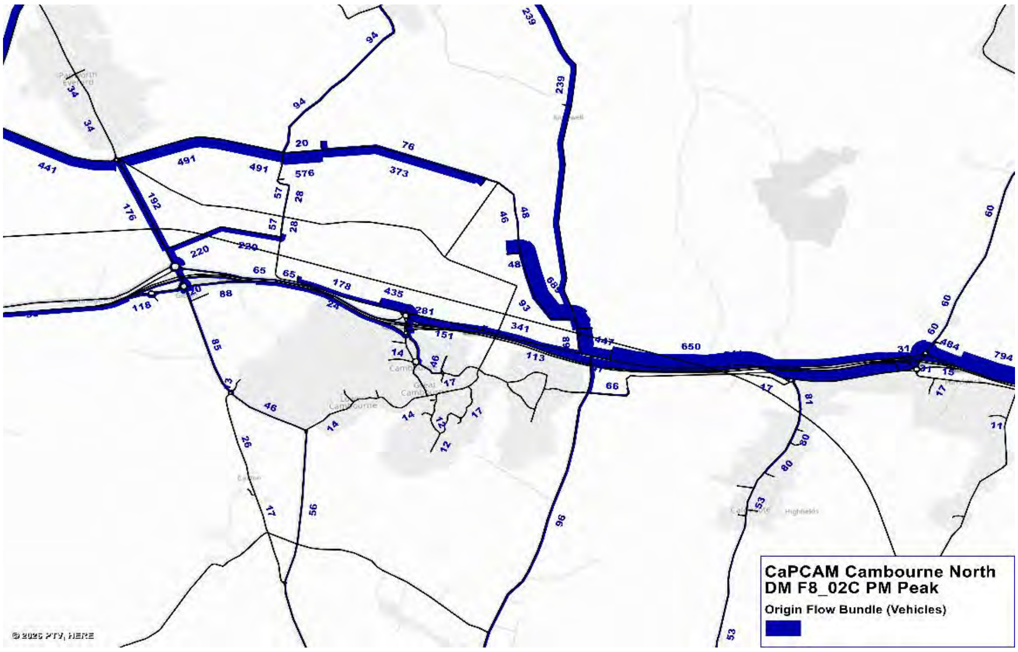


Figure 38 and Figure 39 show destination flow bundles for the DM scenario in AM and PM peak hours respectively.

Figure 38 - Cambourne North DM - Destination Flow Bundle AM Peak Hour

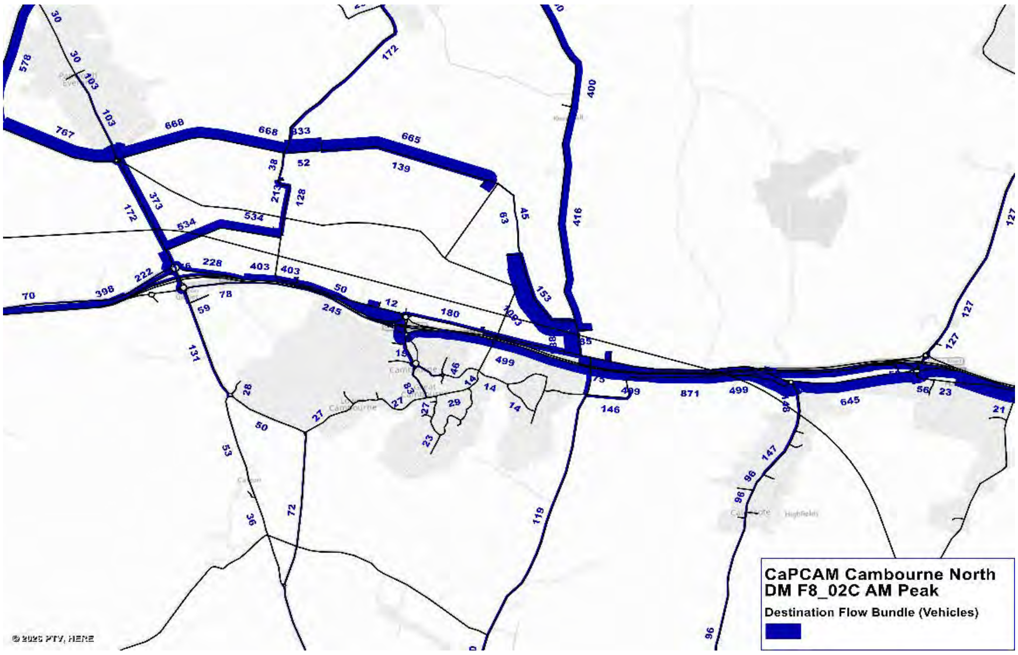


Figure 39 - Cambourne North DM - Destination Flow Bundle PM Peak Hour

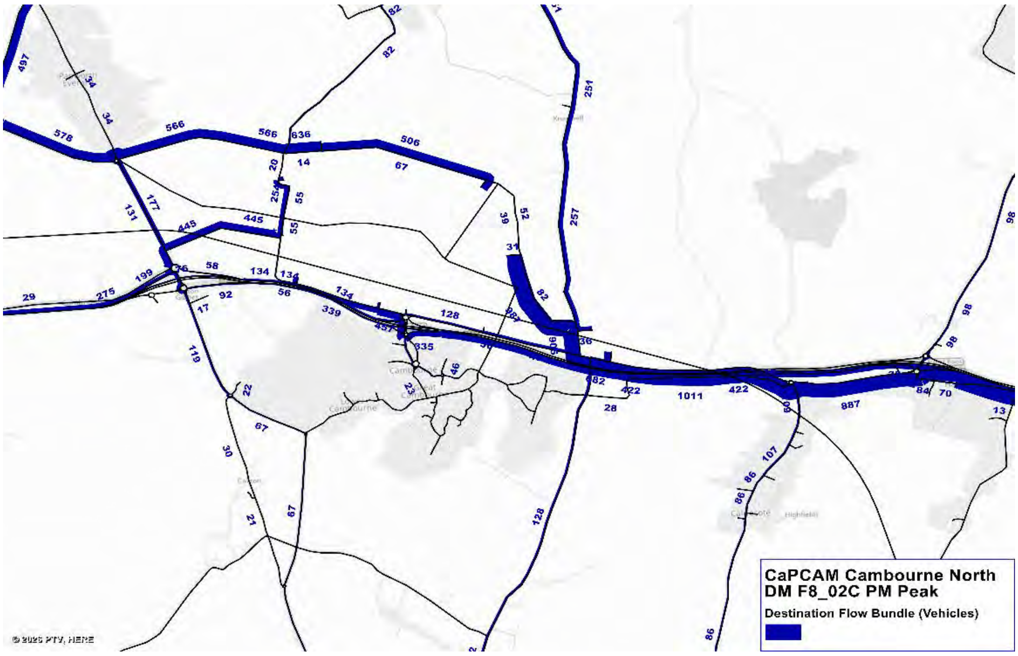


Figure 40 and Figure 41 show origin flow bundles for the DS1 scenario in the AM and PM peak hours.

Figure 40 - Cambourne North DS1 - Origin Flow Bundle AM Peak Hour

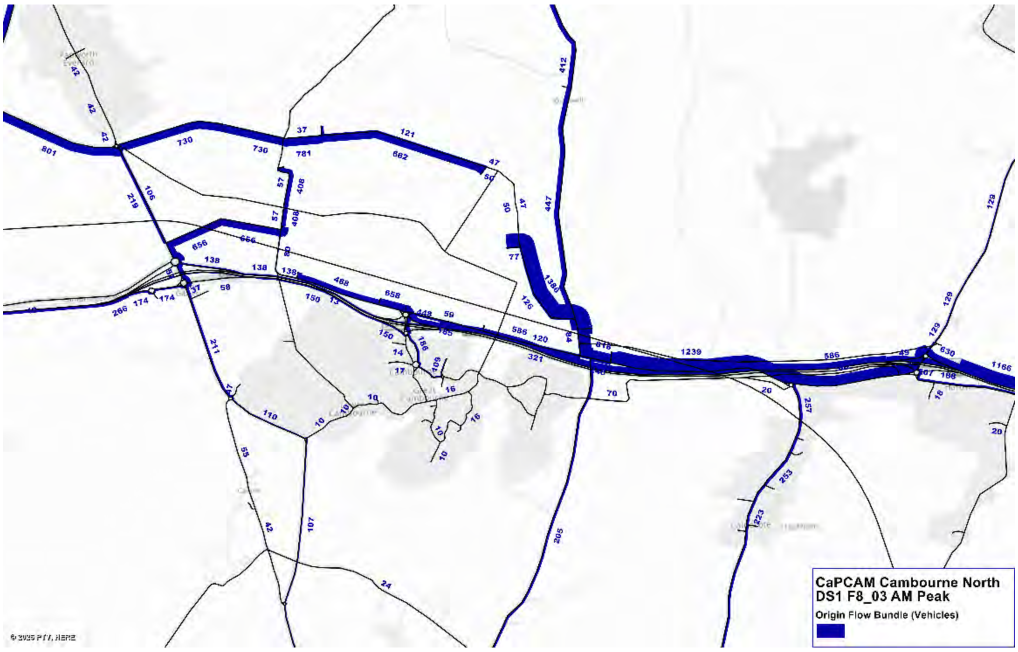


Figure 41 - Cambourne North DS1 - Origin Flow Bundle PM Peak Hour

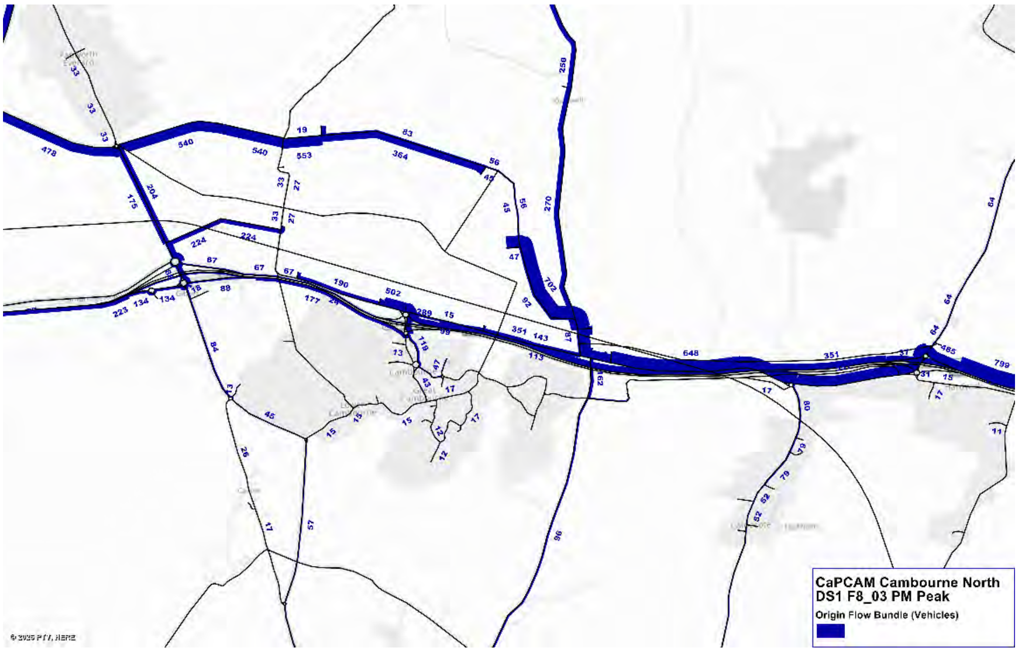


Figure 42 and Figure 43 show destination flow bundles for the DS1 in the AM and PM peak hours.

Figure 42 - Cambourne North DS1 - Destination Flow Bundle AM Peak Hour

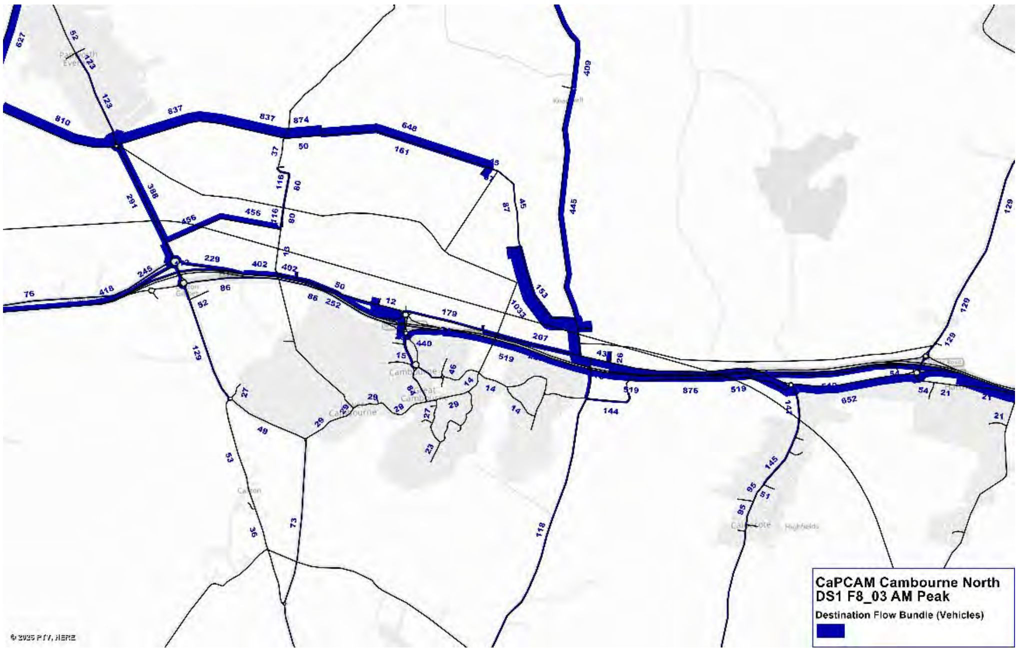


Figure 43 - Cambourne North DS1 - Destination Flow Bundle PM Peak Hour

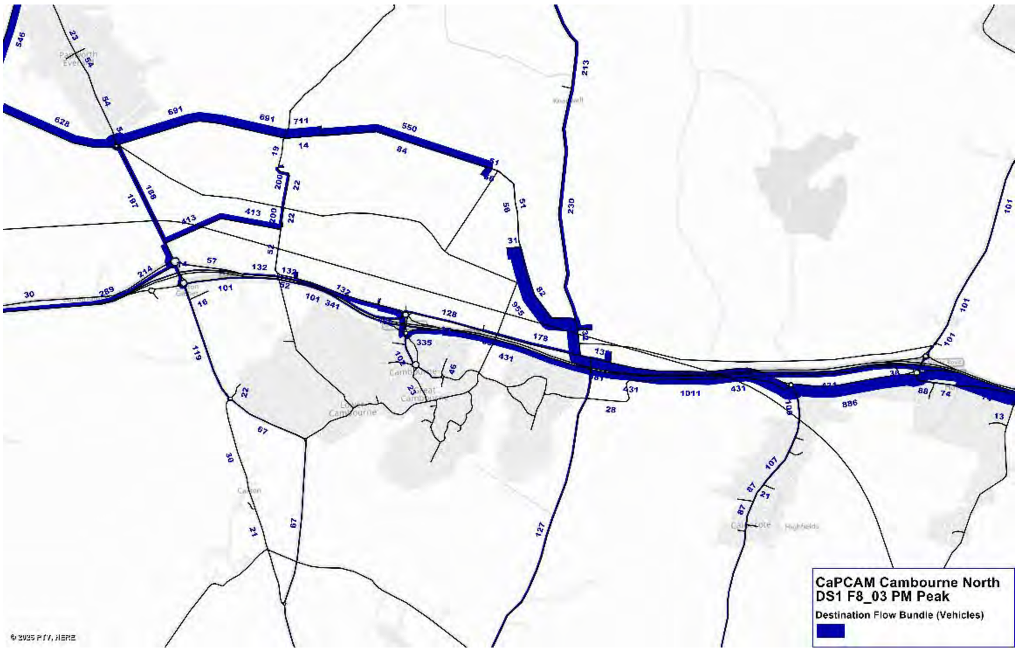


Figure 44 and Figure 45 show origin flow bundles for the DS2 scenario in the AM and PM peak hours.

Figure 44 - Cambourne North DS2 - Origin Flow Bundle AM Peak Hour

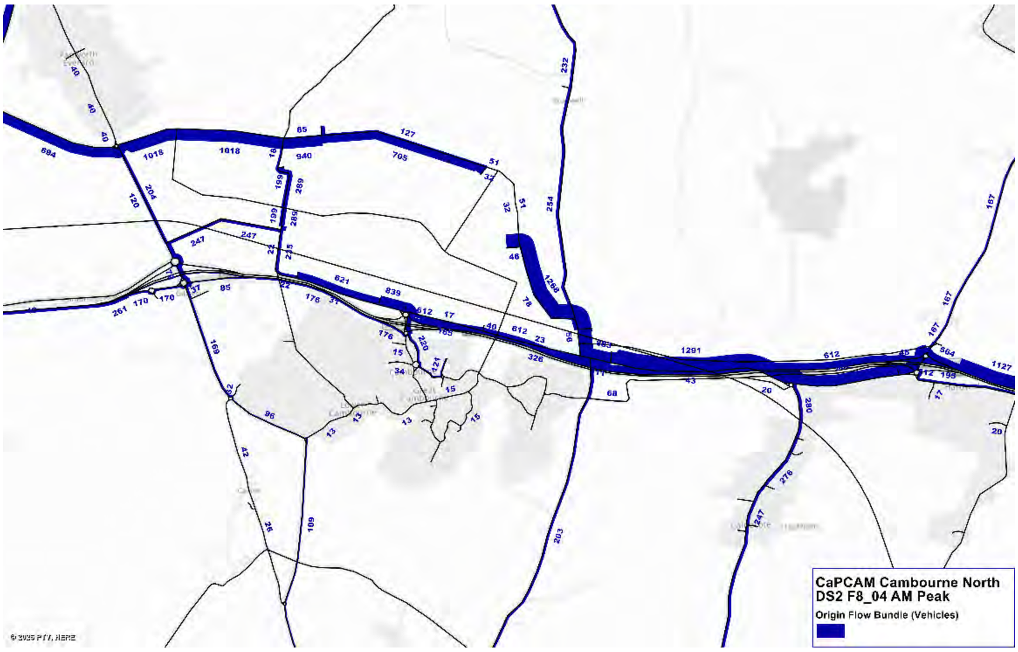


Figure 45 - Cambourne North DS2 - Origin Flow Bundle PM Peak Hour

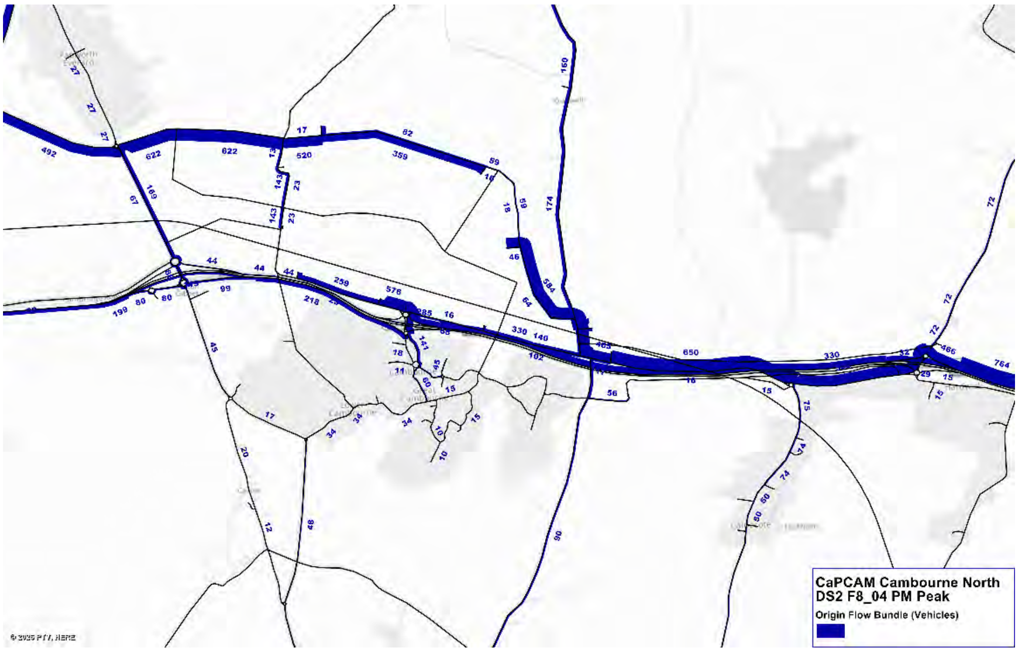


Figure 46 and Figure 47 show destination flow bundles for the DS2 scenario in the AM and PM peak hours.

Figure 46 - Cambourne North DS2 - Destination Flow Bundle AM Peak Hour

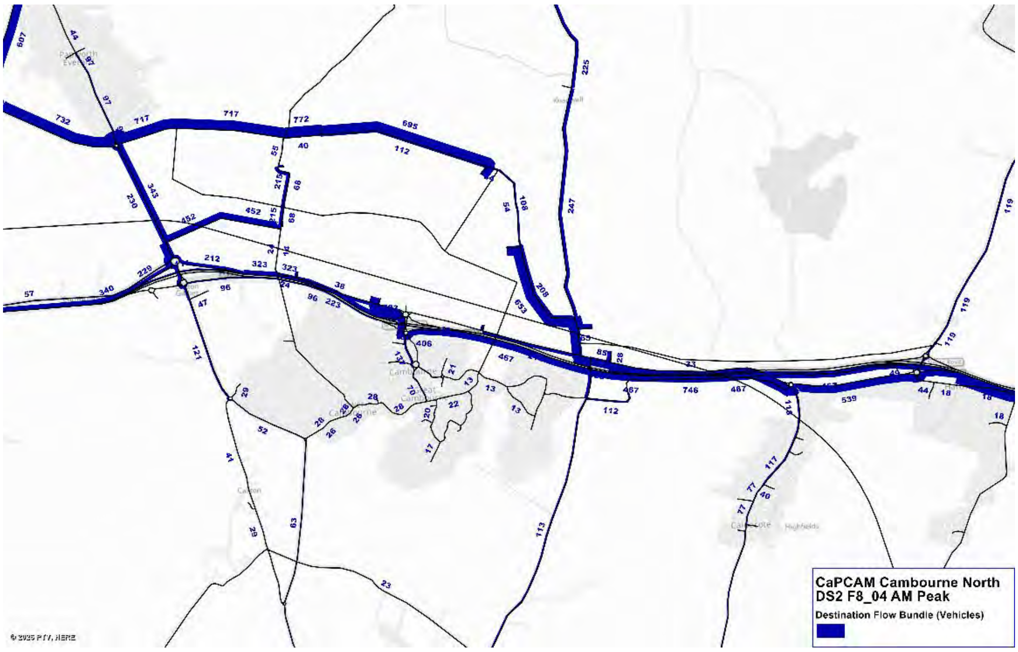


Figure 47 - Cambourne North DS2 - Destination Flow Bundle PM Peak Hour

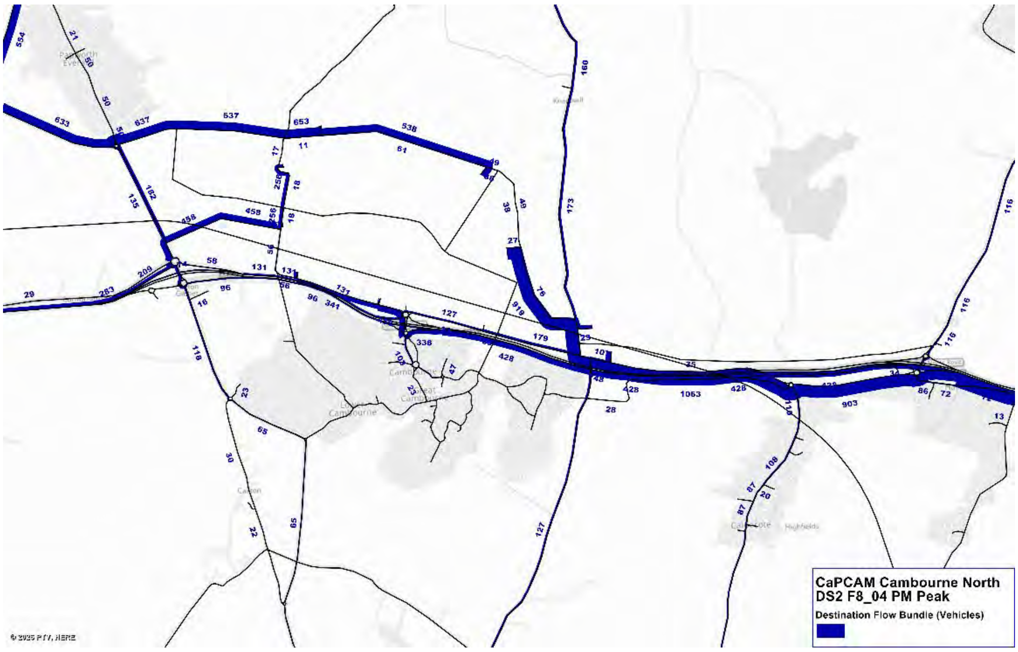


Figure 48 and Figure 49 show origin flow bundles for the DS3 scenario in the AM and PM peak hours.

Figure 48 - Cambourne North DS3 - Origin Flow Bundle AM Peak Hour

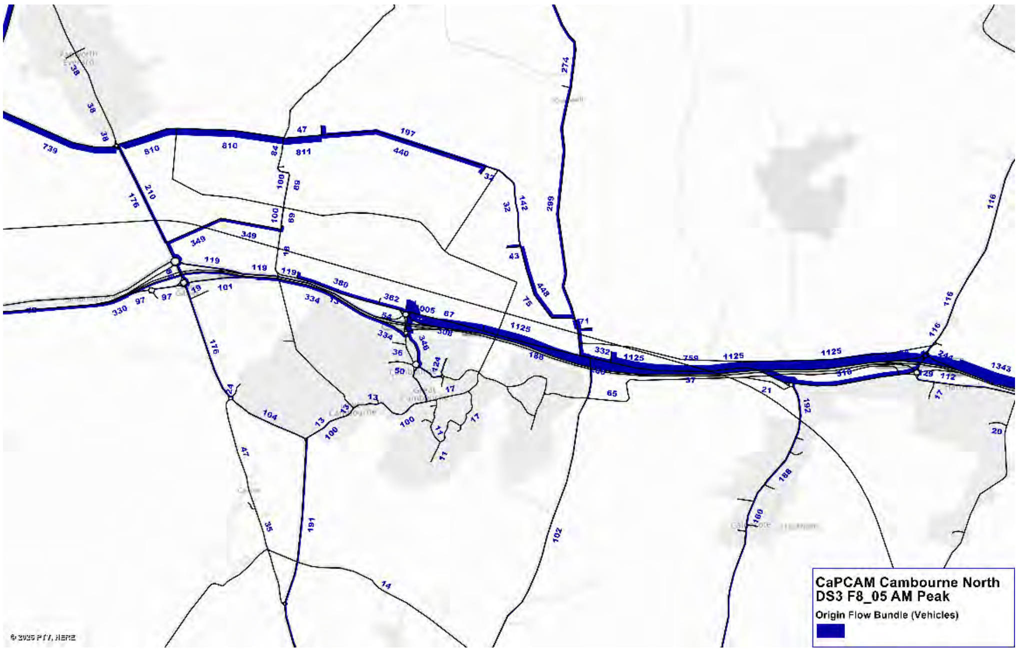


Figure 49 - Cambourne North DS3 - Origin Flow Bundle PM Peak Hour

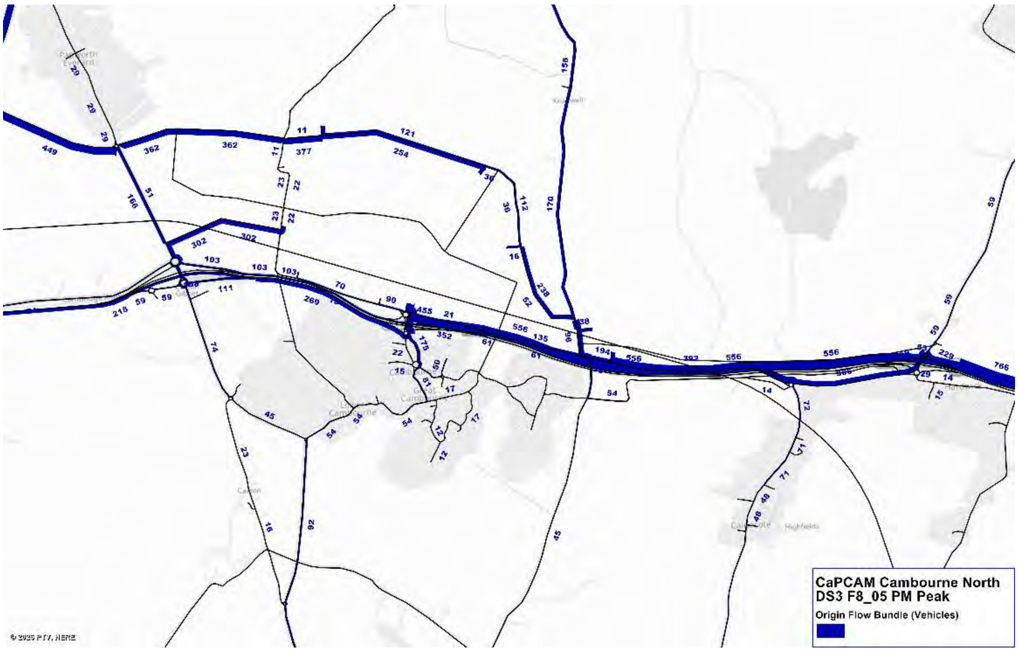


Figure 50 and Figure 51 show destination flow bundles for the DS3 scenario in the AM and PM peak hours.

Figure 50 - Cambourne North DS3 - Destination Flow Bundle AM Peak Hour

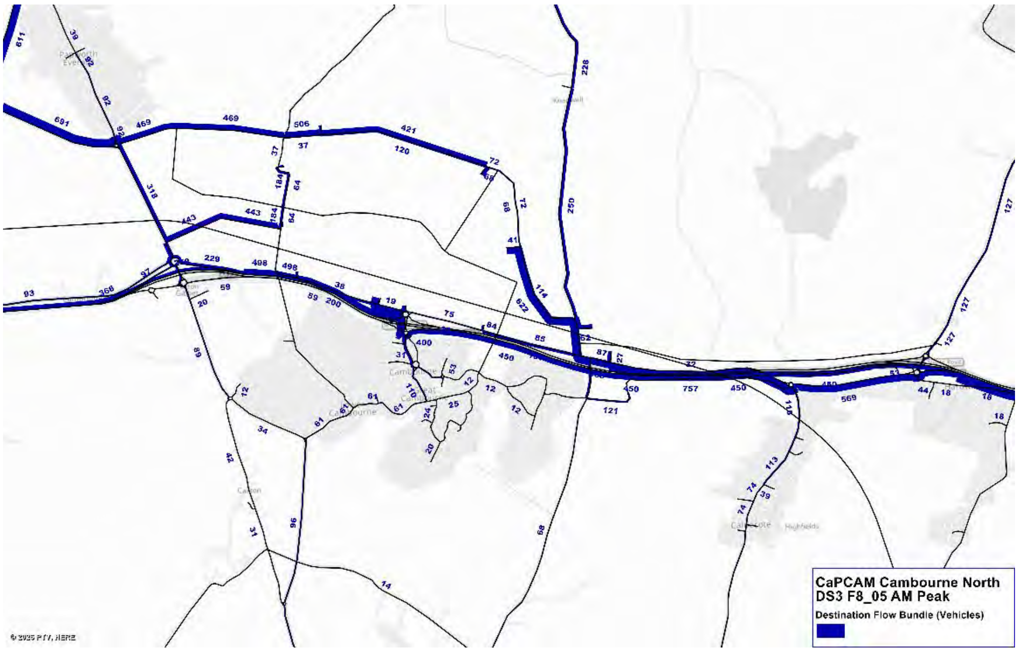


Figure 51 - Cambourne North DS3 - Destination Flow Bundle PM Peak Hour

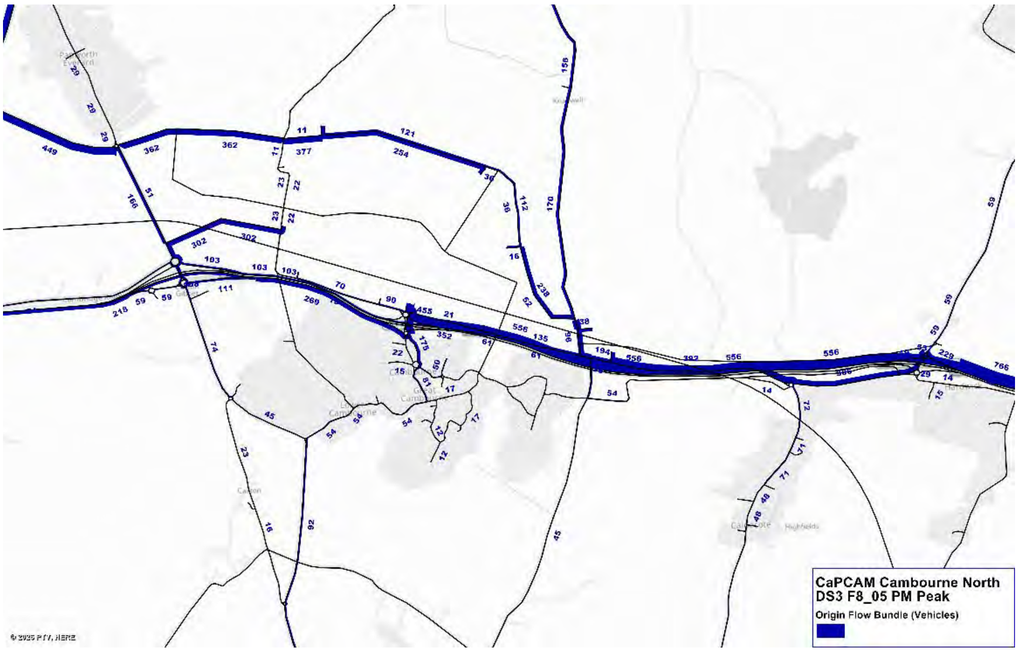


Figure 52 and Figure 53 show origin flow bundles for the DS3A scenario in the AM and PM peak hours.

Figure 52 - Cambourne North DS3A - Origin Flow Bundle AM Peak Hour

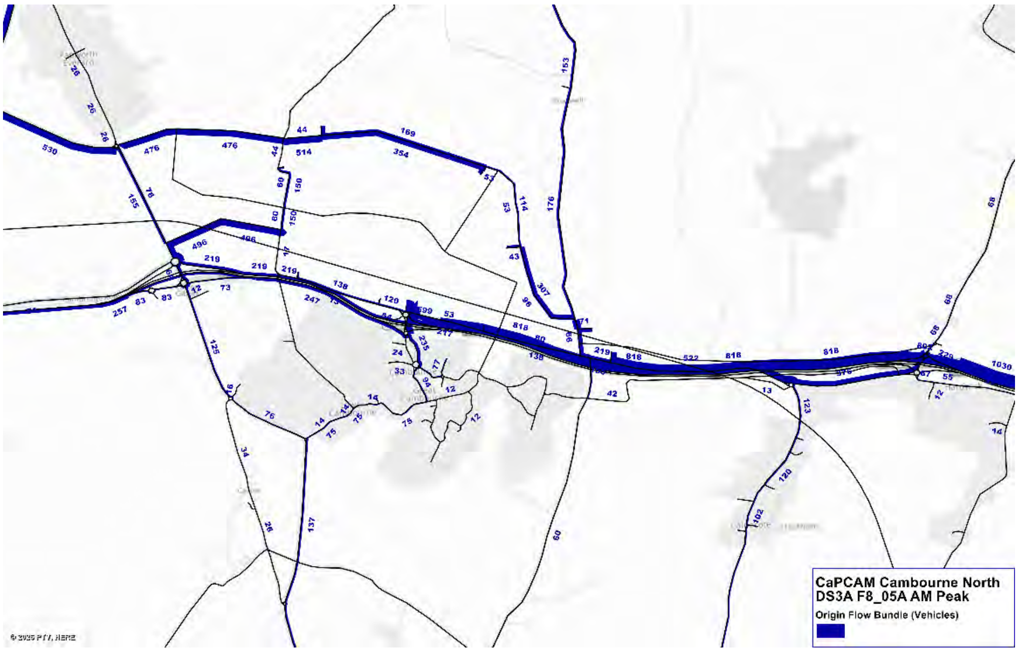


Figure 53 - Cambourne North DS3A - Origin Flow Bundle PM Peak Hour

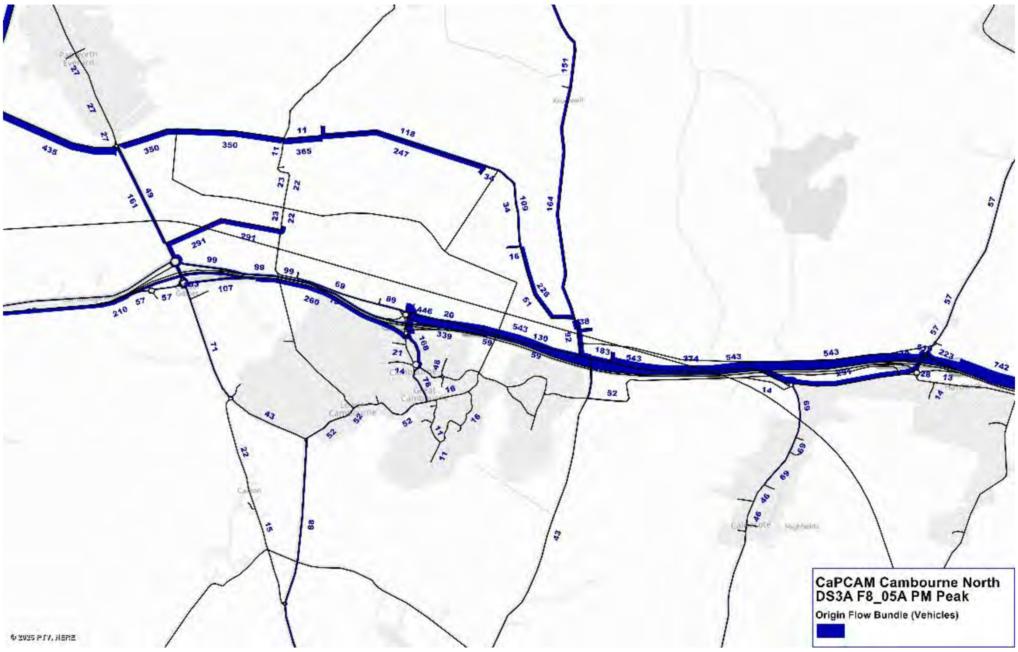


Figure 54 and Figure 55 show destination flow bundles for the DS3A scenario in the AM and PM peak hours.

Figure 54 - Cambourne North DS3A - Destination Flow Bundle AM Peak Hour

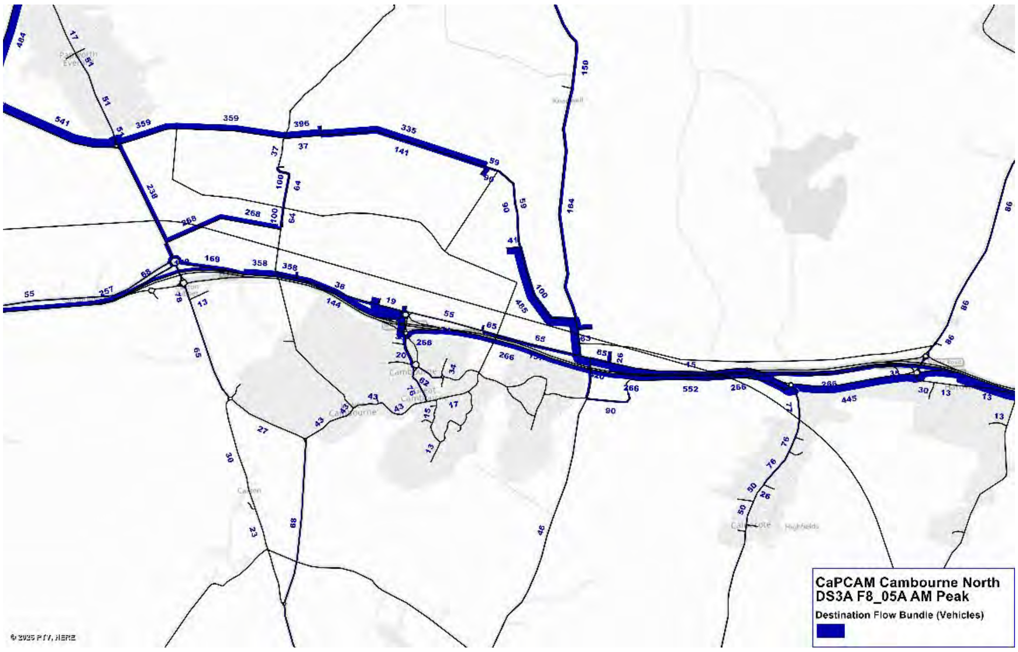
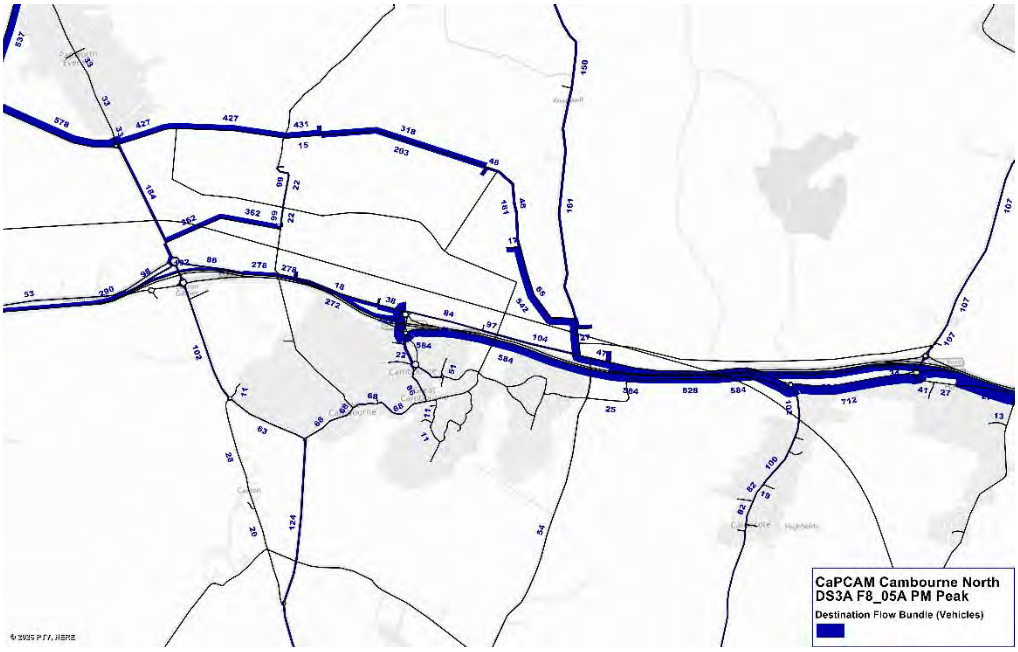


Figure 55 - Cambourne North DS3A - Destination Flow Bundle PM Peak Hour



These outputs show the majority of trips entering and exiting the development via the eastern access road in all time periods in DM, DS1 and DS2. The southern development link is bus-only and therefore shows as having no flow. However in DS3 this changes as a result of alterations to priority at this junction with trips using Cambourne North junction. There is overall lower flow observed in DS2 and DS3 as a result of updating school places, modal share shift toward buses and active travel.

5. Summary

This Technical Note documents AtkinsRéalis' internal Quality Assurance (QA) review of the Cambridge and Peterborough Combined Authority Model (CaPCAM) used to assess the proposed Cambourne North development, commissioned by Cambridgeshire County Council on behalf of Greater Cambridge Shared Planning.

This QA review confirms that:

- Highway and public transport network coding for both DN and DM scenarios has been implemented correctly in accordance with the CaPCAM coding standards.
- The internal road network, development access points, guided busway extension, new bus services, bus stops, and rail connectors have been coded as specified and behave logically within the model.
- Demand assumptions for dwellings, population, and employment are consistent with inputs provided by the project team and supporting consultants.

Assessment of model outputs, including highway assignment results, link flows, delay differences, and flow bundle plots for AM and PM peak periods, demonstrates that the model responds logically to the introduction of the Cambourne North development. Increased traffic flows and delays are primarily concentrated on the internal development network and key nearby junctions, with limited additional impact on the surrounding local highway network. Some redistribution of trips and minor modal shift towards public transport is also observed due to enhanced bus services, particularly in DS2 and DS3 scenarios.

Overall, the QA review concludes that the CaPCAM model provides a robust and appropriate strategic-level representation of traffic distribution and network performance for assessing the impacts of the Cambourne North development.

A

Appendix B

Local junction and merge/diverge assessment outputs

Junctions 11

ARCADY 11 - Roundabout Module

Filename: Ermine Street RBT - With Mitigation.j11
Path: C:\Users\Duncan.Lawrence\OneDrive - Arup\307292-00 CAMBOURNE - LOP AND LOCAL PLAN - 03. Transport\Junction Modelling\DS3a\02
Report generation date: 17/07/2026 11:20:33

»2046 | With Mitigation | AM
»2046 | With Mitigation | PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	2046 - With Mitigation									
1 - Site Access	D1	0.8	4.98	0.45	A	D2	0.4	3.15	0.27	A
2 - Ermine Street (S)		1.2	4.34	0.54	A		2.0	5.32	0.66	A
3 - A1198		2.1	5.21	0.68	A		1.7	4.69	0.63	A
4 - Ermine Street (N)		1.5	13.60	0.54	B		0.6	7.50	0.36	A

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

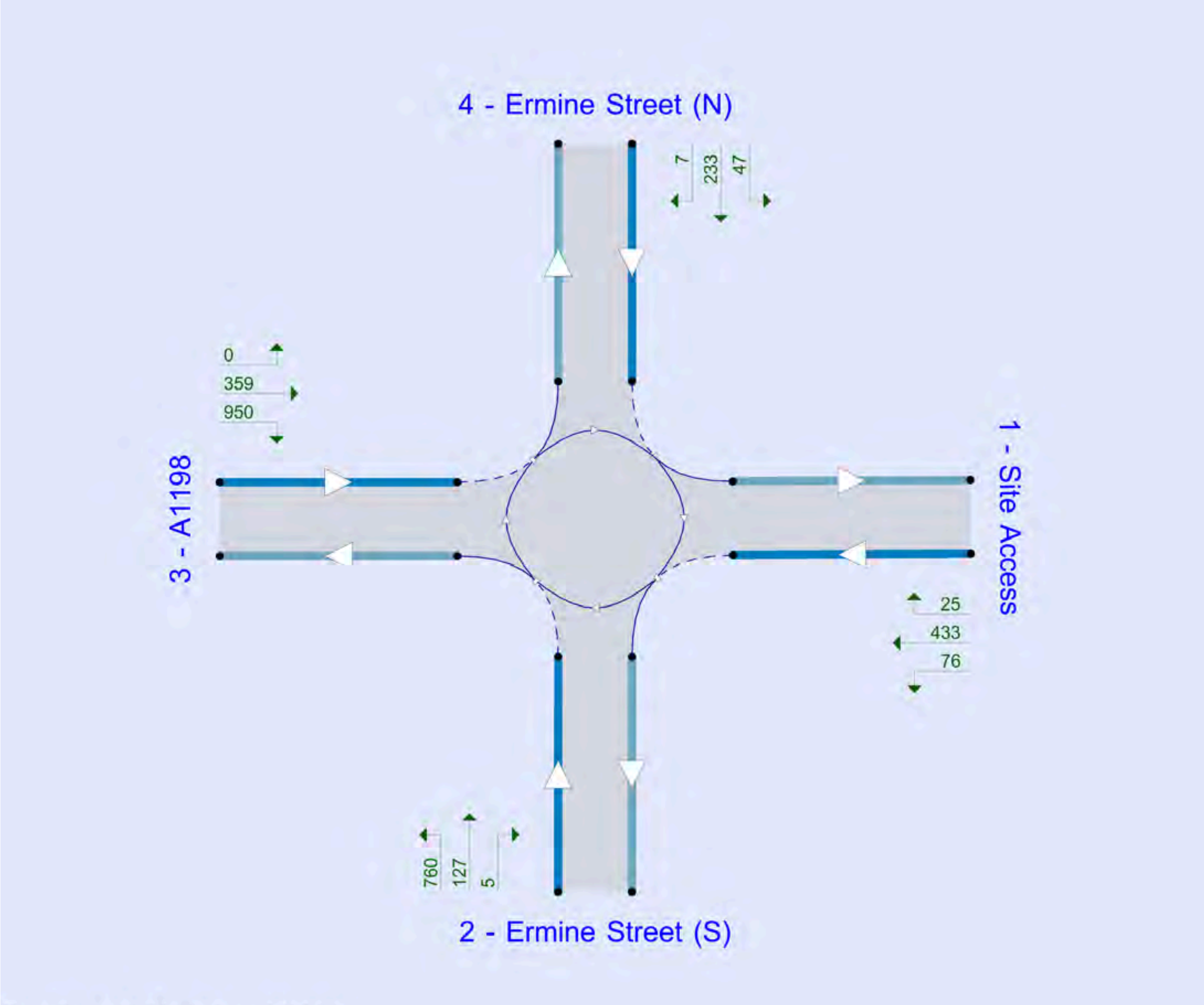
File summary

File Description

Title	
Location	
Site number	
Date	09/06/2026
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\Duncan.Lawrence
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

		0.85	36.00	20.00

Demand Set Summary

	2046	With Mitigation	AM	ONE HOUR	07:45	09:15	15
	2046	With Mitigation	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	
	100.000

2046 | With Mitigation | AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	5.86	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.86	A

Arms

Arms

Arm	Name	Description	No give-way line
1	Site Access		
2	Ermine Street (S)		
3	A1198		
4	Ermine Street (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)	Entry only	Exit only
1 - Site Access	6.00	9.00	20.0	30.0	47.0	40.0		
2 - Ermine Street (S)	6.00	9.00	15.2	25.0	47.0	40.0		
3 - A1198	6.00	9.00	20.0	22.9	47.0	52.0		
4 - Ermine Street (N)	3.15	9.00	12.1	20.6	47.0	44.0		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - Site Access	0.748	2387
2 - Ermine Street (S)	0.732	2316
3 - A1198	0.709	2262
4 - Ermine Street (N)	0.582	1571

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

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2046	With Mitigation	AM	ONE HOUR	07:45	09:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Site Access		✓	534	100.000
2 - Ermine Street (S)		✓	892	100.000
3 - A1198		✓	1309	100.000
4 - Ermine Street (N)		✓	287	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Site Access	2 - Ermine Street (S)	3 - A1198	4 - Ermine Street (N)
From	1 - Site Access	0	76	433	25
	2 - Ermine Street (S)	5	0	760	127
	3 - A1198	359	950	0	0
	4 - Ermine Street (N)	47	233	7	0

Vehicle Mix

Heavy Vehicle %

		To			
		1 - Site Access	2 - Ermine Street (S)	3 - A1198	4 - Ermine Street (N)
From	1 - Site Access	0	0	5	0
	2 - Ermine Street (S)	0	0	6	7
	3 - A1198	0	0	0	0
	4 - Ermine Street (N)	45	22	14	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1 - Site Access	0.45	4.98	0.8	A
2 - Ermine Street (S)	0.54	4.34	1.2	A
3 - A1198	0.68	5.21	2.1	A
4 - Ermine Street (N)	0.54	13.60	1.5	B

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	418	931	1691	0.247	417	0.3	2.938	A
2 - Ermine Street (S)	713	366	2048	0.348	710	0.6	2.850	A
3 - A1198	985	124	2173	0.453	982	0.8	3.013	A
4 - Ermine Street (N)	271	986	997	0.272	269	0.5	6.199	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	500	1115	1553	0.322	499	0.5	3.550	A
2 - Ermine Street (S)	851	438	1995	0.426	850	0.8	3.335	A
3 - A1198	1177	149	2156	0.546	1175	1.2	3.666	A
4 - Ermine Street (N)	324	1180	884	0.366	323	0.7	8.040	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	612	1363	1368	0.447	610	0.8	4.936	A
2 - Ermine Street (S)	1042	536	1924	0.542	1040	1.2	4.315	A
3 - A1198	1441	182	2132	0.676	1438	2.0	5.157	A
4 - Ermine Street (N)	397	1443	731	0.543	394	1.4	13.302	B

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	612	1368	1364	0.448	612	0.8	4.977	A
2 - Ermine Street (S)	1042	537	1923	0.542	1042	1.2	4.337	A
3 - A1198	1441	183	2132	0.676	1441	2.1	5.207	A
4 - Ermine Street (N)	397	1447	729	0.544	397	1.5	13.596	B

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	500	1122	1548	0.323	501	0.5	3.579	A
2 - Ermine Street (S)	851	440	1994	0.427	853	0.8	3.351	A
3 - A1198	1177	149	2156	0.546	1180	1.2	3.705	A
4 - Ermine Street (N)	324	1185	881	0.368	327	0.7	8.195	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	418	937	1686	0.248	419	0.3	2.958	A
2 - Ermine Street (S)	713	368	2047	0.348	713	0.6	2.868	A
3 - A1198	985	125	2173	0.454	987	0.8	3.038	A
4 - Ermine Street (N)	271	991	994	0.273	272	0.5	6.273	A

2046 | With Mitigation | PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	4.98	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	4.98	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2046	With Mitigation	PM	ONE HOUR	16:45	18:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Site Access		✓	391	100.000
2 - Ermine Street (S)		✓	1200	100.000
3 - A1198		✓	1196	100.000
4 - Ermine Street (N)		✓	247	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Site Access	2 - Ermine Street (S)	3 - A1198	4 - Ermine Street (N)
From	1 - Site Access	0	49	320	22
	2 - Ermine Street (S)	0	0	1013	187
	3 - A1198	458	738	0	0
	4 - Ermine Street (N)	33	210	4	0

Vehicle Mix

Heavy Vehicle %

		To			
		1 - Site Access	2 - Ermine Street (S)	3 - A1198	4 - Ermine Street (N)
From	1 - Site Access	0	0	1	0
	2 - Ermine Street (S)	0	0	2	1
	3 - A1198	0	1	0	0
	4 - Ermine Street (N)	3	7	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1 - Site Access	0.27	3.15	0.4	A
2 - Ermine Street (S)	0.66	5.32	2.0	A
3 - A1198	0.63	4.69	1.7	A
4 - Ermine Street (N)	0.36	7.50	0.6	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	297	731	1841	0.161	296	0.2	2.348	A
2 - Ermine Street (S)	920	262	2124	0.433	917	0.8	3.030	A
3 - A1198	906	158	2149	0.421	903	0.7	2.900	A
4 - Ermine Street (N)	198	903	1045	0.189	197	0.2	4.508	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	354	875	1733	0.204	354	0.3	2.631	A
2 - Ermine Street (S)	1099	314	2086	0.527	1097	1.1	3.703	A
3 - A1198	1082	189	2127	0.509	1081	1.0	3.455	A
4 - Ermine Street (N)	236	1081	942	0.251	236	0.4	5.417	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	434	1070	1587	0.273	434	0.4	3.144	A
2 - Ermine Street (S)	1346	384	2035	0.661	1342	2.0	5.270	A
3 - A1198	1325	232	2097	0.632	1322	1.7	4.657	A
4 - Ermine Street (N)	289	1322	801	0.361	288	0.6	7.449	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	434	1072	1585	0.274	434	0.4	3.152	A
2 - Ermine Street (S)	1346	384	2034	0.661	1346	2.0	5.322	A
3 - A1198	1325	232	2097	0.632	1325	1.7	4.690	A
4 - Ermine Street (N)	289	1325	800	0.362	289	0.6	7.498	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	354	878	1730	0.205	355	0.3	2.640	A
2 - Ermine Street (S)	1099	314	2086	0.527	1102	1.1	3.741	A
3 - A1198	1082	190	2127	0.509	1084	1.0	3.482	A
4 - Ermine Street (N)	236	1084	940	0.251	237	0.4	5.458	A

18:00 - 18:15

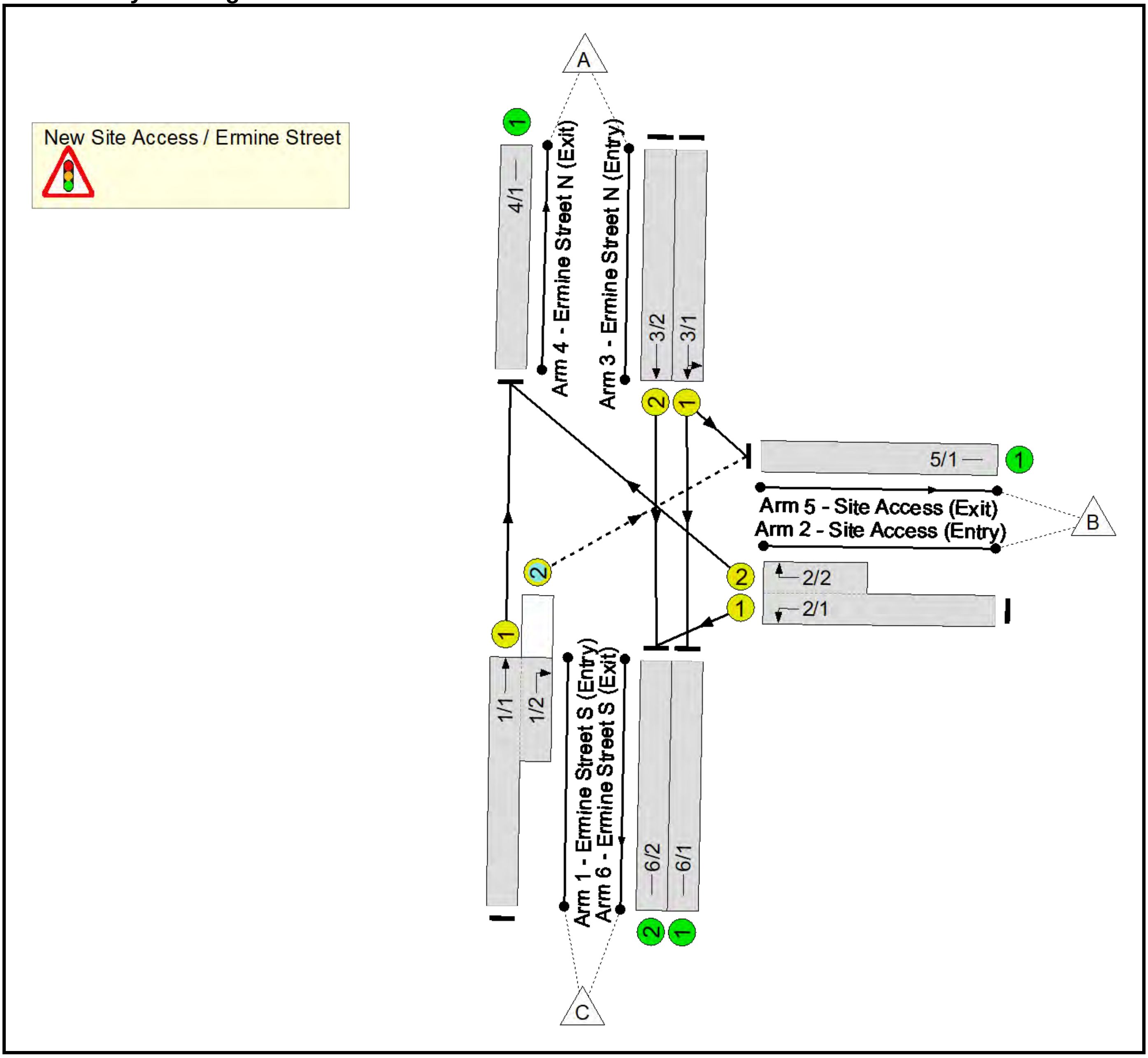
Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	297	734	1838	0.161	297	0.2	2.355	A
2 - Ermine Street (S)	920	263	2123	0.433	922	0.8	3.056	A
3 - A1198	906	159	2149	0.422	907	0.7	2.921	A
4 - Ermine Street (N)	198	907	1043	0.190	198	0.3	4.536	A

Detailed Input Data And Results

User and Project Details

	Ermine Street New Site Access - 2 lanes long.lsg3x
Linsig Version:	3, 3, 1, 0

Network Layout Diagram



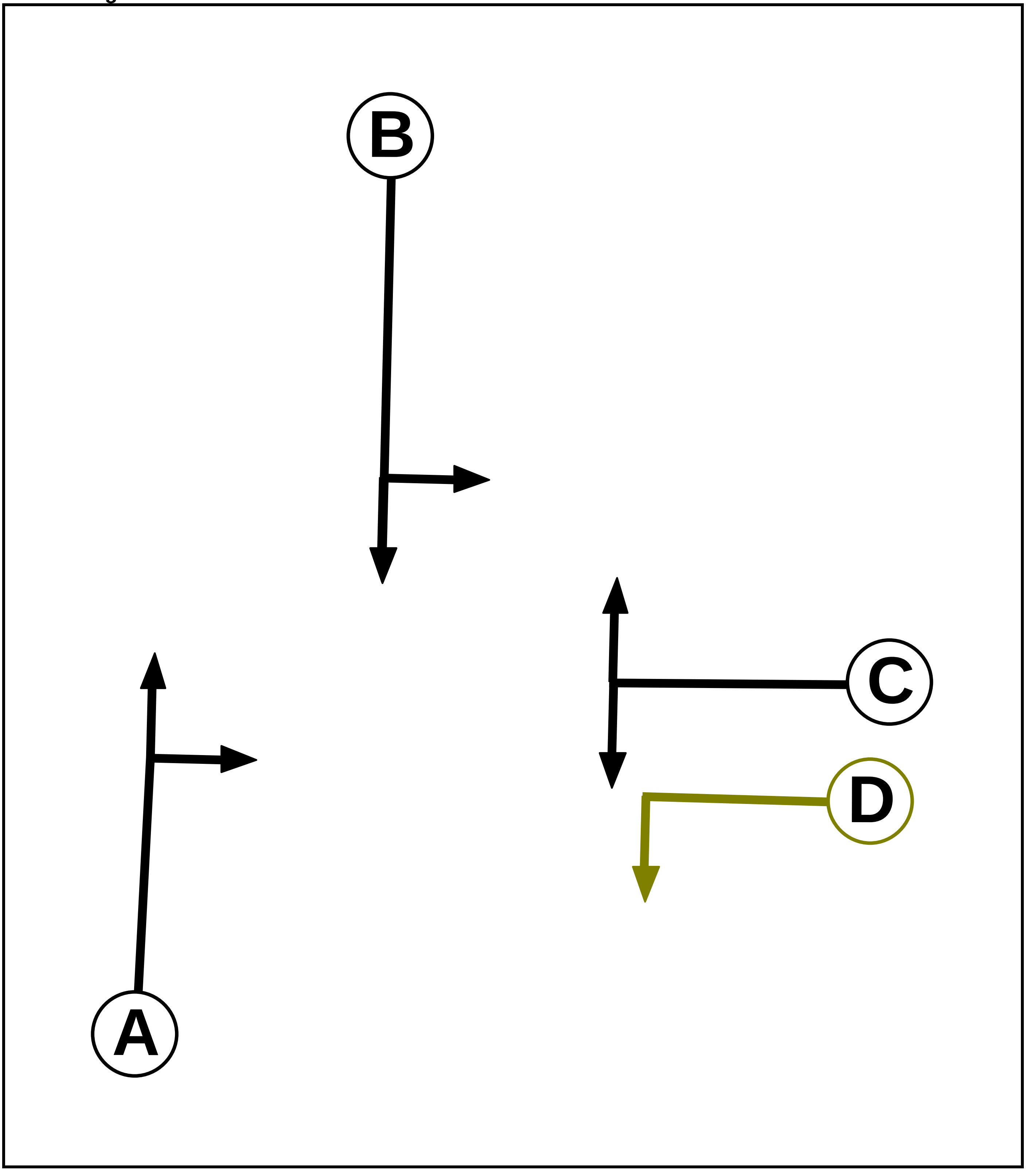
Scenarios

		AM Peak Hour	**Network Control Plan 1**	**08:00 - 09:00**	**96**	**27.2**	**16.95**

Controller Summary

C1	Gen		Stage Stream 1	4	3	New Site Access / Ermine Street	

Phase Diagram



Phase Input Data

A	Traffic		7	7
B	Traffic		7	7
C	Traffic		7	7
D	Filter	C	4	0

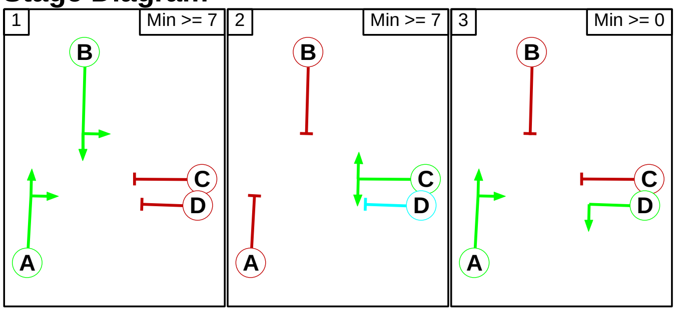
Phase Intergreens Matrix

	Starting Phase				
Terminating Phase			B	C	D
	A			8	
	B			8	8
	C	8	8		
	D				

Phases in Stage

1	A B
2	C
3	A D

Stage Diagram



Phase Delays

There are no Phase Delays defined					

Prohibited Stage Change

	To Stage			
From Stage		1	2	3
	1		8	8
	2	8		8
	3	X	8	

Lane Input Data

Junction: New Site Access / Ermine Street												
Lane	**Lane Type**	**Phases**	**Start Disp. (s)**	**End Disp. (s)**	**Physical Length (PCU)**	**Sat Flow Type**	**Def User Saturation Flow (PCU/Hr)**	**Lane Width (m)**	**Gradient (%)**	**Nearside Lane**	**Turns**	**Turning Radius (m)**
1/1 (Ermine Street S (Entry))	U	A	2	3	60.0	User	1800	-	-	-	-	-
1/2 (Ermine Street S (Entry))	O	A	2	3	5.0	User	1800	-	-	-	-	-
2/1 (Site Access (Entry))	U	C D	2	3	60.0	User	1800	-	-	-	-	-
2/2 (Site Access (Entry))	U	C	2	3	5.0	User	1800	-	-	-	-	-
3/1 (Ermine Street N (Entry))	U	B	2	3	60.0	User	1800	-	-	-	-	-
3/2 (Ermine Street N (Entry))	U	B	2	3	60.0	User	1800	-	-	-	-	-
4/1 (Ermine Street N (Exit))	U		2	3	60.0	Inf	-	-	-	-	-	-
5/1 (Site Access (Exit))	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1 (Ermine Street S (Exit))	U		2	3	60.0	Inf	-	-	-	-	-	-
6/2 (Ermine Street S (Exit))	U		2	3	60.0	Inf	-	-	-	-	-	-

Detailed Input Data And Results

Give-Way Lane Input Data

Junction: New Site Access / Ermine Street											
Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
1/2 (Ermine Street S (Entry))	5/1 (Right)	1439	0	3/2	1.09	All	3.00	-	0.50	3	2.00
				3/1	1.09	All					

Lane Connector Input Data

Junction: New Site Access / Ermine Street				
Org Lane	Dest Lane	Junction	Modelled Mean Cruise Time (s)	Platoon Dispersion
1/1	4/1	Internal	35	35
1/2	5/1	Internal	35	35
2/1	6/2	Internal	35	35
2/2	4/1	Internal	35	35
3/1	5/1	Internal	35	35
3/1	6/1	Internal	35	35
3/2	6/2	Internal	35	35

Scenario 1: 'AM Peak Hour' (FG1: 'AM Peak Hour', Plan 1: 'Network Control Plan 1')

Lane Saturation Flows

Junction: New Site Access / Ermine Street								
Lane	Lane Width (m)	Gradient (%)	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Ermine Street S (Entry) Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
1/2 (Ermine Street S (Entry) Lane 2)	This lane uses a directly entered Saturation Flow						1800	1800
2/1 (Site Access (Entry) Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
2/2 (Site Access (Entry) Lane 2)	This lane uses a directly entered Saturation Flow						1800	1800
3/1 (Ermine Street N (Entry) Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
3/2 (Ermine Street N (Entry) Lane 2)	This lane uses a directly entered Saturation Flow						1800	1800
4/1 (Ermine Street N (Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (Site Access (Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Ermine Street S (Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
6/2 (Ermine Street S (Exit) Lane 2)	Infinite Saturation Flow						Inf	Inf

Bonus Green Times
No Bonus Greens are defined For Scenario 1

Scenario 2: 'PM Peak Hour' (FG2: 'PM Peak Hour', Plan 1: 'Network Control Plan 1')
Lane Saturation Flows

Junction: New Site Access / Ermine Street								
Lane	**Lane Width (m)**	**Gradient (%)**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Ermine Street S (Entry) Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
1/2 (Ermine Street S (Entry) Lane 2)	This lane uses a directly entered Saturation Flow						1800	1800
2/1 (Site Access (Entry) Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
2/2 (Site Access (Entry) Lane 2)	This lane uses a directly entered Saturation Flow						1800	1800
3/1 (Ermine Street N (Entry) Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
3/2 (Ermine Street N (Entry) Lane 2)	This lane uses a directly entered Saturation Flow						1800	1800
4/1 (Ermine Street N (Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (Site Access (Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Ermine Street S (Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
6/2 (Ermine Street S (Exit) Lane 2)	Infinite Saturation Flow						Inf	Inf

Bonus Green Times
No Bonus Greens are defined For Scenario 2

Traffic Flow Groups

1: 'AM Peak Hour'	08:00	09:00	01:00	
2: 'PM Peak Hour'	17:00	18:00	01:00	

Traffic Flows, Desired
FG1: 'AM Peak Hour'
Desired Flow :

	Destination				
Origin		A	B	C	Tot.
	A	0	121	1125	1246
	B	129	0	367	496
	C	752	145	0	897
	Tot.	881	266	1492	2639

FG2: 'PM Peak Hour'
Desired Flow :

	Destination				
Origin					
		0	144	848	992
		102	0	189	291
		1076	215	0	1291
		1178	359	1037	2574

Scenario 1: 'AM Peak Hour' (FG1: 'AM Peak Hour', Plan 1: 'Network Control Plan 1')
Traffic Flows, Actual
Actual Flow :

	Destination				
Origin					
		0	121	1125	1246
		129	0	367	496
		752	145	0	897
		881	266	1492	2639

Traffic Flows, Difference
Difference :

	Destination				
Origin					
		0	0	0	0
		0	0	0	0
		0	0	0	0
		0	0	0	0

Scenario 2: 'PM Peak Hour' (FG2: 'PM Peak Hour', Plan 1: 'Network Control Plan 1')
Traffic Flows, Actual
Actual Flow :

	Destination				
Origin		A	B	C	Tot.
	A	0	144	848	992
	B	102	0	189	291
	C	1076	215	0	1291
	Tot.	1178	359	1037	2574

Traffic Flows, Difference

Difference :

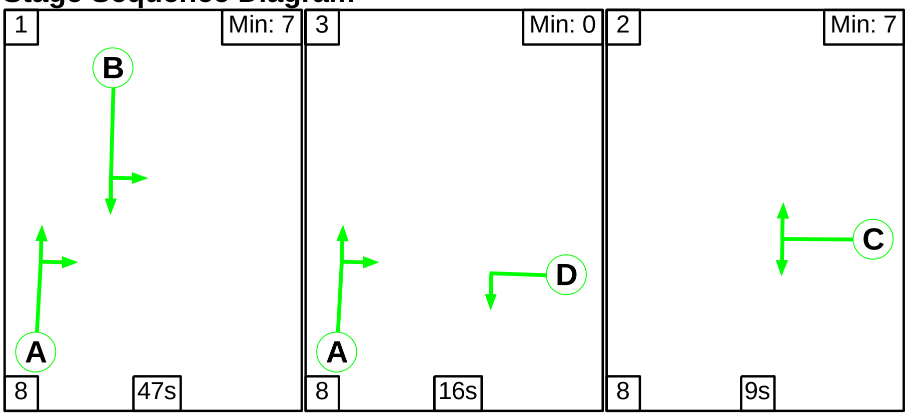
		Destination			
Origin		A	B	C	Tot.
	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	Tot.	0	0	0	0

Traffic Lane Flows

Lane	Scenario 1: AM Peak Hour	Scenario 2: PM Peak Hour
Junction: New Site Access / Ermine Street		
1/1 (with short)	897(In) 752(Out)	1291(In) 1076(Out)
1/2 (short)	145	215
2/1 (with short)	496(In) 367(Out)	291(In) 189(Out)
2/2 (short)	129	102
3/1	623	496
3/2	623	496
4/1	881	1178
5/1	266	359
6/1	502	352
6/2	990	685

Scenario 1: 'AM Peak Hour' (FG1: 'AM Peak Hour', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram



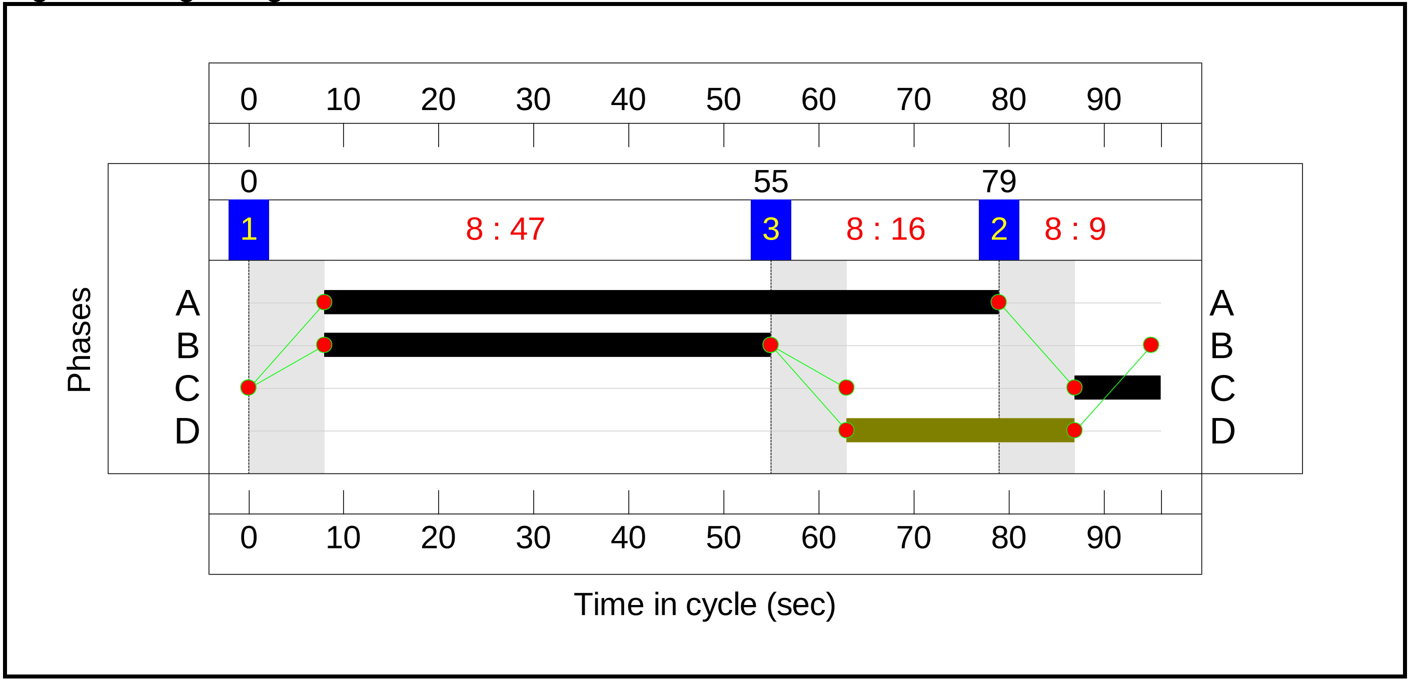
Stage Timings

Stage	1	3	2
Duration	47	16	9
Change Point	0	55	79

Phase Timings

Phase Name	Description	Phase	Green Period 1		
			Total Green	Start Time	End Time
A	Ermine Street S (Entry) Ahead Right	Traffic	71	8	79
B	Ermine Street N (Entry) Left Ahead	Traffic	47	8	55
C	Site Access (Entry) Right Left	Traffic	9	87	0
D	Site Access (Entry) Left Filter	Filter	24	63	87

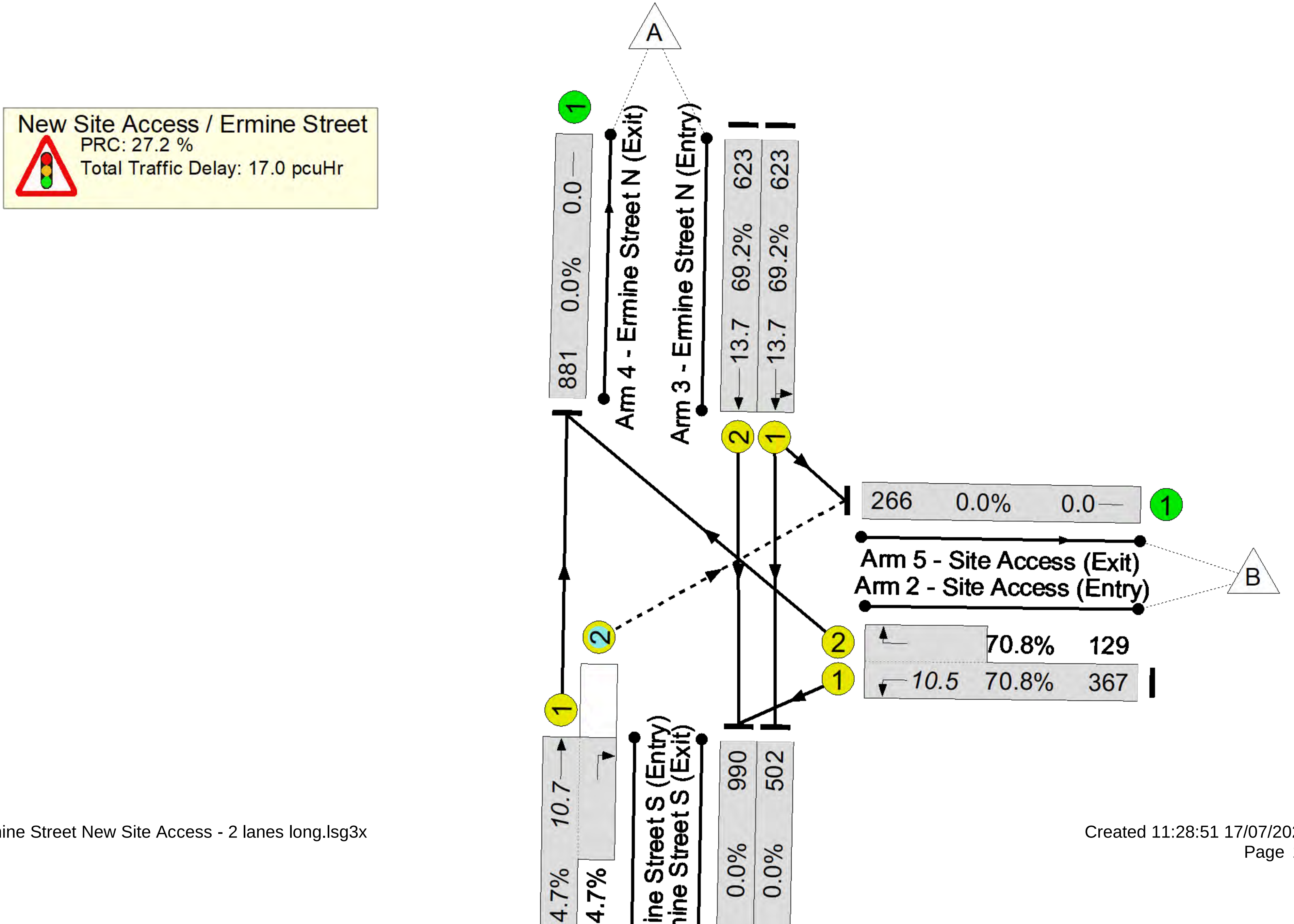
Signal Timings Diagram



Lane Green Times

Junction: New Site Access / Ermine Street					
Lane	**Description**	**Type**	**Phases**	**Start Green**	**End Green**
1/1	Ermine Street S (Entry) Ahead	U	A	8	79
1/2	Ermine Street S (Entry) Right	O	A	8	79
2/1	Site Access (Entry) Left	U	C D	63	0
2/2	Site Access (Entry) Right	U	C	87	0
3/1	Ermine Street N (Entry) Left Ahead	U	B	8	55
3/2	Ermine Street N (Entry) Ahead	U	B	8	55

Network Layout Diagram


New Site Access / Ermine Street
PRC: 27.2 %
Total Traffic Delay: 17.0 pcuHr
A
B
Arm 4 - Ermine Street N (Exit)
Arm 3 - Ermine Street N (Entry)
Arm 5 - Site Access (Exit)
Arm 2 - Site Access (Entry)
881 0.0% 0.0
13.7 69.2% 623
13.7 69.2% 623
266 0.0% 0.0
70.8% 129
10.5 70.8% 367
10.7
4.7%
4.7%
990 0.0%
502 0.0%

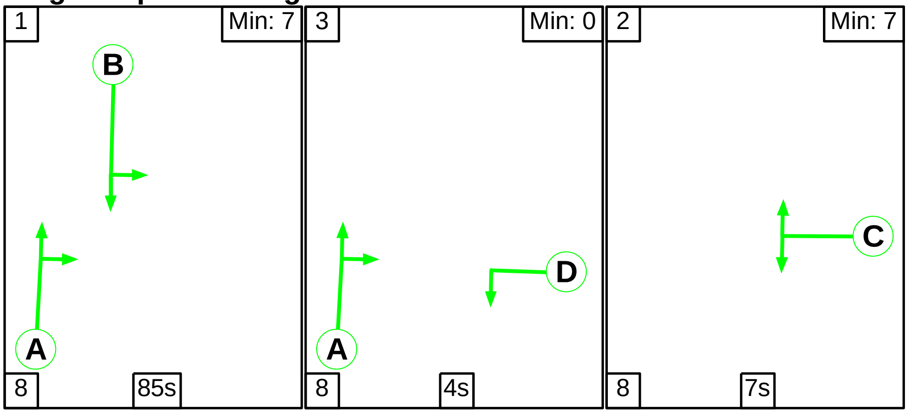
Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Bonus Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**70.8%**
New Site Access / Ermine Street	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**70.8%**
1/1+1/2	Ermine Street S (Entry) Ahead Right	U+O	N/A	N/A	A		1	71	-	-	897	1800:1800	1162+224	64.7 : 64.7%
2/1+2/2	Site Access (Entry) Right Left	U	N/A	N/A	C	D	1	33:9	24	-	496	1800:1800	518+182	70.8 : 70.8%
3/1	Ermine Street N (Entry) Left Ahead	U	N/A	N/A	B		1	47	-	-	623	1800	900	69.2%
3/2	Ermine Street N (Entry) Ahead	U	N/A	N/A	B		1	47	-	-	623	1800	900	69.2%
4/1	Ermine Street N (Exit)	U	N/A	N/A	-		-	-	-	-	881	Inf	Inf	0.0%
5/1	Site Access (Exit)	U	N/A	N/A	-		-	-	-	-	266	Inf	Inf	0.0%
6/1	Ermine Street S (Exit)	U	N/A	N/A	-		-	-	-	-	502	Inf	Inf	0.0%
6/2	Ermine Street S (Exit)	U	N/A	N/A	-		-	-	-	-	990	Inf	Inf	0.0%

Detailed Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	
Network	**-**	**-**	**19**	**122**	**5**	**11.7**	**4.3**	**0.9**	**17.0**	**-**	**-**	**-**	**-**	
New Site Access / Ermine Street	**-**	**-**	**19**	**122**	**5**	**11.7**	**4.3**	**0.9**	**17.0**	**-**	**-**	**-**	**-**	
1/1+1/2	897	897	19	122	5	1.3	0.9	0.9	3.1	12.4	9.8	0.9	10.7	
2/1+2/2	496	496	-	-	-	4.1	1.2	-	5.3	38.3	9.3	1.2	10.5	
3/1	623	623	-	-	-	3.2	1.1	-	4.3	24.8	12.6	1.1	13.7	
3/2	623	623	-	-	-	3.2	1.1	-	4.3	24.8	12.6	1.1	13.7	
4/1	881	881	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
5/1	266	266	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
6/1	502	502	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
6/2	990	990	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	

C1 PRC for Signalled Lanes (%): 27.2 Total Delay for Signalled Lanes (pcuHr): 16.95 Cycle Time (s): 96
PRC Over All Lanes (%): 27.2 Total Delay Over All Lanes(pcuHr): 16.95

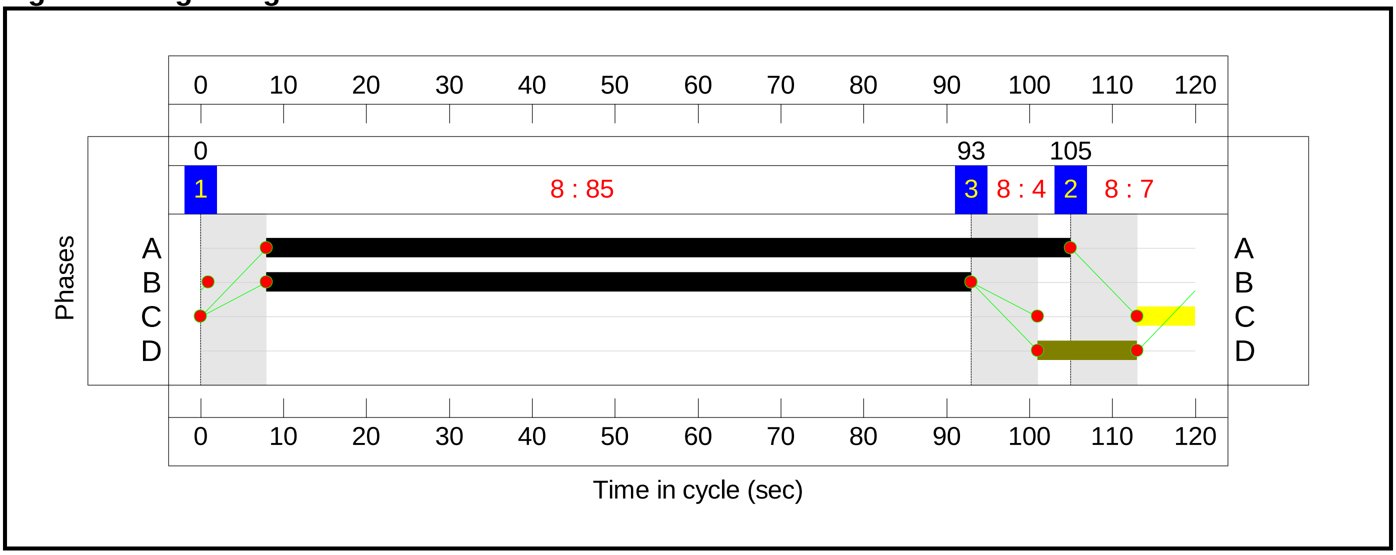
Scenario 2: 'PM Peak Hour' (FG2: 'PM Peak Hour', Plan 1: 'Network Control Plan 1')
Stage Sequence Diagram


Stage Timings

Stage	1	3	2
Duration	85	4	7
Change Point	0	93	105

Phase Timings

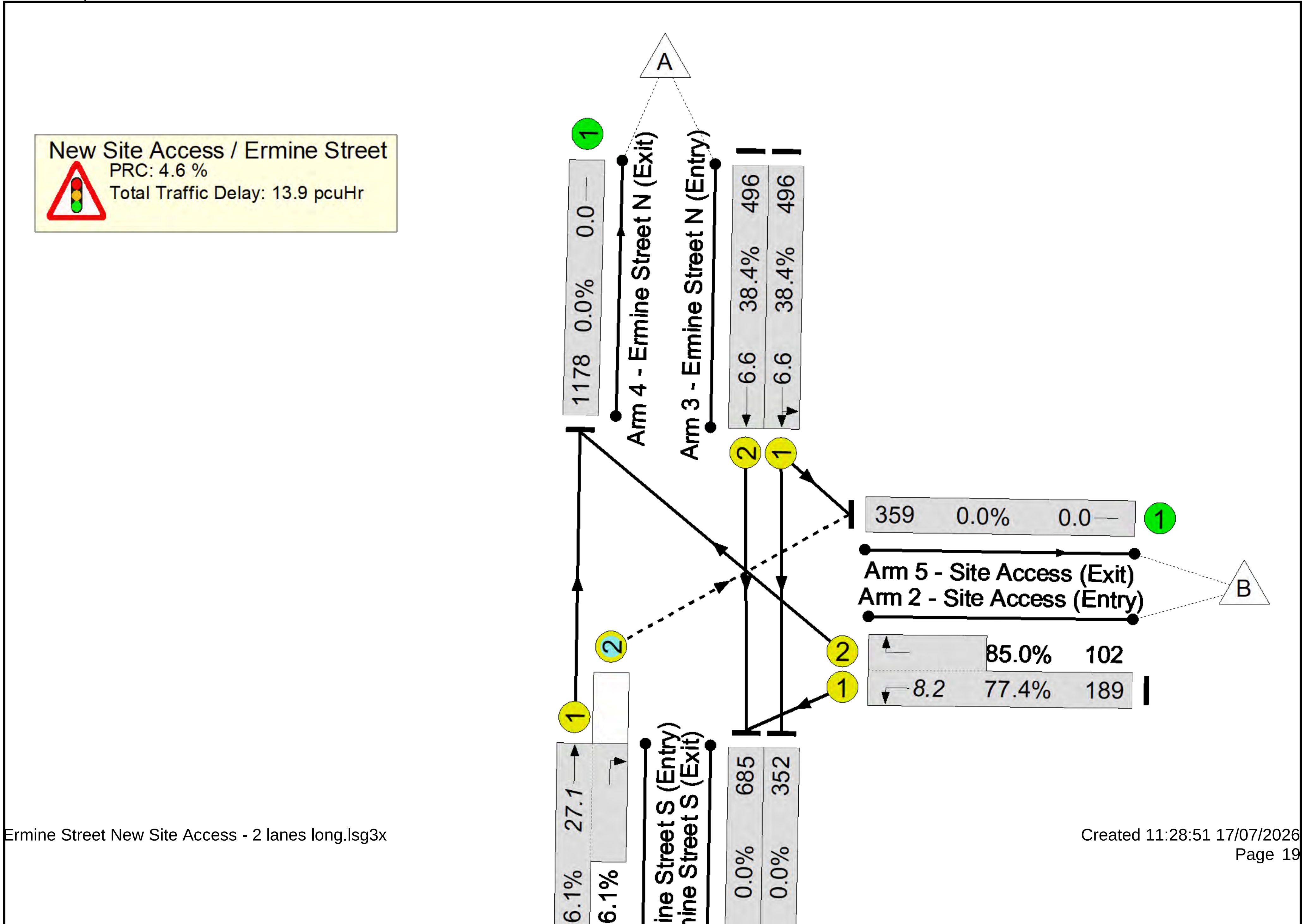
Phase Name	Description	Phase	Green Period 1		
			Total Green	Start Time	End Time
A	Ermine Street S (Entry) Ahead Right	Traffic	97	8	105
B	Ermine Street N (Entry) Left Ahead	Traffic	85	8	93
C	Site Access (Entry) Right Left	Traffic	7	113	0
D	Site Access (Entry) Left Filter	Filter	12	101	113

Signal Timings Diagram


Lane Green Times

Junction: New Site Access / Ermine Street					
Lane	**Description**	**Type**	**Phases**	**Start Green**	**End Green**
1/1	Ermine Street S (Entry) Ahead	U	A	8	105
1/2	Ermine Street S (Entry) Right	O	A	8	105
2/1	Site Access (Entry) Left	U	C D	101	0
2/2	Site Access (Entry) Right	U	C	113	0
3/1	Ermine Street N (Entry) Left Ahead	U	B	8	93
3/2	Ermine Street N (Entry) Ahead	U	B	8	93

Network Layout Diagram


New Site Access / Ermine Street
PRC: 4.6 %
Total Traffic Delay: 13.9 pcuHr
A
B
Arm 4 - Ermine Street N (Exit)
Arm 3 - Ermine Street N (Entry)
Arm 5 - Site Access (Exit)
Arm 2 - Site Access (Entry)
1178 0.0% 0.0
6.6 38.4% 496
6.6 38.4% 496
359 0.0% 0.0
85.0% 102
8.2 77.4% 189
27.1
6.1%
6.1%
685 0.0%
352 0.0%
1
2
1
2
1
1
2
1
2
1

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Bonus Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**86.1%**
New Site Access / Ermine Street	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**86.1%**
1/1+1/2	Ermine Street S (Entry) Ahead Right	U+O	N/A	N/A	A		1	97	-	-	1291	1800:1800	1250+250	86.1 : 86.1%
2/1+2/2	Site Access (Entry) Right Left	U	N/A	N/A	C	D	1	19:7	12	-	291	1800:1800	244+120	77.4 : 85.0%
3/1	Ermine Street N (Entry) Left Ahead	U	N/A	N/A	B		1	85	-	-	496	1800	1290	38.4%
3/2	Ermine Street N (Entry) Ahead	U	N/A	N/A	B		1	85	-	-	496	1800	1290	38.4%
4/1	Ermine Street N (Exit)	U	N/A	N/A	-		-	-	-	-	1178	Inf	Inf	0.0%
5/1	Site Access (Exit)	U	N/A	N/A	-		-	-	-	-	359	Inf	Inf	0.0%
6/1	Ermine Street S (Exit)	U	N/A	N/A	-		-	-	-	-	352	Inf	Inf	0.0%
6/2	Ermine Street S (Exit)	U	N/A	N/A	-		-	-	-	-	685	Inf	Inf	0.0%

Detailed Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	
Network	**-**	**-**	**192**	**18**	**5**	**8.0**	**5.5**	**0.4**	**13.9**	**-**	**-**	**-**	**-**	
New Site Access / Ermine Street	**-**	**-**	**192**	**18**	**5**	**8.0**	**5.5**	**0.4**	**13.9**	**-**	**-**	**-**	**-**	
1/1+1/2	1291	1291	192	18	5	2.1	3.0	0.4	5.5	15.4	24.1	3.0	27.1	
2/1+2/2	291	291	-	-	-	4.0	1.9	-	5.9	73.1	6.4	1.9	8.2	
3/1	496	496	-	-	-	0.9	0.3	-	1.2	8.9	6.3	0.3	6.6	
3/2	496	496	-	-	-	0.9	0.3	-	1.2	8.9	6.3	0.3	6.6	
4/1	1178	1178	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
5/1	359	359	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
6/1	352	352	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
6/2	685	685	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	

C1 PRC for Signalled Lanes (%): 4.6 Total Delay for Signalled Lanes (pcuHr): 13.89 Cycle Time (s): 120
PRC Over All Lanes (%): 4.6 Total Delay Over All Lanes(pcuHr): 13.89

Junctions 11

ARCADY 11 - Roundabout Module

Version: 11.0.0.2177

For sales and distribution information, program advice and maintenance, contact TRL Software:
+44 (0)1344 379777 software@trl.co.uk trlsoftware.com

Filename: 16 and 17 (with site access, mitigation).j11
Path: C:\Users\Duncan.Lawrence\OneDrive - Arup\307292-00 CAMBOURNE - LOP AND LOCAL PLAN - 03. Transport\Junction Modelling\DS3a\16 and 17\Models
Report generation date: 17/07/2026 11:42:05

»2046 | New Site Access Arm and With Mitigation | AM
»2046 | New Site Access Arm and With Mitigation | PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	2046 - New Site Access Arm and With Mitigation									
1 - North (Cambourne Road / St Neots Road / A428 Slips) - 1 - Cambourne Road (S)	D1	1.5	3.68	0.60	A	D2	2.0	4.33	0.66	A
1 - North (Cambourne Road / St Neots Road / A428 Slips) - 2 - A428 EB Off-Slip		4.1	20.55	0.81	C		1.5	10.76	0.60	B
1 - North (Cambourne Road / St Neots Road / A428 Slips) - 3 - St Neots Road (W)		0.2	5.07	0.16	A		0.1	5.41	0.13	A
1 - North (Cambourne Road / St Neots Road / A428 Slips) - 4 - Site Access		1.6	6.08	0.62	A		0.5	2.97	0.32	A
1 - North (Cambourne Road / St Neots Road / A428 Slips) - 5 - St Neots Road (E)		1.5	10.04	0.59	B		1.1	6.35	0.51	A
2 - South (Cambourne Road / A428 Slips) - 1 - Cambourne Road (N)		0.6	2.42	0.37	A		0.5	2.25	0.32	A
2 - South (Cambourne Road / A428 Slips) - 2 - A428 WB Off-Slip		1.0	4.09	0.50	A		4.7	11.52	0.83	B
2 - South (Cambourne Road / A428 Slips) - 3 - Cambourne Road (S)		3.0	7.74	0.75	A		3.7	10.64	0.79	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	
Location	
Site number	
Date	09/06/2026
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\Duncan.Lawrence
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

Flows show original traffic demand (Veh/hr)

The junction diagram reflects the last run of Junctions.

Analysis Options

5.75						0.85	36.00	20.00		

Demand Set Summary

	2046	New Site Access Arm and With Mitigation	AM	ONE HOUR	07:45	09:15	15	✓
	2046	New Site Access Arm and With Mitigation	PM	ONE HOUR	16:45	18:15	15	✓

Analysis Set Details

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

2046 | New Site Access Arm and With Mitigation | AM

Data Errors and Warnings

Warning	Geometry	1 - North (Cambourne Road / St Neots Road / A428 Slips) - 5 - St Neots Road (E) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	1 - North (Cambourne Road / St Neots Road / A428 Slips) - 1 - Cambourne Road (S)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked Roundabout	2 - South (Cambourne Road / A428 Slips) - 1 - Cambourne Road (N)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.

Junction Network

Junctions

	North (Cambourne Road / St Neots Road / A428 Slips)	Standard Roundabout		1, 2, 3, 4, 5, 6		
	South (Cambourne Road / A428 Slips)	Standard Roundabout		1, 2, 3, 4		

Junction Network

Left	Normal/unknown		

Arms

Arms

Junction	Arm	Name	Description	No give-way line
1 - North (Cambourne Road / St Neots Road / A428 Slips)	1	Cambourne Road (S)		
	2	A428 EB Off-Slip		
	3	St Neots Road (W)		
	4	Site Access		
	5	St Neots Road (E)		
	6	A428 EB On-Slip		
2 - South (Cambourne Road / A428 Slips)	1	Cambourne Road (N)		
	2	A428 WB Off-Slip		
	3	Cambourne Road (S)		
	4	A428 WB On-Slip		

Roundabout Geometry

Junction	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)	Entry only	Exit only
1 - North (Cambourne Road / St Neots Road / A428 Slips)	1 - Cambourne Road (S)	8.10	8.90	6.5	18.0	68.6	41.0		
	2 - A428 EB Off-Slip	3.80	8.00	13.0	18.0	68.6	42.0	✓	
	3 - St Neots Road (W)	3.30	9.25	11.4	24.0	68.6	37.0		
	4 - Site Access	7.00	10.00	10.0	20.0	68.6	42.0		
	5 - St Neots Road (E)	3.60	8.85	32.5	20.0	68.6	66.0		
	6 - A428 EB On-Slip								✓
2 - South (Cambourne Road / A428 Slips)	1 - Cambourne Road (N)	6.80	8.85	12.1	30.0	53.6	43.0		
	2 - A428 WB Off-Slip	6.40	11.00	15.0	17.8	53.6	58.0	✓	
	3 - Cambourne Road (S)	7.20	10.10	7.5	18.4	53.6	55.0		
	4 - A428 WB On-Slip								✓

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Junction	Arm	Final slope	Final intercept (PCU/hr)
1 - North (Cambourne Road / St Neots Road / A428 Slips)	1 - Cambourne Road (S)	0.631	2514
	2 - A428 EB Off-Slip	0.499	1692
	3 - St Neots Road (W)	0.500	1648
	4 - Site Access	0.626	2477
	5 - St Neots Road (E)	0.509	1872
	6 - A428 EB On-Slip		
	1 - Cambourne Road (N)	0.711	
	2 - A428 WB Off-Slip	0.686	2370
	3 - Cambourne Road (S)	0.684	2340
	4 - A428 WB On-Slip		

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

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2046	New Site Access Arm and With Mitigation	AM	ONE HOUR	07:45	09:15	15	✓

Linked Arm Data

		2	1	Simple (vertical queueing)	Normal	0	100.00	
		1	1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - North (Cambourne Road / St Neots Road / A428 Slips)	1 - Cambourne Road (S)	✓				
	2 - A428 EB Off-Slip		ONE HOUR	✓	669	100.000
	3 - St Neots Road (W)		ONE HOUR	✓	119	100.000
	4 - Site Access		ONE HOUR	✓	870	100.000
	5 - St Neots Road (E)		ONE HOUR	✓	475	100.000
	6 - A428 EB On-Slip					
	1 - Cambourne Road (N)	✓				
	2 - A428 WB Off-Slip		ONE HOUR	✓	785	100.000
	3 - Cambourne Road (S)		ONE HOUR	✓	1259	100.000
	4 - A428 WB On-Slip					

Origin-Destination Data

1 - North (Cambourne Road / St Neots Road / A428 Slips)

Demand (Veh/hr)

		To					
		1 - Cambourne Road (S)	2 - A428 EB Off-Slip	3 - St Neots Road (W)	4 - Site Access	5 - St Neots Road (E)	6 - A428 EB On-Slip
From	1 - Cambourne Road (S)	0	0	342	90	147	741
	2 - A428 EB Off-Slip	71	0	205	120	273	0
	3 - St Neots Road (W)	20	0	0	18	13	68
	4 - Site Access	303	0	54	0	41	472
	5 - St Neots Road (E)	395	0	11	10	0	59
	6 - A428 EB On-Slip	0	0	0	0	0	0

2 - South (Cambourne Road / A428 Slips)

Demand (Veh/hr)

		To			
		1 - Cambourne Road (N)	2 - A428 WB Off-Slip	3 - Cambourne Road (S)	4 - A428 WB On-Slip
From	1 - Cambourne Road (N)	0	0	442	347
	2 - A428 WB Off-Slip	266	0	519	0
	3 - Cambourne Road (S)	1053	0	15	191
	4 - A428 WB On-Slip	0	0	0	0

Vehicle Mix

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

1 - North (Cambourne Road / St Neots Road / A428 Slips)

Heavy Vehicle %

		To					
		1 - Cambourne Road (S)	2 - A428 EB Off-Slip	3 - St Neots Road (W)	4 - Site Access	5 - St Neots Road (E)	6 - A428 EB On-Slip
From	1 - Cambourne Road (S)	0	0	1	0	0	2
	2 - A428 EB Off-Slip	0	0	2	2	0	0
	3 - St Neots Road (W)	0	0	0	0	0	0
	4 - Site Access	0	0	0	0	2	0
	5 - St Neots Road (E)	2	0	0	0	0	0
	6 - A428 EB On-Slip	0	0	0	0	0	0

2 - South (Cambourne Road / A428 Slips)

Heavy Vehicle %

		To			
		1 - Cambourne Road (N)	2 - A428 WB Off-Slip	3 - Cambourne Road (S)	4 - A428 WB On-Slip
From	1 - Cambourne Road (N)	0	0	0	2
	2 - A428 WB Off-Slip	2	0	0	0
	3 - Cambourne Road (S)	1	0	0	1
	4 - A428 WB On-Slip	0	0	0	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - North (Cambourne Road / St Neots Road / A428 Slips)	1 - Cambourne Road (S)	0.60	3.68	1.5	A	1224	1836
	2 - A428 EB Off-Slip	0.81	20.55	4.1	C	620	930
	3 - St Neots Road (W)	0.16	5.07	0.2	A	109	164
	4 - Site Access	0.62	6.08	1.6	A	799	1199
	5 - St Neots Road (E)	0.59	10.04	1.5	B	443	665
	6 - A428 EB On-Slip						
2 - South (Cambourne Road / A428 Slips)	1 - Cambourne Road (N)	0.37	2.42	0.6	A	731	1096
	2 - A428 WB Off-Slip	0.50	4.09	1.0	A	725	1088
	3 - Cambourne Road (S)	0.75	7.74	3.0	A	1167	1750
	4 - A428 WB On-Slip						

Main Results for each time segment

07:45 - 08:00

Junction	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
1 - North (Cambourne Road / St Neots Road / A428 Slips)	1 - Cambourne Road (S)	1001	250	56	2478	0.404	999	597	0.0	0.7	2.463	A
	2 - A428 EB Off-Slip	509	127	1055	1166	0.436	505	0	0.0	0.8	5.482	A
	3 - St Neots Road (W)	90	22	1097	1100	0.081	89	463	0.0	0.1	3.563	A
	4 - Site Access	656	164	1007	1847	0.355	653	180	0.0	0.5	3.013	A
	5 - St Neots Road (E)	364	91	1305	1208	0.301	362	355	0.0	0.4	4.318	A
	6 - A428 EB On-Slip			654				1013				
2 - South (Cambourne Road / A428 Slips)	1 - Cambourne Road (N)	597	149	11	2384	0.251	596	1001	0.0	0.3	2.031	A
	2 - A428 WB Off-Slip	595	149	607	1953	0.305	593	0	0.0	0.4	2.661	A
	3 - Cambourne Road (S)	957	239	469	2019	0.474	954	732	0.0	0.9	3.401	A
	4 - A428 WB On-Slip			1013				410				

08:00 - 08:15

Junction	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
1 - North (Cambourne Road / St Neots Road / A428 Slips)	1 - Cambourne Road (S)	1198	300	67	2471	0.485	1197	715	0.7	0.9	2.861	A
	2 - A428 EB Off-Slip	607	152	1264	1061	0.572	605	0	0.8	1.3	7.934	A
	3 - St Neots Road (W)	107	27	1315	991	0.108	107	555	0.1	0.1	4.071	A
	4 - Site Access	783	196	1206	1722	0.455	782	215	0.5	0.8	3.825	A
	5 - St Neots Road (E)	434	109	1563	1076	0.403	433	425	0.4	0.7	5.681	A
	6 - A428 EB On-Slip			782				1214				
2 - South (Cambourne Road / A428 Slips)	1 - Cambourne Road (N)	715	179	13	2382	0.300	715	1198	0.3	0.4	2.178	A
	2 - A428 WB Off-Slip	710	178	728	1870	0.380	710	0	0.4	0.6	3.121	A
	3 - Cambourne Road (S)	1143	286	561	1956	0.584	1141	876	0.9	1.4	4.451	A
	4 - A428 WB On-Slip			1212				491				

08:15 - 08:30

Junction	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
1 - North (Cambourne Road / St Neots Road / A428 Slips)	1 - Cambourne Road (S)	1464	366	82	2462	0.595	1462	873	0.9	1.5	3.643	A
	2 - A428 EB Off-Slip	744	186	1544	921	0.807	734	0	1.3	3.8	18.487	C
	3 - St Neots Road (W)	131	33	1602	847	0.155	131	676	0.1	0.2	5.023	A
	4 - Site Access	959	240	1471	1557	0.616	956	262	0.8	1.6	5.965	A
	5 - St Neots Road (E)	532	133	1909	900	0.591	529	517	0.7	1.4	9.780	A
	6 - A428 EB On-Slip			955				1483				
2 - South (Cambourne Road / A428 Slips)	1 - Cambourne Road (N)	873	218	16	2380	0.367	872	1464	0.4	0.6	2.407	A
	2 - A428 WB Off-Slip	870	218	889	1760	0.494	869	0	0.6	1.0	4.058	A
	3 - Cambourne Road (S)	1400	350	686	1871	0.748	1394	1071	1.4	2.9	7.532	A
	4 - A428 WB On-Slip			1481				599				

08:30 - 08:45

Junction	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
1 - North (Cambourne Road / St Neots Road / A428 Slips)	1 - Cambourne Road (S)	1470	367	83	2462	0.597	1469	877	1.5	1.5	3.678	A
	2 - A428 EB Off-Slip	744	186	1552	917	0.811	743	0	3.8	4.1	20.555	C
	3 - St Neots Road (W)	131	33	1614	841	0.156	131	681	0.2	0.2	5.066	A
	4 - Site Access	959	240	1481	1551	0.618	959	264	1.6	1.6	6.083	A
	5 - St Neots Road (E)	532	133	1918	896	0.594	532	522	1.4	1.5	10.039	B
	6 - A428 EB On-Slip			960				1489				
	1 - Cambourne Road (N)	877	219	17	2380	0.369	877	1470	0.6	0.6	2.416	A
	2 - A428 WB Off-Slip	870	218	894	1757	0.495	870	0	1.0	1.0	4.087	A
	3 - Cambourne Road (S)	1400	350	689	1869	0.749	1400	1075	2.9	3.0	7.742	A
	4 - A428 WB On-Slip							602				

08:45 - 09:00

Junction	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
1 - North (Cambourne Road / St Neots Road / A428 Slips)	1 - Cambourne Road (S)	1206	301	68	2471	0.488	1208	721	1.5	1.0	2.895	A
	2 - A428 EB Off-Slip	607	152	1275	1055	0.575	618	0	4.1	1.4	8.503	A
	3 - St Neots Road (W)	107	27	1332	983	0.109	107	562	0.2	0.1	4.113	A
	4 - Site Access	783	196	1220	1714	0.457	786	218	1.6	0.8	3.897	A
	5 - St Neots Road (E)	434	109	1574	1071	0.406	437	432	1.5	0.7	5.807	A
	6 - A428 EB On-Slip			789				1223				
2 - South (Cambourne Road / A428 Slips)	1 - Cambourne Road (N)	721	180	14	2382	0.303	722	1206	0.6	0.4	2.189	A
	2 - A428 WB Off-Slip	710	178	735	1865	0.381	712	0	1.0	0.6	3.145	A
	3 - Cambourne Road (S)	1143	286	565	1953	0.585	1149	882	3.0	1.4	4.556	A
	4 - A428 WB On-Slip			1219				495				

09:00 - 09:15

Junction	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)	
1 - North (Cambourne Road / St Neots Road / A428 Slips)	1 - Cambourne Road (S)	1007	252	57	2478	0.406	1008	601	1.0	0.7	2.486	A
	2 - A428 EB Off-Slip	509	127	1065	1161	0.438	511	0	1.4	0.8	5.616	A
	3 - St Neots Road (W)	90	22	1108	1094	0.082	90	467	0.1	0.1	3.583	A
	4 - Site Access	656	164	1016	1841	0.356	657	181	0.8	0.6	3.046	A
	5 - St Neots Road (E)	364	91	1315	1203	0.302	365	359	0.7	0.4	4.371	A
	6 - A428 EB On-Slip			658				1021				
	1 - Cambourne Road (N)	601	150	11	2384	0.252	602	1007	0.4	0.3	2.040	
	2 - A428 WB Off-Slip	595	149	613	1949	0.305	596	0	0.6	0.4	2.678	A
	3 - Cambourne Road (S)	957	239	472	2017	0.475	959	737	1.4	0.9	3.446	A
	4 - A428 WB On-Slip							413				

2046 | New Site Access Arm and With Mitigation | PM

Data Errors and Warnings

Warning	Geometry	1 - North (Cambourne Road / St Neots Road / A428 Slips) - 5 - St Neots Road (E) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	1 - North (Cambourne Road / St Neots Road / A428 Slips) - 1 - Cambourne Road (S)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked Roundabout	2 - South (Cambourne Road / A428 Slips) - 1 - Cambourne Road (N)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.

Junction Network

Junctions

	North (Cambourne Road / St Neots Road / A428 Slips)	Standard Roundabout		1, 2, 3, 4, 5, 6		
	South (Cambourne Road / A428 Slips)	Standard Roundabout		1, 2, 3, 4		

Junction Network

Left	Normal/unknown		

Traffic Demand

Demand Set Details

	2046	New Site Access Arm and With Mitigation	PM	ONE HOUR	16:45	18:15	15	✓

Linked Arm Data

		2	1	Simple (vertical queueing)	Normal	0	100.00	
		1	1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - North (Cambourne Road / St Neots Road / A428 Slips)	1 - Cambourne Road (S)	✓				
	2 - A428 EB Off-Slip		ONE HOUR	✓	460	100.000
	3 - St Neots Road (W)		ONE HOUR	✓	89	100.000
	4 - Site Access		ONE HOUR	✓	511	100.000
	5 - St Neots Road (E)		ONE HOUR	✓	545	100.000
	6 - A428 EB On-Slip					
	1 - Cambourne Road (N)	✓				
	2 - A428 WB Off-Slip		ONE HOUR	✓	1382	100.000
	3 - Cambourne Road (S)		ONE HOUR	✓	1163	100.000
	4 - A428 WB On-Slip					

Origin-Destination Data

1 - North (Cambourne Road / St Neots Road / A428 Slips)

Demand (Veh/hr)

		To					
		1 - Cambourne Road (S)	2 - A428 EB Off-Slip	3 - St Neots Road (W)	4 - Site Access	5 - St Neots Road (E)	6 - A428 EB On-Slip
From	1 - Cambourne Road (S)	0	0	309	448	146	576
	2 - A428 EB Off-Slip	111	0	65	155	129	0
	3 - St Neots Road (W)	15	0	0	38	3	33
	4 - Site Access	192	0	9	0	17	293
	5 - St Neots Road (E)	379	0	8	37	0	121
	6 - A428 EB On-Slip	0	0	0	0	0	0

2 - South (Cambourne Road / A428 Slips)

Demand (Veh/hr)

		To			
		1 - Cambourne Road (N)	2 - A428 WB Off-Slip	3 - Cambourne Road (S)	4 - A428 WB On-Slip
From	1 - Cambourne Road (N)	0	0	347	350
	2 - A428 WB Off-Slip	585	0	797	0
	3 - Cambourne Road (S)	896	0	12	255
	4 - A428 WB On-Slip	0	0	0	0

Vehicle Mix

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

1 - North (Cambourne Road / St Neots Road / A428 Slips)

Heavy Vehicle %

	0	0	1	0	1	1
	0	0	3	0	0	0
	0	0	0	0	0	0
	0	0	0	0	0	0
	1	0	0	0	0	2
	0	0	0	0	0	0

2 - South (Cambourne Road / A428 Slips)

Heavy Vehicle %

	0	0	0	1
	0	0	0	0
	1	0	0	1
	0	0	0	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - North (Cambourne Road / St Neots Road / A428 Slips)	1 - Cambourne Road (S)	0.66	4.33	2.0	A	1366	2050
	2 - A428 EB Off-Slip	0.60	10.76	1.5	B	424	636
	3 - St Neots Road (W)	0.13	5.41	0.1	A	82	123
	4 - Site Access	0.32	2.97	0.5	A	469	703
	5 - St Neots Road (E)	0.51	6.35	1.1	A	506	759
	6 - A428 EB On-Slip						
2 - South (Cambourne Road / A428 Slips)	1 - Cambourne Road (N)	0.32	2.25	0.5	A	643	964
	2 - A428 WB Off-Slip	0.83	11.52	4.7	B	1268	1902
	3 - Cambourne Road (S)	0.79	10.64	3.7	B	1078	1617
	4 - A428 WB On-Slip						

Main Results for each time segment

16:45 - 17:00

Junction	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
1 - North (Cambourne Road / St Neots Road / A428 Slips)	1 - Cambourne Road (S)	1117	279	40	2488	0.449	1114	526	0.0	0.8	2.631	A
	2 - A428 EB Off-Slip	348	87	1154	1116	0.312	346	0	0.0	0.5	4.685	A
	3 - St Neots Road (W)	67	17	1204	1046	0.064	67	296	0.0	0.1	3.674	A
	4 - Site Access	385	96	763	2000	0.192	384	507	0.0	0.2	2.227	A
	5 - St Neots Road (E)	415	104	925	1401	0.296	413	222	0.0	0.4	3.679	A
	6 - A428 EB On-Slip			566				772				
2 - South (Cambourne Road / A428 Slips)	1 - Cambourne Road (N)	526	131	9	2385	0.220	524	1117	0.0	0.3	1.943	A
	2 - A428 WB Off-Slip	1040	260	533	2004	0.519	1036	0	0.0	1.1	3.703	A
	3 - Cambourne Road (S)	884	221	703	1859	0.476	881	866	0.0	0.9	3.703	A
	4 - A428 WB On-Slip			1126				458				

17:00 - 17:15

Junction	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)	
1 - North (Cambourne Road / St Neots Road / A428 Slips)	1 - Cambourne Road (S)	1336	334	48	2483	0.538	1335	629	0.8	1.2	3.153	A
	2 - A428 EB Off-Slip	415	104	1384	1001	0.415	414	0	0.5	0.7	6.147	A
	3 - St Neots Road (W)	80	20	1443	927	0.086	80	355	0.1	0.1	4.249	A
	4 - Site Access	459	115	915	1905	0.241	459	608	0.2	0.3	2.489	A
	5 - St Neots Road (E)	496	124	1108	1308	0.379	495	266	0.4	0.6	4.473	A
	6 - A428 EB On-Slip			678				925				
	1 - Cambourne Road (N)	629	157	11	2384	0.264	629	1336	0.3	0.4	2.061	
	2 - A428 WB Off-Slip	1242	311	640	1931	0.643	1240	0	1.1	1.8	5.185	A
	3 - Cambourne Road (S)	1056	264	842	1764	0.599	1054	1037	0.9	1.5	5.102	A
	4 - A428 WB On-Slip							548				

17:15 - 17:30

Junction	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
1 - North (Cambourne Road / St Neots Road / A428 Slips)	1 - Cambourne Road (S)	1629	407	59	2476	0.658	1626	769	1.2	1.9	4.249	A
	2 - A428 EB Off-Slip	509	127	1686	851	0.598	506	0	0.7	1.5	10.388	B
	3 - St Neots Road (W)	98	24	1758	769	0.127	98	433	0.1	0.1	5.359	A
	4 - Site Access	563	141	1115	1780	0.316	562	741	0.3	0.5	2.955	A
	5 - St Neots Road (E)	607	152	1353	1183	0.513	605	324	0.6	1.0	6.278	A
	6 - A428 EB On-Slip			829				1129				
2 - South (Cambourne Road / A428 Slips)	1 - Cambourne Road (N)	769	192	13	2382	0.323	769	1629	0.4	0.5	2.242	A
	2 - A428 WB Off-Slip	1522	380	782	1833	0.830	1510	0	1.8	4.6	10.791	B
	3 - Cambourne Road (S)	1293	323	1027	1637	0.790	1285	1265	1.5	3.6	10.079	B
	4 - A428 WB On-Slip			1642				670				

17:30 - 17:45

Junction	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
1 - North (Cambourne Road / St Neots Road / A428 Slips)	1 - Cambourne Road (S)	1640	410	59	2476	0.662	1640	772	1.9	2.0	4.332	A
	2 - A428 EB Off-Slip	509	127	1699	844	0.603	508	0	1.5	1.5	10.764	B
	3 - St Neots Road (W)	98	24	1772	763	0.128	98	436	0.1	0.1	5.414	A
	4 - Site Access	563	141	1123	1775	0.317	563	746	0.5	0.5	2.969	A
	5 - St Neots Road (E)	607	152	1359	1180	0.514	607	326	1.0	1.1	6.352	A
	6 - A428 EB On-Slip			831				1135				
2 - South (Cambourne Road / A428 Slips)	1 - Cambourne Road (N)	772	193	13	2382	0.324	771	1640	0.5	0.5	2.245	A
	2 - A428 WB Off-Slip	1522	380	785	1832	0.831	1521	0	4.6	4.7	11.524	B
	3 - Cambourne Road (S)	1293	323	1033	1633	0.792	1293	1273	3.6	3.7	10.638	B
	4 - A428 WB On-Slip			1653				673				

17:45 - 18:00

Junction	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
1 - North (Cambourne Road / St Neots Road / A428 Slips)	1 - Cambourne Road (S)	1351	338	49	2483	0.544	1354	632	2.0	1.2	3.219	A
	2 - A428 EB Off-Slip	415	104	1403	992	0.419	418	0	1.5	0.7	6.338	A
	3 - St Neots Road (W)	80	20	1461	918	0.087	80	360	0.1	0.1	4.300	A
	4 - Site Access	459	115	926	1898	0.242	460	615	0.5	0.3	2.506	A
	5 - St Neots Road (E)	496	124	1117	1303	0.380	497	269	1.1	0.6	4.528	A
	6 - A428 EB On-Slip			681				934				
2 - South (Cambourne Road / A428 Slips)	1 - Cambourne Road (N)	632	158	11	2384	0.265	633	1351	0.5	0.4	2.067	A
	2 - A428 WB Off-Slip	1242	311	644	1928	0.644	1254	0	4.7	1.8	5.427	A
	3 - Cambourne Road (S)	1056	264	850	1758	0.600	1065	1047	3.7	1.5	5.306	A
	4 - A428 WB On-Slip			1362				553				

18:00 - 18:15

Junction	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)	
1 - North (Cambourne Road / St Neots Road / A428 Slips)	1 - Cambourne Road (S)	1125	281	41	2488	0.452	1126	529	1.2	0.8	2.666	A
	2 - A428 EB Off-Slip	348	87	1167	1110	0.313	349	0	0.7	0.5	4.760	A
	3 - St Neots Road (W)	67	17	1217	1040	0.064	67	299	0.1	0.1	3.699	A
	4 - Site Access	385	96	771	1995	0.193	385	512	0.3	0.2	2.238	A
	5 - St Neots Road (E)	415	104	932	1398	0.297	416	224	0.6	0.4	3.710	A
	6 - A428 EB On-Slip			569				779				
	1 - Cambourne Road (N)	529	132	9	2385	0.222	529	1125	0.4	0.3	1.949	
	2 - A428 WB Off-Slip	1040	260	538	2001	0.520	1043	0	1.8	1.1	3.770	A
	3 - Cambourne Road (S)	884	221	709	1855	0.477	887	873	1.5	0.9	3.765	A
	4 - A428 WB On-Slip							461				

Junctions 11

ARCADY 11 - Roundabout Module

Filename: Off Knapwell High Street - roundabout.j11
Path: C:\Users\Duncan.Lawrence\OneDrive - Arup\307292-00 CAMBOURNE - LOP AND LOCAL PLAN - 03. Transport\Junction Modelling\DS3a\06
Report generation date: 17/07/2026 11:59:15

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	2046 - New Site Access									
1 - Site Access	D1	2.7	22.54	0.73	C	D2	1.4	14.59	0.59	B
2 - Knapwell High Street (N)		3.3	22.50	0.78	C		2.8	18.34	0.74	C
3 - Knapwell High Street (S)		2.5	7.36	0.71	A		2.8	7.83	0.74	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.

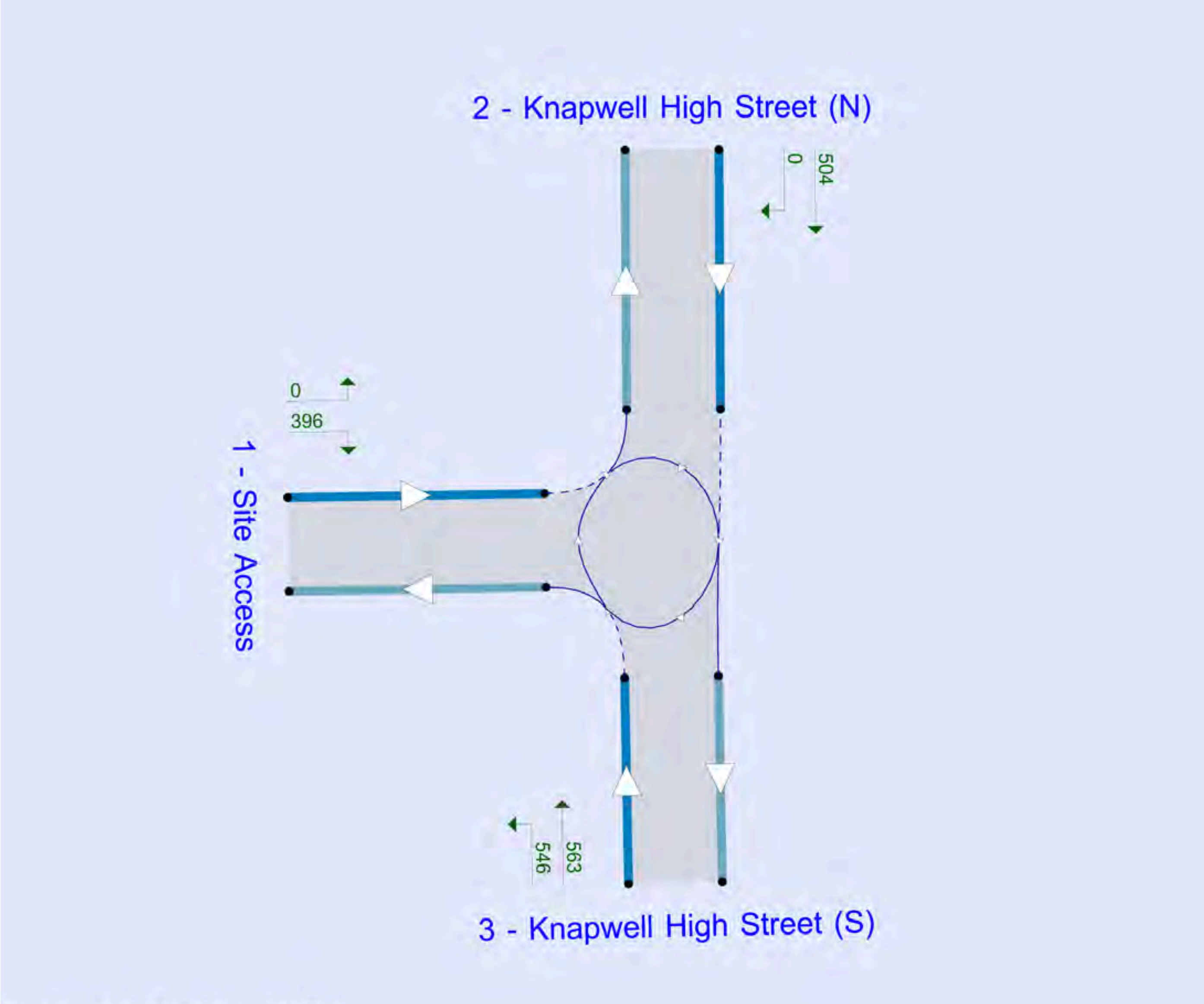
File summary

File Description

Title	
Location	
Site number	
Date	09/07/2026
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\Delano.Brown
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



Flows show original traffic demand (Veh/hr)

The junction diagram reflects the last run of Junctions.

Analysis Options

		0.85	36.00	20.00

Demand Set Summary

	2046	New Site Access	AM	ONE HOUR	07:45	09:15	15
	2046	New Site Access	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	
	100.000

2046 | New Site Access | AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3	14.14	B

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	14.14	B

Arms

Arms

Arm	Name	Description	No give-way line
1	Site Access		
2	Knapwell High Street (N)		
3	Knapwell High Street (S)		

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)	Entry only	Exit only
1 - Site Access	3.00	4.00	2.0	5.0	13.0	20.0		
2 - Knapwell High Street (N)	3.00	4.00	2.0	5.0	13.0	15.0		
3 - Knapwell High Street (S)	6.00	7.00	5.0	5.0	13.0	25.0		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - Site Access	0.468	911
2 - Knapwell High Street (N)	0.477	928
3 - Knapwell High Street (S)	0.635	1744

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

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2046	New Site Access	AM	ONE HOUR	07:45	09:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Site Access		✓	396	100.000
2 - Knapwell High Street (N)		✓	504	100.000
3 - Knapwell High Street (S)		✓	1109	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		1 - Site Access	2 - Knapwell High Street (N)	3 - Knapwell High Street (S)
From	1 - Site Access	0	0	396
	2 - Knapwell High Street (N)	0	0	504
	3 - Knapwell High Street (S)	546	563	0

Vehicle Mix

Heavy Vehicle %

		To		
		1 - Site Access	2 - Knapwell High Street (N)	3 - Knapwell High Street (S)
From	1 - Site Access	0	0	4
	2 - Knapwell High Street (N)	0	0	0
	3 - Knapwell High Street (S)	3	1	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1 - Site Access	0.73	22.54	2.7	C
2 - Knapwell High Street (N)	0.78	22.50	3.3	C
3 - Knapwell High Street (S)	0.71	7.36	2.5	A

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	310	426	711	0.436	307	0.8	9.188	A
2 - Knapwell High Street (N)	379	307	782	0.485	376	0.9	8.782	A
3 - Knapwell High Street (S)	851	0	1744	0.488	848	1.0	4.080	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	370	510	672	0.551	368	1.2	12.257	B
2 - Knapwell High Street (N)	453	368	753	0.602	451	1.5	11.837	B
3 - Knapwell High Street (S)	1017	0	1744	0.583	1015	1.4	5.026	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	453	624	619	0.733	448	2.6	21.224	C
2 - Knapwell High Street (N)	555	448	715	0.776	548	3.2	20.776	C
3 - Knapwell High Street (S)	1245	0	1744	0.714	1241	2.5	7.241	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	453	626	618	0.734	453	2.7	22.542	C
2 - Knapwell High Street (N)	555	453	712	0.779	554	3.3	22.505	C
3 - Knapwell High Street (S)	1245	0	1744	0.714	1245	2.5	7.359	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	370	513	671	0.552	376	1.3	12.938	B
2 - Knapwell High Street (N)	453	376	749	0.605	460	1.6	12.733	B
3 - Knapwell High Street (S)	1017	0	1744	0.583	1021	1.4	5.111	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	310	429	710	0.437	312	0.8	9.453	A
2 - Knapwell High Street (N)	379	312	780	0.487	382	1.0	9.104	A
3 - Knapwell High Street (S)	851	0	1744	0.488	853	1.0	4.133	A

2046 | New Site Access | PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3	11.61	B

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	11.61	B

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2046	New Site Access	PM	ONE HOUR	16:45	18:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Site Access		✓	328	100.000
2 - Knapwell High Street (N)		✓	510	100.000
3 - Knapwell High Street (S)		✓	1167	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		1 - Site Access	2 - Knapwell High Street (N)	3 - Knapwell High Street (S)
From	1 - Site Access	0	0	328
	2 - Knapwell High Street (N)	0	0	510
	3 - Knapwell High Street (S)	578	589	0

Vehicle Mix

Heavy Vehicle %

		To		
		1 - Site Access	2 - Knapwell High Street (N)	3 - Knapwell High Street (S)
From	1 - Site Access	0	0	0
	2 - Knapwell High Street (N)	0	0	0
	3 - Knapwell High Street (S)	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1 - Site Access	0.59	14.59	1.4	B
2 - Knapwell High Street (N)	0.74	18.34	2.8	C
3 - Knapwell High Street (S)	0.74	7.83	2.8	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	247	441	704	0.351	245	0.5	7.800	A
2 - Knapwell High Street (N)	384	245	812	0.473	380	0.9	8.281	A
3 - Knapwell High Street (S)	879	0	1744	0.504	875	1.0	4.123	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	295	529	664	0.444	294	0.8	9.711	A
2 - Knapwell High Street (N)	458	294	788	0.582	457	1.4	10.788	B
3 - Knapwell High Street (S)	1049	0	1744	0.602	1047	1.5	5.154	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	361	646	609	0.593	359	1.4	14.262	B
2 - Knapwell High Street (N)	562	359	757	0.741	556	2.7	17.435	C
3 - Knapwell High Street (S)	1285	0	1744	0.737	1280	2.7	7.682	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	361	648	607	0.595	361	1.4	14.589	B
2 - Knapwell High Street (N)	562	361	756	0.742	561	2.8	18.342	C
3 - Knapwell High Street (S)	1285	0	1744	0.737	1285	2.8	7.835	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	295	532	662	0.445	297	0.8	9.941	A
2 - Knapwell High Street (N)	458	297	787	0.583	464	1.4	11.325	B
3 - Knapwell High Street (S)	1049	0	1744	0.602	1054	1.5	5.255	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	247	444	703	0.351	248	0.5	7.933	A
2 - Knapwell High Street (N)	384	248	810	0.474	386	0.9	8.529	A
3 - Knapwell High Street (S)	879	0	1744	0.504	881	1.0	4.182	A

Junctions 11

PICADY 11 - Priority Intersection Module

Filename: St Neots Road - Knapwell High Street - Change priority.j11
Path: C:\Users\delano.brown\Arup\307292-00 CAMBOURNE - LOP AND LOCAL PLAN - Data and Documents Library\01. Stage 2\03. Transport\Junction Modelling\DS3a\09
Report generation date: 20/07/2026 13:48:45

»2046 | With Mitigation | AM
»2046 | With Mitigation | PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	2046 - With Mitigation									
Stream B-C	D1	0.9	17.23	0.46	C	D2	3.0	39.50	0.77	E
Stream B-A		1.6	46.96	0.62	E		4.6	88.57	0.86	F
Stream C-B		1.5	24.07	0.60	C		0.5	12.53	0.34	B

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

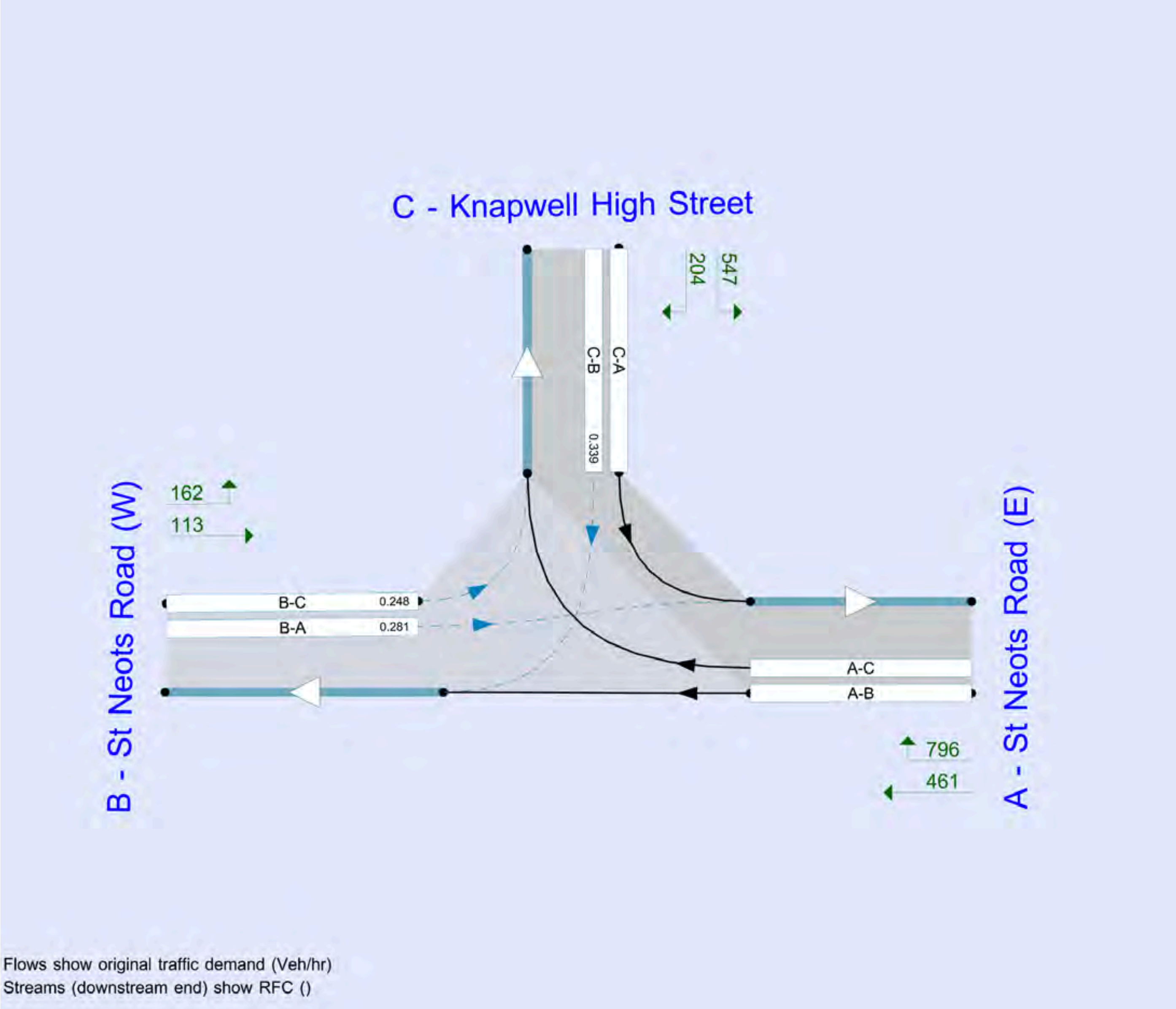
File summary

File Description

Title	
Location	
Site number	
Date	10/07/2026
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\Delano.Brown
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

		0.85	36.00	20.00

Demand Set Summary

	2046	With Mitigation	AM	ONE HOUR	07:45	09:15	15
	2046	With Mitigation	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	
	100.000

2046 | With Mitigation | AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		5.66	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.66	A

Arms

Arms

Arm	Name	Description	Arm type
A	St Neots Road (E)		Major
B	St Neots Road (W)		Minor
C	Knapwell High Street		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Width for right-turn storage (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - Knapwell High Street	12.00		✓	3.00	0.0		-

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 (Left) (m)	Lane Width (Right) (m)	Visibility to left (m)	Visibility to right (m)
B - St Neots Road (W)	Two lanes	3.00	3.00	0	100

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	526	0.071	0.179	0.113	0.256
B-C	687	0.078	0.197	-	-
C-B	624	0.179	0.179	-	-

The slopes and intercepts shown above include custom intercept adjustments only.
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	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2046	With Mitigation	AM	ONE HOUR	07:45	09:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - St Neots Road (E)		✓	1257	100.000
B - St Neots Road (W)		✓	275	100.000
C - Knapwell High Street		✓	751	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - St Neots Road (E)	B - St Neots Road (W)	C - Knapwell High Street
From	A - St Neots Road (E)	0	461	796
	B - St Neots Road (W)	113	0	162
	C - Knapwell High Street	547	204	0

Vehicle Mix

Heavy Vehicle %

		To		
		A - St Neots Road (E)	B - St Neots Road (W)	C - Knapwell High Street
From	A - St Neots Road (E)	0	0	2
	B - St Neots Road (W)	1	0	2
	C - Knapwell High Street	2	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.46	17.23	0.9	C
B-A	0.62	46.96	1.6	E
C-A				
C-B	0.60	24.07	1.5	C
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	124	0.00	502	0.248	123	0.3	9.665	A
B-A	86	0.00	305	0.281	84	0.4	16.344	C
C-A	421	0.00			421			
C-B	154	0.00	453	0.339	152	0.5	11.877	B
A-B	347	0.00			347			
A-C	611	0.00			611			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	149	0.00	460	0.323	148	0.5	11.733	B
B-A	103	0.00	262	0.392	102	0.6	22.534	C
C-A	503	0.00			503			
C-B	183	0.00	420	0.437	182	0.8	15.114	C
A-B	414	0.00			414			
A-C	730	0.00			730			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	182	0.00	397	0.458	181	0.8	16.848	C
B-A	126	0.00	203	0.620	122	1.5	43.588	E
C-A	616	0.00			616			
C-B	225	0.00	374	0.601	222	1.4	23.333	C
A-B	508	0.00			508			
A-C	894	0.00			894			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	182	0.00	395	0.461	182	0.9	17.230	C
B-A	126	0.00	202	0.622	125	1.6	46.955	E
C-A	616	0.00			616			
C-B	225	0.00	374	0.601	224	1.5	24.067	C
A-B	508	0.00			508			
A-C	894	0.00			894			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	149	0.00	458	0.324	150	0.5	11.980	B
B-A	103	0.00	261	0.393	106	0.7	23.952	C
C-A	503	0.00			503			
C-B	183	0.00	420	0.437	186	0.8	15.588	C
A-B	414	0.00			414			
A-C	730	0.00			730			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	124	0.00	500	0.249	125	0.3	9.798	A
B-A	86	0.00	305	0.282	87	0.4	16.795	C
C-A	421	0.00			421			
C-B	154	0.00	453	0.339	155	0.5	12.124	B
A-B	347	0.00			347			
A-C	611	0.00			611			

2046 | With Mitigation | PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		13.51	B

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	13.51	B

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2046	With Mitigation	PM	ONE HOUR	16:45	18:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - St Neots Road (E)		✓	954	100.000
B - St Neots Road (W)		✓	448	100.000
C - Knapwell High Street		✓	707	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - St Neots Road (E)	B - St Neots Road (W)	C - Knapwell High Street
From	A - St Neots Road (E)	0	84	870
	B - St Neots Road (W)	186	0	262
	C - Knapwell High Street	572	135	0

Vehicle Mix

Heavy Vehicle %

		To		
		A - St Neots Road (E)	B - St Neots Road (W)	C - Knapwell High Street
From	A - St Neots Road (E)	0	0	0
	B - St Neots Road (W)	0	0	0
	C - Knapwell High Street	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.77	39.50	3.0	E
B-A	0.86	88.57	4.6	F
C-A				
C-B	0.34	12.53	0.5	B
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	198	0.00	494	0.400	195	0.7	11.977	B
B-A	140	0.00	330	0.425	137	0.7	18.461	C
C-A	432	0.00			432			
C-B	102	0.00	495	0.205	101	0.3	9.094	A
A-B	63	0.00			63			
A-C	656	0.00			656			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	236	0.00	450	0.525	235	1.1	16.635	C
B-A	167	0.00	291	0.574	165	1.3	28.050	D
C-A	516	0.00			516			
C-B	121	0.00	470	0.258	121	0.3	10.291	B
A-B	76	0.00			76			
A-C	784	0.00			784			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	289	0.00	383	0.756	283	2.7	34.085	D
B-A	205	0.00	238	0.859	194	3.9	69.201	F
C-A	632	0.00			632			
C-B	149	0.00	436	0.341	148	0.5	12.472	B
A-B	92	0.00			92			
A-C	960	0.00			960			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	289	0.00	377	0.767	288	3.0	39.497	E
B-A	205	0.00	238	0.860	202	4.6	88.573	F
C-A	632	0.00			632			
C-B	149	0.00	436	0.341	149	0.5	12.526	B
A-B	92	0.00			92			
A-C	960	0.00			960			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	236	0.00	443	0.534	243	1.2	18.708	C
B-A	167	0.00	291	0.575	180	1.5	35.461	E
C-A	516	0.00			516			
C-B	121	0.00	470	0.258	122	0.4	10.351	B
A-B	76	0.00			76			
A-C	784	0.00			784			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	198	0.00	492	0.402	200	0.7	12.459	B
B-A	140	0.00	329	0.425	143	0.8	19.584	C
C-A	432	0.00			432			
C-B	102	0.00	495	0.205	102	0.3	9.161	A
A-B	63	0.00			63			
A-C	656	0.00			656			

Junctions 11

ARCADY 11 - Roundabout Module

Filename: Ermine St N - St Ives Road - Mitigation.j11
Path: C:\Users\Duncan.Lawrence\OneDrive - Arup\307292-00 CAMBOURNE - LOP AND LOCAL PLAN - 03. Transport\Junction Modelling\DS3a\01
Report generation date: 17/07/2026 12:15:17

»2046 | With Mitigation | AM
»2046 | With Mitigation | PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	2046 - With Mitigation									
1 - St. Ives Road (E)	D1	4.4	19.49	0.82	C	D2	2.1	9.92	0.67	A
2 - Ermine Street N		0.4	11.29	0.26	B		0.3	8.76	0.23	A
3 - St. Ives Road (S)		5.6	13.04	0.85	B		7.4	16.37	0.89	C
4 - A1198		5.1	15.28	0.83	C		2.6	8.55	0.72	A

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

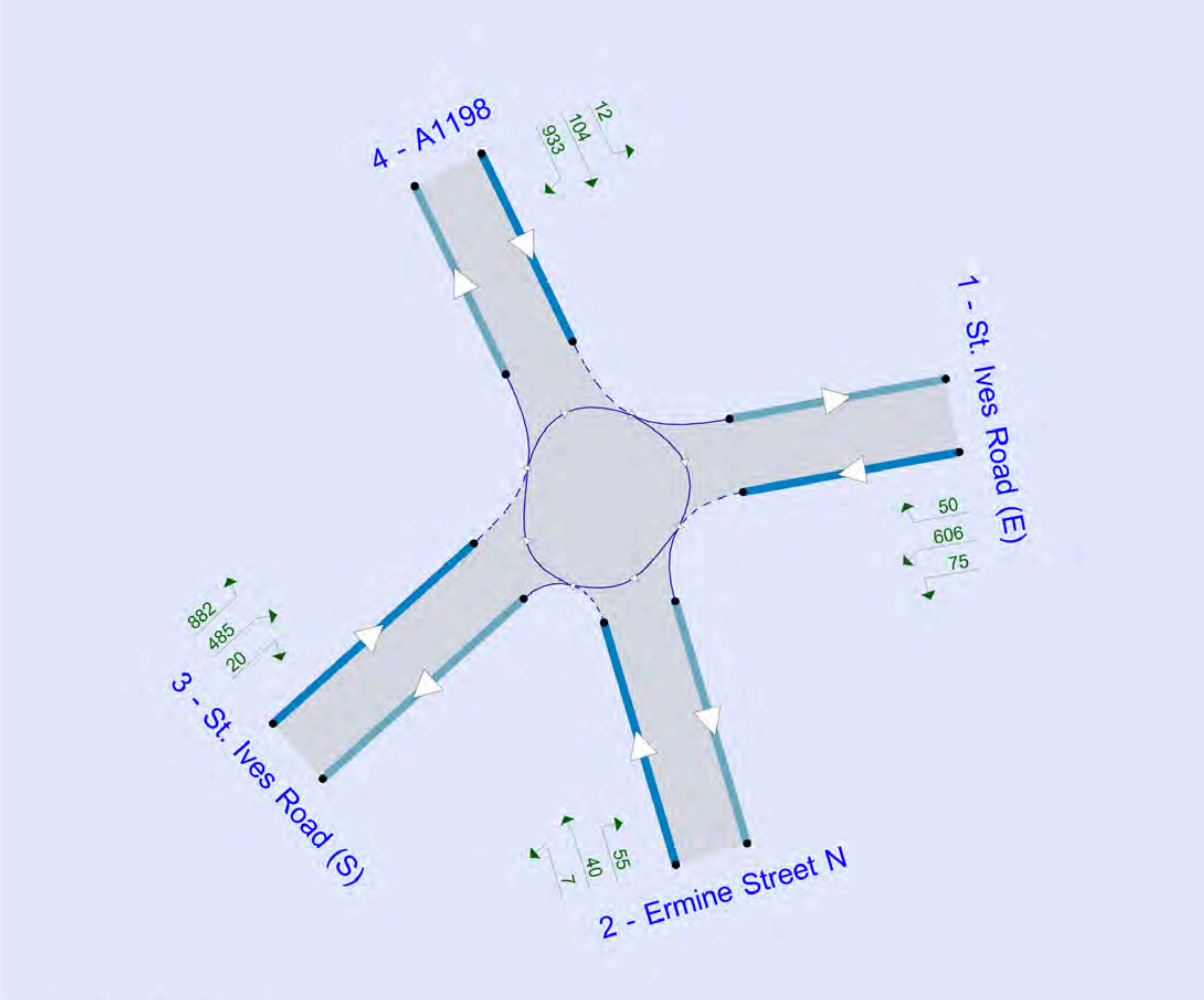
File summary

File Description

Title	
Location	
Site number	
Date	18/06/2026
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\Delano.Brown
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



Flows show original traffic demand (Veh/hr)

The junction diagram reflects the last run of Junctions.

Analysis Options

		0.85	36.00	20.00

Demand Set Summary

	2046	With Mitigation	AM	ONE HOUR	07:45	09:15	15
	2046	With Mitigation	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	
	100.000

2046 | With Mitigation | AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	15.14	C

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	15.14	C

Arms

Arms

Arm	Name	Description	No give-way line
1	St. Ives Road (E)		
2	Ermine Street N		
3	St. Ives Road (S)		
4	A1198		

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)	Entry only	Exit only
1 - St. Ives Road (E)	3.50	9.00	14.1	18.9	46.6	19.0		
2 - Ermine Street N	4.62	7.09	5.4	15.2	23.4	66.8		
3 - St. Ives Road (S)	4.50	10.00	10.0	21.9	46.6	23.5		
4 - A1198	4.00	10.50	11.1	19.6	46.6	22.7		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - St. Ives Road (E)	0.664	1865
2 - Ermine Street N	0.569	1461
3 - St. Ives Road (S)	0.692	2020
4 - A1198	0.676	1942

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

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2046	With Mitigation	AM	ONE HOUR	07:45	09:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - St. Ives Road (E)		✓	731	100.000
2 - Ermine Street N		✓	102	100.000
3 - St. Ives Road (S)		✓	1387	100.000
4 - A1198		✓	1049	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - St. Ives Road (E)	2 - Ermine Street N	3 - St. Ives Road (S)	4 - A1198
From	1 - St. Ives Road (E)	0	75	606	50
	2 - Ermine Street N	55	0	7	40
	3 - St. Ives Road (S)	485	20	0	882
	4 - A1198	12	104	933	0

Vehicle Mix

Heavy Vehicle %

		To			
		1 - St. Ives Road (E)	2 - Ermine Street N	3 - St. Ives Road (S)	4 - A1198
From	1 - St. Ives Road (E)	0	9	3	16
	2 - Ermine Street N	2	0	0	5
	3 - St. Ives Road (S)	5	5	0	6
	4 - A1198	42	72	1	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1 - St. Ives Road (E)	0.82	19.49	4.4	C
2 - Ermine Street N	0.26	11.29	0.4	B
3 - St. Ives Road (S)	0.85	13.04	5.6	B
4 - A1198	0.83	15.28	5.1	C

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - St. Ives Road (E)	575	855	1297	0.443	572	0.8	5.166	A
2 - Ermine Street N	79	1216	769	0.103	79	0.1	5.370	A
3 - St. Ives Road (S)	1103	117	1940	0.569	1098	1.4	4.489	A
4 - A1198	857	439	1645	0.521	852	1.2	4.901	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - St. Ives Road (E)	687	1024	1185	0.580	684	1.4	7.478	A
2 - Ermine Street N	94	1456	633	0.149	94	0.2	6.886	A
3 - St. Ives Road (S)	1317	140	1924	0.685	1314	2.2	6.199	A
4 - A1198	1023	526	1586	0.645	1020	1.9	6.863	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - St. Ives Road (E)	841	1246	1038	0.811	831	4.1	17.355	C
2 - Ermine Street N	116	1769	454	0.255	115	0.3	10.914	B
3 - St. Ives Road (S)	1613	170	1902	0.848	1600	5.4	12.111	B
4 - A1198	1253	641	1509	0.831	1241	4.9	14.037	B

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - St. Ives Road (E)	841	1257	1030	0.816	840	4.4	19.492	C
2 - Ermine Street N	116	1787	444	0.260	116	0.4	11.285	B
3 - St. Ives Road (S)	1613	172	1902	0.848	1612	5.6	13.040	B
4 - A1198	1253	645	1506	0.832	1252	5.1	15.280	C

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - St. Ives Road (E)	687	1039	1175	0.585	698	1.5	8.075	A
2 - Ermine Street N	94	1481	618	0.153	95	0.2	7.100	A
3 - St. Ives Road (S)	1317	142	1922	0.685	1330	2.3	6.564	A
4 - A1198	1023	532	1582	0.647	1036	2.0	7.305	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - St. Ives Road (E)	575	863	1292	0.445	578	0.8	5.290	A
2 - Ermine Street N	79	1228	762	0.104	79	0.1	5.436	A
3 - St. Ives Road (S)	1103	118	1939	0.569	1107	1.4	4.592	A
4 - A1198	857	443	1642	0.522	860	1.2	5.015	A

2046 | With Mitigation | PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	12.46	B

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	12.46	B

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2046	With Mitigation	PM	ONE HOUR	16:45	18:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - St. Ives Road (E)		✓	677	100.000
2 - Ermine Street N		✓	113	100.000
3 - St. Ives Road (S)		✓	1522	100.000
4 - A1198		✓	975	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - St. Ives Road (E)	2 - Ermine Street N	3 - St. Ives Road (S)	4 - A1198
From	1 - St. Ives Road (E)	0	112	533	32
	2 - Ermine Street N	50	0	13	50
	3 - St. Ives Road (S)	469	32	0	1021
	4 - A1198	11	60	904	0

Vehicle Mix

Heavy Vehicle %

		To			
		1 - St. Ives Road (E)	2 - Ermine Street N	3 - St. Ives Road (S)	4 - A1198
From	1 - St. Ives Road (E)	0	4	1	0
	2 - Ermine Street N	0	0	0	0
	3 - St. Ives Road (S)	3	0	0	1
	4 - A1198	9	22	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1 - St. Ives Road (E)	0.67	9.92	2.1	A
2 - Ermine Street N	0.23	8.76	0.3	A
3 - St. Ives Road (S)	0.89	16.37	7.4	C
4 - A1198	0.72	8.55	2.6	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - St. Ives Road (E)	517	759	1361	0.380	515	0.6	4.308	A
2 - Ermine Street N	85	1108	831	0.102	85	0.1	4.822	A
3 - St. Ives Road (S)	1164	99	1952	0.596	1158	1.5	4.574	A
4 - A1198	748	423	1656	0.452	744	0.8	4.009	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - St. Ives Road (E)	618	909	1261	0.490	616	1.0	5.652	A
2 - Ermine Street N	102	1326	706	0.144	101	0.2	5.949	A
3 - St. Ives Road (S)	1390	118	1938	0.717	1386	2.5	6.569	A
4 - A1198	893	507	1599	0.558	891	1.3	5.164	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - St. Ives Road (E)	757	1110	1128	0.671	752	2.0	9.631	A
2 - Ermine Street N	124	1620	539	0.231	124	0.3	8.653	A
3 - St. Ives Road (S)	1702	145	1920	0.887	1685	7.0	14.537	B
4 - A1198	1093	616	1525	0.717	1088	2.5	8.302	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - St. Ives Road (E)	757	1115	1124	0.673	756	2.1	9.919	A
2 - Ermine Street N	124	1627	535	0.233	124	0.3	8.765	A
3 - St. Ives Road (S)	1702	145	1920	0.887	1701	7.4	16.370	C
4 - A1198	1093	622	1522	0.719	1093	2.6	8.549	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - St. Ives Road (E)	618	916	1257	0.492	622	1.0	5.796	A
2 - Ermine Street N	102	1337	700	0.145	102	0.2	6.025	A
3 - St. Ives Road (S)	1390	119	1938	0.717	1409	2.6	7.152	A
4 - A1198	893	515	1594	0.560	898	1.3	5.305	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - St. Ives Road (E)	517	765	1357	0.381	519	0.6	4.366	A
2 - Ermine Street N	85	1116	826	0.103	85	0.1	4.860	A
3 - St. Ives Road (S)	1164	100	1951	0.597	1169	1.5	4.700	A
4 - A1198	748	427	1653	0.452	750	0.8	4.066	A

Junctions 11

ARCADY 11 - Roundabout Module

Filename: St Ives Road - A1198 - Mitigation.j11
Path: C:\Users\Duncan.Lawrence\OneDrive - Arup\307292-00 CAMBOURNE - LOP AND LOCAL PLAN - 03. Transport\Junction Modelling\DS3a\20
Report generation date: 17/07/2026 12:40:59

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	2046 - With Mitigation									
Arm 1	D1	2.0	12.90	0.67	B	D2	1.9	13.14	0.65	B
Arm 2		3.1	6.48	0.75	A		2.2	4.92	0.69	A
Arm 3		4.1	10.97	0.80	B		5.1	12.67	0.84	B

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

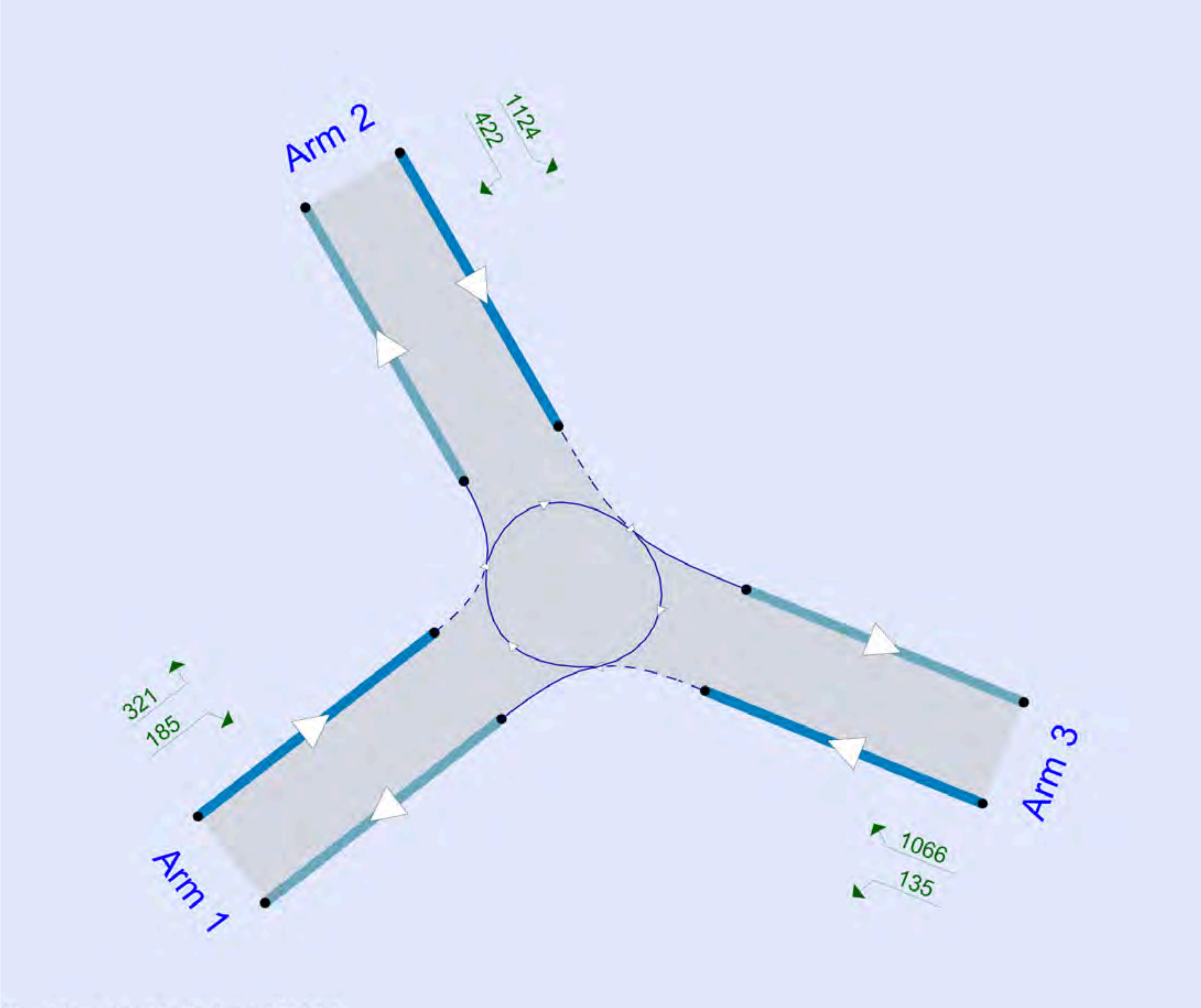
File summary

File Description

Title	
Location	
Site number	
Date	14/07/2026
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\Delano.Brown
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

		0.85	36.00	20.00

Demand Set Summary

	2046	With Mitigation	AM	ONE HOUR	07:45	09:15	15
	2046	With Mitigation	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	
	100.000

2046 | With Mitigation | AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3	9.17	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	9.17	A

Arms

Arms

Arm	Name	Description	No give-way line
1	St Ives Road (W)		
2	St Ives Road (N)		
3	A1198		

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)	Entry only	Exit only
1	2.58	7.05	20.1	22.3	47.2	22.9		
2	7.00	10.00	9.7	24.6	47.2	47.7		
3	7.00	10.50	28.5	3.0	24.1	33.0		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1	0.613	1620
2	0.748	2443
3	0.646	2054

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

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2046	With Mitigation	AM	ONE HOUR	07:45	09:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		✓	506	100.000
2		✓	1546	100.000
3		✓	1201	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		1	2	3
From	1	0	321	185
	2	422	0	1124
	3	135	1066	0

Vehicle Mix

Heavy Vehicle %

		To		
		1	2	3
From	1	0	3	2
	2	5	0	0
	3	1	6	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.67	12.90	2.0	B
2	0.75	6.48	3.1	A
3	0.80	10.97	4.1	B

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	391	847	1101	0.355	389	0.6	5.174	A
2	1180	141	2338	0.505	1176	1.0	3.130	A
3	953	332	1839	0.518	949	1.1	4.244	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	467	1013	999	0.468	466	0.9	6.916	A
2	1409	169	2317	0.608	1407	1.6	3.996	A
3	1138	398	1797	0.634	1136	1.8	5.719	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	572	1236	862	0.663	568	1.9	12.377	B
2	1725	206	2289	0.754	1720	3.0	6.340	A
3	1394	486	1740	0.801	1385	4.0	10.456	B

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	572	1244	857	0.667	572	2.0	12.903	B
2	1725	208	2288	0.754	1725	3.1	6.477	A
3	1394	488	1739	0.802	1394	4.1	10.968	B

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	467	1024	992	0.471	471	0.9	7.152	A
2	1409	171	2315	0.608	1415	1.6	4.078	A
3	1138	400	1795	0.634	1148	1.9	5.939	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	391	853	1097	0.356	392	0.6	5.257	A
2	1180	143	2337	0.505	1182	1.0	3.165	A
3	953	334	1838	0.519	956	1.1	4.319	A

2046 | With Mitigation | PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3	9.32	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	9.32	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2046	With Mitigation	PM	ONE HOUR	16:45	18:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		✓	471	100.000
2		✓	1450	100.000
3		✓	1337	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		1	2	3
From	1	0	363	108
	2	362	0	1088
	3	178	1159	0

Vehicle Mix

Heavy Vehicle %

		To		
		1	2	3
From	1	0	2	10
	2	3	0	0
	3	2	2	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.65	13.14	1.9	B
2	0.69	4.92	2.2	A
3	0.84	12.67	5.1	B

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	368	886	1077	0.342	366	0.5	5.243	A
2	1100	89	2377	0.463	1096	0.9	2.826	A
3	1027	280	1873	0.548	1022	1.2	4.290	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	440	1060	970	0.453	438	0.8	7.015	A
2	1313	106	2364	0.556	1312	1.2	3.443	A
3	1226	335	1837	0.667	1223	2.0	5.944	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	538	1291	828	0.650	534	1.9	12.562	B
2	1608	130	2346	0.686	1605	2.2	4.866	A
3	1502	410	1789	0.839	1490	4.9	11.830	B

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	538	1301	822	0.655	538	1.9	13.136	B
2	1608	131	2346	0.686	1608	2.2	4.917	A
3	1502	411	1788	0.840	1501	5.1	12.671	B

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	440	1073	962	0.457	444	0.9	7.273	A
2	1313	108	2363	0.556	1317	1.3	3.479	A
3	1226	336	1837	0.668	1238	2.1	6.257	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	368	893	1072	0.343	370	0.5	5.327	A
2	1100	90	2376	0.463	1101	0.9	2.847	A
3	1027	281	1872	0.548	1030	1.3	4.379	A

Junctions 11

ARCADY 11 - Roundabout Module

Filename: 18 and 19 - Copy.j11
Path: C:\Users\Duncan.Lawrence\OneDrive - Arup\307292-00 CAMBOURNE - LOP AND LOCAL PLAN - 03. Transport\Junction Modelling\DS3a\18 and 19
Report generation date: 17/07/2026 12:49:34

»2046 | Future | AM
»2046 | Future | PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	2046 - Future									
1 - Northern dumbbell - 2 - Ermine Street S (S)	D1	1.5	4.24	0.59	A	D2	3.9	8.40	0.80	A
1 - Northern dumbbell - 3 - A1198 EB Off-Slip		0.5	4.88	0.33	A		0.6	6.62	0.39	A
1 - Northern dumbbell - 4 - Cambridge Road		0.8	7.67	0.44	A		0.6	8.73	0.39	A
1 - Northern dumbbell - 5 - Ermine Street S (N)		4.2	8.93	0.80	A		1.1	3.48	0.53	A
2 - Southern dumbbell - 1 - Ermine Street S (N)		8.2	24.30	0.90	C		2.5	8.86	0.72	A
2 - Southern dumbbell - 2 - A1198 WB Off-Slip		0.4	3.30	0.28	A		0.7	3.59	0.42	A
2 - Southern dumbbell - 3 - Ermine Street S (S)		2.1	7.35	0.67	A		8.1	23.92	0.90	C
2 - Southern dumbbell - 4 - A1198 WB Access		0.0	0.00	0.00	A		0.0	0.00	0.00	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	
Location	
Site number	
Date	15/07/2026
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\Duncan.Lawrence
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

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use simulation for HCM roundabouts	Use iterations for HCM roundabouts
5.75						0.85	36.00	20.00		

Demand Set Summary

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2046	Future	AM	ONE HOUR	07:45	09:15	15	✓
D2	2046	Future	PM	ONE HOUR	16:45	18:15	15	✓

Analysis Set Details

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

2046 | Future | AM

Data Errors and Warnings

Warning	Linked Roundabout	1 - Northern dumbbell - 2 - Ermine Street S (S)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked Roundabout	2 - Southern dumbbell - 1 - Ermine Street S (N)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.

Junction Network

Junctions

	Northern dumbbell	Standard Roundabout		1, 2, 3, 4, 5		
	Southern dumbbell	Standard Roundabout		1, 2, 3, 4		

Junction Network

Left	Normal/unknown		

Arms

Arms

Junction	Arm	Name	Description	No give-way line
1 - Northern dumbbell	1	A1198 EB On-Slip		
	2	Ermine Street S (S)		
	3	A1198 EB Off-Slip		
	4	Cambridge Road		
	5	Ermine Street S (N)		
2 - Southern dumbbell	1	Ermine Street S (N)		
	2	A1198 WB Off-Slip		
	3	Ermine Street S (S)		
	4	A1198 WB Access		

Roundabout Geometry

Junction	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)	Entry only	Exit only
1 - Northern dumbbell	1 - A1198 EB On-Slip								✓
	2 - Ermine Street S (S)	7.33	7.49	6.1	16.9	81.0	39.2		
	3 - A1198 EB Off-Slip	3.71	9.46	10.1	15.9	81.0	31.8	✓	
	4 - Cambridge Road	3.41	7.04	6.2	15.6	81.0	16.1		
	5 - Ermine Street S (N)	5.97	11.02	29.6	21.3	81.0	56.6		
2 - Southern dumbbell	1 - Ermine Street S (N)	3.65	6.27	6.6	15.0	73.9	28.8		
	2 - A1198 WB Off-Slip	7.15	8.44	4.6	16.5	73.9	30.7	✓	
	3 - Ermine Street S (S)	4.13	7.12	15.5	20.5	73.9	25.9		
	4 - A1198 WB Access	7.30	8.03	5.0	21.7	73.9	34.0		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Junction	Arm	Final slope
1 - Northern dumbbell	1 - A1198 EB On-Slip	
	2 - Ermine Street S (S)	0.530
	3 - A1198 EB Off-Slip	0.467
	4 - Cambridge Road	0.443
	5 - Ermine Street S (N)	0.574
	1 - Ermine Street S (N)	0.447
	2 - A1198 WB Off-Slip	0.585
	3 - Ermine Street S (S)	0.515

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

Traffic Demand

Demand Set Details

	2046	Future	AM	ONE HOUR	07:45	09:15	15	✓

Linked Arm Data

		2	1	Simple (vertical queueing)	Normal	0	100.00	
		1	2	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	
1 - Northern dumbbell	1 - A1198 EB On-Slip					
	2 - Ermine Street S (S)	✓				
	3 - A1198 EB Off-Slip		ONE HOUR	✓	324	100.000
	4 - Cambridge Road		ONE HOUR	✓	329	100.000
	5 - Ermine Street S (N)		ONE HOUR	✓	1503	100.000
	1 - Ermine Street S (N)	✓				
	2 - A1198 WB Off-Slip		ONE HOUR	✓	383	100.000
	3 - Ermine Street S (S)		ONE HOUR	✓	918	100.000
			ONE HOUR	✓	0	100.000

Origin-Destination Data

1 - Northern dumbbell

Demand (Veh/hr)

		To				
		1 - A1198 EB On-Slip	**2 - Ermine Street S (S)**	**3 - A1198 EB Off-Slip**	**4 - Cambridge Road**	**5 - Ermine Street S (N)**
From	**1 - A1198 EB On-Slip**	0	0	0	0	0
	2 - Ermine Street S (S)	78	0	0	200	827
	3 - A1198 EB Off-Slip	0	256	0	0	68
	4 - Cambridge Road	276	40	0	0	13
	5 - Ermine Street S (N)	654	836	0	13	0

2 - Southern dumbbell

Demand (Veh/hr)

		To			
		1 - Ermine Street S (N)	**2 - A1198 WB Off-Slip**	**3 - Ermine Street S (S)**	**4 - A1198 WB Access**
From	**1 - Ermine Street S (N)**	0	0	1039	93
	2 - A1198 WB Off-Slip	383	0	0	0
	3 - Ermine Street S (S)	723	0	0	195
	4 - A1198 WB Access	0	0	0	0

Vehicle Mix

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

1 - Northern dumbbell

Heavy Vehicle %

		To				
		1 - A1198 EB On-Slip	**2 - Ermine Street S (S)**	**3 - A1198 EB Off-Slip**	**4 - Cambridge Road**	**5 - Ermine Street S (N)**
From	**1 - A1198 EB On-Slip**	0	0	0	0	0
	2 - Ermine Street S (S)	5	0	0	2	5
	3 - A1198 EB Off-Slip	0	1	0	0	1
	4 - Cambridge Road	1	0	0	0	0
	5 - Ermine Street S (N)	2	5	0	0	0

2 - Southern dumbbell

Heavy Vehicle %

		0	0	4	0
		5	0	0	0
		5	0	0	0
		0	0	0	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Northern dumbbell	1 - A1198 EB On-Slip						
	2 - Ermine Street S (S)	0.59	4.24	1.5	A	1065	1598
	3 - A1198 EB Off-Slip	0.33	4.88	0.5	A	300	450
	4 - Cambridge Road	0.44	7.67	0.8	A	304	457
	5 - Ermine Street S (N)	0.80	8.93	4.2	A	1430	2144
2 - Southern dumbbell	1 - Ermine Street S (N)	0.90	24.30	8.2	C	1079	1618
	2 - A1198 WB Off-Slip	0.28	3.30	0.4	A	369	554
	3 - Ermine Street S (S)	0.67	7.35	2.1	A	876	1313
	4 - A1198 WB Access	0.00	0.00	0.0	A	0	0

Main Results for each time segment

07:45 - 08:00

Junction	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
1 - Northern dumbbell	1 - A1198 EB On-Slip			892				771				
	2 - Ermine Street S (S)	871	218	10	2168	0.402	868	882	0.0	0.7	2.887	A
	3 - A1198 EB Off-Slip	246	62	878	1299	0.190	245	0	0.0	0.2	3.448	A
	4 - Cambridge Road	250	62	960	1039	0.240	248	163	0.0	0.3	4.583	A
	5 - Ermine Street S (N)	1173	293	494	2265	0.518	1168	714	0.0	1.1	3.389	A
2 - Southern dumbbell	1 - Ermine Street S (N)	882	221	0	1438	0.613	876	871	0.0	1.6	6.562	A
	2 - A1198 WB Off-Slip	303	76	876	1830	0.165	302	0	0.0	0.2	2.472	A
	3 - Ermine Street S (S)	718	180	371	1648	0.436	715	806	0.0	0.8	3.996	A
	4 - A1198 WB Access	0	0	871	1830	0.000	0	216	0.0	0.0	0.000	A

08:00 - 08:15

Junction	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
1 - Northern dumbbell	1 - A1198 EB On-Slip			1067				923				
	2 - Ermine Street S (S)	1043	261	12	2167	0.481	1041	1056	0.7	1.0	3.338	A
	3 - A1198 EB Off-Slip	294	74	1053	1217	0.242	294	0	0.2	0.3	3.938	A
	4 - Cambridge Road	298	75	1151	955	0.312	298	196	0.3	0.5	5.522	A
	5 - Ermine Street S (N)	1401	350	592	2209	0.634	1398	857	1.1	1.8	4.587	A
2 - Southern dumbbell	1 - Ermine Street S (N)	1056	264	0	1438	0.734	1051	1043	1.6	2.8	9.526	A
	2 - A1198 WB Off-Slip	362	90	1051	1727	0.209	361	0	0.2	0.3	2.766	A
	3 - Ermine Street S (S)	858	214	445	1611	0.533	856	968	0.8	1.2	4.950	A
	4 - A1198 WB Access	0	0	1043	1730	0.000	0	258	0.0	0.0	0.000	A

08:15 - 08:30

Junction	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
1 - Northern dumbbell	1 - A1198 EB On-Slip			1304				1127				
	2 - Ermine Street S (S)	1275	319	14	2166	0.589	1273	1289	1.0	1.5	4.205	A
	3 - A1198 EB Off-Slip	360	90	1287	1107	0.325	360	0	0.3	0.5	4.858	A
	4 - Cambridge Road	365	91	1408	841	0.434	364	239	0.5	0.8	7.593	A
	5 - Ermine Street S (N)	1715	429	724	2133	0.804	1706	1048	1.8	4.1	8.565	A
	1 - Ermine Street S (N)	1289	322	0	1438	0.896	1271	1275	2.8	7.4	20.337	C
	2 - A1198 WB Off-Slip	443	111	1271	1599	0.277	442	0	0.3	0.4	3.266	A
	3 - Ermine Street S (S)	1051	263	543	1560	0.673	1047	1170	1.2	2.1	7.241	A

08:30 - 08:45

Junction	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
1 - Northern dumbbell	1 - A1198 EB On-Slip			1309				1132				
	2 - Ermine Street S (S)	1279	320	14	2165	0.590	1278	1295	1.5	1.5	4.239	A
	3 - A1198 EB Off-Slip	360	90	1293	1105	0.326	360	0	0.5	0.5	4.882	A
	4 - Cambridge Road	365	91	1413	839	0.436	365	240	0.8	0.8	7.668	A
	5 - Ermine Street S (N)	1715	429	726	2132	0.805	1715	1052	4.1	4.2	8.929	A
2 - Southern dumbbell	1 - Ermine Street S (N)	1295	324	0	1438	0.900	1292	1279	7.4	8.2	24.299	C
	2 - A1198 WB Off-Slip	443	111	1292	1587	0.279	443	0	0.4	0.4	3.303	A
	3 - Ermine Street S (S)	1051	263	545	1559	0.674	1050	1189	2.1	2.1	7.354	A
	4 - A1198 WB Access	0	0	1279	1591	0.000	0	317	0.0	0.0	0.000	A

08:45 - 09:00

Junction	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
1 - Northern dumbbell	1 - A1198 EB On-Slip			1075				930				
	2 - Ermine Street S (S)	1047	262	12	2167	0.483	1049	1063	1.5	1.0	3.373	A
	3 - A1198 EB Off-Slip	294	74	1061	1213	0.243	295	0	0.5	0.3	3.962	A
	4 - Cambridge Road	298	75	1159	951	0.314	299	197	0.8	0.5	5.579	A
	5 - Ermine Street S (N)	1401	350	595	2207	0.635	1410	863	4.2	1.8	4.736	A
2 - Southern dumbbell	1 - Ermine Street S (N)	1063	266	0	1438	0.739	1084	1047	8.2	3.1	11.103	B
	2 - A1198 WB Off-Slip	362	90	1084	1708	0.212	362	0	0.4	0.3	2.808	A
	3 - Ermine Street S (S)	858	214	448	1609	0.533	861	998	2.1	1.2	5.030	A
	4 - A1198 WB Access	0	0	1047	1727	0.000	0	262	0.0	0.0	0.000	A

09:00 - 09:15

Junction	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)
1 - Northern dumbbell	1 - A1198 EB On-Slip			897				776			
	2 - Ermine Street S (S)	876	219	10	2168	0.404	877	888	1.0	0.7	2.917
	3 - A1198 EB Off-Slip	246	62	887	1295	0.190	247	0	0.3	0.2	3.470
	4 - Cambridge Road	250	62	969	1035	0.241	250	165	0.5	0.3	4.626
	5 - Ermine Street S (N)	1173	293	498	2263	0.518	1176	721	1.8	1.1	3.442
	1 - Ermine Street S (N)	888	222	0	1438	0.617	893	876	3.1	1.7	6.910
	2 - A1198 WB Off-Slip	303	76	893	1820	0.166	303	0	0.3	0.2	2.491
	3 - Ermine Street S (S)	718	180	374	1647	0.436	720	822	1.2	0.8	4.042

2046 | Future | PM

Data Errors and Warnings

Warning	Linked Roundabout	1 - Northern dumbbell - 2 - Ermine Street S (S)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked Roundabout	2 - Southern dumbbell - 1 - Ermine Street S (N)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.

Junction Network

Junctions

	Northern dumbbell	Standard Roundabout		1, 2, 3, 4, 5		
	Southern dumbbell	Standard Roundabout		1, 2, 3, 4		

Junction Network

Left	Normal/unknown		

Traffic Demand

Demand Set Details

	2046	Future	PM	ONE HOUR	16:45	18:15	15	✓

Linked Arm Data

		2	1	Simple (vertical queueing)	Normal	0	100.00	
		1	2	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	
1 - Northern dumbbell	1 - A1198 EB On-Slip					
	2 - Ermine Street S (S)	✓				
	3 - A1198 EB Off-Slip		ONE HOUR	✓	320	100.000
	4 - Cambridge Road		ONE HOUR	✓	238	100.000
	5 - Ermine Street S (N)		ONE HOUR	✓	1041	100.000
	1 - Ermine Street S (N)	✓				
	2 - A1198 WB Off-Slip		ONE HOUR	✓	656	100.000
	3 - Ermine Street S (S)		ONE HOUR	✓	1144	100.000
			ONE HOUR	✓	0	100.000

Origin-Destination Data

Demand (Veh/hr)

1 - Northern dumbbell

		To				
		1 - A1198 EB On-Slip	2 - Ermine Street S (S)	3 - A1198 EB Off-Slip	4 - Cambridge Road	5 - Ermine Street S (N)
From	1 - A1198 EB On-Slip	0	0	0	0	0
	2 - Ermine Street S (S)	48	0	0	278	1204
	3 - A1198 EB Off-Slip	0	222	0	0	98
	4 - Cambridge Road	187	38	0	0	13
	5 - Ermine Street S (N)	362	668	0	11	0

Demand (Veh/hr)

2 - Southern dumbbell

		0	0	858	70
		618	0	38	0
		911	0	0	233
		0	0	0	0

Vehicle Mix

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

Heavy Vehicle %

1 - Northern dumbbell

		0	0	0	0	0
		35	0	0	1	2
		0	0	0	0	0
		1	0	0	0	0
		4	1	0	0	0

Heavy Vehicle %

2 - Southern dumbbell

		0	0	1	0
		1	0	0	0
		4	0	0	0
		0	0	0	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)
1 - Northern dumbbell	1 - A1198 EB On-Slip					
	2 - Ermine Street S (S)	0.80	8.40	3.9	A	1441
	3 - A1198 EB Off-Slip	0.39	6.62	0.6	A	294
	4 - Cambridge Road	0.39	8.73	0.6	A	220
	5 - Ermine Street S (N)	0.53	3.48	1.1	A	975
	1 - Ermine Street S (N)	0.72	8.86	2.5	A	857
	2 - A1198 WB Off-Slip	0.42	3.59	0.7	A	608
	3 - Ermine Street S (S)	0.90	23.92	8.1	C	1083

Main Results for each time segment

16:45 - 17:00

Junction	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
1 - Northern dumbbell	1 - A1198 EB On-Slip			710				472				
	2 - Ermine Street S (S)	1178	294	8	2169	0.543	1173	701	0.0	1.2	3.700	A
	3 - A1198 EB Off-Slip	241	60	1181	1157	0.208	240	0	0.0	0.3	3.921	A
	4 - Cambridge Road	181	45	1203	931	0.194	180	218	0.0	0.2	4.820	A
	5 - Ermine Street S (N)	800	200	385	2328	0.344	798	998	0.0	0.5	2.397	A
2 - Southern dumbbell	1 - Ermine Street S (N)	701	175	0	1438	0.488	698	1178	0.0	1.0	4.882	A
	2 - A1198 WB Off-Slip	499	125	698	1934	0.258	497	0	0.0	0.3	2.526	A
	3 - Ermine Street S (S)	889	222	521	1571	0.566	883	674	0.0	1.3	5.360	A
	4 - A1198 WB Access	0	0	1178	1650	0.000	0	227	0.0	0.0	0.000	A

17:00 - 17:15

Junction	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
1 - Northern dumbbell	1 - A1198 EB On-Slip			849				566				
	2 - Ermine Street S (S)	1409	352	10	2168	0.650	1406	839	1.2	1.9	4.845	A
	3 - A1198 EB Off-Slip	288	72	1416	1047	0.275	287	0	0.3	0.4	4.733	A
	4 - Cambridge Road	216	54	1443	825	0.261	215	261	0.2	0.4	5.943	A
	5 - Ermine Street S (N)	955	239	461	2284	0.418	954	1197	0.5	0.7	2.760	A
2 - Southern dumbbell	1 - Ermine Street S (N)	839	210	0	1438	0.584	838	1409	1.0	1.4	6.030	A
	2 - A1198 WB Off-Slip	595	149	838	1852	0.321	595	0	0.3	0.5	2.887	A
	3 - Ermine Street S (S)	1061	265	623	1519	0.699	1057	809	1.3	2.3	7.981	A
	4 - A1198 WB Access	0	0	1409	1515	0.000	0	271	0.0	0.0	0.000	A

17:15 - 17:30

Junction	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
1 - Northern dumbbell	1 - A1198 EB On-Slip			1039				691				
	2 - Ermine Street S (S)	1713	428	12	2167	0.791	1706	1027	1.9	3.7	7.905	A
	3 - A1198 EB Off-Slip	352	88	1718	906	0.389	351	0	0.4	0.6	6.472	A
	4 - Cambridge Road	264	66	1753	688	0.384	263	316	0.4	0.6	8.516	A
	5 - Ermine Street S (N)	1169	292	563	2226	0.525	1168	1453	0.7	1.1	3.469	A
2 - Southern dumbbell	1 - Ermine Street S (N)	1027	257	0	1438	0.714	1023	1713	1.4	2.4	8.661	A
	2 - A1198 WB Off-Slip	729	182	1023	1744	0.418	728	0	0.5	0.7	3.574	A
	3 - Ermine Street S (S)	1300	325	763	1447	0.898	1279	988	2.3	7.5	20.103	C
	4 - A1198 WB Access	0	0	1713	1337	0.000	0	329	0.0	0.0	0.000	A

17:30 - 17:45

Junction	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
1 - Northern dumbbell	1 - A1198 EB On-Slip			1041				694				
	2 - Ermine Street S (S)	1728	432	12	2167	0.798	1727	1029	3.7	3.9	8.399	A
	3 - A1198 EB Off-Slip	352	88	1739	896	0.393	352	0	0.6	0.6	6.616	A
	4 - Cambridge Road	264	66	1771	680	0.389	264	320	0.6	0.6	8.726	A
	5 - Ermine Street S (N)	1169	292	565	2224	0.526	1169	1470	1.1	1.1	3.481	A
2 - Southern dumbbell	1 - Ermine Street S (N)	1029	257	0	1438	0.715	1029	1728	2.4	2.5	8.864	A
	2 - A1198 WB Off-Slip	729	182	1029	1740	0.419	729	0	0.7	0.7	3.591	A
	3 - Ermine Street S (S)	1300	325	764	1446	0.899	1297	994	7.5	8.1	23.915	C
	4 - A1198 WB Access	0	0	1728	1328	0.000	0	333	0.0	0.0	0.000	A

17:45 - 18:00

Junction	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)
1 - Northern dumbbell	1 - A1198 EB On-Slip			852				569			
	2 - Ermine Street S (S)	1432	358	10	2168	0.661	1440	842	3.9	2.0	5.138
	3 - A1198 EB Off-Slip	288	72	1449	1032	0.279	289	0	0.6	0.4	4.851
	4 - Cambridge Road	216	54	1471	813	0.265	217	267	0.6	0.4	6.098
	5 - Ermine Street S (N)	955	239	465	2282	0.418	956	1224	1.1	0.7	2.773
	1 - Ermine Street S (N)	842	211	0	1438	0.586	846	1432	2.5	1.4	6.179
	2 - A1198 WB Off-Slip	595	149	846	1847	0.322	596	0	0.7	0.5	2.908
	3 - Ermine Street S (S)	1061	265	625	1518	0.699	1084	817	8.1	2.5	8.989

18:00 - 18:15

Junction	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)
1 - Northern dumbbell	1 - A1198 EB On-Slip			713				475			
	2 - Ermine Street S (S)	1187	297	8	2169	0.547	1190	705	2.0	1.3	3.795
	3 - A1198 EB Off-Slip	241	60	1199	1149	0.210	241	0	0.4	0.3	3.968
	4 - Cambridge Road	181	45	1219	924	0.195	181	221	0.4	0.2	4.884
	5 - Ermine Street S (N)	800	200	388	2326	0.344	800	1013	0.7	0.5	2.410
	1 - Ermine Street S (N)	705	176	0	1438	0.490	706	1187	1.4	1.0	4.977
	2 - A1198 WB Off-Slip	499	125	706	1929	0.258	499	0	0.5	0.4	2.541
	3 - Ermine Street S (S)	889	222	523	1570	0.566	893	682	2.5	1.4	5.521

Junctions 11

ARCADY 11 - Roundabout Module

Version: 11.0.0.2177

For sales and distribution information, program advice and maintenance, contact TRL Software:
+44 (0)1344 379777 software@trl.co.uk trlsoftware.com

Filename: 16 and 17 (with site access, mitigation).j11
Path: C:\Users\Duncan.Lawrence\OneDrive - Arup\307292-00 CAMBOURNE - LOP AND LOCAL PLAN - 03. Transport\Junction Modelling\DS3a\16 and 17\Models
Report generation date: 17/07/2026 11:42:05

»2046 | New Site Access Arm and With Mitigation | AM
»2046 | New Site Access Arm and With Mitigation | PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	2046 - New Site Access Arm and With Mitigation									
1 - North (Cambourne Road / St Neots Road / A428 Slips) - 1 - Cambourne Road (S)	D1	1.5	3.68	0.60	A	D2	2.0	4.33	0.66	A
1 - North (Cambourne Road / St Neots Road / A428 Slips) - 2 - A428 EB Off-Slip		4.1	20.55	0.81	C		1.5	10.76	0.60	B
1 - North (Cambourne Road / St Neots Road / A428 Slips) - 3 - St Neots Road (W)		0.2	5.07	0.16	A		0.1	5.41	0.13	A
1 - North (Cambourne Road / St Neots Road / A428 Slips) - 4 - Site Access		1.6	6.08	0.62	A		0.5	2.97	0.32	A
1 - North (Cambourne Road / St Neots Road / A428 Slips) - 5 - St Neots Road (E)		1.5	10.04	0.59	B		1.1	6.35	0.51	A
2 - South (Cambourne Road / A428 Slips) - 1 - Cambourne Road (N)		0.6	2.42	0.37	A		0.5	2.25	0.32	A
2 - South (Cambourne Road / A428 Slips) - 2 - A428 WB Off-Slip		1.0	4.09	0.50	A		4.7	11.52	0.83	B
2 - South (Cambourne Road / A428 Slips) - 3 - Cambourne Road (S)		3.0	7.74	0.75	A		3.7	10.64	0.79	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.

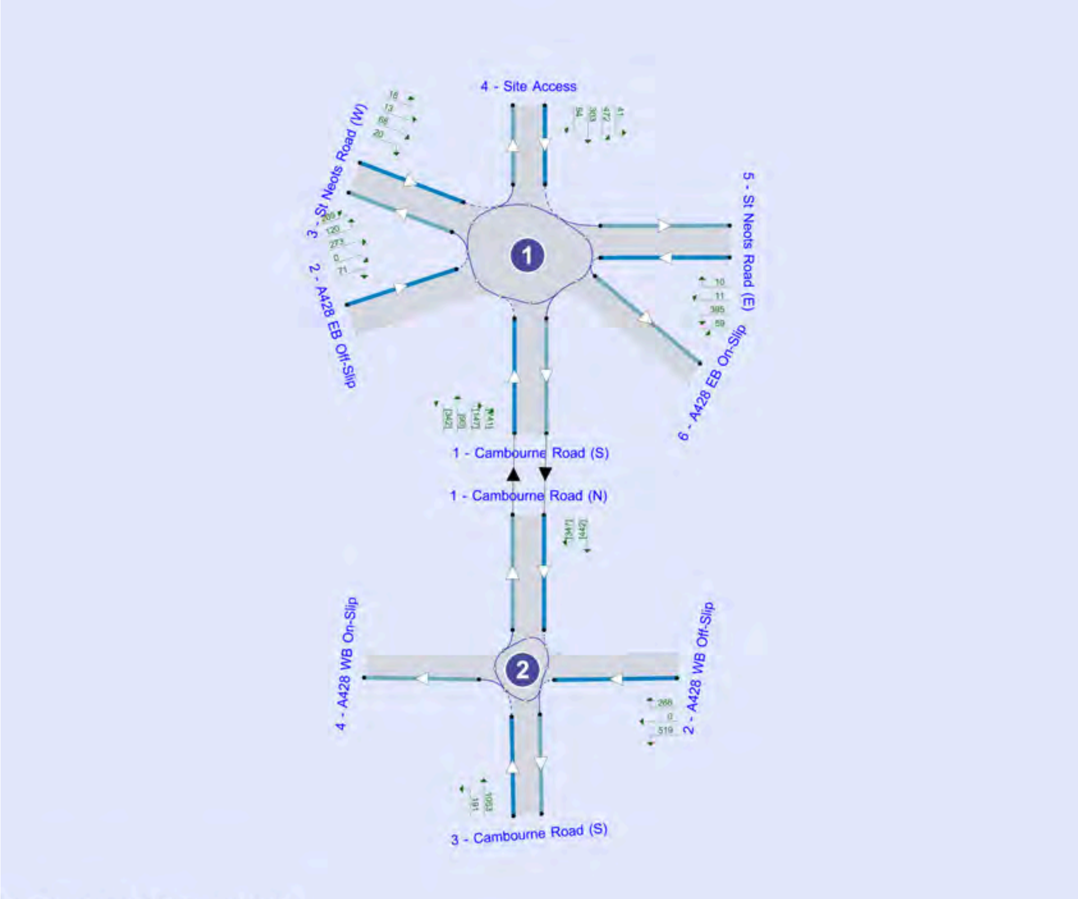
File summary

File Description

Title	
Location	
Site number	
Date	09/06/2026
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\Duncan.Lawrence
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



Flows show original traffic demand (Veh/hr)

The junction diagram reflects the last run of Junctions.

Analysis Options

5.75						0.85	36.00	20.00		

Demand Set Summary

	2046	New Site Access Arm and With Mitigation	AM	ONE HOUR	07:45	09:15	15	✓
	2046	New Site Access Arm and With Mitigation	PM	ONE HOUR	16:45	18:15	15	✓

Analysis Set Details

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

2046 | New Site Access Arm and With Mitigation | AM

Data Errors and Warnings

Warning	Geometry	1 - North (Cambourne Road / St Neots Road / A428 Slips) - 5 - St Neots Road (E) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	1 - North (Cambourne Road / St Neots Road / A428 Slips) - 1 - Cambourne Road (S)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked Roundabout	2 - South (Cambourne Road / A428 Slips) - 1 - Cambourne Road (N)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.

Junction Network

Junctions

	North (Cambourne Road / St Neots Road / A428 Slips)	Standard Roundabout		1, 2, 3, 4, 5, 6		
	South (Cambourne Road / A428 Slips)	Standard Roundabout		1, 2, 3, 4		

Junction Network

Left	Normal/unknown		

Arms

Arms

Junction	Arm	Name	Description	No give-way line
1 - North (Cambourne Road / St Neots Road / A428 Slips)	1	Cambourne Road (S)		
	2	A428 EB Off-Slip		
	3	St Neots Road (W)		
	4	Site Access		
	5	St Neots Road (E)		
	6	A428 EB On-Slip		
2 - South (Cambourne Road / A428 Slips)	1	Cambourne Road (N)		
	2	A428 WB Off-Slip		
	3	Cambourne Road (S)		
	4	A428 WB On-Slip		

Roundabout Geometry

Junction	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)	Entry only	Exit only
1 - North (Cambourne Road / St Neots Road / A428 Slips)	1 - Cambourne Road (S)	8.10	8.90	6.5	18.0	68.6	41.0		
	2 - A428 EB Off-Slip	3.80	8.00	13.0	18.0	68.6	42.0	✓	
	3 - St Neots Road (W)	3.30	9.25	11.4	24.0	68.6	37.0		
	4 - Site Access	7.00	10.00	10.0	20.0	68.6	42.0		
	5 - St Neots Road (E)	3.60	8.85	32.5	20.0	68.6	66.0		
	6 - A428 EB On-Slip								✓
2 - South (Cambourne Road / A428 Slips)	1 - Cambourne Road (N)	6.80	8.85	12.1	30.0	53.6	43.0		
	2 - A428 WB Off-Slip	6.40	11.00	15.0	17.8	53.6	58.0	✓	
	3 - Cambourne Road (S)	7.20	10.10	7.5	18.4	53.6	55.0		
	4 - A428 WB On-Slip								✓

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Junction	Arm	Final slope	Final intercept (PCU/hr)
1 - North (Cambourne Road / St Neots Road / A428 Slips)	1 - Cambourne Road (S)	0.631	2514
	2 - A428 EB Off-Slip	0.499	1692
	3 - St Neots Road (W)	0.500	1648
	4 - Site Access	0.626	2477
	5 - St Neots Road (E)	0.509	1872
	6 - A428 EB On-Slip		
	1 - Cambourne Road (N)	0.711	
	2 - A428 WB Off-Slip	0.686	2370
	3 - Cambourne Road (S)	0.684	2340
	4 - A428 WB On-Slip		

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

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2046	New Site Access Arm and With Mitigation	AM	ONE HOUR	07:45	09:15	15	✓

Linked Arm Data

		2	1	Simple (vertical queueing)	Normal	0	100.00	
		1	1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - North (Cambourne Road / St Neots Road / A428 Slips)	1 - Cambourne Road (S)	✓				
	2 - A428 EB Off-Slip		ONE HOUR	✓	669	100.000
	3 - St Neots Road (W)		ONE HOUR	✓	119	100.000
	4 - Site Access		ONE HOUR	✓	870	100.000
	5 - St Neots Road (E)		ONE HOUR	✓	475	100.000
	6 - A428 EB On-Slip					
	1 - Cambourne Road (N)	✓				
	2 - A428 WB Off-Slip		ONE HOUR	✓	785	100.000
	3 - Cambourne Road (S)		ONE HOUR	✓	1259	100.000
	4 - A428 WB On-Slip					

Origin-Destination Data

1 - North (Cambourne Road / St Neots Road / A428 Slips)

Demand (Veh/hr)

		To					
		1 - Cambourne Road (S)	2 - A428 EB Off-Slip	3 - St Neots Road (W)	4 - Site Access	5 - St Neots Road (E)	6 - A428 EB On-Slip
From	1 - Cambourne Road (S)	0	0	342	90	147	741
	2 - A428 EB Off-Slip	71	0	205	120	273	0
	3 - St Neots Road (W)	20	0	0	18	13	68
	4 - Site Access	303	0	54	0	41	472
	5 - St Neots Road (E)	395	0	11	10	0	59
	6 - A428 EB On-Slip	0	0	0	0	0	0

2 - South (Cambourne Road / A428 Slips)

Demand (Veh/hr)

		To			
		1 - Cambourne Road (N)	2 - A428 WB Off-Slip	3 - Cambourne Road (S)	4 - A428 WB On-Slip
From	1 - Cambourne Road (N)	0	0	442	347
	2 - A428 WB Off-Slip	266	0	519	0
	3 - Cambourne Road (S)	1053	0	15	191
	4 - A428 WB On-Slip	0	0	0	0

Vehicle Mix

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

1 - North (Cambourne Road / St Neots Road / A428 Slips)

Heavy Vehicle %

		To					
		1 - Cambourne Road (S)	2 - A428 EB Off-Slip	3 - St Neots Road (W)	4 - Site Access	5 - St Neots Road (E)	6 - A428 EB On-Slip
From	1 - Cambourne Road (S)	0	0	1	0	0	2
	2 - A428 EB Off-Slip	0	0	2	2	0	0
	3 - St Neots Road (W)	0	0	0	0	0	0
	4 - Site Access	0	0	0	0	2	0
	5 - St Neots Road (E)	2	0	0	0	0	0
	6 - A428 EB On-Slip	0	0	0	0	0	0

2 - South (Cambourne Road / A428 Slips)

Heavy Vehicle %

		To			
		1 - Cambourne Road (N)	2 - A428 WB Off-Slip	3 - Cambourne Road (S)	4 - A428 WB On-Slip
From	1 - Cambourne Road (N)	0	0	0	2
	2 - A428 WB Off-Slip	2	0	0	0
	3 - Cambourne Road (S)	1	0	0	1
	4 - A428 WB On-Slip	0	0	0	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - North (Cambourne Road / St Neots Road / A428 Slips)	1 - Cambourne Road (S)	0.60	3.68	1.5	A	1224	1836
	2 - A428 EB Off-Slip	0.81	20.55	4.1	C	620	930
	3 - St Neots Road (W)	0.16	5.07	0.2	A	109	164
	4 - Site Access	0.62	6.08	1.6	A	799	1199
	5 - St Neots Road (E)	0.59	10.04	1.5	B	443	665
	6 - A428 EB On-Slip						
2 - South (Cambourne Road / A428 Slips)	1 - Cambourne Road (N)	0.37	2.42	0.6	A	731	1096
	2 - A428 WB Off-Slip	0.50	4.09	1.0	A	725	1088
	3 - Cambourne Road (S)	0.75	7.74	3.0	A	1167	1750
	4 - A428 WB On-Slip						

Main Results for each time segment

07:45 - 08:00

Junction	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
1 - North (Cambourne Road / St Neots Road / A428 Slips)	1 - Cambourne Road (S)	1001	250	56	2478	0.404	999	597	0.0	0.7	2.463	A
	2 - A428 EB Off-Slip	509	127	1055	1166	0.436	505	0	0.0	0.8	5.482	A
	3 - St Neots Road (W)	90	22	1097	1100	0.081	89	463	0.0	0.1	3.563	A
	4 - Site Access	656	164	1007	1847	0.355	653	180	0.0	0.5	3.013	A
	5 - St Neots Road (E)	364	91	1305	1208	0.301	362	355	0.0	0.4	4.318	A
	6 - A428 EB On-Slip			654				1013				
2 - South (Cambourne Road / A428 Slips)	1 - Cambourne Road (N)	597	149	11	2384	0.251	596	1001	0.0	0.3	2.031	A
	2 - A428 WB Off-Slip	595	149	607	1953	0.305	593	0	0.0	0.4	2.661	A
	3 - Cambourne Road (S)	957	239	469	2019	0.474	954	732	0.0	0.9	3.401	A
	4 - A428 WB On-Slip			1013				410				

08:00 - 08:15

Junction	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
1 - North (Cambourne Road / St Neots Road / A428 Slips)	1 - Cambourne Road (S)	1198	300	67	2471	0.485	1197	715	0.7	0.9	2.861	A
	2 - A428 EB Off-Slip	607	152	1264	1061	0.572	605	0	0.8	1.3	7.934	A
	3 - St Neots Road (W)	107	27	1315	991	0.108	107	555	0.1	0.1	4.071	A
	4 - Site Access	783	196	1206	1722	0.455	782	215	0.5	0.8	3.825	A
	5 - St Neots Road (E)	434	109	1563	1076	0.403	433	425	0.4	0.7	5.681	A
	6 - A428 EB On-Slip			782				1214				
2 - South (Cambourne Road / A428 Slips)	1 - Cambourne Road (N)	715	179	13	2382	0.300	715	1198	0.3	0.4	2.178	A
	2 - A428 WB Off-Slip	710	178	728	1870	0.380	710	0	0.4	0.6	3.121	A
	3 - Cambourne Road (S)	1143	286	561	1956	0.584	1141	876	0.9	1.4	4.451	A
	4 - A428 WB On-Slip			1212				491				

08:15 - 08:30

Junction	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
1 - North (Cambourne Road / St Neots Road / A428 Slips)	1 - Cambourne Road (S)	1464	366	82	2462	0.595	1462	873	0.9	1.5	3.643	A
	2 - A428 EB Off-Slip	744	186	1544	921	0.807	734	0	1.3	3.8	18.487	C
	3 - St Neots Road (W)	131	33	1602	847	0.155	131	676	0.1	0.2	5.023	A
	4 - Site Access	959	240	1471	1557	0.616	956	262	0.8	1.6	5.965	A
	5 - St Neots Road (E)	532	133	1909	900	0.591	529	517	0.7	1.4	9.780	A
	6 - A428 EB On-Slip			955				1483				
2 - South (Cambourne Road / A428 Slips)	1 - Cambourne Road (N)	873	218	16	2380	0.367	872	1464	0.4	0.6	2.407	A
	2 - A428 WB Off-Slip	870	218	889	1760	0.494	869	0	0.6	1.0	4.058	A
	3 - Cambourne Road (S)	1400	350	686	1871	0.748	1394	1071	1.4	2.9	7.532	A
	4 - A428 WB On-Slip			1481				599				

08:30 - 08:45

Junction	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
1 - North (Cambourne Road / St Neots Road / A428 Slips)	1 - Cambourne Road (S)	1470	367	83	2462	0.597	1469	877	1.5	1.5	3.678	A
	2 - A428 EB Off-Slip	744	186	1552	917	0.811	743	0	3.8	4.1	20.555	C
	3 - St Neots Road (W)	131	33	1614	841	0.156	131	681	0.2	0.2	5.066	A
	4 - Site Access	959	240	1481	1551	0.618	959	264	1.6	1.6	6.083	A
	5 - St Neots Road (E)	532	133	1918	896	0.594	532	522	1.4	1.5	10.039	B
	6 - A428 EB On-Slip			960				1489				
	1 - Cambourne Road (N)	877	219	17	2380	0.369	877	1470	0.6	0.6	2.416	A
	2 - A428 WB Off-Slip	870	218	894	1757	0.495	870	0	1.0	1.0	4.087	A
	3 - Cambourne Road (S)	1400	350	689	1869	0.749	1400	1075	2.9	3.0	7.742	A
	4 - A428 WB On-Slip							602				

08:45 - 09:00

Junction	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
1 - North (Cambourne Road / St Neots Road / A428 Slips)	1 - Cambourne Road (S)	1206	301	68	2471	0.488	1208	721	1.5	1.0	2.895	A
	2 - A428 EB Off-Slip	607	152	1275	1055	0.575	618	0	4.1	1.4	8.503	A
	3 - St Neots Road (W)	107	27	1332	983	0.109	107	562	0.2	0.1	4.113	A
	4 - Site Access	783	196	1220	1714	0.457	786	218	1.6	0.8	3.897	A
	5 - St Neots Road (E)	434	109	1574	1071	0.406	437	432	1.5	0.7	5.807	A
	6 - A428 EB On-Slip			789				1223				
2 - South (Cambourne Road / A428 Slips)	1 - Cambourne Road (N)	721	180	14	2382	0.303	722	1206	0.6	0.4	2.189	A
	2 - A428 WB Off-Slip	710	178	735	1865	0.381	712	0	1.0	0.6	3.145	A
	3 - Cambourne Road (S)	1143	286	565	1953	0.585	1149	882	3.0	1.4	4.556	A
	4 - A428 WB On-Slip			1219				495				

09:00 - 09:15

Junction	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)	
1 - North (Cambourne Road / St Neots Road / A428 Slips)	1 - Cambourne Road (S)	1007	252	57	2478	0.406	1008	601	1.0	0.7	2.486	A
	2 - A428 EB Off-Slip	509	127	1065	1161	0.438	511	0	1.4	0.8	5.616	A
	3 - St Neots Road (W)	90	22	1108	1094	0.082	90	467	0.1	0.1	3.583	A
	4 - Site Access	656	164	1016	1841	0.356	657	181	0.8	0.6	3.046	A
	5 - St Neots Road (E)	364	91	1315	1203	0.302	365	359	0.7	0.4	4.371	A
	6 - A428 EB On-Slip			658				1021				
	1 - Cambourne Road (N)	601	150	11	2384	0.252	602	1007	0.4	0.3	2.040	
	2 - A428 WB Off-Slip	595	149	613	1949	0.305	596	0	0.6	0.4	2.678	A
	3 - Cambourne Road (S)	957	239	472	2017	0.475	959	737	1.4	0.9	3.446	A
	4 - A428 WB On-Slip							413				

2046 | New Site Access Arm and With Mitigation | PM

Data Errors and Warnings

Warning	Geometry	1 - North (Cambourne Road / St Neots Road / A428 Slips) - 5 - St Neots Road (E) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	1 - North (Cambourne Road / St Neots Road / A428 Slips) - 1 - Cambourne Road (S)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked Roundabout	2 - South (Cambourne Road / A428 Slips) - 1 - Cambourne Road (N)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.

Junction Network

Junctions

	North (Cambourne Road / St Neots Road / A428 Slips)	Standard Roundabout		1, 2, 3, 4, 5, 6		
	South (Cambourne Road / A428 Slips)	Standard Roundabout		1, 2, 3, 4		

Junction Network

Left	Normal/unknown		

Traffic Demand

Demand Set Details

	2046	New Site Access Arm and With Mitigation	PM	ONE HOUR	16:45	18:15	15	✓

Linked Arm Data

		2	1	Simple (vertical queueing)	Normal	0	100.00	
		1	1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - North (Cambourne Road / St Neots Road / A428 Slips)	1 - Cambourne Road (S)	✓				
	2 - A428 EB Off-Slip		ONE HOUR	✓	460	100.000
	3 - St Neots Road (W)		ONE HOUR	✓	89	100.000
	4 - Site Access		ONE HOUR	✓	511	100.000
	5 - St Neots Road (E)		ONE HOUR	✓	545	100.000
	6 - A428 EB On-Slip					
	1 - Cambourne Road (N)	✓				
	2 - A428 WB Off-Slip		ONE HOUR	✓	1382	100.000
	3 - Cambourne Road (S)		ONE HOUR	✓	1163	100.000
	4 - A428 WB On-Slip					

Origin-Destination Data

1 - North (Cambourne Road / St Neots Road / A428 Slips)

Demand (Veh/hr)

		To					
		1 - Cambourne Road (S)	2 - A428 EB Off-Slip	3 - St Neots Road (W)	4 - Site Access	5 - St Neots Road (E)	6 - A428 EB On-Slip
From	1 - Cambourne Road (S)	0	0	309	448	146	576
	2 - A428 EB Off-Slip	111	0	65	155	129	0
	3 - St Neots Road (W)	15	0	0	38	3	33
	4 - Site Access	192	0	9	0	17	293
	5 - St Neots Road (E)	379	0	8	37	0	121
	6 - A428 EB On-Slip	0	0	0	0	0	0

2 - South (Cambourne Road / A428 Slips)

Demand (Veh/hr)

		To			
		1 - Cambourne Road (N)	2 - A428 WB Off-Slip	3 - Cambourne Road (S)	4 - A428 WB On-Slip
From	1 - Cambourne Road (N)	0	0	347	350
	2 - A428 WB Off-Slip	585	0	797	0
	3 - Cambourne Road (S)	896	0	12	255
	4 - A428 WB On-Slip	0	0	0	0

Vehicle Mix

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

1 - North (Cambourne Road / St Neots Road / A428 Slips)

Heavy Vehicle %

		0	0	1	0	1	1
		0	0	3	0	0	0
		0	0	0	0	0	0
		0	0	0	0	0	0
		1	0	0	0	0	2
		0	0	0	0	0	0

2 - South (Cambourne Road / A428 Slips)

Heavy Vehicle %

		0	0	0	1
		0	0	0	0
		1	0	0	1
		0	0	0	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - North (Cambourne Road / St Neots Road / A428 Slips)	1 - Cambourne Road (S)	0.66	4.33	2.0	A	1366	2050
	2 - A428 EB Off-Slip	0.60	10.76	1.5	B	424	636
	3 - St Neots Road (W)	0.13	5.41	0.1	A	82	123
	4 - Site Access	0.32	2.97	0.5	A	469	703
	5 - St Neots Road (E)	0.51	6.35	1.1	A	506	759
	6 - A428 EB On-Slip						
2 - South (Cambourne Road / A428 Slips)	1 - Cambourne Road (N)	0.32	2.25	0.5	A	643	964
	2 - A428 WB Off-Slip	0.83	11.52	4.7	B	1268	1902
	3 - Cambourne Road (S)	0.79	10.64	3.7	B	1078	1617
	4 - A428 WB On-Slip						

Main Results for each time segment

16:45 - 17:00

Junction	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
1 - North (Cambourne Road / St Neots Road / A428 Slips)	1 - Cambourne Road (S)	1117	279	40	2488	0.449	1114	526	0.0	0.8	2.631	A
	2 - A428 EB Off-Slip	348	87	1154	1116	0.312	346	0	0.0	0.5	4.685	A
	3 - St Neots Road (W)	67	17	1204	1046	0.064	67	296	0.0	0.1	3.674	A
	4 - Site Access	385	96	763	2000	0.192	384	507	0.0	0.2	2.227	A
	5 - St Neots Road (E)	415	104	925	1401	0.296	413	222	0.0	0.4	3.679	A
	6 - A428 EB On-Slip			566				772				
2 - South (Cambourne Road / A428 Slips)	1 - Cambourne Road (N)	526	131	9	2385	0.220	524	1117	0.0	0.3	1.943	A
	2 - A428 WB Off-Slip	1040	260	533	2004	0.519	1036	0	0.0	1.1	3.703	A
	3 - Cambourne Road (S)	884	221	703	1859	0.476	881	866	0.0	0.9	3.703	A
	4 - A428 WB On-Slip			1126				458				

17:00 - 17:15

Junction	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)	
1 - North (Cambourne Road / St Neots Road / A428 Slips)	1 - Cambourne Road (S)	1336	334	48	2483	0.538	1335	629	0.8	1.2	3.153	A
	2 - A428 EB Off-Slip	415	104	1384	1001	0.415	414	0	0.5	0.7	6.147	A
	3 - St Neots Road (W)	80	20	1443	927	0.086	80	355	0.1	0.1	4.249	A
	4 - Site Access	459	115	915	1905	0.241	459	608	0.2	0.3	2.489	A
	5 - St Neots Road (E)	496	124	1108	1308	0.379	495	266	0.4	0.6	4.473	A
	6 - A428 EB On-Slip			678				925				
	1 - Cambourne Road (N)	629	157	11	2384	0.264	629	1336	0.3	0.4	2.061	
	2 - A428 WB Off-Slip	1242	311	640	1931	0.643	1240	0	1.1	1.8	5.185	A
	3 - Cambourne Road (S)	1056	264	842	1764	0.599	1054	1037	0.9	1.5	5.102	A
	4 - A428 WB On-Slip							548				

17:15 - 17:30

Junction	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
1 - North (Cambourne Road / St Neots Road / A428 Slips)	1 - Cambourne Road (S)	1629	407	59	2476	0.658	1626	769	1.2	1.9	4.249	A
	2 - A428 EB Off-Slip	509	127	1686	851	0.598	506	0	0.7	1.5	10.388	B
	3 - St Neots Road (W)	98	24	1758	769	0.127	98	433	0.1	0.1	5.359	A
	4 - Site Access	563	141	1115	1780	0.316	562	741	0.3	0.5	2.955	A
	5 - St Neots Road (E)	607	152	1353	1183	0.513	605	324	0.6	1.0	6.278	A
	6 - A428 EB On-Slip			829				1129				
2 - South (Cambourne Road / A428 Slips)	1 - Cambourne Road (N)	769	192	13	2382	0.323	769	1629	0.4	0.5	2.242	A
	2 - A428 WB Off-Slip	1522	380	782	1833	0.830	1510	0	1.8	4.6	10.791	B
	3 - Cambourne Road (S)	1293	323	1027	1637	0.790	1285	1265	1.5	3.6	10.079	B
	4 - A428 WB On-Slip			1642				670				

17:30 - 17:45

Junction	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
1 - North (Cambourne Road / St Neots Road / A428 Slips)	1 - Cambourne Road (S)	1640	410	59	2476	0.662	1640	772	1.9	2.0	4.332	A
	2 - A428 EB Off-Slip	509	127	1699	844	0.603	508	0	1.5	1.5	10.764	B
	3 - St Neots Road (W)	98	24	1772	763	0.128	98	436	0.1	0.1	5.414	A
	4 - Site Access	563	141	1123	1775	0.317	563	746	0.5	0.5	2.969	A
	5 - St Neots Road (E)	607	152	1359	1180	0.514	607	326	1.0	1.1	6.352	A
	6 - A428 EB On-Slip			831				1135				
2 - South (Cambourne Road / A428 Slips)	1 - Cambourne Road (N)	772	193	13	2382	0.324	771	1640	0.5	0.5	2.245	A
	2 - A428 WB Off-Slip	1522	380	785	1832	0.831	1521	0	4.6	4.7	11.524	B
	3 - Cambourne Road (S)	1293	323	1033	1633	0.792	1293	1273	3.6	3.7	10.638	B
	4 - A428 WB On-Slip			1653				673				

17:45 - 18:00

Junction	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
1 - North (Cambourne Road / St Neots Road / A428 Slips)	1 - Cambourne Road (S)	1351	338	49	2483	0.544	1354	632	2.0	1.2	3.219	A
	2 - A428 EB Off-Slip	415	104	1403	992	0.419	418	0	1.5	0.7	6.338	A
	3 - St Neots Road (W)	80	20	1461	918	0.087	80	360	0.1	0.1	4.300	A
	4 - Site Access	459	115	926	1898	0.242	460	615	0.5	0.3	2.506	A
	5 - St Neots Road (E)	496	124	1117	1303	0.380	497	269	1.1	0.6	4.528	A
	6 - A428 EB On-Slip			681				934				
2 - South (Cambourne Road / A428 Slips)	1 - Cambourne Road (N)	632	158	11	2384	0.265	633	1351	0.5	0.4	2.067	A
	2 - A428 WB Off-Slip	1242	311	644	1928	0.644	1254	0	4.7	1.8	5.427	A
	3 - Cambourne Road (S)	1056	264	850	1758	0.600	1065	1047	3.7	1.5	5.306	A
	4 - A428 WB On-Slip			1362				553				

18:00 - 18:15

Junction	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)	
1 - North (Cambourne Road / St Neots Road / A428 Slips)	1 - Cambourne Road (S)	1125	281	41	2488	0.452	1126	529	1.2	0.8	2.666	A
	2 - A428 EB Off-Slip	348	87	1167	1110	0.313	349	0	0.7	0.5	4.760	A
	3 - St Neots Road (W)	67	17	1217	1040	0.064	67	299	0.1	0.1	3.699	A
	4 - Site Access	385	96	771	1995	0.193	385	512	0.3	0.2	2.238	A
	5 - St Neots Road (E)	415	104	932	1398	0.297	416	224	0.6	0.4	3.710	A
	6 - A428 EB On-Slip			569				779				
	1 - Cambourne Road (N)	529	132	9	2385	0.222	529	1125	0.4	0.3	1.949	
	2 - A428 WB Off-Slip	1040	260	538	2001	0.520	1043	0	1.8	1.1	3.770	A
	3 - Cambourne Road (S)	884	221	709	1855	0.477	887	873	1.5	0.9	3.765	A
	4 - A428 WB On-Slip							461				

Junctions 11

ARCADY 11 - Roundabout Module

Filename: 13 - Mitigation.j11
Path: C:\Users\Duncan.Lawrence\OneDrive - Arup\307292-00 CAMBOURNE - LOP AND LOCAL PLAN - 03. Transport\Junction Modelling\DS3a\13
Report generation date: 17/07/2026 13:01:20

»2046 | With Mitigation | AM
»2046 | With Mitigation | PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	2046 - With Mitigation									
1 - Highfields Road	D1	0.7	5.89	0.42	A	D2	2.4	17.01	0.72	C
2 - Wellington Way		7.1	32.73	0.89	D		1.0	9.36	0.50	A
3 - St Neots Road (W)		1.7	7.69	0.64	A		0.8	4.17	0.43	A
4 - St Neots Road (E)		1.1	4.12	0.52	A		4.1	9.50	0.81	A

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

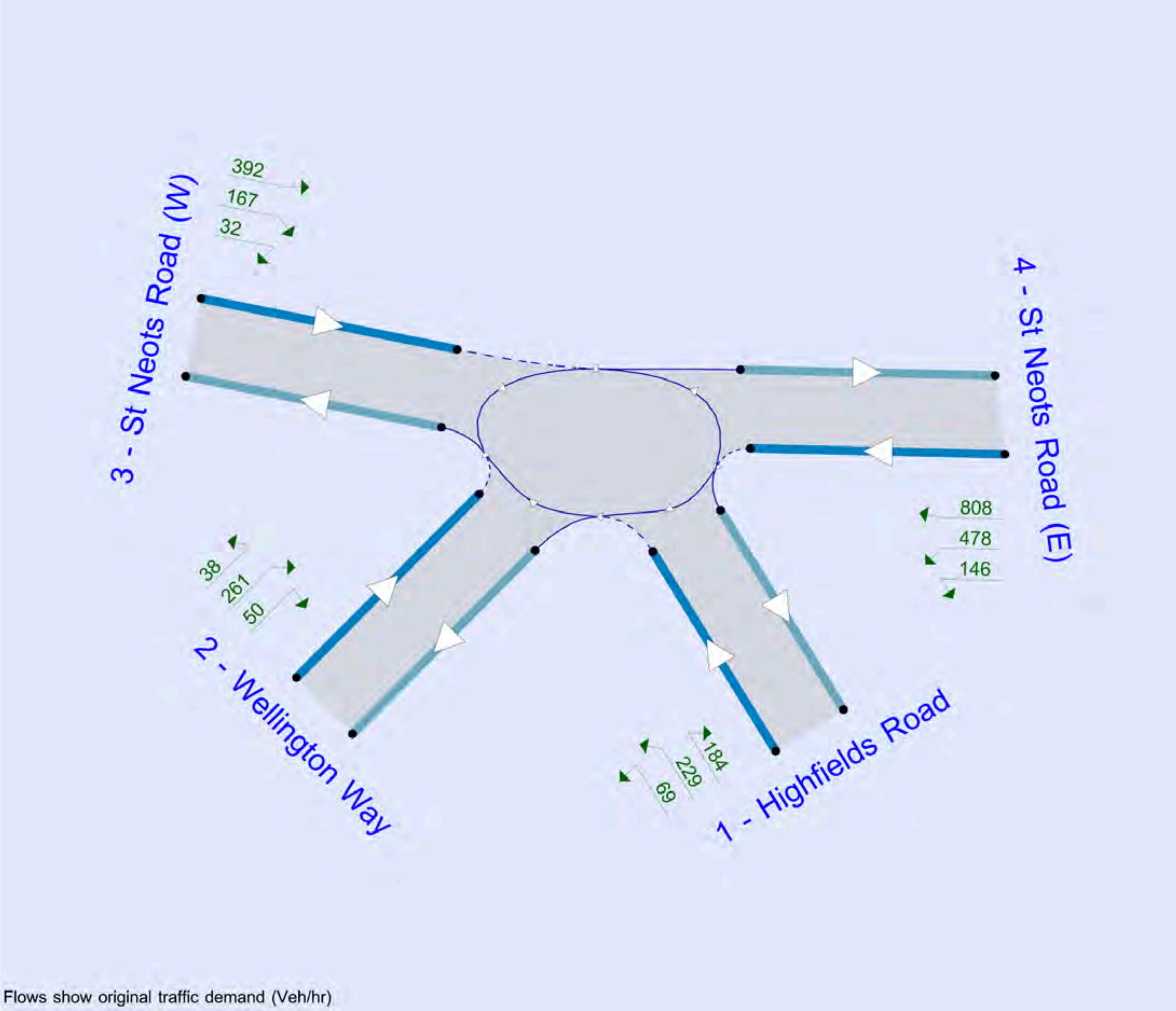
File summary

File Description

Title	
Location	
Site number	
Date	23/06/2026
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\Duncan.Lawrence
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

		0.85	36.00	20.00

Demand Set Summary

	2046	With Mitigation	AM	ONE HOUR	07:45	09:15	15
	2046	With Mitigation	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	
	100.000

2046 | With Mitigation | AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	13.09	B

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	13.09	B

Arms

Arms

Arm	Name	Description	No give-way line
1	Highfields Road		
2	Wellington Way		
3	St Neots Road (W)		
4	St Neots Road (E)		

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)	Entry only	Exit only
1 - Highfields Road	3.25	6.70	14.9	18.6	53.9	35.0		
2 - Wellington Way	3.50	6.80	16.0	9.1	53.9	49.0		
3 - St Neots Road (W)	4.10	7.60	21.9	20.0	53.9	43.0		
4 - St Neots Road (E)	5.00	12.00	15.0	16.5	53.9	55.4		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - Highfields Road	0.557	1552
2 - Wellington Way	0.511	1456
3 - St Neots Road (W)	0.606	1856
4 - St Neots Road (E)	0.642	2132

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

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2046	With Mitigation	AM	ONE HOUR	07:45	09:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Highfields Road		✓	396	100.000
2 - Wellington Way		✓	748	100.000
3 - St Neots Road (W)		✓	748	100.000
4 - St Neots Road (E)		✓	864	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
From		1 - Highfields Road	2 - Wellington Way	3 - St Neots Road (W)	4 - St Neots Road (E)
	1 - Highfields Road	0	39	236	121
	2 - Wellington Way	107	0	41	600
	3 - St Neots Road (W)	232	26	25	465
	4 - St Neots Road (E)	123	207	534	0

Vehicle Mix

Heavy Vehicle %

		To			
From		1 - Highfields Road	2 - Wellington Way	3 - St Neots Road (W)	4 - St Neots Road (E)
	1 - Highfields Road	0	0	1	2
	2 - Wellington Way	0	0	0	1
	3 - St Neots Road (W)	2	0	0	0
	4 - St Neots Road (E)	2	0	2	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1 - Highfields Road	0.42	5.89	0.7	A
2 - Wellington Way	0.89	32.73	7.1	D
3 - St Neots Road (W)	0.64	7.69	1.7	A
4 - St Neots Road (E)	0.52	4.12	1.1	A

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Highfields Road	302	602	1216	0.248	300	0.3	3.972	A
2 - Wellington Way	568	699	1099	0.516	563	1.1	6.723	A
3 - St Neots Road (W)	567	625	1477	0.384	564	0.6	3.960	A
4 - St Neots Road (E)	660	296	1942	0.340	658	0.5	2.841	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Highfields Road	360	721	1150	0.313	360	0.5	4.605	A
2 - Wellington Way	678	836	1029	0.659	675	1.9	10.148	B
3 - St Neots Road (W)	677	749	1402	0.483	675	0.9	4.978	A
4 - St Neots Road (E)	789	354	1905	0.414	788	0.7	3.269	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Highfields Road	441	882	1060	0.416	440	0.7	5.865	A
2 - Wellington Way	830	1024	933	0.890	812	6.4	26.796	D
3 - St Neots Road (W)	829	904	1308	0.634	826	1.7	7.463	A
4 - St Neots Road (E)	966	431	1856	0.520	964	1.1	4.093	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Highfields Road	441	884	1060	0.416	441	0.7	5.891	A
2 - Wellington Way	830	1026	932	0.891	827	7.1	32.731	D
3 - St Neots Road (W)	829	918	1299	0.638	828	1.7	7.692	A
4 - St Neots Road (E)	966	434	1854	0.521	966	1.1	4.116	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Highfields Road	360	723	1149	0.314	361	0.5	4.630	A
2 - Wellington Way	678	839	1027	0.660	698	2.0	11.656	B
3 - St Neots Road (W)	677	771	1388	0.487	680	1.0	5.137	A
4 - St Neots Road (E)	789	359	1902	0.415	790	0.7	3.290	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Highfields Road	302	605	1215	0.248	302	0.3	3.995	A
2 - Wellington Way	568	702	1097	0.517	571	1.1	6.949	A
3 - St Neots Road (W)	567	633	1472	0.385	568	0.6	4.015	A
4 - St Neots Road (E)	660	298	1941	0.340	661	0.5	2.859	A

2046 | With Mitigation | PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	9.64	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	9.64	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2046	With Mitigation	PM	ONE HOUR	16:45	18:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Highfields Road		✓	482	100.000
2 - Wellington Way		✓	349	100.000
3 - St Neots Road (W)		✓	591	100.000
4 - St Neots Road (E)		✓	1432	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Highfields Road	2 - Wellington Way	3 - St Neots Road (W)	4 - St Neots Road (E)
From	1 - Highfields Road	0	69	229	184
	2 - Wellington Way	50	0	38	261
	3 - St Neots Road (W)	167	32	0	392
	4 - St Neots Road (E)	146	478	808	0

Vehicle Mix

Heavy Vehicle %

		To			
		1 - Highfields Road	2 - Wellington Way	3 - St Neots Road (W)	4 - St Neots Road (E)
From	1 - Highfields Road	0	0	0	1
	2 - Wellington Way	0	0	0	0
	3 - St Neots Road (W)	0	0	0	1
	4 - St Neots Road (E)	1	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1 - Highfields Road	0.72	17.01	2.4	C
2 - Wellington Way	0.50	9.36	1.0	A
3 - St Neots Road (W)	0.43	4.17	0.8	A
4 - St Neots Road (E)	0.81	9.50	4.1	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Highfields Road	364	988	1002	0.364	362	0.6	5.632	A
2 - Wellington Way	263	916	988	0.266	261	0.4	4.942	A
3 - St Neots Road (W)	448	372	1630	0.275	446	0.4	3.057	A
4 - St Neots Road (E)	1079	187	2012	0.536	1075	1.1	3.825	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Highfields Road	435	1182	893	0.487	433	0.9	7.834	A
2 - Wellington Way	314	1097	896	0.350	313	0.5	6.168	A
3 - St Neots Road (W)	535	445	1586	0.337	534	0.5	3.445	A
4 - St Neots Road (E)	1289	224	1989	0.648	1286	1.8	5.109	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Highfields Road	533	1443	748	0.712	527	2.3	15.974	C
2 - Wellington Way	384	1337	773	0.497	383	1.0	9.171	A
3 - St Neots Road (W)	655	543	1526	0.429	654	0.8	4.150	A
4 - St Neots Road (E)	1578	274	1957	0.807	1570	4.0	9.113	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Highfields Road	533	1451	744	0.716	532	2.4	17.011	C
2 - Wellington Way	384	1346	769	0.500	384	1.0	9.359	A
3 - St Neots Road (W)	655	547	1524	0.430	655	0.8	4.169	A
4 - St Neots Road (E)	1578	274	1956	0.807	1578	4.1	9.496	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Highfields Road	435	1193	887	0.490	441	1.0	8.193	A
2 - Wellington Way	314	1109	889	0.353	315	0.6	6.290	A
3 - St Neots Road (W)	535	450	1583	0.338	536	0.5	3.464	A
4 - St Neots Road (E)	1289	224	1988	0.648	1297	1.9	5.281	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Highfields Road	364	995	998	0.365	366	0.6	5.734	A
2 - Wellington Way	263	924	984	0.267	263	0.4	5.001	A
3 - St Neots Road (W)	448	375	1628	0.275	448	0.4	3.075	A
4 - St Neots Road (E)	1079	188	2012	0.536	1082	1.2	3.889	A

Junctions 11

ARCADY 11 - Roundabout Module

Filename: 14 and 15 - Copy.j11
Path: C:\Users\Duncan.Lawrence\OneDrive - Arup\307292-00 CAMBOURNE - LOP AND LOCAL PLAN - 03. Transport\Junction Modelling\DS3a\14 and 15
Report generation date: 17/07/2026 13:08:43

»2046 | Future | AM
»2046 | Future | PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	2046 - Future									
1 - 1 - North (Scotland Road, A428 Slips) - 1 - Scotland Road (S)	D1	1.8	5.42	0.65	A	D2	1.3	4.38	0.56	A
1 - 1 - North (Scotland Road, A428 Slips) - 2 - A428 EB Off-Slip		0.4	3.41	0.26	A		0.3	3.10	0.24	A
1 - 1 - North (Scotland Road, A428 Slips) - 3 - Scotland Road (N)		0.4	3.76	0.30	A		1.6	7.02	0.61	A
2 - 2 - South (Scotland Road / St Neots Road / A428 Slips) - 1 - Scotland Road (N)		0.4	3.22	0.28	A		0.8	3.71	0.44	A
2 - 2 - South (Scotland Road / St Neots Road / A428 Slips) - 2 - A428 WB Off-Slip		1.8	6.25	0.64	A		5.9	15.85	0.86	C
2 - 2 - South (Scotland Road / St Neots Road / A428 Slips) - 3 - St Neots Road (S)		0.3	4.60	0.25	A		1.9	14.66	0.65	B
2 - 2 - South (Scotland Road / St Neots Road / A428 Slips) - 4 - St Neots Road (W)		3.7	10.51	0.79	B		1.5	6.10	0.61	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.

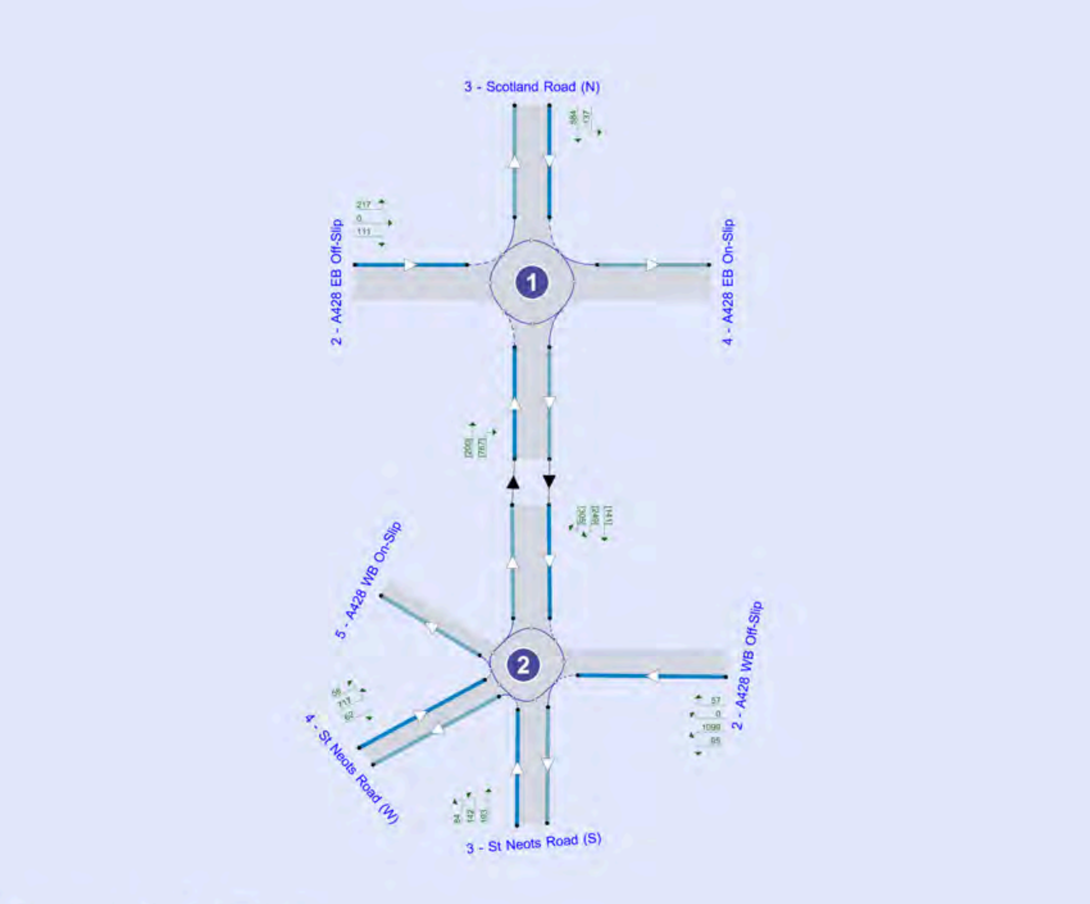
File summary

File Description

Title	
Location	
Site number	
Date	19/06/2026
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\Duncan.Lawrence
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



Flows show original traffic demand (Veh/hr)

The junction diagram reflects the last run of Junctions.

Analysis Options

5.75						0.85	36.00	20.00		

Demand Set Summary

	2046	Future	AM	ONE HOUR	07:45	09:15	15	✓
	2046	Future	PM	ONE HOUR	16:45	18:15	15	✓

Analysis Set Details

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

2046 | Future | AM

Data Errors and Warnings

Warning	Geometry	1 - 1 - North (Scotland Road, A428 Slips) - 2 - A428 EB Off-Slip - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	1 - 1 - North (Scotland Road, A428 Slips) - 3 - Scotland Road (N) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	2 - 2 - South (Scotland Road / St Neots Road / A428 Slips) - 4 - St Neots Road (W) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	1 - 1 - North (Scotland Road, A428 Slips) - 1 - Scotland Road (S)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked Roundabout	2 - 2 - South (Scotland Road / St Neots Road / A428 Slips) - 1 - Scotland Road (N)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.

Junction Network

Junctions

	1 - North (Scotland Road, A428 Slips)	Standard Roundabout		1, 2, 3, 4		
	2 - South (Scotland Road / St Neots Road / A428 Slips)	Standard Roundabout		1, 2, 3, 4, 5		

Junction Network

Left	Normal/unknown		

Arms

Arms

Junction	Arm	Name	Description	No give-way line
1 - 1 - North (Scotland Road, A428 Slips)	1	Scotland Road (S)		
	2	A428 EB Off-Slip		
	3	Scotland Road (N)		
	4	A428 EB On-Slip		
2 - 2 - South (Scotland Road / St Neots Road / A428 Slips)	1	Scotland Road (N)		
	2	A428 WB Off-Slip		
	3	St Neots Road (S)		
	4	St Neots Road (W)		
	5	A428 WB On-Slip		

Roundabout Geometry

Junction	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)	Entry only	Exit only
1 - 1 - North (Scotland Road, A428 Slips)	1 - Scotland Road (S)	4.15	7.70	13.3	25.7	60.4	22.0		
	2 - A428 EB Off-Slip	3.75	9.60	32.0	27.2	60.4	32.5	✓	
	3 - Scotland Road (N)	3.00	8.00	32.3	34.1	60.4	36.5		
	4 - A428 EB On-Slip								✓
2 - 2 - South (Scotland Road / St Neots Road / A428 Slips)	1 - Scotland Road (N)	4.00	7.35	12.5	20.4	69.4	25.4		
	2 - A428 WB Off-Slip	3.95	9.90	17.1	23.7	69.4	25.0	✓	
	3 - St Neots Road (S)	4.15	6.10	12.1	18.7	69.4	23.1		
	4 - St Neots Road (W)	3.70	7.25	46.6	24.7	69.4	40.6		
	5 - A428 WB On-Slip								✓

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Junction	Arm	Final slope	Final intercept (PCU/hr)
1 - 1 - North (Scotland Road, A428 Slips)	1 - Scotland Road (S)	0.601	1907
	2 - A428 EB Off-Slip	0.654	2264
	3 - Scotland Road (N)	0.592	1917
	4 - A428 EB On-Slip		
	1 - Scotland Road (N)	0.526	
	2 - A428 WB Off-Slip	0.578	
	3 - St Neots Road (S)	0.510	1681
	4 - St Neots Road (W)	0.539	1932
	5 - A428 WB On-Slip		

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

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2046	Future	AM	ONE HOUR	07:45	09:15	15	✓

Linked Arm Data

		2	1	Simple (vertical queueing)	Normal	0	100.00	
		1	1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	
1 - 1 - North (Scotland Road, A428 Slips)	1 - Scotland Road (S)	✓				
	2 - A428 EB Off-Slip		ONE HOUR	✓	339	100.000
	3 - Scotland Road (N)		ONE HOUR	✓	368	100.000
	4 - A428 EB On-Slip					
	1 - Scotland Road (N)	✓				
	2 - A428 WB Off-Slip		ONE HOUR	✓	932	100.000
	3 - St Neots Road (S)		ONE HOUR	✓	240	100.000
	4 - St Neots Road (W)		ONE HOUR	✓	1185	100.000
	5 - A428 WB On-Slip					

Origin-Destination Data

1 - 1 - North (Scotland Road, A428 Slips)

Demand (Veh/hr)

		To			
		1 - Scotland Road (S)	2 - A428 EB Off-Slip	3 - Scotland Road (N)	4 - A428 EB On-Slip
From	1 - Scotland Road (S)	0	0	413	705
	2 - A428 EB Off-Slip	75	0	264	0
	3 - Scotland Road (N)	326	0	0	42
	4 - A428 EB On-Slip	0	0	0	0

2 - 2 - South (Scotland Road / St Neots Road / A428 Slips)

Demand (Veh/hr)

		To				
		1 - Scotland Road (N)	2 - A428 WB Off-Slip	3 - St Neots Road (S)	4 - St Neots Road (W)	5 - A428 WB On-Slip
From	1 - Scotland Road (N)	0	0	109	133	158
	2 - A428 WB Off-Slip	125	0	147	660	0
	3 - St Neots Road (S)	83	0	0	71	86
	4 - St Neots Road (W)	910	0	275	0	0
	5 - A428 WB On-Slip	0	0	0	0	0

Vehicle Mix

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

1 - 1 - North (Scotland Road, A428 Slips)

Heavy Vehicle %

		To			
		1 - Scotland Road (S)	2 - A428 EB Off-Slip	3 - Scotland Road (N)	4 - A428 EB On-Slip
From	1 - Scotland Road (S)	0	0	1	1
	2 - A428 EB Off-Slip	9	0	0	0
	3 - Scotland Road (N)	3	0	0	2
	4 - A428 EB On-Slip	0	0	0	0

2 - 2 - South (Scotland Road / St Neots Road / A428 Slips)

Heavy Vehicle %

		To				
		1 - Scotland Road (N)	2 - A428 WB Off-Slip	3 - St Neots Road (S)	4 - St Neots Road (W)	5 - A428 WB On-Slip
From	1 - Scotland Road (N)	0	0	6	0	7
	2 - A428 WB Off-Slip	2	0	11	2	0
	3 - St Neots Road (S)	4	0	0	0	0
	4 - St Neots Road (W)	0	0	2	0	0
	5 - A428 WB On-Slip	0	0	0	0	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - 1 - North (Scotland Road, A428 Slips)	1 - Scotland Road (S)	0.65	5.42	1.8	A	1031	1546
	2 - A428 EB Off-Slip	0.26	3.41	0.4	A	317	476
	3 - Scotland Road (N)	0.30	3.76	0.4	A	347	521
	4 - A428 EB On-Slip						
2 - 2 - South (Scotland Road / St Neots Road / A428 Slips)	1 - Scotland Road (N)	0.28	3.22	0.4	A	383	574
	2 - A428 WB Off-Slip	0.64	6.25	1.8	A	884	1327
	3 - St Neots Road (S)	0.25	4.60	0.3	A	223	335
	4 - St Neots Road (W)	0.79	10.51	3.7	B	1092	1639
	5 - A428 WB On-Slip						

Main Results for each time segment

07:45 - 08:00

Junction	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
1 - 1 - North (Scotland Road, A428 Slips)	1 - Scotland Road (S)	842	211	0	1907	0.442	839	313	0.0	0.8	3.393	A
	2 - A428 EB Off-Slip	260	65	839	1716	0.152	260	0	0.0	0.2	2.520	A
	3 - Scotland Road (N)	285	71	590	1568	0.182	284	508	0.0	0.2	2.884	A
	4 - A428 EB On-Slip			313				561				
2 - 2 - South (Scotland Road / St Neots Road / A428 Slips)	1 - Scotland Road (N)	313	78	210	1678	0.187	312	842	0.0	0.2	2.752	A
	2 - A428 WB Off-Slip	726	181	523	1799	0.403	723	0	0.0	0.7	3.451	A
	3 - St Neots Road (S)	183	46	826	1259	0.146	182	419	0.0	0.2	3.389	A
	4 - St Neots Road (W)	896	224	351	1742	0.514	892	658	0.0	1.1	4.232	A
	5 - A428 WB On-Slip			1052				191				

08:00 - 08:15

Junction	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
1 - 1 - North (Scotland Road, A428 Slips)	1 - Scotland Road (S)	1008	252	0	1907	0.529	1007	375	0.8	1.1	4.031	A
	2 - A428 EB Off-Slip	311	78	1007	1606	0.194	311	0	0.2	0.2	2.834	A
	3 - Scotland Road (N)	340	85	708	1498	0.227	340	609	0.2	0.3	3.198	A
	4 - A428 EB On-Slip			375				673				
2 - 2 - South (Scotland Road / St Neots Road / A428 Slips)	1 - Scotland Road (N)	375	94	252	1656	0.227	375	1008	0.2	0.3	2.933	A
	2 - A428 WB Off-Slip	866	217	626	1739	0.498	865	0	0.7	1.0	4.254	A
	3 - St Neots Road (S)	219	55	990	1176	0.186	219	502	0.2	0.2	3.813	A
	4 - St Neots Road (W)	1070	268	421	1705	0.628	1068	787	1.1	1.7	5.655	A
	5 - A428 WB On-Slip			1260				229				

08:15 - 08:30

Junction	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
1 - 1 - North (Scotland Road, A428 Slips)	1 - Scotland Road (S)	1231	308	0	1907	0.645	1228	459	1.1	1.8	5.330	A
	2 - A428 EB Off-Slip	381	95	1228	1461	0.260	380	0	0.2	0.4	3.393	A
	3 - Scotland Road (N)	417	104	864	1406	0.297	416	744	0.3	0.4	3.741	A
	4 - A428 EB On-Slip			459				821				
2 - 2 - South (Scotland Road / St Neots Road / A428 Slips)	1 - Scotland Road (N)	459	115	307	1627	0.282	459	1231	0.3	0.4	3.218	A
	2 - A428 WB Off-Slip	1061	265	766	1659	0.640	1058	0	1.0	1.8	6.168	A
	3 - St Neots Road (S)	268	67	1211	1063	0.252	267	613	0.2	0.3	4.587	A
	4 - St Neots Road (W)	1311	328	515	1654	0.792	1303	963	1.7	3.6	10.073	B
	5 - A428 WB On-Slip			1538				280				

08:30 - 08:45

Junction	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
1 - 1 - North (Scotland Road, A428 Slips)	1 - Scotland Road (S)	1237	309	0	1907	0.649	1237	460	1.8	1.8	5.420	A
	2 - A428 EB Off-Slip	381	95	1237	1456	0.262	381	0	0.4	0.4	3.414	A
	3 - Scotland Road (N)	417	104	870	1402	0.297	417	748	0.4	0.4	3.757	A
	4 - A428 EB On-Slip			460				827				
2 - 2 - South (Scotland Road / St Neots Road / A428 Slips)	1 - Scotland Road (N)	460	115	309	1626	0.283	460	1237	0.4	0.4	3.222	A
	2 - A428 WB Off-Slip	1061	265	768	1657	0.640	1061	0	1.8	1.8	6.245	A
	3 - St Neots Road (S)	268	67	1214	1061	0.252	268	616	0.3	0.3	4.600	A
	4 - St Neots Road (W)	1311	328	516	1654	0.793	1310	966	3.6	3.7	10.506	B
	5 - A428 WB On-Slip			1546				281				

08:45 - 09:00

Junction	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)	
1 - 1 - North (Scotland Road, A428 Slips)	1 - Scotland Road (S)	1017	254	0	1907	0.533	1020	376	1.8	1.2	4.107	A
	2 - A428 EB Off-Slip	311	78	1020	1598	0.195	311	0	0.4	0.2	2.854	A
	3 - Scotland Road (N)	340	85	717	1493	0.228	341	614	0.4	0.3	3.217	A
	4 - A428 EB On-Slip			376				682				
	1 - Scotland Road (N)	376	94	254	1654	0.227	376	1017	0.4	0.3	2.940	
	2 - A428 WB Off-Slip	866	217	630	1737	0.499	870	0	1.8	1.0	4.310	
	3 - St Neots Road (S)	219	55	995	1173	0.186	219	505	0.3	0.2	3.826	A
	4 - St Neots Road (W)	1070	268	423	1704	0.628	1078	791	3.7	1.7	5.852	A
	5 - A428 WB On-Slip							230				

09:00 - 09:15

Junction	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)	
1 - 1 - North (Scotland Road, A428 Slips)	1 - Scotland Road (S)	848	212	0	1907	0.445	850	315	1.2	0.8	3.441	A
	2 - A428 EB Off-Slip	260	65	850	1709	0.152	261	0	0.2	0.2	2.537	A
	3 - Scotland Road (N)	285	71	597	1564	0.182	285	513	0.3	0.2	2.897	A
	4 - A428 EB On-Slip			315				568				
	1 - Scotland Road (N)	315	79	212	1677	0.188	315	848	0.3	0.2	2.762	
	2 - A428 WB Off-Slip	726	181	527	1797	0.404	727	0	1.0	0.7	3.483	A
	3 - St Neots Road (S)	183	46	832	1256	0.146	183	422	0.2	0.2	3.404	A
	4 - St Neots Road (W)	896	224	354	1741	0.515	899	662	1.7	1.1	4.308	A
	5 - A428 WB On-Slip							192				

2046 | Future | PM

Data Errors and Warnings

Warning	Geometry	1 - 1 - North (Scotland Road, A428 Slips) - 2 - A428 EB Off-Slip - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	1 - 1 - North (Scotland Road, A428 Slips) - 3 - Scotland Road (N) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	2 - 2 - South (Scotland Road / St Neots Road / A428 Slips) - 4 - St Neots Road (W) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	1 - 1 - North (Scotland Road, A428 Slips) - 1 - Scotland Road (S)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked Roundabout	2 - 2 - South (Scotland Road / St Neots Road / A428 Slips) - 1 - Scotland Road (N)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.

Junction Network

Junctions

	1 - North (Scotland Road, A428 Slips)	Standard Roundabout		1, 2, 3, 4		
	2 - South (Scotland Road / St Neots Road / A428 Slips)	Standard Roundabout		1, 2, 3, 4, 5		

Junction Network

Left	Normal/unknown		

Traffic Demand

Demand Set Details

	2046	Future	PM	ONE HOUR	16:45	18:15	15	✓

Linked Arm Data

		2	1	Simple (vertical queueing)	Normal	0	100.00	
		1	1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - 1 - North (Scotland Road, A428 Slips)	**1 - Scotland Road (S)**	✓				
	2 - A428 EB Off-Slip		ONE HOUR	✓	328	100.000
	3 - Scotland Road (N)		ONE HOUR	✓	732	100.000
	4 - A428 EB On-Slip					
	1 - Scotland Road (N)	✓				
	2 - A428 WB Off-Slip		ONE HOUR	✓	1251	100.000
	3 - St Neots Road (S)		ONE HOUR	✓	419	100.000
	4 - St Neots Road (W)		ONE HOUR	✓	837	100.000
	5 - A428 WB On-Slip					

Origin-Destination Data

1 - 1 - North (Scotland Road, A428 Slips)

Demand (Veh/hr)

		To			
		1 - Scotland Road (S)	**2 - A428 EB Off-Slip**	**3 - Scotland Road (N)**	**4 - A428 EB On-Slip**
From	**1 - Scotland Road (S)**	0	0	200	767
	2 - A428 EB Off-Slip	111	0	217	0
	3 - Scotland Road (N)	584	0	11	137
	4 - A428 EB On-Slip	0	0	0	0

2 - 2 - South (Scotland Road / St Neots Road / A428 Slips)

Demand (Veh/hr)

		To				
		1 - Scotland Road (N)	**2 - A428 WB Off-Slip**	**3 - St Neots Road (S)**	**4 - St Neots Road (W)**	**5 - A428 WB On-Slip**
From	**1 - Scotland Road (N)**	0	0	141	249	305
	2 - A428 WB Off-Slip	57	0	95	1099	0
	3 - St Neots Road (S)	193	0	0	84	142
	4 - St Neots Road (W)	717	0	62	0	58
	5 - A428 WB On-Slip	0	0	0	0	0

Vehicle Mix

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

1 - 1 - North (Scotland Road, A428 Slips)

Heavy Vehicle %

		0	0	1	1
		1	0	3	0
		2	0	0	1
		0	0	0	0

2 - 2 - South (Scotland Road / St Neots Road / A428 Slips)

Heavy Vehicle %

		0	0	1	0	0
		2	0	8	0	0
		2	0	0	0	1
		0	0	0	0	0
		0	0	0	0	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - 1 - North (Scotland Road, A428 Slips)	1 - Scotland Road (S)	0.56	4.38	1.3	A	891	1337
	2 - A428 EB Off-Slip	0.24	3.10	0.3	A	308	462
	3 - Scotland Road (N)	0.61	7.02	1.6	A	684	1026
	4 - A428 EB On-Slip						
2 - 2 - South (Scotland Road / St Neots Road / A428 Slips)	1 - Scotland Road (N)	0.44	3.71	0.8	A	649	974
	2 - A428 WB Off-Slip	0.86	15.85	5.9	C	1156	1734
	3 - St Neots Road (S)	0.65	14.66	1.9	B	389	584
	4 - St Neots Road (W)	0.61	6.10	1.5	A	768	1152
	5 - A428 WB On-Slip						

Main Results for each time segment

16:45 - 17:00

Junction	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
1 - 1 - North (Scotland Road, A428 Slips)	1 - Scotland Road (S)	729	182	8	1903	0.383	726	531	0.0	0.6	3.084	A
	2 - A428 EB Off-Slip	253	63	734	1784	0.142	252	0	0.0	0.2	2.403	A
	3 - Scotland Road (N)	561	140	660	1527	0.367	559	326	0.0	0.6	3.775	A
	4 - A428 EB On-Slip			539				680				
2 - 2 - South (Scotland Road / St Neots Road / A428 Slips)	1 - Scotland Road (N)	531	133	46	1764	0.301	529	729	0.0	0.4	2.918	A
	2 - A428 WB Off-Slip	948	237	576	1769	0.536	944	0	0.0	1.2	4.371	A
	3 - St Neots Road (S)	319	80	1288	1024	0.312	318	232	0.0	0.5	5.150	A
	4 - St Neots Road (W)	630	158	530	1646	0.383	628	1075	0.0	0.6	3.525	A
	5 - A428 WB On-Slip			775				383				

17:00 - 17:15

Junction	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)	
1 - 1 - North (Scotland Road, A428 Slips)	1 - Scotland Road (S)	872	218	10	1902	0.459	871	635	0.6	0.8	3.525	A
	2 - A428 EB Off-Slip	302	75	881	1688	0.179	302	0	0.2	0.2	2.656	A
	3 - Scotland Road (N)	670	167	792	1449	0.462	669	391	0.6	0.9	4.691	A
	4 - A428 EB On-Slip			645				815				
	1 - Scotland Road (N)	635	159	56	1759	0.361	635	872	0.4	0.6	3.207	
	2 - A428 WB Off-Slip	1132	283	690	1702	0.665	1129	0	1.2	2.0	6.293	A
	3 - St Neots Road (S)	381	95	1542	894	0.427	380	277	0.5	0.7	7.084	
	4 - St Neots Road (W)	752	188	635	1590	0.473	751	1287	0.6	0.9	4.290	A
	5 - A428 WB On-Slip							459				

17:15 - 17:30

Junction	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
1 - 1 - North (Scotland Road, A428 Slips)	1 - Scotland Road (S)	1065	266	12	1900	0.561	1064	777	0.8	1.3	4.338	A
	2 - A428 EB Off-Slip	370	92	1076	1561	0.237	369	0	0.2	0.3	3.091	A
	3 - Scotland Road (N)	820	205	967	1345	0.610	818	478	0.9	1.6	6.913	A
	4 - A428 EB On-Slip			789				996				
2 - 2 - South (Scotland Road / St Neots Road / A428 Slips)	1 - Scotland Road (N)	777	194	68	1752	0.443	776	1065	0.6	0.8	3.691	A
	2 - A428 WB Off-Slip	1387	347	844	1613	0.860	1373	0	2.0	5.5	14.284	B
	3 - St Neots Road (S)	467	117	1878	722	0.647	463	339	0.7	1.8	13.849	B
	4 - St Neots Road (W)	922	230	775	1514	0.609	919	1567	0.9	1.5	6.021	A
	5 - A428 WB On-Slip			1134				560				

17:30 - 17:45

Junction	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
1 - 1 - North (Scotland Road, A428 Slips)	1 - Scotland Road (S)	1070	267	12	1900	0.563	1070	779	1.3	1.3	4.378	A
	2 - A428 EB Off-Slip	370	92	1082	1557	0.237	370	0	0.3	0.3	3.101	A
	3 - Scotland Road (N)	820	205	972	1342	0.611	820	479	1.6	1.6	7.021	A
	4 - A428 EB On-Slip			791				1001				
2 - 2 - South (Scotland Road / St Neots Road / A428 Slips)	1 - Scotland Road (N)	779	195	68	1752	0.445	779	1070	0.8	0.8	3.706	A
	2 - A428 WB Off-Slip	1387	347	847	1611	0.861	1386	0	5.5	5.9	15.850	C
	3 - St Neots Road (S)	467	117	1893	715	0.654	467	340	1.8	1.9	14.663	B
	4 - St Neots Road (W)	922	230	780	1512	0.610	921	1580	1.5	1.5	6.097	A
	5 - A428 WB On-Slip			1138				563				

17:45 - 18:00

Junction	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
1 - 1 - North (Scotland Road, A428 Slips)	1 - Scotland Road (S)	879	220	10	1902	0.462	880	639	1.3	0.9	3.568	A
	2 - A428 EB Off-Slip	302	75	890	1682	0.179	302	0	0.3	0.2	2.669	A
	3 - Scotland Road (N)	670	167	799	1444	0.464	673	393	1.6	0.9	4.766	A
	4 - A428 EB On-Slip			649				823				
2 - 2 - South (Scotland Road / St Neots Road / A428 Slips)	1 - Scotland Road (N)	639	160	56	1759	0.363	640	879	0.8	0.6	3.227	A
	2 - A428 WB Off-Slip	1132	283	695	1699	0.666	1148	0	5.9	2.1	6.748	A
	3 - St Neots Road (S)	381	95	1563	883	0.432	386	280	1.9	0.8	7.389	A
	4 - St Neots Road (W)	752	188	642	1586	0.475	755	1306	1.5	0.9	4.348	A
	5 - A428 WB On-Slip			935				463				

18:00 - 18:15

Junction	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)	
1 - 1 - North (Scotland Road, A428 Slips)	1 - Scotland Road (S)	733	183	8	1902	0.386	734	534	0.9	0.6	3.114	A
	2 - A428 EB Off-Slip	253	63	743	1779	0.142	253	0	0.2	0.2	2.416	A
	3 - Scotland Road (N)	561	140	667	1522	0.368	562	329	0.9	0.6	3.818	A
	4 - A428 EB On-Slip			542				687				
	1 - Scotland Road (N)	534	133	47	1764	0.303	534	733	0.6	0.4	2.935	
	2 - A428 WB Off-Slip	948	237	581	1765	0.537	952	0	2.1	1.2	4.475	A
	3 - St Neots Road (S)	319	80	1299	1018	0.314	321	234	0.8	0.5	5.241	A
	4 - St Neots Road (W)	630	158	535	1643	0.383	631	1085	0.9	0.6	3.560	A
	5 - A428 WB On-Slip							386				

Subject	Cambourne DS3a Merge / Diverge Assessment Results
Job No/Ref	307292-00
Date	21 July 2026

1. Introduction

The CaPCAM DS3a DMRB merge / diverge assessments of junctions on the A428 are presented below. The assessments were undertaken at the following locations:

- Caxton Gibbet
- A428 / Cambourne Road / St Neots Road
- A428 / Scotland Road

The existing merge / diverge arrangement is highlighted in green on the accompanying diagrams.

2. Caxton Gibbet (EWR proposal)

Merging

Figure 1: EB Merge

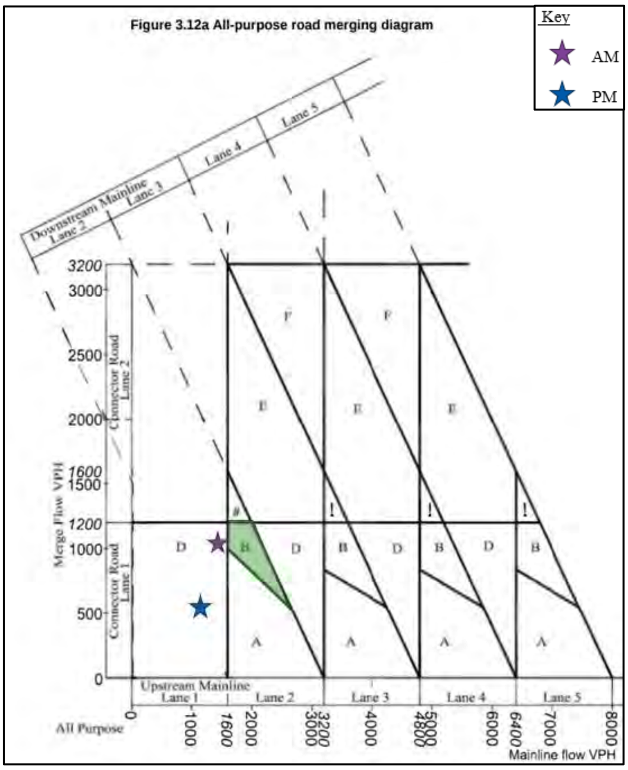
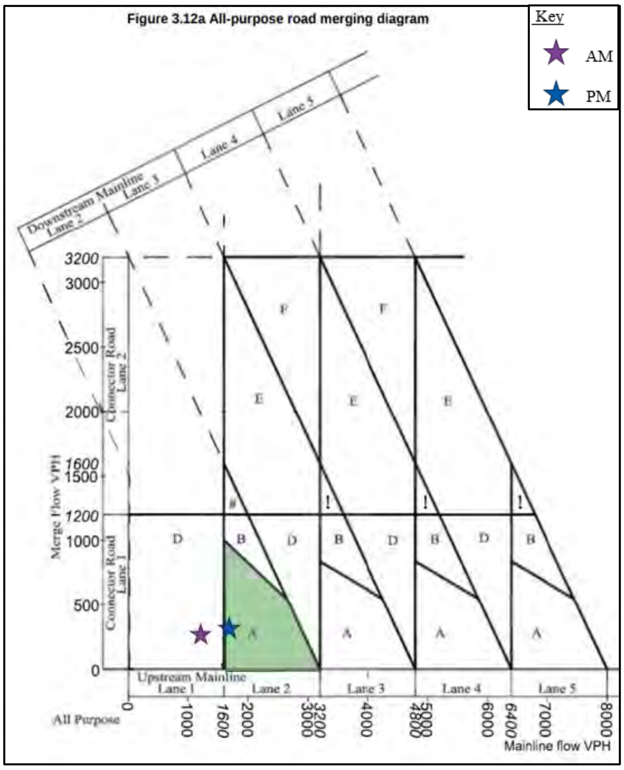


Figure 2: WB Merge



Diverging

Figure 3: EB Diverge

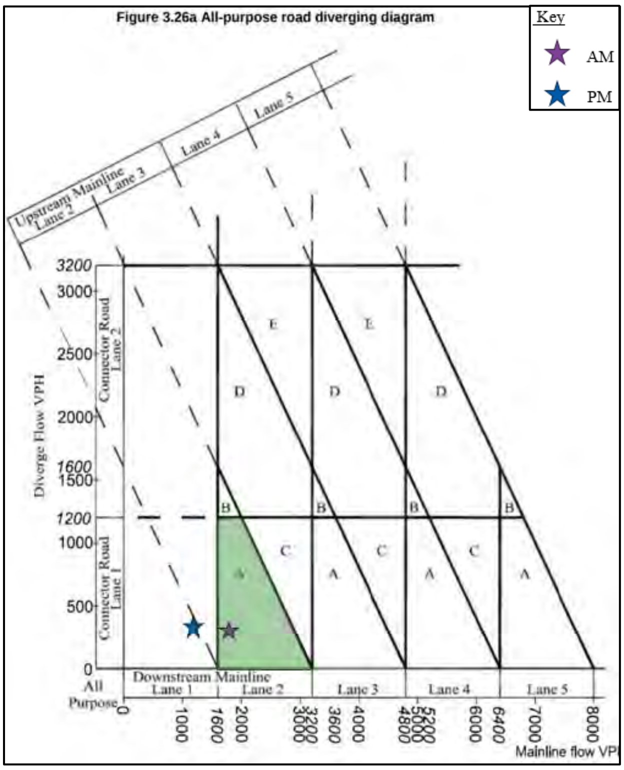
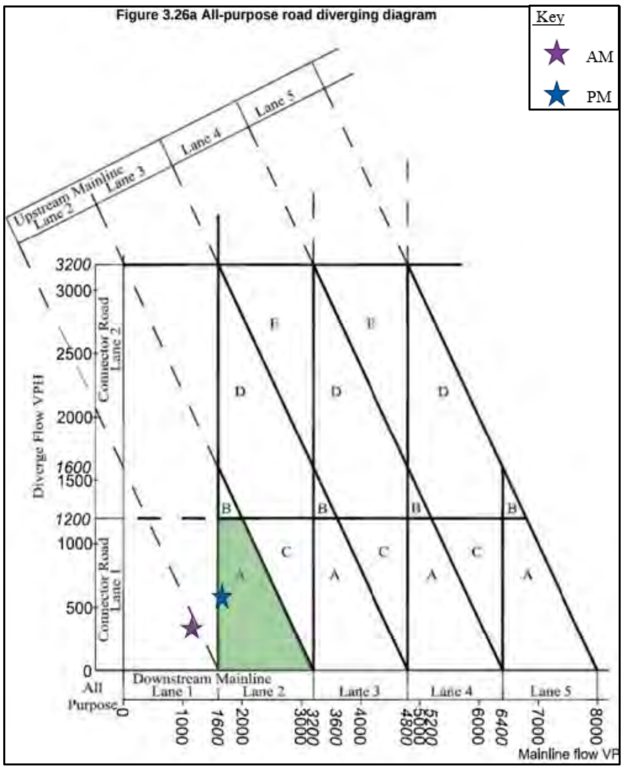


Figure 4: WB Diverge



3. A428 / Cambourne Road / St Neots Road (Existing)

Merging

Figure 5: EB Merge

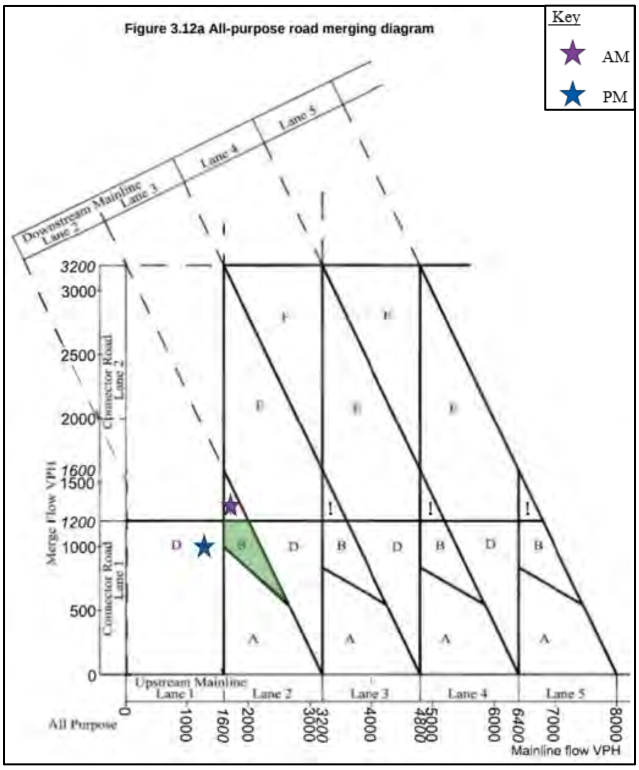
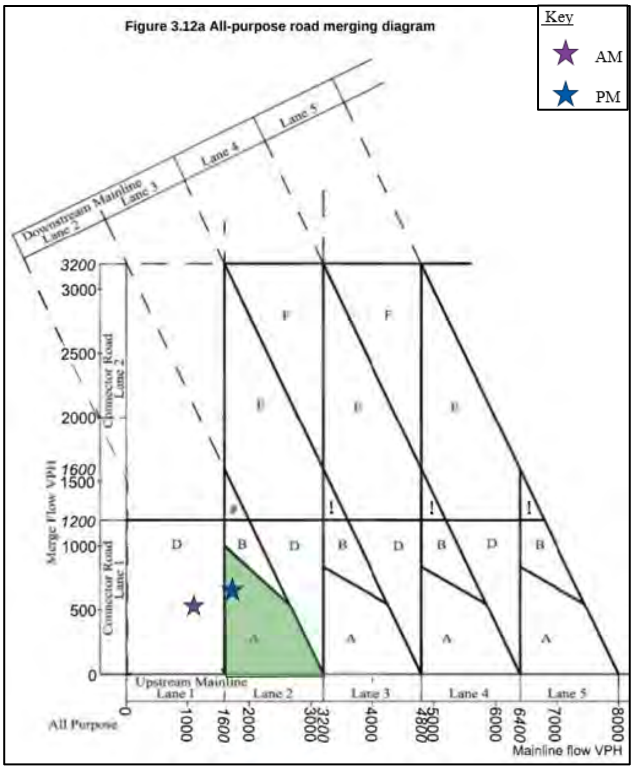


Figure 6: WB Merge



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Diverging

Figure 7: EB Diverge

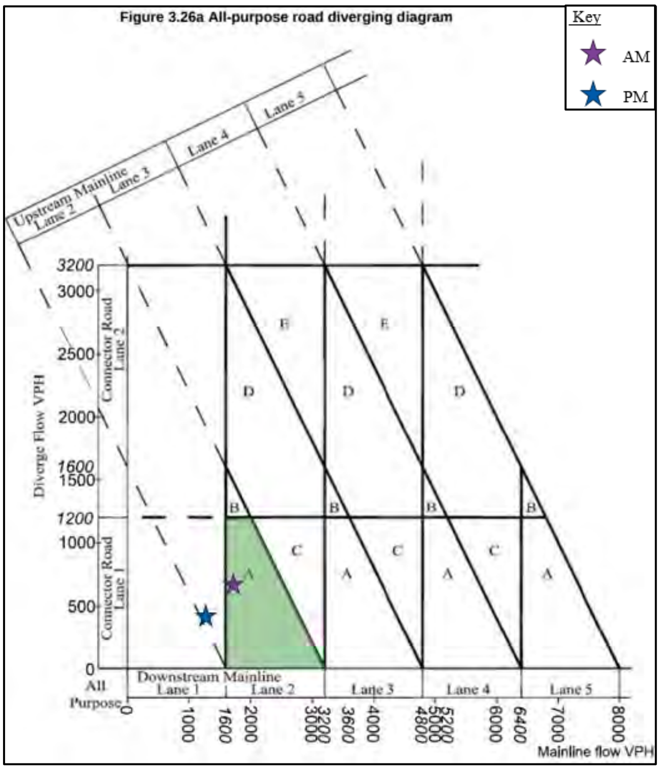
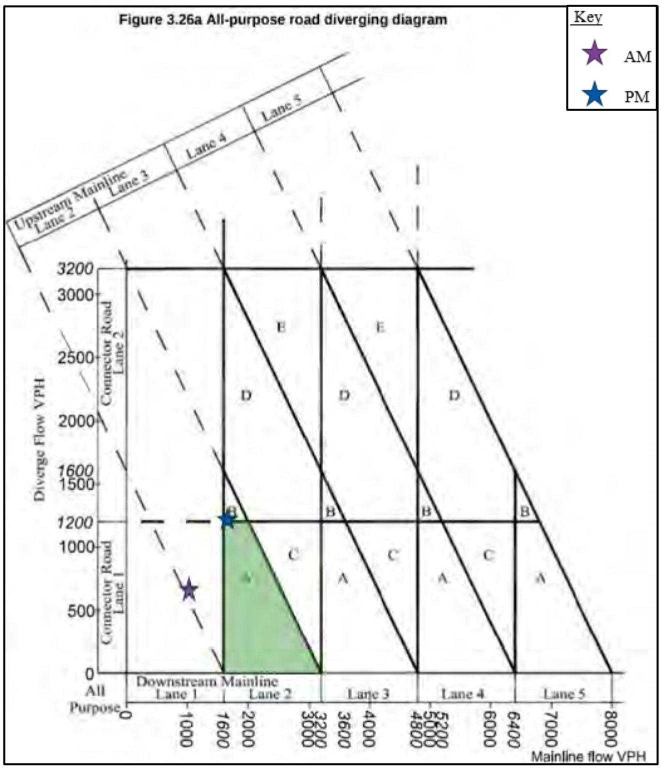


Figure 8: WB Diverge



Subject	Cambourne DS3a Merge / Diverge Assessment Results
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4. A428 / Scotland Road (Existing)

Merging

Figure 1: EB Merge

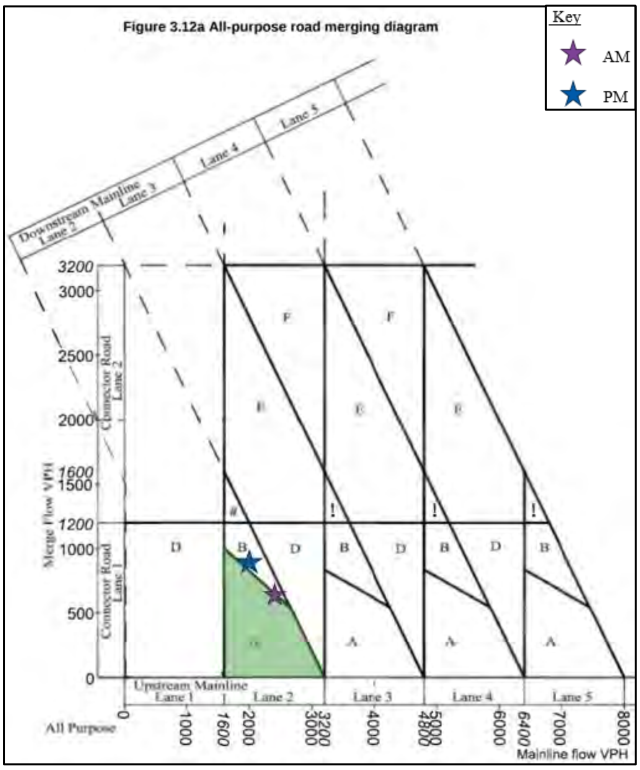
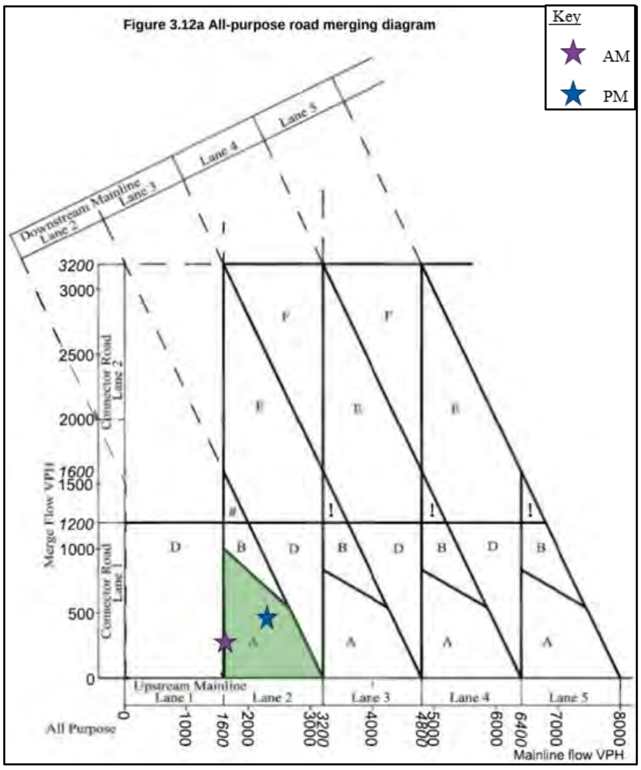


Figure 2: WB Merge



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Diverging

Figure 4: EB Diverge

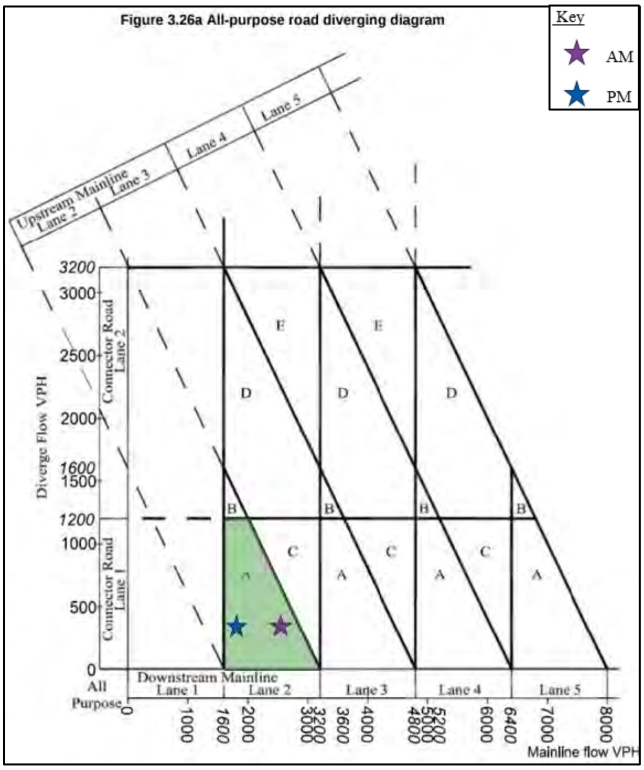

Figure 3: WB Diverge