



## Gravity: A Smart Campus

**Draft**

**Transport Scoping Report**

**Work in Progress**

On behalf of **This is Gravity**

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# 1 Introduction

## 1.1 Project Brief

- 1.1.1 Gravity is a 616-acre Enterprise Zone (EZ) site at a strategic location in the South West of England with the potential to be one of the most sustainable smart campuses in Europe, of international significance. It is an UK destination for inward investment in a post Brexit context, and is being marketed by the Department of International Trade (DIT). The site has a strategic role in economic restructuring and transformation as part of the Green Industrial Revolution, to assist the UK transitioning towards decarbonisation and clean growth.
- 1.1.2 The site is situated approximately 5km north east of Bridgwater and located north of Woolavington Road between the villages of Puriton and Woolavington. The site is located between the M5, to the west, the Huntspill River to the north, and Woolavington Road and the B3139 Causeway to the south and east, respectively.
- 1.1.3 Stantec UK Limited (Stantec) have been appointed by 'This is Gravity' (Gravity) to provide transport support in relation to the delivery of the Gravity EZ Local Development Order (LDO). The LDO approach for Gravity that is being followed was approved by Sedgemoor District Council (SDC) on 15th July 2020.
- 1.1.4 The recommended approach for large sites in single ownership, and specifically EZ's, is to progress an LDO as a marketing tool to attract inward investment. A Memorandum of Understanding (MOU) is in place between SDC, Somerset County Council (SCC) and the Heart of the South West Local Enterprise Partnership (HotSW LEP) and the Ministry of Housing, Communities and Local Government (MHCLG) to agree the EZ, its' delivery from 1.4.2017 - 31.3.2042 through simplified planning and business rates retention, with the first buildings open and occupied in 2020.
- 1.1.5 The EZ partners as listed previously form part of the EZ board to oversee delivery. The Board's focus, especially that of MHCLG, is on delivery and the site is behind the implementation plan agreed. No simplified planning strategy is in place compared to competitor sites and EZ's, and no occupiers are in place.
- 1.1.6 The function of an LDO is to accelerate delivery, aligned to meeting market needs, and LDO's can permit any kind of development and be time limited or permanent. They are about adopting a local solution to simplifying planning and provide local authorities with a flexible tool to address particular circumstances. Over 100 LDOs now exist across 80 authorities who wish to be proactive in attracting investment.
- 1.1.7 Implementing the Gravity EZ through an LDO and Clean and Inclusive Growth Strategy as proposed will represent a leading-edge response to climate action and transformational economic renewal.
- 1.1.8 This draft Scoping Report has been prepared by Stantec as a follow-on from the first Gravity LDO Transport Sub Group Meeting held on 11<sup>th</sup> November 2020. Mike O'Dowd Jones and Jon Fellingham from Somerset County Council (SCC) attended that meeting, as did Rachel Sandy and Andy Roberts from Highways England (HE). The content of this Report reflects and builds upon the approach and methodology principles that were previously presented by Stantec to the Sub Group. **Appendix A** contains a copy of the presentation slides that were shared at that meeting.
- 1.1.9 Stantec has prepared this Transport Scoping Report to explain the main principles of the Mobility Strategy for Gravity, and to demonstrate how the scheme is to be assessed in terms of its multi-modal transport impact on the surrounding highway network.

- 1.1.10 It is envisaged that the transport scope will be developed and agreed in a staged manner, through a series of sub group meetings and written reports, to ensure that SCC and HE officers are consulted appropriately at each stage and to provide opportunity for collaboration.
- 1.1.11 This report represents the first of several scoping documents that will be prepared by Stantec. It is intended that the transport principles and assessment methodology set out herein will be developed in further detail and reported at a later date, following more meeting discussions involving SCC and HE.
- 1.1.12 This Scoping Report (and any subsequent documents) will therefore form the basis of an agreement with both SCC and HE on the scope and parameters of the transport work required to support the Gravity LDO.

## 1.2 Emerging LDO Proposals

- 1.2.1 The LDO developer-led approach will focus on speed, certainty and flexibility to deliver a new era of market led growth, in direct response to the Clean Growth Grand Challenge, to reflect the ambition and potential of the site to deliver the UK Industrial Strategy and the commitment and drive behind its delivery from This is Gravity, its partner EON, and to the benefit of the local authority partners and local communities.
- 1.2.2 The UK have responded to the global climate emergency and committed to 'net zero' carbon by 2050 through the Climate Change Act. The National commitment to deliver a net zero carbon economy by 2050 requires a seismic shift in how growth is planned and delivered.
- 1.2.3 Creating a route to delivering clean and inclusive economic growth is the greatest industrial opportunity of our history. Gravity's strategy is to seize this opportunity and create a smart campus and integrated community which delivers the 4th Industrial Revolution, providing an exemplar in the UK and a beacon for wayfinding on this Clean Growth journey.
- 1.2.4 Effectively, Gravity will be creating a new market opportunity to drive and enable economic restructuring as well as a legacy beyond the Hinkley Point C construction project. Bids are under consideration to establish Gravity as part of the 5G Create research and development project in the M5 corridor, creating the digital architecture to enable a free port zone. The free port bidding process will take place shortly with submissions due in February 2021. Heat Network Investment and rail restoration are other key elements of mobilising to create the right investment conditions to enable delivery and job creation.
- 1.2.5 Gravity will create a low carbon smart campus generating more than 4,000 green collar jobs, providing both a strategic economic stimulus to drive economic renewal, shaping and connecting to a green supply chain across the UK. Home to international business, start-ups and SMEs, Gravity will be a home for Clean Growth and green industries, creating the space to innovate and create green solutions from energy solutions to smart mobility.
- 1.2.6 An MOU between the various Delivery Group partners has been produced to promote effective co-ordination and co-operation between the partners to secure the delivery of the Gravity EZ through an LDO process.
- 1.2.7 The Gravity LDO Project Charter states that Gravity will:



- Be an exemplar in responding to the **Clean Growth** challenge, striving to accelerate the transition to a net zero carbon model fit for the future.
- Have a transparent approach to responding to the **Sustainable Development Goals**, and will establish clear priorities on well-being and inclusivity, clean energy, transport, natural resources, digital and innovation.
- Be underpinned by a clean growth energy strategy through Eon, providing an ectogrid and a 'tool box' of low carbon **energy management and supply solutions** to reduce energy consumption and demand, capture energy generation from the site, and to deploy bespoke energy systems to meet occupier needs.
- Be inclusive, creating 'decent' **employment opportunities**, local supply chain opportunities, linked to apprenticeships, training and development, embedded in employment and skills plans.
- Offer a UK proposition for **FDI through DIT and BEIS**, including a freeport zone site, and space to host international and national scale facilities in the South West
- Target **advanced manufacturing**, life-sciences, cyber, automotive / electric vehicles/ e-mobility and agri-tech sectors.
- Reduce the need to travel, providing choice and a range of **smart mobility** options geared towards decarbonising transport.
- Facilitate **rail restoration and new transport choices** with end to end e-mobility.
- Be a test bed for **innovation**, including smart mobility and 5G deployment.
- Integrate a broad range of ancillary uses to support and increase the attractiveness of the **smart campus**, to enable a 'live work play' scenario, thereby enabling deliverability.
- Create a range of housing solutions as part of a linked, **clean and smart community**, which seeks to reduce the need to travel, including homes for key workers, through private sector rent serviced accommodation, hotels, executive homes and inter-generational and extra care housing to ensure a cohesive and sustainable community.
- Consider **the art of the possible** in responding to the challenge, whether large scale, or small.

1.2.8 At the current time, the following outcomes are predicted for Gravity (subject to change):



- **Planning consent** for the 616 acre Enterprise Zone.
- **Accelerated response to climate change**, withdrawing from combustion based energy generation technologies and minimising in early phases to enable first moves, and transition to a net zero carbon model.
- **Support approaches to green house gas emission removal technology.**
- **National scale energy supply** as primary attractor to Gravity. Connections to the National Grid, including substations, maximising the potential of renewable energy, battery storage, waste energy capture, recycling and storage, and potentially alternative energy generation below 50 MW.
- **Energy management system** to reduce energy consumption, and providing a heating and cooling grid across the smart campus and community.
- **Attracting new businesses and sectors** to Sedgemoor, Somerset, the South West and UK in sectors that can be sustained into the future.
- **Create over 4000 new jobs** (estimate for all development phases), to help transition from a low value, low wage economy to anticipate and respond proactively to economic and structural change, as a result of climate change, and mechanisation. (Note, job numbers will vary enormously between B uses with some having few employees such as in data centres, agri-tech and the energy centre.)
- **500,000m2 to 1,000,000m2 commercial floorspace** which would sit within B1, B2, B8, sui generic floorspace uses. To potentially accommodate a Gigafactory and / or a freeport location for advanced manufacturing and trade.
- **A range of ancillary uses** including restaurants/ cafes, shops, leisure uses up to 100,000m2.
- **Approximately 1300 homes** / units including hotels, private rented sector key worker homes, executive homes and inter-generational housing and extra care facilities.
- **A Strategic Design Code**, refreshed and updated.
- **Enhanced landscape infrastructure and biodiversity**, as a key asset as part of 'super reserve' link.
- **Inclusive campus with public access.**
- **Sustainable water management strategy** and water treatment.
- **Work towards zero avoidable waste by 2030 across the campus.**
- **A new sustainable transport strategy**, geared to minimising impacts on the strategic and local road network, striving for decarbonisation and smart mobility, including the provision of charging infrastructure, consolidated parking and alternative fuel use.
- **Rail restoration** as part of a multi model and smart mobility strategy.
- **Contribute more than £1 billion** to the local economy
- **Contribution to local, regional and national growth ambitions** linked to post Brexit economy, grand challenges of the Industrial Strategy and responding to the climate emergency and drive to net zero carbon outcomes
- **Strategic response post Covid-19 to stimulate economic recovery** and provide a focus for governmental investment.
- **New templates** for compliance and fast track decision making.
- **Fee schedule** through an LDO.
- **Permitted development** through an LDO.

### 1.3 Site Planning Context

- 1.3.1 Gravity is supported at a national level, as denoted by its priority for Government through the DIT and Cabinet Office, and its EZ status which became live on 1<sup>st</sup> April 2017, and Growth Deal Funding granted from the Heart of the South West LEP for the construction of the new site access road (discussed later).
- 1.3.2 The EZ runs for 25 years until 2042 and covers 616 acres excluding the access road. A key part of the EZ local benefits is the business rate retention to various partners (SDC, SCC and Heart of the South West LEP), to be reinvested locally, with the priority on site first, and the establishment of a simplified planning regime to form part of a proactive approach to inward investment marketing to target Foreign Direct Investment (FDI).
- 1.3.3 A Memorandum of Understanding has been agreed with Government on implementation and the first buildings are due to be constructed and occupied during 2020. In effect, this means the project is not currently on track to offer a simplified planning regime to occupiers or generate the level of business rates predicted for delivery partners.
- 1.3.4 The full EZ site was allocated in the former Core Strategy and committed into the current local plan. The hybrid planning application reference 42/13/00010, for the site formerly known as Huntspill Energy Park (HEP), was submitted by BAE Systems as a speculative application to enable site disposal, pre-EZ status being agreed. Nonetheless, its consent (which was granted in November 2017) has fixed parameters and uses and does not constitute a simplified planning regime which is recommended for an EZ.
- 1.3.5 It also includes and makes provision for a substantial area of safeguarded land for energy uses, which do not align with an approach to reduce carbon emissions and have a proactive approach on climate action. There is no certainty in the delivery of outcomes relating to land safeguarded for energy, leisure and rail restoration as no specific consent was granted for those elements of the scheme.
- 1.3.6 The current mix of uses approved under application 42/13/00010 are set out below:
- 8.78 ha of B1 (max 32,150 sqm)
  - 14.84 ha of B2 (max 43,600 sqm)
  - 30.45 ha of B2 (max 101,310 sqm)
  - Safeguarded: 38.74 ha of energy generation uses, 11.22 ha of leisure / community uses and the rail head
- 1.3.7 The consented levels of vehicle trip generation for the full site, as approved under application reference 42/13/00010, are as shown in **Table 1-1**. The totals equate to 1,482 two-way vehicle movements generated in the AM peak period, and a further 1,300 two-way vehicle movements in the PM peak period.



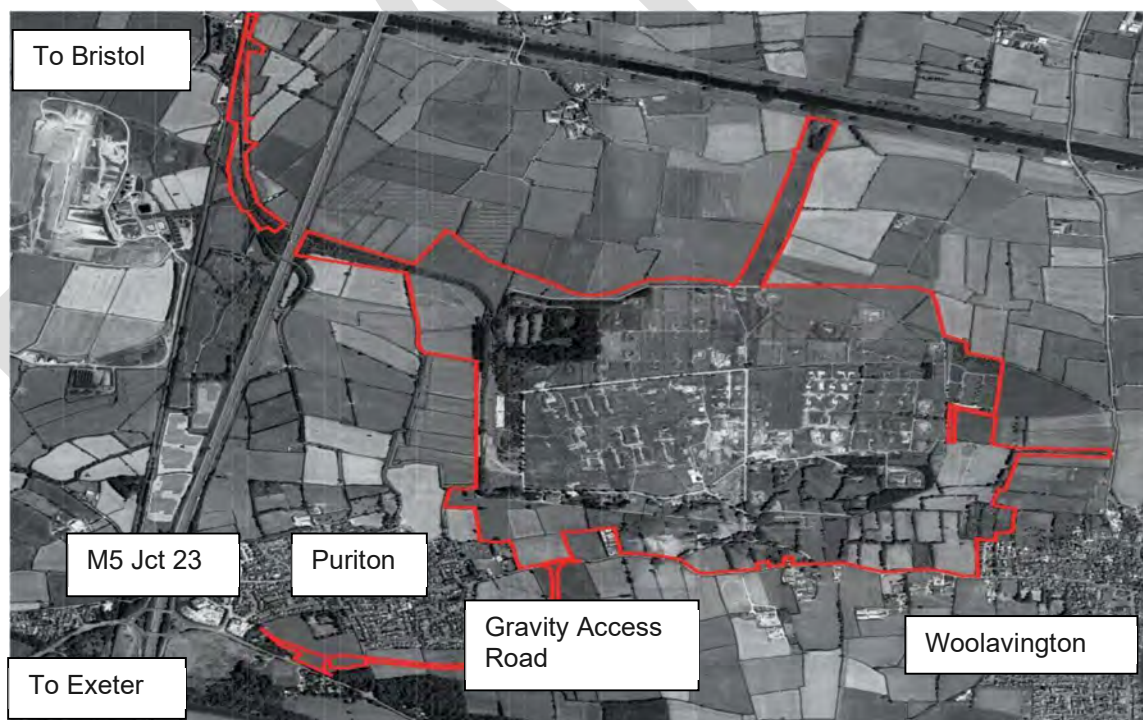
Land Use	AM			PM		
	Arrival (trips per 100 <sup>2</sup> )	Departure (trips per 100m <sup>2</sup> )	Two-way (trips per 100m <sup>2</sup> )	Arrival (trips per 100 <sup>2</sup> )	Departure (trips per 100m <sup>2</sup> )	Two-way (trips per 100m <sup>2</sup> )
B1a	193	32	225	33	176	208
B1b	68	6	74	7	54	61
B1c	79	37	116	14	54	69
B2	322	149	471	58	221	279
B8	259	221	481	238	330	568
CCGT*	56	0	56	0	56	56
Peaking Plant*	8	0	8	0	8	8
Biomass Plant*	39	12	51	12	39	51
<b>Total</b>	<b>1,026</b>	<b>457</b>	<b>1,482</b>	<b>361</b>	<b>939</b>	<b>1,300</b>

Note: Rounding has been applied to the figures within the table

Table 1-1 Consented vehicle trip generation for full HEP development

- 1.3.8 SCC and HE have already agreed that the consented levels of vehicle traffic generation shown can be accommodated on the local and strategic road network surrounding the site, provided that certain identified off-site highway improvements are delivered.
- 1.3.9 Highway works are specified within the signed Section 106 Agreement as follows, with updates on delivery provided in brackets:
- New access road and its associated junctions, including the Green Bridge (construction due to be completed in Spring 2021)
  - Improvements to the A39 / Hillside junction (as above)
  - Improvements to the A39 / Hall Road junction (as above)
  - M5 Junction 23 partial signalisation or a contribution toward (scheme delivered already by another party so the obligation is no longer valid)
  - A38 Dunball Roundabout upgrade or a contribution toward up to a maximum sum of £850,000 (based on trigger points linked to the occupation of B1, B2, B8 use floorspace)
  - Puriton and Woolavington village enhancement schemes (planning approval granted, technical approval process being undertaken)
  - Travel plan obligations (approach being framed as part of the discharge process for the existing consent to enable and encourage early investors / first movers)

- 1.3.10 The consented mix of uses severely limits inward investment marketing and EZ delivery due to the consent being out of alignment with the government's Clean Growth and Industrial Strategies, and market needs, as well as act as a deterrent to some potential occupiers. This in practice, will affect the pace and quality of delivery and outcomes, and creates significant uncertainty on the ability of the EZ to generate transformational economic renewal and the business rates predicted based on the current consent. Simply put, the multiple due diligence processes prior to disposal to attract the right 'owner' and the lack of new occupiers demonstrates the limited ability to deliver the current consent and outcomes sought. Site optimisation, led by ambitions for clean and inclusive growth and the creation of 'place' where investors and people want to be, will transform site marketability, improve outcomes, and enable Gravity to be competitive and secure inward investment into Sedgemoor, wider Somerset and the South West.
- 1.3.11 Excellent progress has been made since the purchase of the site by Salamanca in November 2017 with the collaborative approach between SDC and Gravity on the Compulsory Purchase Order process to enable the site access and this is now in its final legal stages. The site remediation is advanced and nearing conclusion this year and the new access road construction is currently underway, with the appropriate safeguards in place on social distancing. The new road is due to open in Spring 2021.
- 1.3.12 Implementing the Gravity EZ through an LDO and Clean Growth Strategy as proposed will represent a leading-edge response to climate action and transformational economic renewal in the UK.
- 1.3.13 The Gravity LDO red line boundary is shown below.



1.3.14 The Gravity Clean and Inclusive Growth Strategy sets out a total of 50 objectives which includes the following specifically in relation to transport:

- |  |   |
|--|---|
| <p>32. De-carbonise transport, enabling shift to EV's and alternative fuels through investments into infrastructure that enable an interaction between transport needs and energy supply.</p> <p>33. Strive to minimise transport impacts on the strategic and local road network.</p> <p>34. Participate in research and development to offer a free port site, linked to a Free Port Zone enabled by digital infrastructure.</p> <p>35. Establish multimodal transport infrastructure combining rail restoration, motorway to micro mobility and autonomous shuttles.</p> <p>36. Create a micro mobility grid through green infrastructure creating routes and spaces.</p> <p>37. Blend commuting and campus movement into single Movement as a Service deal (MaaS @Gravity) for occupancy based on blockchain transaction ledger. Discourage and phase out single mode travel using behavioral change and incentivisation mechanisms.</p> | <p>38. Enable the supply chain for zero carbon movement and logistics, creating scaled hydrogen and power supply through infrastructure investments or alternatives.</p> <p>39. Provide 5G infrastructure, sensors and edge computing to enable fully autonomous movement within the smart campus.</p> <p>40. Integrate facilities for a helipad / electric taxis and look into the future to consider the UK's first International drone port to connect UK Industrial Clusters to Europe.</p> <p>41. Design corridor infrastructure to enable logistic autonomous movement and platooning.</p> <p>42. Incubate zero emission transport and smart mobility SME's.</p> <p>43. Design civil engineering solutions for future mobility requirements.</p> <p>44. Enable working from home and localised working linked to the campus geared to reducing the overall need to travel through the Gravity Home Hub Model.</p> |
|--|---|

1.3.15 The Gravity LDO programme is as shown below and leads up to its adoption in November 2021.

2020	July	SDC Executive decision to prepare an LDO
	Sept	Delivery Group Established
	Oct	Technical work – ongoing
	Nov	Visioning and parameters plans
	Dec	EIA Screening
2021	Feb	EIA Scoping
	March	Draft LDO / Design Guide / EIA
	May	Informal public consultation
	Aug	Statutory consultation
	Nov	Adopt LDO



## 1.4 Transport Documentation Supporting LDO

- 1.4.1 It is proposed that Stantec will produce Transport Assessment, Framework Travel Plan and EZ Investment and Infrastructure Plan documents that can be submitted to support the Gravity LDO.
- 1.4.2 It is envisaged that the TA will include the following content, much of which will be discussed and agreed through collaborative working with both SCC and HE prior to submission being made:
- Introduction and site history / planning context (also covered within this report).
  - Baseline transport conditions review including an assessment of the site's accessibility by all main modes of transport, along with an updated road safety analysis based on the latest available Personal Injury Accident data (study area to be agreed through scoping discussions).
  - National and local transport policy and guidance review and an assessment of how the scheme complies with those.
  - Detailed description and explanation of the LDO smart campus and community, and specifically market needs/ scenarios/ parameters including the Mobility Strategy package to be implemented (the principles to be developed further are covered within this report).
  - Scenario testing explanation, methodology and outputs including trip generation, distribution and modal share (the principles to be developed further are covered within this report).
  - Development impact assessment methodology and results whilst taking account of the consented traffic generation for the site.
  - If residual transport impacts are generated, a final chapter will set out how such impacts are proposed to be addressed.
- 1.4.3 A separate and bespoke Framework Travel Plan (FTP) will be prepared in general accordance with the SCC Travel Planning Guidance document, but reflecting a step change in travel planning in accordance with the mobility principles to be adopted at Gravity, and it is again envisaged that the approach and content will be discussed and agreed as far as possible prior to submission. A key aspect of this will be to shape an FTP that works as part of the LDO as a marketing tool to attract new businesses and occupiers to the UK and the South West. Its style and approach must be solution/ service orientated and geared to the business and its workforce and business needs, whilst of course aligning and delivering against key principles. This aligns with a similar approach to workforce development and skills.
- 1.4.4 The FTP will form the basis upon which each individual Occupier Travel Plan (OTP) will need to be prepared to enable timely mobilisation and implementation. These Occupier Travel Plans would take into account their own specific travel planning requirements, for example arising from differing working practices and operations within employment uses. The form of these documents will be subject to the scale of each unit and either based upon a '*Measures-only Travel Statement*', '*Travel Plan Statement*' or '*Full Travel Plan*' as detailed in SCC's Travel Planning Guidance, but again according with the mobility principles to be adopted at Gravity. It is expected that delivery partners will have a key role to play in implementation.
- 1.4.5 The remainder of this report provides further information regarding the principles of the proposed transport assessment approach.

## 2 Baseline Transport Conditions

### 2.1 Introduction

- 2.1.1 The HEP TA and TPF documents that were approved under consented application reference 42/13/00010 included a comprehensive assessment of existing transport conditions covering the site access, accessibility to local facilities, pedestrian, cycle and public transport, and the local and strategic road network.
- 2.1.2 Given that the HEP consent is already in place and represents an extant consent, this chapter will generally only provide a high level overview of the baseline transport conditions for the LDO scheme, and will instead focus on any key changes that have already or are planned to take place.

### 2.2 Site Access

- 2.2.1 The site benefits from an established access onto Woolavington Road in the form of a Y shaped priority junction where the Eastern and Western Approach Roads link to form a single point of entry to the 37 Club and main site. A secondary vehicular access connects the site with the B3139 to the east.
- 2.2.2 Both Woolavington Road and the B3139 Causeway in the vicinity of the site are rural in character and considered sub-standard in part along its length in terms of general alignment, forward visibility and highway capacity. To this end the current access arrangements were not considered suitable to provide the main strategic access to support the full HEP scheme.
- 2.2.3 As such, the HEP consented scheme included the construction of a new access road and junctions linking the development to the A39 Puriton Hill, whilst also providing direct access to the M5 motorway via Junction 23 and the A38 via Dunball Roundabout. A general arrangement drawing of the approved access road is provided in **Appendix B**.
- 2.2.4 Whilst the principle function of the new access road is to provide a strategic access to the development site, it will also provide additional local benefits including:
- The provision of access, highway and safety improvements at the existing junctions of Hall Road, Old Puriton Hill and Hillside
  - Restrict HGV traffic through Puriton and Woolavington villages
  - Reduce through traffic movement in Puriton
  - Facilitate public realm and complementary traffic management measures in Puriton and Woolavington villages and Woolavington Road
  - Improve connectivity, accessibility and general safety for pedestrians and cyclists and public transport users
- 2.2.5 In April 2018 the Heart of the South West LEP approved a £3.94m grant to Gravity towards the cost of the access road. Following this allocation of funding, Alun Griffiths were appointed as contractor to undertake the construction works.
- 2.2.6 The access road had an initial 12-month build programme to be followed by landscaping work and creation of a noise bund. Due to the impact of COVID-19 it is anticipated that the road will now open in Spring 2021.

## 2.3 Local Facilities

- 2.3.1 Within the vicinity of the villages of Puriton and Woolavington, there is Court Farm Butchers in Puriton, also providing grocery needs and located on Riverton Road, and Co-op Food on Woolavington Hill, with shops providing day to day convenience goods for local residents. The nearest supermarkets to the villages are in Bridgwater, Budgens adjacent to Bristol Road or Sainsburys approximately 3.7km and 5.3km respectively from the centre of Puriton. A post office is also located on Middle Street within the centre of Puriton.
- 2.3.2 The healthcare needs of the residents can be accommodated within Woolavington at the Woolavington Branch Surgery. Bridgwater Hospital also lies approximately 4.5 km from the centre of Puriton and 5 km from Woolavington and has an Accident and Emergency centre. The nearest dental facility is 'myDentist' located on Symons Way, Bridgwater approximately 5km from Puriton.
- 2.3.3 Within each village there is a primary school. Puriton Primary School is accessed via Rowlands Rise, which contains wide footways either side of the carriageway. Woolavington Village Primary School is located on the southern side of Higher Road and has limited car parking facilities outside but is only served by footways to the east. The closest secondary schools to the villages are Chilton Trinity and Bridgwater College Academy, both within Bridgwater.
- 2.3.4 Within Puriton there is one pub, The Puriton Inn, located on Puriton Hill. As set out above, the National Cycle Network Route runs to the east of Woolavington and north to Highbridge and is accessible via Cossington Lane. There is also Puriton Sports Centre and 37 Sports and Social Club accessed via Batch Road and Woolavington Road respectively.

## 2.4 Walking and Cycling

- 2.4.1 The site lies within open countryside between the villages of Puriton and Woolavington. The semi – rural location is reflected in the current relatively poor accessibility of the site to local facilities and services, within reasonable walk distance. Bridgwater provides the nearest settlement for access to higher order facilities and services.
- 2.4.2 The footway network reflects the rural character of both villages of Puriton and Woolavington. Footway provision lacks consistency with narrow or no footway in places, and only one formal crossing point in each village, therefore currently limiting local pedestrian accessibility and connectivity. However, the consented Village Enhancement Schemes (discussed below) will address these local connectivity issues within and between the two villages.
- 2.4.3 There are no formal cycle paths in the immediate vicinity of the two village settlements, however National Cycle Network Route 3 runs under A39 Bath Road adjacent to Woolavington Hill and later connects to NCNR 33, which runs to the east of Woolavington and up into Highbridge. Surrounding roads and those leading into Bridgwater appear appropriate for cycling, due to their adequate width and the residential nature of the local area.
- 2.4.4 There is currently an absence of formal footways or cycleways adjacent to Woolavington Road, therefore restricting access by these modes between the site and the local villages of Puriton and Woolavington where there are some local facilities available. Again, the consented Village Enhancement Schemes will address these local connectivity issues within and between the two villages.

## **Puriton**

- 2.4.5 Pedestrian footways are provided on at least one side of the carriageway for the length of Hall Road, which also includes a pedestrian crossing adjacent to the Village Hall bus stop prior to forming Riverton Road. Level and adequately surfaced footways then continue on at least one side of the carriageway through Puriton, with dropped kerbs and tactile paving at crossing points such as Rowlands Rise and the Butchers Shop.
- 2.4.6 Puriton Primary School is accessed via Rowlands Rise, which has wide and well surfaced footways on either side. Between the Butchers Shop and Hillside the footway on the eastern side of the carriageway is narrow and is not supported by a footway on its western side.
- 2.4.7 Hillside is served by footways on at least one side of the carriageway until Cypress Drive. However, during a short section of the AM peak it experiences high levels of on street parking linked to the Primary school drop off.
- 2.4.8 Woolavington Road, east of Hillside, is served by wide footways on at least one side of the carriageway with dropped kerbs and tactile paving at informal crossing points. The footways end to the east of Puriton Park.

## **Woolavington**

- 2.4.9 There is currently only one formal pedestrian crossing point on Woolavington Hill B3141 prior to the junction with Higher Road and Vicarage Road. However, there are several informal dropped kerb pedestrian crossing points, but these do not have tactile paving.
- 2.4.10 To the west of Lynham Close, there are no footways on either side of the road along Woolavington Road. To the east, there is a footway on the northern side of the carriageway until Chertsey Close, where a crossing with tactile paving is provided to the footway on the southern side of Higher Road, which continues to the junction with Woolavington Hill, except for a section in front of Woolavington Village Primary School. A crossing with tactile paving is provided by 'The Green' bus stops.
- 2.4.11 Along Woolavington Hill, south of the junction with Higher Road, there are footways provided on both sides of the carriageway. The footways continue until the southern junction with Old Mill Road where a footway is only provided on the eastern side of the carriageway, until the footway comes to an end at Cossington Lane.
- 2.4.12 Along the B3141, north of the junction with Higher Road footways are provided on at least one side of the carriageway for the majority of the route, except for a short section south of the junction with Church Street. The footways provided are narrow in parts along Lockswell with limited crossing points.

## **Village Enhancement Scheme Overview**

- 2.4.13 The Section 106 Agreement for HEP included the requirement to deliver a Village Enhancement Scheme (VES) within and between the villages of Puriton and Woolavington as additional works to construction of the new site access road.
- 2.4.14 Following a public consultation event held in March 2020, a VES scheme has been developed and has achieved planning consent under planning reference 42/20/00022. Stantec are now working to make technical approval submissions in the near future.
- 2.4.15 The VES proposals look to respond to key highway issues, bringing about a change in character of place, reducing traffic speeds and likelihood of collisions through providing appropriate traffic calming measures supported by SCC guidance. The scheme will also create improved environments for utilising sustainable modes within and between the villages. Further details regarding the numerous elements of the VES are set out below.

## **Village Enhancement Scheme – Puriton Proposals**

### ***Puriton Hill / Hall Road***

- 2.4.16 The review of traffic survey data and PIC data highlighted that high vehicle speeds are recorded on Hall Road, with the 85th percentile speeds in excess of the speed limit, relatively low traffic flows, and a collision involving a cyclist identified.
- 2.4.17 As part of the gravity access road scheme, there is a change in priority from Hall Road to Old Puriton Hill. This change in highway geometry introduces a speed reduction measure and will encourage slower vehicle speeds. Hall Road will be enhanced to a northbound one-way layout with on-street parking and a deflection island.
- 2.4.18 Northbound vehicles will therefore need to give-way to vehicles travelling from Puriton Hill to Hall Road, a build out has been provided to deflect traffic, highlighting the change to priority. Southbound vehicles will be required to slow down due to the change in priority and speed control bend with Hall Road continuing into Puriton Hill.
- 2.4.19 It is considered that these proposals will serve to encourage lower vehicles speeds and therefore address the current identified issue.
- 2.4.20 It is also proposed to tighten the radii of the junction of Puriton Hill / Hall Road (on the western side of Hall Road) and provide an overrun area. These proposals are provided to reduce vehicle speeds and reduce pedestrian crossing time.

### ***Hall Road / Riverton Road***

- 2.4.21 As highlighted through the review of traffic survey data and PIC data, there were low vehicle speeds recorded on Riverton Road, with the 85th percentile speeds below the speed limit, relatively low traffic flows, and a collision involving a pedestrian stepping into traffic.
- 2.4.22 As outlined in the proposal set out above, the changes of priority at the junction of Hall Road / Puriton Hill will encourage lower vehicle speeds. Also, since the recorded collision in 2017, the Taylor Wimpey development on Green Acres has provided tightened geometry via a speed control bend, which will encourage lower speeds to the north.
- 2.4.23 It is considered that these proposals will encourage lower vehicles speeds and existing informal crossing points will provide pedestrian connectivity and therefore address the current issues identified.

### ***Riverton Road***

- 2.4.24 As highlighted through the review of traffic survey data and PIC data, there were low vehicle speeds recorded on Riverton Road, with the 85th percentile speeds below the speed limit, relatively low traffic flows, and no collisions recorded.
- 2.4.25 In order to maintain the low vehicle speeds and provide regular spacing of traffic calming measures, on a bus route, speed cushions have been proposed.

### ***Riverton Road / Newlyn Crescent / Rowlands Rise***

- 2.4.26 A site visit identified key desire lines in the vicinity of the Newlyn Crescent / Rowland Rise junction with Riverton Road, which were attributed to parents and children walking to Puriton Primary School and bus stops to the east of Rowlands Rise.
- 2.4.27 It is proposed that a raised table junction with tightened junction kerbing and crossings will accommodate the desire lines and promote pedestrian movement to Puriton Primary School



and local centre. These proposals also fulfil need for the regular spacing of traffic calming measures to maintain low vehicle speeds.

#### **Riverton Road / Woolavington Road**

- 2.4.28 The site visit identified key desire lines evident in the AM peak as pedestrians seek to access the local centre and the bus stop.
- 2.4.29 A review was undertaken to provide a crossing in this location to accommodate desire lines to the local centre. However, due to existing levels and third-party land constraints, there is no opportunity to provide a safe crossing point. Instead, a contrasting surface colour has been proposed to alert drivers of potential hazards.
- 2.4.30 It is considered that widening the footway to 1.8 metres on the eastern side of Woolavington Road will reduce the number of pedestrians using the western side of the carriageway and improve accessibility to the local centre. Minimum carriageway and footway width will be maintained as part of proposals.

#### **Hillside / Woolavington Road**

- 2.4.31 The junction between Woolavington Road and Hillside suffers from conflicting movements, unaided by high levels of on street parking, narrow footways and lack of safe crossing points.
- 2.4.32 Proposals include a raised table junction with crossings to accommodate observed desire lines to Puriton Primary School and Local centre. The raised table junction will encourage slower vehicle speeds on approach to the existing 'S' bend.
- 2.4.33 Traffic calming measures to the east on the bend along Woolavington Road have not been proposed as measures would displace existing on street parking.
- 2.4.34 It is considered that these proposals will maintain low vehicle speeds and accommodate the identified desire lines, therefore addressing existing issues.

#### **Hillside / Cypress Drive**

- 2.4.35 Due to third party land constraints and existing on street parking, there are limited opportunities to provide traffic calming measures along Hillside.
- 2.4.36 Proposals do include a raised table junction between Hillside and Cypress Drive to encourage slower vehicle speeds on approach to Puriton Village and the connection to the Gravity access road.

#### **Woolavington Road**

- 2.4.37 As highlighted through the review of traffic survey data and PIC data, there were high vehicle speeds recorded, with the 85th percentile speeds exceeding the speed limit, and two collisions were recorded to the east of the Woolavington Road / Spring Rise junction.
- 2.4.38 Proposals include a raised table to the west of Manse Lane and proposed H-Bar markings to discourage parking on or adjacent to existing crossing, which will undergo refurbishments.
- 2.4.39 A 3.5m pinch point is proposed to the east of Manse Lane, with priority control, incorporating crossing and widened footways, narrowing the carriageway to a single lane. Proposed give way road markings to the west form a priority control, which encourages slower speeds for eastbound traffic. The build out ensures optimal visibility for pedestrians and slows eastbound traffic.

- 2.4.40 To the east of Manse Lane is a build out with a crossing provided with bollards providing a connection to a footway along the southern side of Woolavington Road and to encourage slower vehicle speeds.
- 2.4.41 The existing bus stop could be relocated further west to improve bus vehicle movement travelling east after the proposed pinch point. However, discussions with Travel Somerset and bus companies will be required. An additional flat top road hump is located to the east of Spring Rise, which incorporates a crossing with tactile paving providing connection to the footway along the northern side of Woolavington Road and encouraging slower vehicle speeds.
- 2.4.42 To the east of Puriton, speed cushions are proposed to the east of Canns Lane to encourage lower vehicle speeds and a raised table to the east of Puriton Park accommodates pedestrian movement and slows vehicle speeds westbound entering the village. Reduced bellmouth kerb radii at Puriton Park also encourages reduced vehicle speeds and reduces pedestrian crossing distance.
- 2.4.43 Proposals also include the provision of a new footway providing pedestrian link to Woolavington with the width ranging between 1.2 metres to 2 metres. The proposed footway will connect into shared foot/cycleway currently being constructed as part of Gravity access road works.
- 2.4.44 Improvements to existing Puriton Gateway and a new 'slow' marking are also proposed on the eastern entrance to the village. The proposals seek to bring about a change in character, which is supported by SCC guidance stating that measures are required approximately every 100 metres to maintain a 30mph speed.

### **Village Enhancement Scheme – Woolavington Proposals**

#### **Woolavington Road Gateway**

- 2.4.45 As highlighted through the review of traffic survey data and PIC data, there were high vehicle speeds recorded, with the 85th percentile speeds exceeding the speed limit, and one collision involving a motorcycle exiting Woolavington Branch Surgery.
- 2.4.46 Proposals include a 'slow' marking to encourage slower speeds on the approach to Woolavington and an improvement to the existing Woolavington village entrance gateway with the change of speed limit signage to be refreshed.
- 2.4.47 Additionally, a 3 metre shared foot / cycleway is proposed to link to Woolavington Road with cycle transition at the peak point of visibility on the north of the carriageway. Approximately 80m of hedgerow will be removed to accommodate footway / cycleway access and visibility splays.
- 2.4.48 In addition, a proposed crossing and footway will link to existing public right of way and proposed shared footway / cycleway. The proposed crossing point includes a build-out, reducing the carriageway width to a single lane of traffic and give way road marking to the west forming a priority control, which encourages slower speeds for eastbound traffic. The introduction of the build-out and crossing point links to Crancombe Lane and the wider Public Right of Way network.
- 2.4.49 It is considered that the proposals will decrease speeds on the entrance and exit of Woolavington at a point of speed change from 60mph to 30mph, whilst also providing increased accessibility for cyclists and pedestrians.

### **Higher Road / Woolavington Village Primary School**

- 2.4.50 As highlighted through the review of traffic survey data and PIC data, there were high vehicle speeds recorded, with the 85th percentile speeds exceeding the speed limit on the entrance to Woolavington, however no collisions were recorded.
- 2.4.51 A flat top road hump is proposed to the west of the entrance to Woolavington Village Primary School to encourage slower vehicle speeds on approach to the school. Pedestrian movement is supported by existing informal crossing points providing connection to the footway along the southern side of Higher Road and bus stop.
- 2.4.52 Proposals include the provision of a footway across the front of Woolavington Village Primary School, which include new crossing points with tactile paving.
- 2.4.53 A raised table junction with crossings is proposed to the east of Woolavington Village Primary School between Higher Road and The Drive. This proposal accommodates observed desire lines to the school and will encourage slower vehicle speeds on approach to the school.
- 2.4.54 Speed cushions are proposed to the east of Crancombe Lane adjacent to The Green to the west of existing bus stops to lower vehicle speeds through the regular spacing of traffic calming measures.

### **Higher Road / Causeway / Vicarage Road / Woolavington Hill**

- 2.4.55 As highlighted through the review of traffic survey data and PIC data, there were high vehicle speeds recorded, with the 85th percentile speeds exceeding the speed limit through Woolavington, however no collisions were recorded.
- 2.4.56 In order to accommodate observed desire lines over The Green a new footpath could be provided subject to land ownership, which would provide access to bus stops along Higher Road.
- 2.4.57 The existing zebra crossing on Woolavington Hill will be incorporated into a flat top road hump to encourage slower vehicle speeds.
- 2.4.58 Speed cushions are proposed to maintain existing low vehicle speeds and provide regular spacing of traffic calming measures along Causeway to the north of the junction. Chicane barriers are proposed on the footway to the western side of the carriageway, along with improved crossing facilities providing access to the existing bus stop. Proposals include new bus cage markings and high access kerbs on the existing footway to serve buses operating in both directions.

### **B3141 Causeway**

- 2.4.59 The review of traffic survey data and PIC data suggested there were high speeds recorded in both directions, with the 85th percentile speeds in excess of the speed limit and three collisions were recorded over the time period as a result, which can be attributed to high speeds.
- 2.4.60 Awareness of existing Woolavington Gateway, associated with the change of speed limit are to be refreshed and improved as part of proposals.
- 2.4.61 Speed cushions are proposed south of the gateway and existing speed limit road markings along Causeway on the northern edges of the village will be refreshed and improved to reduce and maintain low speeds and provide regular spacing of traffic calming measures.

### **Causeway / Lower Road / Church Street / Lockswell**

- 2.4.62 As highlighted by the review of traffic survey data and PIC data, high speeds recorded in both directions, with the 85th percentile speeds in excess of the speed limit, however no collisions were recorded.
- 2.4.63 Proposals include a flat top road hump, incorporating a crossing to the north of Causeway / Lower Road junction, which is to encourage slower vehicle speeds and accommodate desire lines and connectivity to existing footways.
- 2.4.64 There is potential for contrasting surface colour treatment to the indicative extent of Causeway's intersections between Lower Road, Church Street and Lockswell.
- 2.4.65 Improved informal crossing facilities are proposed across Church Street and a new crossing provided along Lockswell to avoid utilities and to provide a connection to the footway along western side of Lockswell. A new section of footway is also proposed to connect the existing footway north of Church Street to the existing footway along Lockswell.
- 2.4.66 Speed cushions are proposed to the south of the proposed surface treatment area along Lockswell to lower vehicle speeds through the regular spacing of traffic calming measures.
- 2.4.67 It is considered that proposals will encourage and maintain low speeds into the centre of Woolavington and provide increased levels of accessibility for pedestrians.

### **Woolavington Hill**

- 2.4.68 As highlighted by the review of traffic survey data and PIC data, high speeds recorded in both directions, with the 85th percentile speeds in excess of the speed limit, however no collisions were recorded. The two collisions recorded in this area were on Old Mill Road within the internal residential network.
- 2.4.69 Woolavington Hill is already served by existing build outs, which will be refreshed to improve awareness and integrate landscaping, however raised planters should not impair visibility for any potential pedestrians using the build outs to cross.
- 2.4.70 To the north of the northern access of Old Mill Road, speed cushions are proposed to maintain existing low vehicle speeds and provide regular spacing of traffic calming measures.
- 2.4.71 On the access to Old Mill Road proposals include the tightening of the junction radius to encourage lower vehicle speeds on the approach to the junction, which also include improved crossing facilities. A flat top road hump is also proposed on the southern side of the junction, which incorporates the current crossing to encourage slower vehicle speeds.
- 2.4.72 Between the northern and southern access points of Old Mill Road, proposals include two new sets of additional speed cushions and the refreshment of a second existing build out which will also include landscaping that should not impact pedestrian visibility.
- 2.4.73 The southern junction between Old Mill Road and Woolavington Hill will similarly include the tightening of the junction radius and improved crossing facilities. A flat top road hump is also proposed on the southern side of the junction, which incorporates the current crossing to the eastern side of Woolavington Hill as no footway is provided on the western side.
- 2.4.74 Further south of the Old Mill Road and Woolavington Hill junction, speed cushions are proposed to lower vehicle speeds on the entrance and exit of Woolavington through the regular spacing of traffic calming measures.

- 2.4.75 Southern Woolavington gateway feature will also be improved and refreshed as well as the existing rumble strips, increasing awareness of the change in speed limit on the entrance and exit of the village.
- 2.4.76 It is considered that proposals will maintain low vehicle speeds through the regular spacing of traffic calming measures and also improve pedestrian accessibility and connectivity through the improvement of crossing facilities.

#### **Village Enhancement Scheme – Shared foot/cycleway between Puriton and Woolavington**

- 2.4.77 As part of the VES scheme proposals, a foot/cycleway is also proposed between the villages of Puriton and Woolavington.
- 2.4.78 The proposed footway ties into Gravity access road construction currently underway at the Woolavington Roundabout. Concrete steps with wooden handrails will provide a link to the access road with a new pedestrian crossing to the north of Woolavington Roundabout.
- 2.4.79 The 3.5 metre foot/cycle becomes a segregated route to the east of the roundabout before running to the north of the 37 Club and joining the existing entrance to the ROF site. The indicative route is shown on Drawing 43444/2025/122.
- 2.4.80 The route will run on the field side of the hedge to the east of the existing access, on land entirely within Gravity ownership. To the east of the ROF entrance the foot/cycleway the route mirrors the eastern approach road before running parallel to Woolavington Road, adjoining the road at the western gateway of Woolavington. The indicative route is shown on Drawing 43444/2025/123.
- 2.4.81 Where the shared foot / cycleway meets the carriageway, the removal of vegetation and the location of the exit point on the bend is designed to accommodate maximum visibility splays for pedestrians and cyclists.

## **2.5 Public Transport**

- 2.5.1 Bus stops through the centre of both villages are serviced by the 75 bus, which operates a loop service from Wells to Bridgwater 7 times a day from 07:45 to 18:27 (Woolavington The Green). The 66 and X75 bus also operate daily from Axbridge to Bridgwater College Monday to Saturday and Wells to Bridgwater College on weekdays respectively, as shown in Table 2-1.

<b>Bus</b>	<b>Service</b>	<b>Frequency (Weekdays)</b>
66	Axbridge – Bridgwater College	1 service a day
75	Wells – Bridgwater (loop)	7 services per day
X75	Wells – Bridgwater College	1 service a day

Table 2-1 Local bus services



- 2.5.2 Recent on-site observations also identified that private school buses operated in the morning peak, servicing secondary schools outside of both Puriton and Woolavington.
- 2.5.3 Hinkley Point C also operates an extensive local bus service for the extensive site workforce, some of whom live locally in permanent or temporary accommodation.

## 2.6 Highway Network

- 2.6.1 Both Puriton and Woolavington can be accessed via the A39 with Puriton on the eastern side of the M5 and Woolavington further to the east, with Woolavington Road connecting the two villages.
- 2.6.2 The A39 provides strategic connectivity to the M5 corridor providing access to Bristol within 45 minutes and other economic centres of Taunton and Exeter within approximately 15 minutes and 50 minutes respectively. M5 Junction 23 also provides easy access to the A38, part of the SCC Major Road Network, via the Dunball Roundabout, and has recently been upgraded to signal control through the mitigation agreed for the Hinkley C project. A Government announcement has been made that the junction would be further improved as part of a £25 million Roads Investment Strategy (RIS) programme however this was not progressed by the Major Projects team. The improvement works completed however removes the need for the HEP scheme to improve Junction 23 in line with the Section 106 obligation for the existing consent, and the capacity of the junction has been increased in anticipation of the additional traffic that could be generated by the extant consent.
- 2.6.3 The village of Puriton is currently accessed from the A39 via Hall Road, Hillside and previously Puriton Hill. However, the access road (currently under construction) will provide for a new roundabout access from the A39 joining with Puriton Hill, with Hillside stopped up and Hall road limited to left turn in movements only from the A39. Hall Road leads on to Riverton Road, and then forms Woolavington Road at the junction with Middle Street and Rye. Woolavington Road aligns to the south forming a junction with Hillside, while Woolavington Road continues east to Woolavington approximately 2km from the centre of Puriton.
- 2.6.4 Woolavington Road provides the westerly access to Woolavington before forming Higher Road, which passes by Woolavington Village Primary School. The centre point of the village is the crossroads between Higher Road / B3141 Causeway / Vicarage Road and Woolavington Hill. The Causeway provides connections to East Huntspill and then Highbridge to the north.
- 2.6.5 Woolavington Hill provides the access from the south to Woolavington. Woolavington Hill forms junctions with Old Mill Road connecting to the residential area to the south west of the village. Woolavington Hill also connects to Cossington Lane, providing access to the small village of Cossington to the east and also continues south to the A39 Bath Road leading towards Street.
- 2.6.6 There are two existing traffic calming build outs on Woolavington Road; one located between the junctions with Old Mill Road, the other to the north of the junction with Combe Lane. As stated previously, the Gravity development will provide an access road from the A39 which is currently under construction. The access road will connect A39 directly to the site via a roundabout with Woolavington Road. The access road, in conjunction with the VES, will alleviate pressure on the internal networks of the villages mitigating the development traffic impact within Puriton and Woolavington.

## 3 Future Travel Trends & Mobility

### 3.1 Introduction

- 3.1.1 There is a growing evidence base demonstrating a shift in travel behaviour because of disruptive technological and societal changes, especially amongst the younger generations.
- 3.1.2 There is widespread evidence demonstrating that there is less reliance on the car from younger generations, aspiration to socialise or work while travelling, high costs of car ownership and change in priorities of spend (car not being a status symbol) all leading to a consensus that future travel behaviour will lead to lower levels of private car use.
- 3.1.3 This chapter provides an overview of a selection of key evidence documents that are underpinning these trends, including:
- Understanding the drivers of road travel: current trends in and factors behind road use (DfT, Jan 2015)
  - Provision of Travel Trends Analysis and Forecasting Model Research (Atkins, AECOM and Imperial College London (2017)
  - Young People's Travel – What's Changed and Why? Review and Analysis: Report to DfT (UWE, 2018)
  - A Time of Unprecedented Change in the Transport System, The Future of Mobility (Government Office for Science, January 2019)
  - TRICS Guidance Note on Changes in Travel Behaviour (August 2019)
  - Planning Transport and Development: All Change – Independent Transport Commission and Peter Brett Associated (no date)
  - DfT Road Investment Strategy 2 (2020-2025)
  - SDC 2050 Transport Investment Strategy (2019)

### 3.2 Understanding the drivers of road travel: current trends in and factors behind road use (DfT, Jan 2015)

- 3.2.1 DfT research suggests that *"over recent decades growth in road traffic has been slowing"*, and additionally indicates that *"car traffic has shown the greatest growth over the long-run but national levels are currently at the levels seen in 2002."*
- 3.2.2 As part of the 2015 report, the DfT have considered multiple factors affecting car use. Some of these include:
- Younger people not learning to drive due to the high cost of learning and car insurance, leading to a decline in car use in this demographic (based on NTS data);
  - Employment rates; a fall in 'real income' amongst younger people over the last decade has made driving cost-prohibitive, whilst employment rates among "females and older age groups", who are driving more, has increased;
  - Traffic levels are shown to track and 'mirror' the changes in Gross Domestic Product;

- Declines in company car use have been found to account for the largest reduction in mileage amongst men between the ages of 30 and 60 and may also be linked with the decline of car use in London. DfT link this to changes in company car taxation rules;
- Urbanisation and increases in population density have been found to have brought down car demand in recent decades;
- There is evidence to suggest that “increasing congestion in urban areas is contributing to the levelling of traffic in these areas, and that more people in these areas are travelling by public transport”; and
- The report suggests also that “we may expect traffic in urban areas to grow less strongly, as... the availability of public transport services [keeps] traffic growth down, alongside more limited road capacity”, and it additionally suggests that “public transport might be expected to continue becoming an increasingly important feature in these areas, whilst greater support and access to cycling... may encourage people to travel by other modes”.

### **3.3 Provision of Travel Trends Analysis and Forecasting Model Research (Atkins, AECOM and Imperial College London (2017))**

3.3.1 The report, which aimed to develop a forecasting model using statistical relationships identified in travel trends and drivers, cites evidence which suggests that:

- “Average trip rates have decreased between 1988 and 2010 for the majority of trip purposes”, including commuting and leisure, and suggested that based on their analysis, it is “changes in walking trips and short trips... [which] have made a significant contribution to the overall observed trends in trip rates”;
- Trip rates amongst all age groups except the 65+ age group have decreased, whilst the 65+ age group has increased only “slightly”;
- Whilst annual car mileage has increased more amongst females and older age groups, there has been “a decline in distance travelled by car... predominantly [seen] amongst the young people and men”; and
- A comparison of 2001 and 2011 Census data has shown that “the proportions of workers categorised as ‘working mainly at or from home’ has increased by 1.4 percentage points to 10.6% in 2011”.

3.3.2 The report therefore suggests that:

- “...reasons for changes in mobility patterns include the differential costs of motor insurance as well as learning to drive, which disproportionately accrue to younger age groups”, which may have in impact on the number of people choosing to drive or own a car;
- “...an increase in the number of individuals who work from home regularly is linked to a reduction in the number of commuting trips made” and it is hypothesised that “using online social networks and online gaming substitute social travel to some extent”, and;
- The overall decline in average trip rates may be mostly due to “changes in walking trips and short trips”.



### 3.4 Young People's Travel – What's Changed and Why? Review and Analysis: Report to DfT (UWE, 2018)

- 3.4.1 Research undertaken by the Centre for Transport & Society (UWE and University of Oxford) found that *"young adults [ages 17-29] in Great Britain and other countries are driving less now than young adults did in the early 1990s"*, and that this change began approximately 25 years ago.
- 3.4.2 This is evidenced in that as of 2014, only 29% of 17-20 year olds and 63% of 21-29 year olds held a driving licence, representing a 19% and 12% decrease respectively. Additionally, it is cited that *"between 1995-99 and 2010-14 there was a 36% drop in the number of car driver trips per person made by people aged 17-29"*.
- 3.4.3 The causes behind this change are hypothesised to be the prohibitive cost of motoring amongst younger people (linked in also with the *"stagnation in wage rates"* and decline in disposable income) as well as younger people accepting not driving, or their peers not driving, as evidenced by surveys and interviews.
- 3.4.4 Additionally, these decreases are linked to increases in *"time spent at home"*, more young people are living in urbanised areas with public transport having a *"greater impact" on commuting choice*, and increased enrolment in higher education which may delay when younger people choose to own a car.
- 3.4.5 The report also suggests that whilst evidence of the impact of technology on travel behaviour is *"contradictory"*, it remains a *"a plausible contributor to the fall in total travel by young people"* as well as changes to signifiers and understandings of 'adulthood'.

### 3.5 A Time of Unprecedented Change in the Transport System, The Future of Mobility (Government Office for Science, January 2019)

- 3.5.1 The report notes that *"we are currently travelling less at an individual level"*, with a greater shift away from use of the private car amongst young people linked in part to changing economic situations, choices of where people live, and a *"greater openness to the sharing economy, which new technology will increasingly facilitate"*.
- 3.5.2 Additionally, the report confirms that the different modes of transport are *"deeply interrelated: the increasing use of one often leads to a reduction in another"*. Whilst it does add that *"the relationship... [can] be complementary"*, it can be inferred that a shift towards more sustainable modes of transport to fulfil trip purposes (the most common of which are cited to be commuting and shopping) will in turn lead to a shift away from the private car.
- 3.5.3 The report therefore advocates for transport to be considered as a system, as well as *"exploring different futures, identify[ing] opportunities and help[ing to] mitigate the unintended consequences of new transport modes, technologies and/or trends"*, and concludes that:  
  
*"transport needs to be considered as a holistic system, not as sequential or separate elements. The 'predict and provide' principle that guided transport planning between the 1950s and 1990s tended to treat modes separately, but this will no longer suffice"*.
- 3.5.4 The report states that *"there has been a general decrease in both trips and mileage (per person) for personal transport in rural, semi-urban and urban areas"*, evidenced by a 12% decrease in car trips and distance travelled since 2002. Whilst it is noted that the factors influencing travel behaviour, both now and in future are *"too many to list"*, key considerations include:

- The digitalisation of services, which will impact future mobility of passengers and businesses;
- Increased home-working may reduce the need to travel;
- An ageing population who historically travel less and at different times to the working population, which will cause the “nature of travel demand to shift”, whilst the younger cohort tend to also be travelling less;
- A sharp increase in car, bike and lift sharing, are predicted likely to grow further towards 2040;
- The influence of the built environment, i.e. people are more likely to walk and cycle if they are in proximity to local facilities and amenities that would otherwise necessitate car travel, i.e. shops, restaurants, schools, and
- Mobility as a Service (MaaS) could “support a move away from car ownership, potentially reducing congestion”.

### 3.6 TRICS Guidance Note on Changes in Travel Behaviour (August 2019)

- 3.6.1 TRICS Consortium Limited (TRICS) is responding to the fact that the world is experiencing significant change in relation to social, technological, economic and environmental drivers which in turn is creating new dynamics in travel behaviour and challenges for transport planning. In the face of deep uncertainty, the “predict and provide” paradigm that has framed transport planning processes is to give way to “decide and provide” paradigm – decide on the preferred future and provide the means to work towards that which can accommodate uncertainty.
- 3.6.2 The TRICS report includes a review of the National Travel Survey (NTS) 2016 and Road Traffic Forecasts 2018. The following is stated:
- The total distance travelled per person per year has fallen by 9% between 2007 and 2016. Distance by all motorised private transport has fallen by about 13% since 2003, and as a car driver by about 10% since 2007;
  - Evidence from the NTS demonstrates vehicle trip rates have been declining over the last 20 years, with a reduction in trip rates of 13% since 2002; and
  - Due to uncertainty around socio economic trends, the Road Traffic Forecasts assumes that young people reduce their licence holding acquisition compared to current levels and have extrapolated this trend in young people’s licence holding up until 2050.
- 3.6.3 The TRICS report also sets out its own trend analysis dated May 2019. It states that there has been a 12% decline in vehicle trip rates (morning peak and all day) for residential development between 1989 and 2018.
- 3.6.4 The TRICS report further comments on the implications of the above evidence for TRICS. It states:
- “The evidence reviewed from All Change, the DfT RTF 18, NTS 2016 and the TRICS historic review demonstrates that there has been a sustained change in travel behaviour. This change is reflected in the trip rates for residential, retail (super food) and employment sites. Care need to be taken to ensure that the design of the residential and retail development, in particular, take account of these changes in travel behaviour”;

- “If no recognition is given to the trends shown in the evidence from All Change and the DfT RTF18 report then it is inevitable that transport planning will continue to provide infrastructure that meets previous predicted needs rather than the transport needs of the future. This could lead to the over provision of highway capacity which in turn induces travel demand or the analysis could lead to the under provision of walking and cycling infrastructure or public transport services. The consequences are serious and we run the risk of planning and developing stranded or underutilised assets”; and
- “The Business as Usual or “rear view mirror” approach, i.e. projecting past traffic growth trends and socio economic trends to determine the need for infrastructure, in particular new roads and junction capacity has diminished relevance. The question becomes how to plan in light of the evidence of trends and the uncertainty that lies ahead. As change in travel behaviour continues, it is anticipated there would a need for a more flexible approach in adapting or providing new transport measures for the development”.

### 3.7 Planning Transport and Development: All Change

3.7.1 The ITC’s review of National Travel Survey data demonstrates that there have been huge changes to our travel patterns over the last 20 years, including:

- The number of trips and number of miles travelled per person per year have declined since the late 1990s, whilst average trip distance and time have increased.
- The number of car driver trips made per person per year has reduced in all regions of the country, in both rural and urban areas.
- Despite a 9% increase in population, total personal car traffic has remained broadly constant between 2002 and 2014.
- There has been a reduction in car travel in all age and gender bands, except men and women over 60. The most significant reduction in car travel is in men aged 17 to 34, and then men aged 35 to 59.
- Travel distance by non-car modes has increased by 19%, with the biggest increase being seen in surface rail travel.

3.7.2 The All Change report continues to refer to six ‘game changers’ that could significantly change the way we travel, including:

- Big data - The digital revolution has bought us so much data that it is possible to plan better for people’s needs. The opportunities are vast.
- Internet of things – this is about connecting devices over the internet, letting them talk to us, applications, and each other, allowing the travel industry to track people and vehicles to reduce the need to travel or co-ordinate seamless travel.
- Connected vehicles – a system that allows vehicles to communicate with each other and the world around them, connecting them to the Internet of Things. It supplies information to allow drivers make informed decisions about their travel.
- The Sharing Economy – we are sharing cars, taxis, lifts, driveways, houses, tools and many more things. This could change when and how we travel, and whether we do it together.
- Mobility as a Service – Maas will offer consumers access to a range of vehicle types and journey experiences. It is a digital interface to source and manage the provision of transport related services. Basically, it’s a contract for travel, similar to a mobile phone

contract – pay as you go, monthly or annually for different levels of service. An app would allow you to select your travel choice. Alerts and information will guide you on your journey to your destination, giving real-time information, on where and when to get each means of travel.

- Driverless vehicles – these already exist and are being trialled by many manufacturers. The UK has one of the best regulatory regimes for testing automated vehicles in the world, therefore providing a good platform for developments in this industry.

3.7.3 The All Change report concludes that in the future we will make fewer trips, our journeys will be shorter, we will travel by car less, and car ownership will reduce. Our approach to travel planning needs to take account of these changes as our transport networks need to be resilient and able to adapt to the changes the future could bring. This means that new developments need to be designed for the future too, to influence travel with investments developed and prioritised to support and encourage sustainable travel in line with the DfT's user hierarchy.

### **3.8 DfT Road Investment Strategy 2 (2020-2025)**

3.8.1 This second Road Investment Strategy (RIS2) sets a long-term strategic vision for the strategic road network. It specifies the performance standards HE must meet, lists planned enhancement schemes to be built, and states the funding will be made available for this.

3.8.2 RIS2 includes a long-term vision for what the strategic road network should like in 2050 – so that it is 'future ready'. In doing so, it recognises that new technology opportunities are becoming available and that travel trends are also changing.

3.8.3 In particular, RIS 2 acknowledges that overall trip rates for the majority of trip purposes have been declining and there is a trend of more young people not learning to drive.

### **3.9 SDC Transport Investment Strategy 2050 (October 2019)**

3.9.1 In addition to the above documents, the SDC 2050 Transport Investment Strategy identifies the key transport schemes required to support economic growth and new housing in Sedgemoor, aligning transport infrastructure with development.

3.9.2 Within the Strategy document, it also acknowledges changing attitudes to driving, including a trend towards fewer young people holding driving licenses meaning they are less likely to drive than previous generations. They also acknowledge DfT conclusions that changes in young people's attitudes to driving were the result of wider socio-economic trends including a greater proportion of young people in higher education than previously, lower paid jobs and greater job insecurity and trends towards urban living and lower levels of home ownership than previous generations.

3.9.3 The Strategy also places an emphasis on the potential role that Mobility as a Service (MaaS) could play going forwards in the light of recent and ongoing advances in digital technology, something which is discussed further below.

### 3.10 Future of Mobility

3.10.1 As indicated above, recent travel trends suggest that the way people and especially younger generations consider travel and mobility is changing.

3.10.2 The DfT Future of Mobility Strategy document explains that the following multiple changes in transport technology are happening:

**1. Data and connectivity are transforming journeys** - the increasing availability of data and improved connectivity are allowing travellers to plan multi-stage journeys with confidence and on the go. Vehicles capable of communicating with each other and with infrastructure have the potential to provide information to network operators and users in real time to optimise fleet and network management.

**2. Transport is becoming increasingly automated** - improved sensing technology, computing power and software engineering are leading to increasing levels of automation in transport, across many different modes.

**3. Transport is becoming cleaner** - rapidly falling battery prices, improvements in energy density and electric motors and developments in alternative fuels have the potential to reduce emissions across a range of modes.

**4. New modes are emerging** - technology is enabling new ways of transporting people and goods. In the air, drones are being used to address local needs, from supporting emergency services to improving the safety of infrastructure inspections. On the roads, improved batteries and motors are facilitating the introduction of new forms of micromobility, providing ever more options for the movement of people and goods. These include electric scooters, electrically assisted pedal cycles (e-bikes) and e-cargo bikes.

**5. Travel demand is rising overall but falling at an individual level** - overall growth in road travel demand across England and Wales is forecast to continue over the coming decades.<sup>37</sup> However, this is largely driven by population growth; people are travelling less per person now than one or two decades ago. One of the reasons behind reduced individual travel is a decline in commuting.

**6. The population is ageing, and travel choices show clear generational differences** - the UK's population structure is expected to change considerably in the coming decades. The 65+ population is projected to grow by around 50% in both urban and rural areas between 2016 and 2039. In comparison, the younger population (aged under 65 years) is only projected to grow by 8% in urban areas, with virtually no increase in the younger population in rural areas.

**7. Consumer attitudes are changing** - rising customer expectations are driving passenger transport and delivery services that are increasingly affordable, convenient and personalised.

**8. New digitally enabled business models are changing** - closely linked to changing consumer attitudes and the harnessing of data and connectivity, we are seeing the emergence of new digitally enabled models of transport provision. These include ride-hailing and MaaS.

**9. Shared mobility is becoming more prevalent** - while public transport remains a fundamental form of shared mobility, new models based on shared use or ownership of vehicles are proliferating, enabled by digital platforms and in line with a shift towards a sharing economy in other sectors.



3.10.3 In summary, future mobility has the potential to include the opportunities set out below.

## What does future mobility look like?



### Accessible

Accessible vehicles, infrastructure, and services create barrier-free environments without regard for ability or socioeconomic circumstance while improving the complete trip for all.



### Automated

Mobility systems which use computers and sensors to travel more efficiently and predictably in less space, effectively increasing road capacity and safety while lowering maintenance and operations costs.



### Connected

Modes and infrastructure enabled with Wi-Fi, cellular, or dedicated short-range communication devices that allow two-way communication between vehicles, cyclists, pedestrians, and more, increasing safety and efficiency.



### Electric

Battery electric vehicles ideally powered by renewable energy to reduce fossil fuel consumption and harmful emissions.



### Shared

Vehicles – whether cars, bikes, scooters, shuttles, buses or rail cars – that share rides, ownership, or use, to reduce congestion costs and total vehicle miles travelled, while enabling new access options for underserved neighborhoods.

Source: Stantec

3.10.4 All of the above means there is an opportunity to improve mobility dramatically. New technology and business models could deliver substantial benefits for society, the environment and the economy.

### 3.11 COVID-19 and Future Trends

3.11.1 The Google COVID-19 Community Mobility Report database has been reviewed to analyse the impact of the pandemic on commuting trips in Somerset. Data from April / May 2020, during the first lockdown period, confirms that commuting trips dropped by 49% from the usual baseline level at that time.

3.11.2 By comparison, additional data from September / October 2020, a period when lockdown was not in place, demonstrates that commuting trips had increased from April levels, but were down by 24% from the usual baseline level.

3.11.3 Whilst the Somerset data obtained demonstrates that commuting trips increased by 25% between May and October 2020, it is evident that the October levels still indicate very significant levels of homeworking taking place. The data suggests that some of the changes to commuting practices could be temporary, but others could be more permanent, reflecting an acceleration of business transformation and changes to the way we work.

3.11.4 It is also possible that COVID-19 will accelerate anticipated economic restructuring and employment decline in key sectors in Sedgemoor and Somerset, which are dominated by low value, low wage businesses and are at risk from mechanisation and automation. This will be further considered by economic colleagues to inform the LDO.

3.11.5 The Chartered Institute of Highways and Transport are promoting a report produced jointly by CBI and KPMG called '*Commuting Beyond the Coronavirus*'<sup>1</sup> which is dated July 2020. The CBI and KPMG report sets out the following key points, and importantly suggests that some of the temporary changes to commuting practices are likely to continue to impact commuters' lives in the years ahead:

- The coronavirus pandemic has had a dramatic impact on how people and businesses operate day-to-day, not least in how they approach travelling to and from places of work. Attempts to contain the disease have had an instant and unprecedented effect on working patterns all over the country, with the lockdown and increased working from home dramatically reducing use of networks and demand for public transport.
- According to Office for National Statistics (ONS) only 1.7million people in the UK worked from home before the pandemic, whereas during the lockdown this saw an increase to an estimated 20 million people working from their homes.
- Policy makers must anticipate and adapt to the longer-term shifts in working patterns that are starting to emerge and that may well stick beyond the current crisis. As the UK seeks opportunities to 'build back better' there is an opportunity to create commutes that are more reliable, affordable, and environmentally sustainable. This will mean building vibrant cities and town centres that have a mix of both public transport and active travel options, offering choice to users. All these changes will help to drive economic growth.
- People are likely to work more from home, but transport connectivity will remain an important driver of productivity and prosperity. Public transport offerings need to modernise to better meet customer demand. Future commutes must produce fewer emissions and help set us on a path to net zero.
- Steps should be taken to ensure that changes which have contributed to the increased uptake of cycling and walking to work by employees, have a long-term effect on journey choices. From the £2bn package to create a new era for cycling and walking to the fast-tracked legislation for e-scooter trials, the response has shown the government's ability to accelerate future of mobility ambitions. This capacity for innovation and quick policy design should be retained and seen as an opportunity to recast the way we plan and design for future transport infrastructure.

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<sup>1</sup> <https://www.cbi.org.uk/media/5101/cbi-kpmg-commuting-beyond-the-coronavirus-july-2020-final-1.pdf>

## 4 A New Approach to Transport Appraisal

### 4.1 The Need for Change

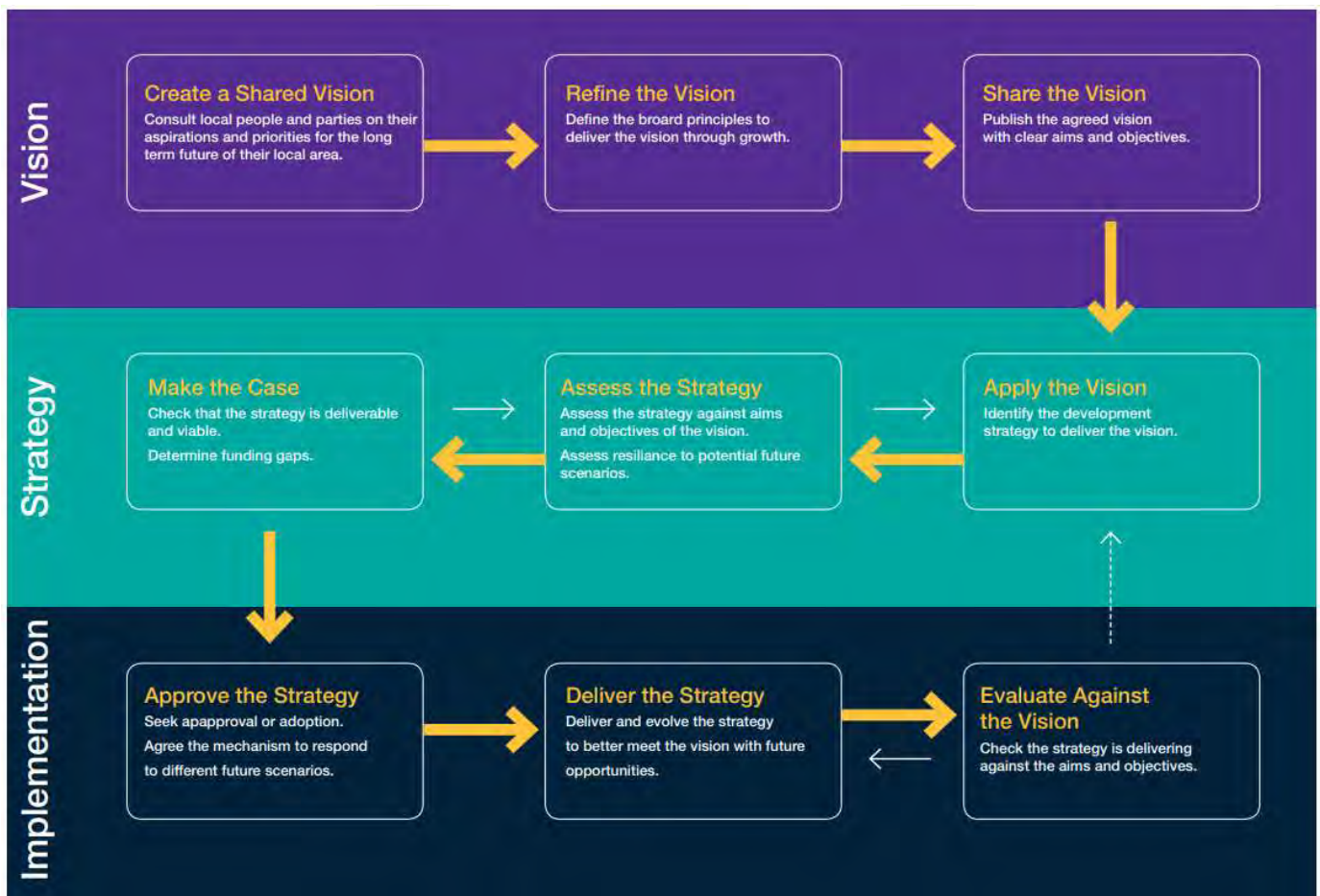
- 4.1.1 Chapter 3 of this report identified in detail that there are major societal shifts and other disruptive changes expected to have a significant impact on the way we travel in the future. We are likely to make fewer trips, shorter journeys, travel less by car and see reduced levels of car ownership.
- 4.1.2 Notwithstanding this, the way we assess the effects of increasing travel demand using 'Predict and Provide', and how we plan for the transport effects of development, has undergone little significant change since the publication of Planning Practice Guidance 13 over 20 years ago.
- 4.1.3 The traditional predict and provide assessment assumes no societal or technological changes in travel behaviour, which contradicts the vast amount of evidence. including those presented previously, which counters this approach.
- 4.1.4 In urban areas this approach tends to conclude that the road network cannot accommodate additional traffic without significant and often prohibitively costly highway capacity increases. In this situation, one solution is to continue to ever increase car capacity through increasing the scale of junctions and / or widening road links. However, evidence suggests that this approach just induces further traffic which quickly take up the additional headroom in capacity created. This leads to undesirable outcomes including car dominated environments, poor quality of life, severance and health & wellbeing, for example, as well as a return to congested conditions over time.
- 4.1.5 The approach to transport and land use planning needs to take account of societal, technological and behavioural changes. Transport networks need to be resilient and able to adapt to the changes the future could bring. This means that new developments need to be designed for the future too, to influence travel with investments developed and prioritised to support and encourage sustainable travel in line with the DfT's user hierarchy.
- 4.1.6 The DfT transport planning hierarchy does encourage proper assessment of sustainable modes before planning for residual traffic growth, and this is a step forward, but this analysis is included in an otherwise very much 'business as usual' transport assessment environment. Meanwhile, 'Monitor and Manage' techniques have been employed in a limited way to encourage investment in new highway capacity only when necessary.

### 4.2 Vision and Validate / Places First

- 4.2.1 Professor Peter Jones at UCL has proposed that Transport Planning needs to be 'turned on its head'. Jones points out that we are still in the game of predicting and providing, predicting transport demand using modelling, and then trying to provide the infrastructure the models say is needed.
- 4.2.2 The issue is that past models have consistently over-estimated demand. Jones suggests that, rather than to continue with 'predict and provide', we should employ a 'vision and validate' approach. This would envision what we want 'good growth' to look like, and use forecasting and design skills to test scenarios in order to identify the approach which will provide us with the best opportunity of achieving that vision.



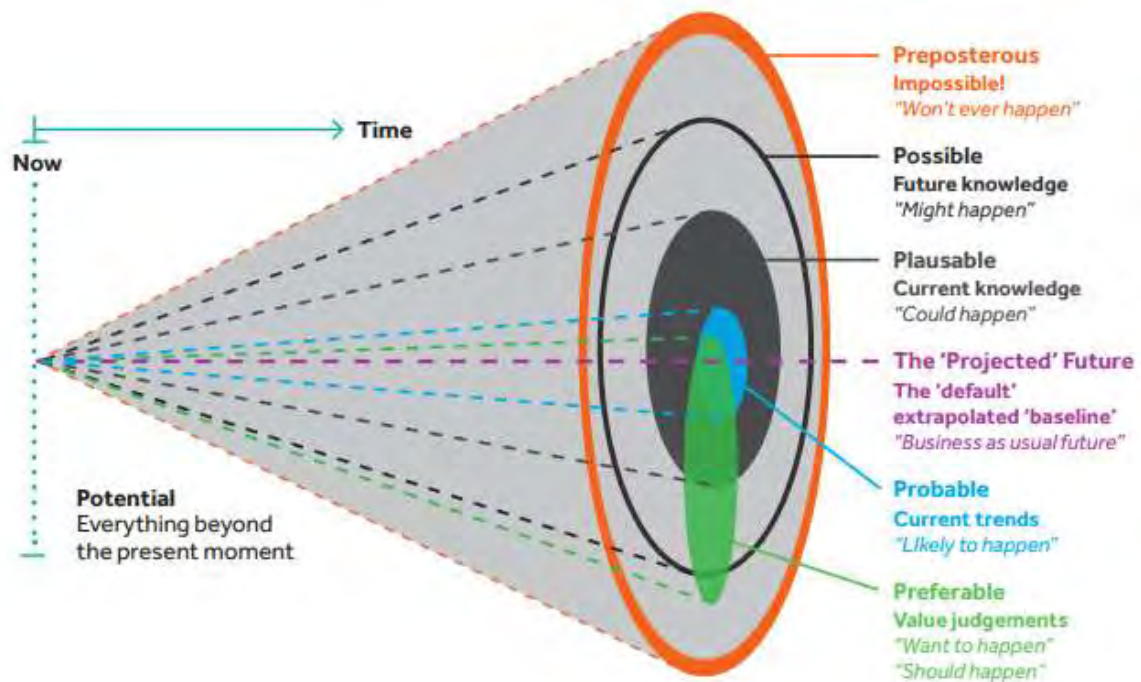
- 4.2.3 This means starting with a shared understanding about the nature of the place we are aiming to create, devising a strategy to deliver the agreed vision, and then using our transport assessment skills to demonstrate the most appropriate way of delivering this. This process needs to test alternative policy scenarios to identify the most resilient strategy, taking into account the uncertainties associated with forecasting in a fast-changing world. An adaptive approach to implementation will be an essential part of the process, making the monitoring and management of outcomes central to the process (see figure below).



Source: Stantec

### 4.3 Scenario Planning

- 4.3.1 The CIHT 'Better Planning, Better Transport, Better Places' publication dated August 2019 also recommends that the way transport assessments are undertaken needs to change and focus on meeting place-based objectives. It states that the options to come out of the assessment process need to be stress-tested through the lens of alternative possible future scenarios to arrive at a preferred approach that can be secured through planning.
- 4.3.2 'Scenario planning' therefore assumes multiple possible futures as shown in the figure below produced by G.Lyons for the '*Uncertainty Ahead: Which Way Forward for Transport*' report (2016).



Source: G.Lyons

- 4.3.3 The process of stress-testing alternative land-use and transport options through different scenarios is fundamental to devising an effective, sustainable, and deliverable plan, as is a multi-criteria assessment that considers a wide range of planning and delivery factors. The appraisal process needs to be iterative, with the evolution of policies and scenarios set against a clear vision with key indicators.

## 5 Gravity Mobility Strategy Principles

### 5.1 Approach

- 5.1.1 Gravity will embrace the latest thinking in mobility solutions, allowing smarter and people focused movement through the site while creating flexible and efficient plots.
- 5.1.2 The transport proposals put forward in support of development at Gravity aim at delivering a framework for access and movement that is deliverable and effective based on current technologies, but also resilient to future travel patterns and systems.
- 5.1.3 The Gravity Mobility Strategy will focus on each of the following elements which are outlined in more detail within the remainder of this chapter:
- Reducing the need to travel
  - Reducing travel distances - creating sustained, better quality employment locally
  - Improving access and choice for pedestrian movement
  - Improving access and choice for cycle movement
  - Introducing new and innovative Micromobility measures
  - Improving local bus / public transport connectivity
  - Improving rail connectivity - passengers and freight
  - Parking management principles
  - Reducing car trips
- 5.1.4 It is anticipated that all of the above can be combined into an overall service package for Gravity, that can be provided to users via MaaS, with further details on this being set out in Section 5.11.

### 5.2 Reducing the Need to Travel

- Flexible / remote working practices and technological solutions including videoconferencing and online collaboration will be available to employees where possible. Flexible working arrangements allow for the opportunity to travel a little earlier or later than normal to fit in with bus or train times or to avoid the busiest time on the road, saving both time and fuel.
- The Gravity campus could include live-work units and / or work hubs which could serve to further reduce the overall need to travel off the site for some trip purposes.
- The campus will be 24/7.

### 5.3 Reducing Travel Distances

- The creation of circa 4,000 new green-collar jobs at Gravity should reduce the need for the local residents of Bridgwater and its surrounding areas to travel to larger settlements such as the cities of Bristol and Exeter for access to better skilled work opportunities.

## 5.4 Improving Access and Choice for Pedestrian Movement

- All streets are to have a minimum of a dedicated footway to promote pedestrian movement.
- Pedestrian connections from Puriton and Woolavington to be designed for inclusivity and permeability.
- Mobility on site will be impacted positively by adoption of the design principles around waste and resource management. Reducing waste will reduce service movements and a co-ordinated management process throughout the development efficiencies will also be realised, reducing any conflict between servicing requirements and non-motorised user requirements.

## 5.5 Improving Access and Choice for Cycle Movement

- Provision of high-quality off-site highway improvements as part of the new access road and the village enhancement scheme will facilitate and encourage trips to the site by bike.
- All streets to incorporate high quality cycling provisions to facilitate and encourage trips by bike.
- Provision of accessible, safe, secure and sheltered cycle parking facilities at key destinations throughout the site.
- Provision of cycle equipment storage, changing and shower areas across the site in appropriate areas.

## 5.6 Introducing New and Innovative Micromobility Measures

- Implementing micromobility solutions for people and goods through the site will reduce the burden of private cars and HGV/LGV movement.
- Where a goods hub is provided on site, this should be used by all tenants where practicable.
- Provisions for the use of scooters and e-bikes will be built into the scheme from an early stage.

## 5.7 Improving Local Bus / Public Transport Connectivity

- External bus routes to enter the site via the new access road.
- Streets have been developed as a flexible grid to allow for scalable mass mobility solutions within the site.
- In the early phases, an electric / alternative fuel bus loop will distribute people around the site in an expedient manner.
- It is anticipated that as the site technology develops, provision will be made for autonomous people moving vehicles using zero emission Demand Responsive Transport (DRT) such as taxis / buses.

## 5.8 Improving Rail Connectivity

- Reinstatement of rail for passenger and freight services is currently being explored via the Rail Restoration Fund, and in conjunction with Network Rail who have confirmed that the reopening would be feasible.

## 5.9 Parking Management Principles

- Opportunities will be sought to develop consolidated parking hubs to make efficient use of land, integrate EV charging, and reduce the visual impact of parking.
- On-plot parking to be minimised and where utilised must be sensitively built into the development and must not be prominent from the street.
- Eon Drive Car Club on site, while EV charging points will be integrated into parking areas and / or bespoke commercial facilities.
- Designing in EV charging and smart infrastructure into design codes to ensure effective and seamless implementation

## 5.10 Reducing Car Trips

- To reduce private car trips to the site, a two pronged strategy will be developed which considers the interface between Gravity as a Place (on-site solutions) and the wider transport network (offsite solutions) provided for in the Section 106 agreement.
- A comprehensive Travel Plan will be implemented at the development including modal share targets, measures to encourage travel by sustainable modes of transport, and a robust monitoring and review programme.

## 5.11 Mobility as a Service (Maas)

- 5.11.1 MaaS is the term used to describe the integration of transport services into a single mobility service accessible on demand, which is leading to the transition away from personally owned vehicles.
- 5.11.2 The aim of these services is to provide an integrated end-to-end solution utilising a single platform for booking, payment and journey management. Services are designed to reduce dependence on private cars leading to greener journeys of the future by utilising the most efficient transport mode through a streamlined user experience.
- 5.11.3 Changes in working patterns and transportation needs, including as a consequence of Covid-19, could provide an opportunity for achieving efficient and sustainable transport solutions at Gravity using MaaS.

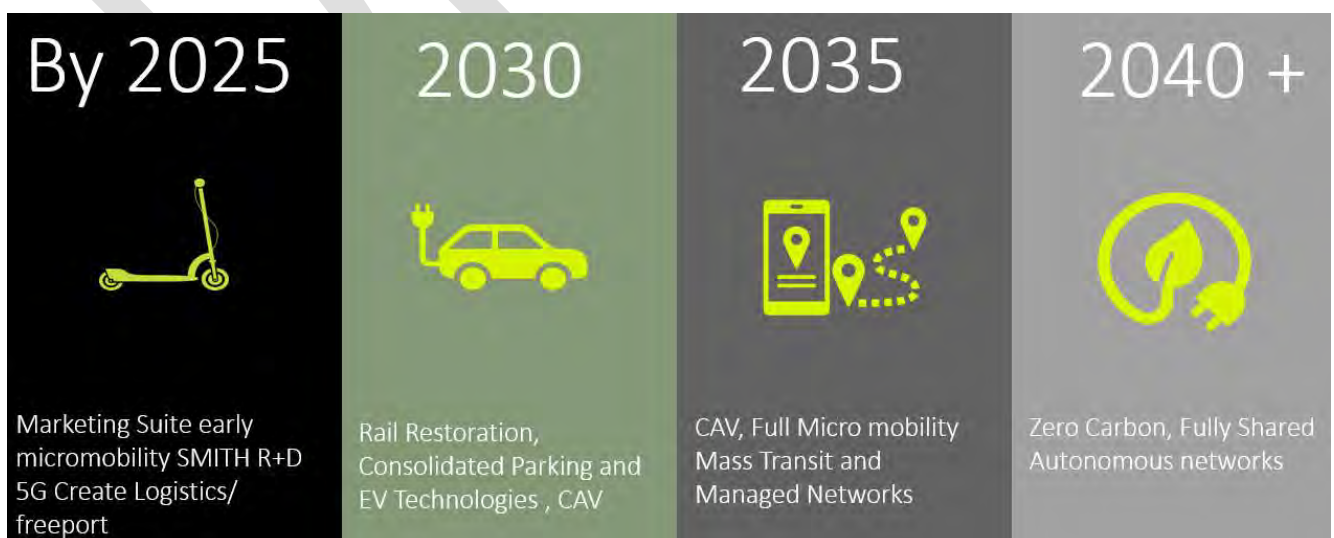




Source: Stantec

## 5.12 Route Map to a Mixed Mobility Future

- 5.12.1 The range of transport measures proposed for Gravity will not all be available from day one of the development opening. There are many issues that will impact on the timing of measures becoming available including but not limited to things such as the availability of technology, cost of equipment, and the fact that different groups in society will respond to / take up new technology at differing rates. As such the route map to a mixed mobility future at the development will be both revolutionary and evolutionary.
- 5.12.2 It is therefore important that Gravity is delivered in such a way that delivers sufficient flexibility and resilience so that it can adapt to the future of travel when such opportunities present themselves. An illustration of how this vision could potentially be achieved at Gravity is set out below.



Source: Stantec



## 6 Transport Appraisal Methodology Principles

### 6.1 Introduction

6.1.1 An appropriate appraisal methodology has been developed to assess the Gravity development which takes account of the following:

- The LDO route being followed offers significant flexibility over the final development mix which will be market led.
- The large scale and atypical nature of the development proposed.
- The SDC Transport Model tool is not suitable for full use before Summer 2021 which does not align with the LDO programme (further information below).

### 6.2 Sedgemoor District Council Transport Model

6.2.1 SDC are preparing a Transport Model for the district which is at the development stage now where it can be used as a source of data for the Gravity development, however the model is not suitable for forecasting analysis work. However, the market facing LDO approach lends itself to a more flexible scenario assessment process. This does mean that scenario testing can be undertaken within the programme outlined for the LDO below.

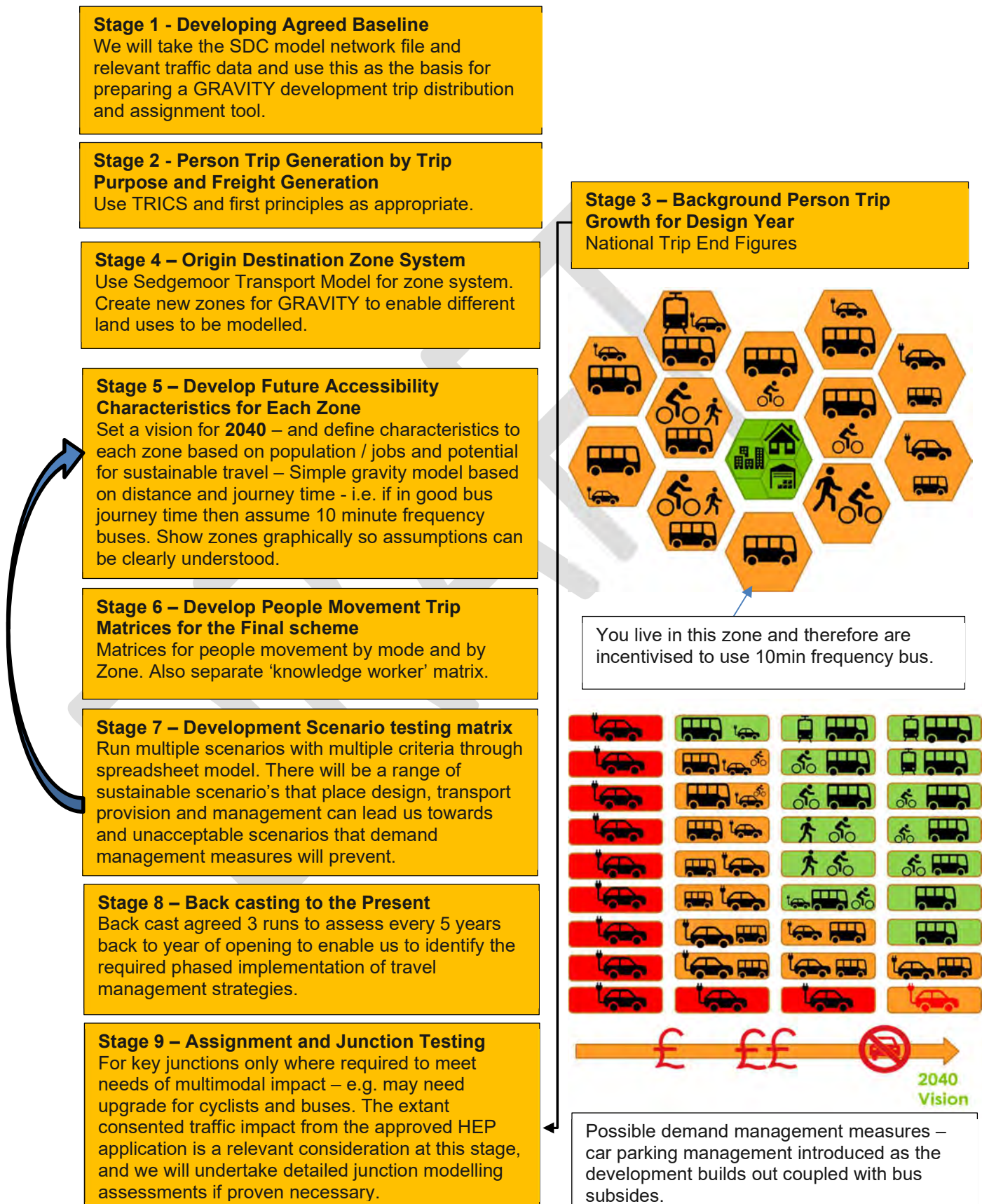
Time Period	Transport Assessment Programme Core Activities
Sept 20- Dec 20	Technical Scoping, LDO Vision Workshops and Land Use / Mobility Scenario Testing
Jan 21 – June 21	LDO Parameter Plans 'Fix' - Detailed Technical Assessment / Forecast Modelling Outcomes and Identification of LDO Mitigation Requirements
July 21 – August 21	Transport Assessment and ES Document Production
August 21- October 21	Technical Negotiations and responses to Statutory Consultees and Committee
November 2021	LDO Adoption

### 6.3 Gravity LDO Assessment Methodology

- 6.3.1 It is proposed to use a consistent base dataset and to work up the Gravity development scenarios in parallel with the authority model. This will give a better understanding of the potential development impacts at an earlier stage, based on the testing of a range of variable options which can be discussed further in collaboration with the working group.
- 6.3.2 The Gravity assessment will be undertaken using the following process which still encapsulates the four traditional model development stages comprising of trip generation, trip distribution, modal share and trip assignment.
- 6.3.3 The assessment methodology principles are set out in further detail below in the form of both visual illustrations and text.

## 6.4 Assessment Methodology Flowchart

6.4.1 The assessment will involve the following processes as shown in the flowchart below.



## 6.5 Stage 1 of Assessment Methodology – Developing Agreed Baseline

- 6.5.1 We will obtain background data / recent information from SDC and HE to establish an agreed baseline for assessments. We have approval from SDC to have access to their data.
- 6.5.2 We will take the SDC model network file and traffic data and use this as the basis for preparing a Gravity development trip distribution and assignment tool. Local calibration and validation will need to be based on available travel time data.
- 6.5.3 The range of traffic data expected to be available to Stantec is shown below:

### **Demand Data:**

- Census Travel to Work
- National Travel Survey
- TEMPRO \ NTEM
- Highways England WebTRIS: Traffic count data
- SDC Traffic Data: transport assessments, SDC TIS 2050, Eastover, J22 – J23 Paramics Model etc)
- Somerset County Council ATC data
- Planning Data: Council base and forecast outline plans
- Donor Models (SWRTM, TSTM)

### **Supply Data:**

- Transport Network
- Traffic Signal Data (provided by SDC)
- Zoning System

### **Data still being processed:**

- Teletrac Navman: Journey time data
- Mobile Phone Data
- HE RTM2 Data collection (pre-Covid traffic counts currently being requested through HE)

## 6.6 Stage 2 of Assessment Methodology – Gravity Person Trip Generation by Trip Purpose

- 6.6.1 We will assess the person movement trip generation for each of the potential development options for the site. We will use TRICS as the main source of data for the residential and employment sites but may supplement with other research if specialist facilities are proposed.
- 6.6.2 We will include the percentage of homeworking in trip calculation tables and include specific allowance for Live Work units (adjustable to inform scenario tests as per Stage 7 below).

6.6.3 Where advanced manufacturing/ sui generis uses are being provided on the site, potentially to be linked to the operation of the freeport, we will undertake a freight trip generation exercise based on TRICS and the capacity of the facility including the potential volume of HGV / rail movements for the proposed use.

6.6.4 The detail of this will depend on particular land use scenarios created and will need agreeing as the project develops. Freight assignment will be specific to the use and further stages for this will be developed in consultation with the working group.

## **6.7 Stage 3 of Assessment Methodology – Background Trip End Growth and Committed Developments**

6.7.1 We will undertake an exercise using the national trip end growth figures to derive background growth in people movement. We will evaluate this against known developments to prevent double counting.

6.7.2 We will not be creating a full assignment model with our spreadsheet approach and hence this data will be used in two ways. Firstly, we can match up movements that would benefit from the future mobility strategy and hence assign additional movements to public transport, for example. Secondly, if we need to undertake a junction assessment, we will be able to use this to derive traffic flows and hence local impact.

## **6.8 Stage 4 of Assessment Methodology – Origin Destination Zone System**

6.8.1 We will adopt the Sedgemoor transport model as the basis for developing a zoning system for person trips to the site. We will add in site specific zones for the different land uses so that we can reflect the different land uses to be provided on the site.

6.8.2 Splitting the site by land use will also allow internal trip distribution to be taken into account within the trip distribution stage of the assessment process.

## **6.9 Stage 5 of Assessment Methodology – Develop Future Accessibility Characteristics for Each Zone**

6.9.1 We will create a set of characteristics for each zone in the model, which at this early stage, could include:

- Population (now and with committed development) – Using Census / NTEM data
- Employee numbers (now and with committed development) – Using Census / NTEM data
- Accessibility by car – average journey time based on current traffic conditions
- Accessibility by bus – average journey time based on current traffic conditions – existing bus timetables will be used as part of developing evidence, however this will be based on the assumption that there will be a frequent and accessible bus service to / from the zone.
- Accessibility by Demand Responsive Bus - this is the potential to bus from the zone
- Accessibility by Rail - this is the potential to travel by rail from the zone
- Accessibility by e-bike – this is the potential to cycle from the zone
- Accessibility by bike – this is the potential to cycle from the zone (using the DfT Propensity to Cycle Tool)

- Accessibility by walk - this is the potential to walk from the zone

6.9.2 The above factors and others to be agreed during future discussions will form variables within the scenario testing to be undertaken in Stage 7.

6.9.3 We will develop an overall attractiveness weighting for each zone based on the accessibility (no mode is deemed more or less attractive than another at this stage), population/employee numbers, and journey time using a distribution of proportion of journeys to work within a certain time. As we will have separate zones internally within the site, internal development trips are also covered in this process.

6.9.4 A spreadsheet zone model will be linked to a GIS mapping system so that the different criteria applied can be simply shown and checked.

6.9.5 The spreadsheet model will be set up so that changes in factors / variables can be easily made and tested. For example, to sensitivity test lower journey times to work in the future vs home working.

## **6.10 Stage 6 of Assessment Methodology – Develop People Movement Trip Matrices**

6.10.1 We will develop separate trip matrices for each of the land uses for the full development based on the zone characteristics and distribution. This process will also account for the target population areas / skills likely to be needed for employers at Gravity.

6.10.2 We will setup a variable daily flow profile of movements to allow for different working practices to be tested – including but not limited to 9-5 or 24/7 for example.

6.10.3 We will assign an adjustable factor for a proportion of trips that will be homeworking. These will be separate for each land use to reflect those types of jobs that can homework more readily.

## **6.11 Stage 7 of Assessment Methodology – Development of Scenario Testing Matrix**

6.11.1 We will prepare a multiple scenario testing approach with circa 20 or 30 scenarios (to be determined in the earlier stages and agreed with the working group). This approach aims to give a much better indication of likely future outcomes and the measures that may be required to steer the operation of the site to achieve the Clean Growth vision.

6.11.2 This approach will also enable us to better understand the sensitivity of the outcomes to different future issues and hence better focus measures to manage the outcomes to an acceptable traffic impact.

6.11.3 The range of assumptions / variables may include:

- Car club use
- Taxi sharing take up
- Micromobility use
- Rail use
- Bus / DRT use
- Flexible and homeworking



- Walking / cycling levels
- Land use mix

- 6.11.4 Ranges will be based on real world examples where possible, e.g. potential cycle mode share, potential homeworking experience from Covid 19 lockdown.
- 6.11.5 The aim will be to undertake a wide range of spreadsheet runs of simple scenarios to be able to evaluate the likelihood of achieving sustainable outcomes and the types of measures that may need to be put in place to secure this – e.g. car parking management coming into place as the development builds out coupled with bus subsidies.
- 6.11.6 There will be an iteration in this to ensure that, for example, buses are viable – i.e. if there are too few trips from a zone to support the level of bus provision, then the zone characteristic will change and the output re-run. We will also be able to test relationships such as flexible working hours and the ability to support a high-quality bus service.
- 6.11.7 This will enable us to set a vision for different development mixes for the site allowing for sustainable movement and the development of place, and map this against measures. The future potential for shared autonomous vehicles and Mobility Services will also be mapped against this as affecting the likelihood of certain outcomes. For example, we may identify a group of 8 out of 30 scenarios that address the Clean Growth vision. There will be a range of factors that will ensure that the end result sits within the range of the 8 scenarios that work. We will set a package of measures that will guide the outcome to the preferred vision.
- 6.11.8 We will develop an interface to enable the different outcomes to be clearly visualised and understood by the working group. This will include spatial visualisation to help with understanding of the outputs.

## **6.12 Stage 8 of Assessment Methodology – Back Casting to the Present Time**

- 6.12.1 Once the future vision has been understood we will work back to year of opening in 5-year steps, allowing for the incremental growth in development on the site and external factors such as phasing of automation and sharing.
- 6.12.2 We will likely focus on 3 runs as being most representative of likely outcomes. This back casting will enable us to identify the required phased implementation of travel management strategies.

## **6.13 Stage 9 of Assessment Methodology – Assignment and Junction Testing**

- 6.13.1 We will use this process to understand which junctions may need to be assessed for peak traffic impact.
- 6.13.2 The spreadsheet tool will not assign traffic to all roads on the network, but instead will enable, though grouping zones, the impact of trips through the key junctions to be understood.
- 6.13.3 We will look at the movement of people by all modes through the junctions to understand whether multi-modal junction improvements are required.
- 6.13.4 The extant consented traffic impact from the approved HEP application is a relevant consideration at this stage, and we will undertake detailed junction modelling assessments if proven necessary. In this case we will also review the background growth potential at the junctions and consider wider network capacity, the potential for growth to arise at the junctions and the timing of journeys, for example through peak spreading.

## **Appendix A    11<sup>th</sup> November 2020 Transport Sub Group Meeting Presentation Slides**

DRAFT



# Gravity



Transport Sub Group Meeting  
11<sup>th</sup> November 2020

# Purpose

To establish a collaborative approach to develop and deliver the transport strategy set within the context of the Gravity Vision.

We will therefore briefly cover:

- Understanding the Vision
- Charter and MOU
- The Clean and Inclusive Growth Strategy
- Enabling delivery through LDO, to programme
- Gravity background
- Emerging proposals
- Transformational transport strategy – evolutionary and revolutionary
- Proposed transport appraisal approach
- Rail progress update
- Next Delivery Group meeting on 23<sup>rd</sup> November 2020

# Gravity Vision

Gravity - a clean smart campus and community

To meet the challenges of the future, the UK must urgently shift to a cleaner economy

UK Priority for DIT as a destination for inward investment in post Brexit context: large scale advancing manufacturing – potential free port zone, enabled by rail and 5G

Opportunity to respond to recession, climate change and covid leading out on a green recovery

There is no other UK site ready to be developed at such scale and speed: on-site water provision, renewable and low carbon on-site energy infrastructure and building energy management, dark fibre, excellent transport links, accessible talent pool and knowledge economy

Creating 4000+ jobs beyond Hinkley Point with integral community

Live lab and test bed on transport decarbonisation

Gravity will be market led and agile, with flexibility at its heart

Gravity will be a beacon for a clean growth economy



# Smart Campus Components



# Gravity

A Smart Campus and Community

Clean and Inclusive Growth Strategy

Fast-track to the future, naturally | [thisisgravity.co.uk](https://thisisgravity.co.uk)



## Clean Transport @Gravity

32. De-carbonise transport, enabling shift to EV's and alternative fuels through investments into infrastructure that enable an interaction between transport needs and energy supply.
33. Strive to minimise transport impacts on the strategic and local road network.
34. Participate in research and development to offer a free port site, linked to a Free Port Zone enabled by digital infrastructure.
35. Establish multimodal transport infrastructure combining rail restoration, motorway to micro mobility and autonomous shuttles.
36. Create a micro mobility grid through green infrastructure creating routes and spaces.
37. Blend commuting and campus movement into single Movement as a Service deal (MaaS @Gravity) for occupancy based on blockchain transaction ledger. Discourage and phase out single mode travel using behavioral change and incentivisation mechanisms.
38. Enable the supply chain for zero carbon movement and logistics, creating scaled hydrogen and power supply through infrastructure investments or alternatives.
39. Provide 5G infrastructure, sensors and edge computing to enable fully autonomous movement within the smart campus.
40. Integrate facilities for a helipad / electric taxis and look into the future to consider the UK's first International drone port to connect UK Industrial Clusters to Europe.
41. Design corridor infrastructure to enable logistic autonomous movement and platooning.
42. Incubate zero emission transport and smart mobility SME's.
43. Design civil engineering solutions for future mobility requirements.
44. Enable working from home and localised working linked to the campus geared to reducing the overall need to travel through the Gravity Home Hub Model.

The Gravity logo is a complex, spherical network of white dots connected by thin white lines, resembling a molecular structure or a data network. It is positioned in the top right corner of the slide.

**Gravity**



# LDO Planning Framework

Transport Strategy

# Purpose of LDO

LDOs are a Governmental response and tool of choice

- A positive planning tool used to **make good development happen - expedite delivery**
- A localised, flexible and agile approach
- Ideally suited to large sites and Enterprise zones
- Marketing tool to attract inward investment
- A mechanism to **fulfil Gov deal for simplified planning**
- LDOs can:
  - Permit any kind of development
  - Be time limited or permanent

**Sedgemoor District Council approves the preparation of a Local Development Order for Gravity**

**Gravity**





## LDO Red Line





## Memorandum of Understanding

Purpose: To promote effective co-ordination and co-operation between the MOU partners to secure the delivery of Gravity.

Key working principles around collaboration and a commitment to timely delivery and maintaining momentum.

Strategy - including co-operation around planning, highways, commercial and environmental matters, and liaison with key agencies, potential occupiers, community groups and other stakeholders.

## Project Charter

Purpose: To facilitate the delivery of Gravity as an Enterprise Zone, an international, leading edge smart campus and community

Gravity aims and outcomes

Partner specific commitments

Governance and Structure

## LDO Programme - Milestones

2020	July	SDC Executive decision to prepare an LDO
	Sept	Delivery Group Established
	Oct	Technical work – ongoing
	Nov	Visioning and parameters plans
	Dec	EIA Screening
2021	Feb	EIA Scoping
	March	Draft LDO / Design Guide / EIA
	May	Informal public consultation
	Aug	Statutory consultation
	Nov	Adopt LDO



# Gravity

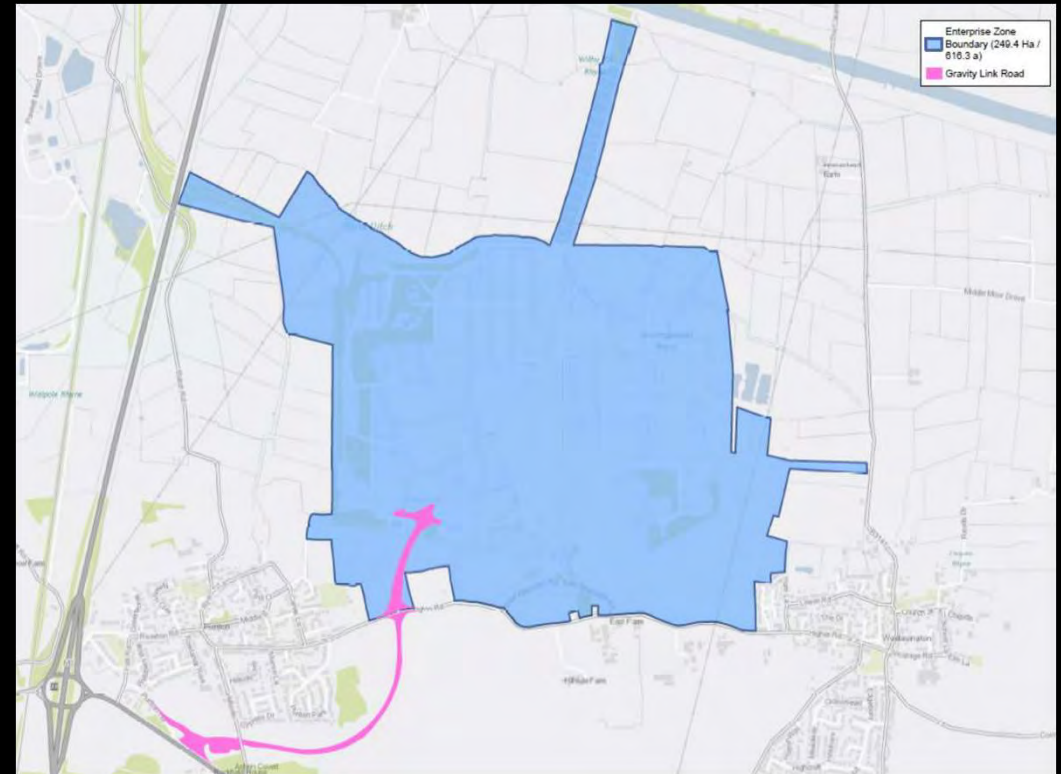


# Gravity Background

Transport Strategy

# Enterprise Zone

- Designated as part of the Heart of the South West LEP multi-sited Enterprise Zone (EZ ) in 2015, commencing April 2017.
- EZ designation runs through to April 2042 (25 yrs).
- EZ covers full 616 a site within the red line (excluding access road).
- EZ MOU with MHLCG –first buildings due to be occupied 2020 – MOU establishes Gov deal on business rates retention and simplified planning.
- MHCLG advice and support for LDO as delivery mechanism.
- DIT marketing underway: priority for UK





# Background

Hybrid consent 42/12/00010: parameters and phasing

Full permission for access road and B8 for 1,858 sqm – road due to open in Spring 2021.

Required works to M5 J23 signalisation works completed.

Contribution to Dunball roundabout improvements

Outline permission for:

- 8.78 ha of B1 (max 32,150 sqm)
- 14.84 ha of B2 (max 43,600 sqm)
- 30.45 ha of B2 (max 101,310 sqm)

Safeguarded

- Rail head, leisure





A graphic in the top right corner consisting of a dense, interconnected network of white dots and lines, resembling a molecular structure or a complex network, partially overlapping the black background.

**Gravity**

A small, solid yellow square located below the 'Gravity' text.

# Emerging LDO Proposals

Transport Strategy

LDO Vision, predicted outcomes

Market analysis underway

Smart Campus and Community

616 acres

Approximately 4,000 new jobs  
(estimate for all development phases)

500,000 to 1,000,000 sqm commercial  
floorspace – B1/B2/B8/Sui Generis  
uses

Range of ancillary uses – restaurants /  
cafes / shops / leisure uses up to  
100,000 sqm

Approximately 1,300 new homes



## Transport Context

1. Collaborative working and agreements towards the solution
2. Baseline data
3. Development and transport opportunities
4. Agree scoping
5. Scenario testing / forecasting
6. Plan, monitor and manage
7. Agreed transport package for LDO



Gravity



# Transformational Transport Strategy

Transport Strategy

**PLANNING  
TRANSPORT &  
DEVELOPMENT**

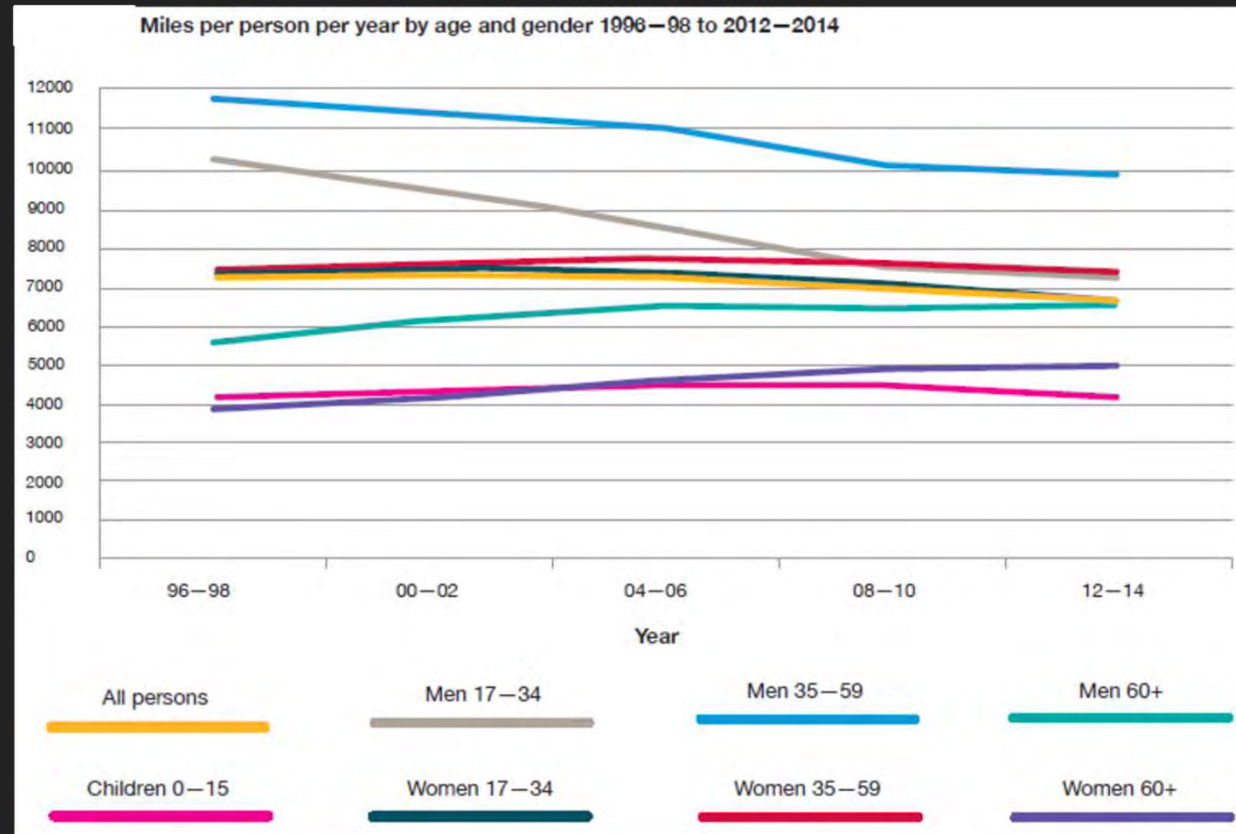
**ALL CHANGE?**

**pba**  
peter burt

Peter Burt Association  
working with the  
Independent Transport Consultants

Icons: bus, pedestrian, bicycle, car, television, mobile phone.

# Changing Lifestyles

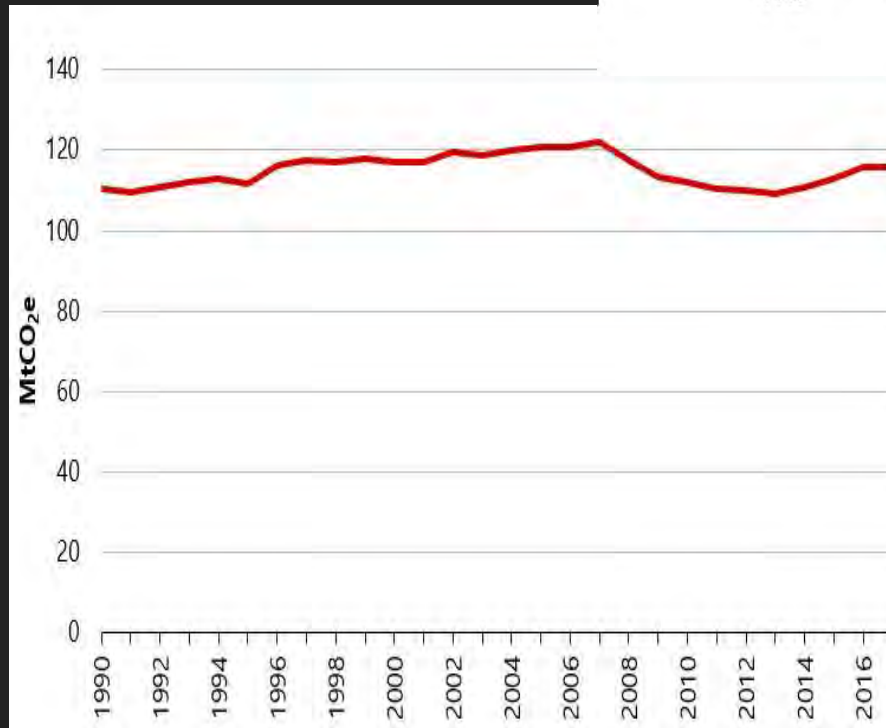
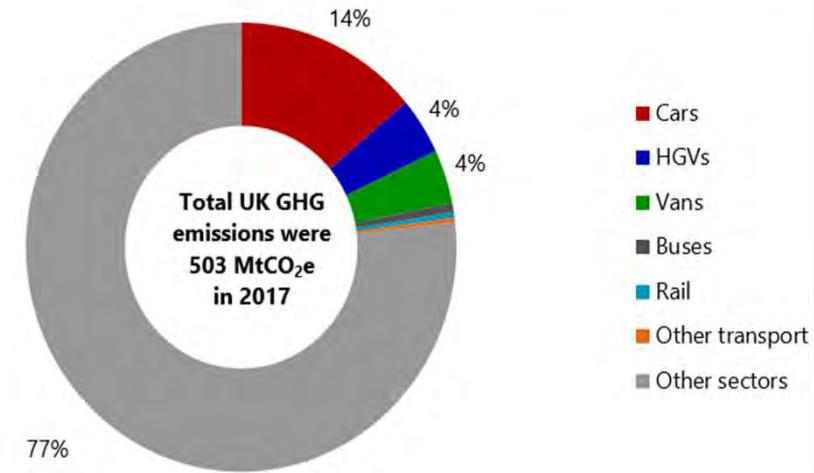




# Our Challenge...

## The Causes

- Transport is now the biggest single sector contributor to CO<sub>2</sub> in UK
- No reduction in 25 years
- Why ?
  - Car dependency
  - Traffic Growth
  - Bigger Vehicles



# 'Lockdown' travel data

## Somerset

### Retail and recreation

-60% compared to baseline



### Supermarket and pharmacy

-11% compared to baseline



### Parks

+47% compared to baseline



### Public transport

-31% compared to baseline



### Workplaces

-49% compared to baseline



### Residential

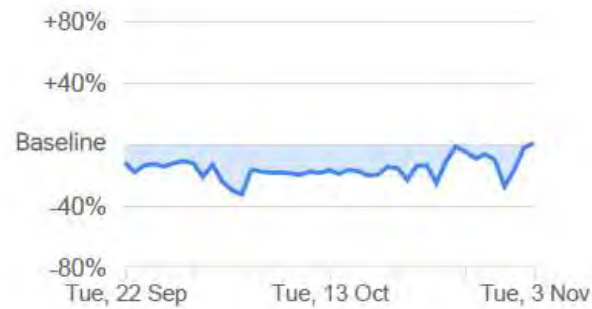
+18% compared to baseline



# 'October 2020' travel data

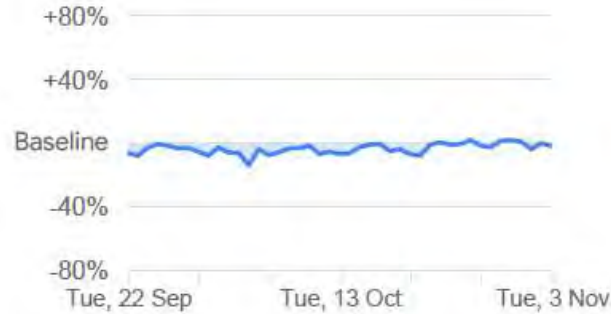
Retail and recreation

**+1%**



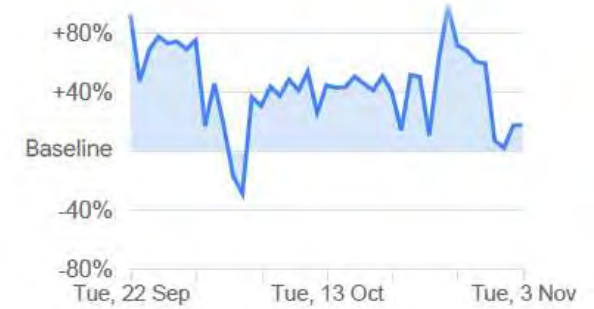
Supermarket and pharmacy

**-2%**



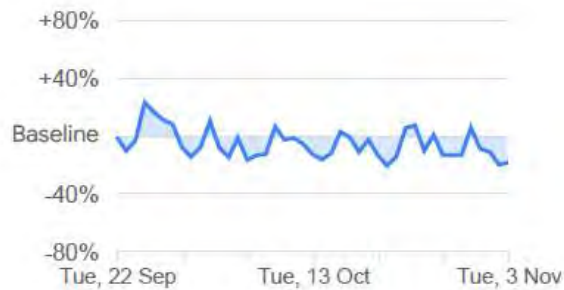
Parks

**+18%**



Public transport

**-18%**



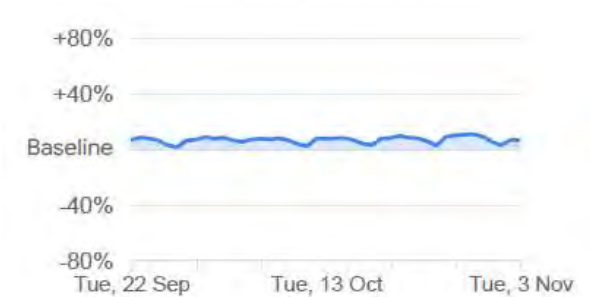
Workplaces

**-24%**



Residential

**+7%**

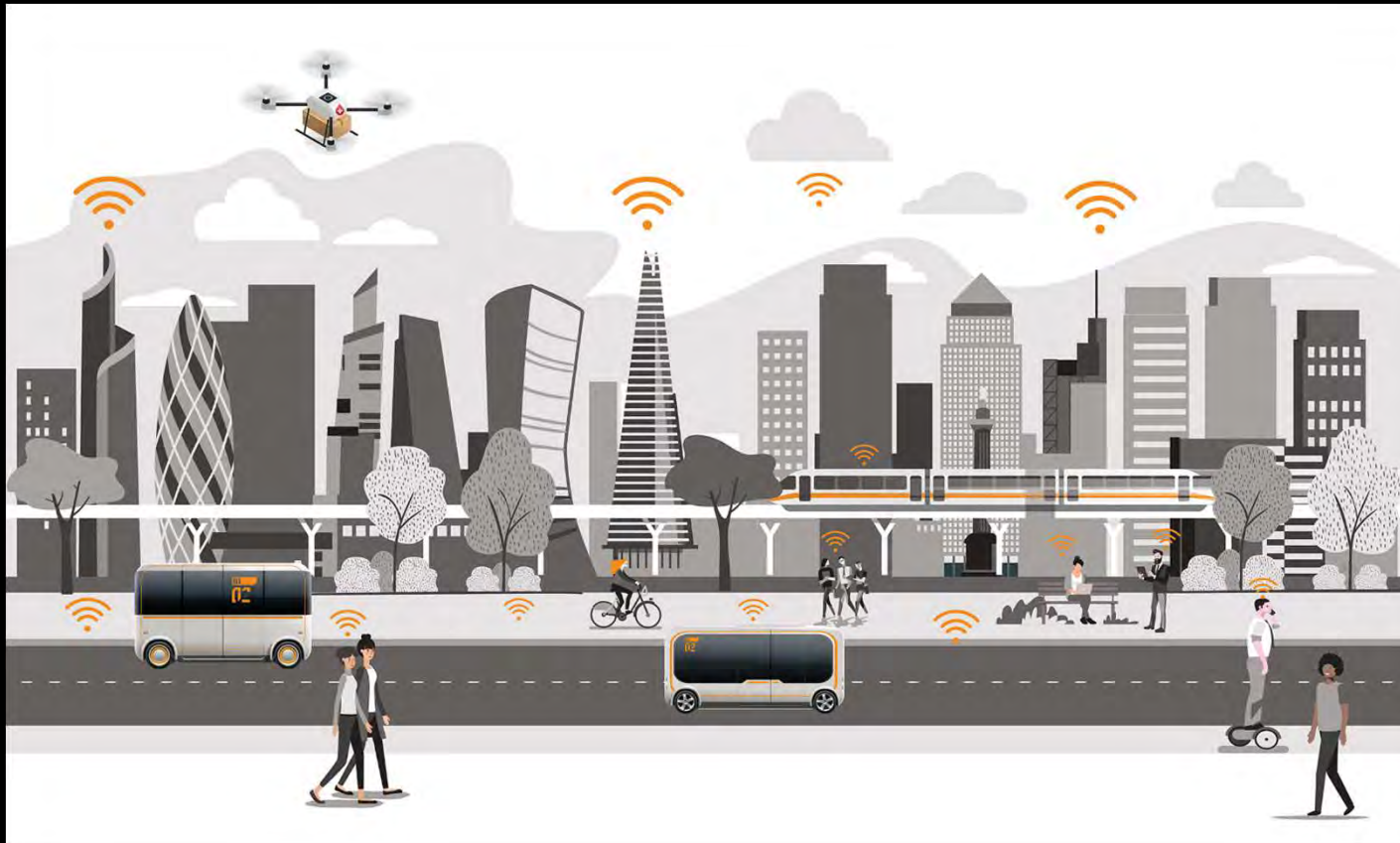




New approach to appraisal  
encouraging scenario planning  
rather than predict and provide



# What is the new approach?



Places First:  
Creating  
Communities Fit for  
the Future



# Potential future

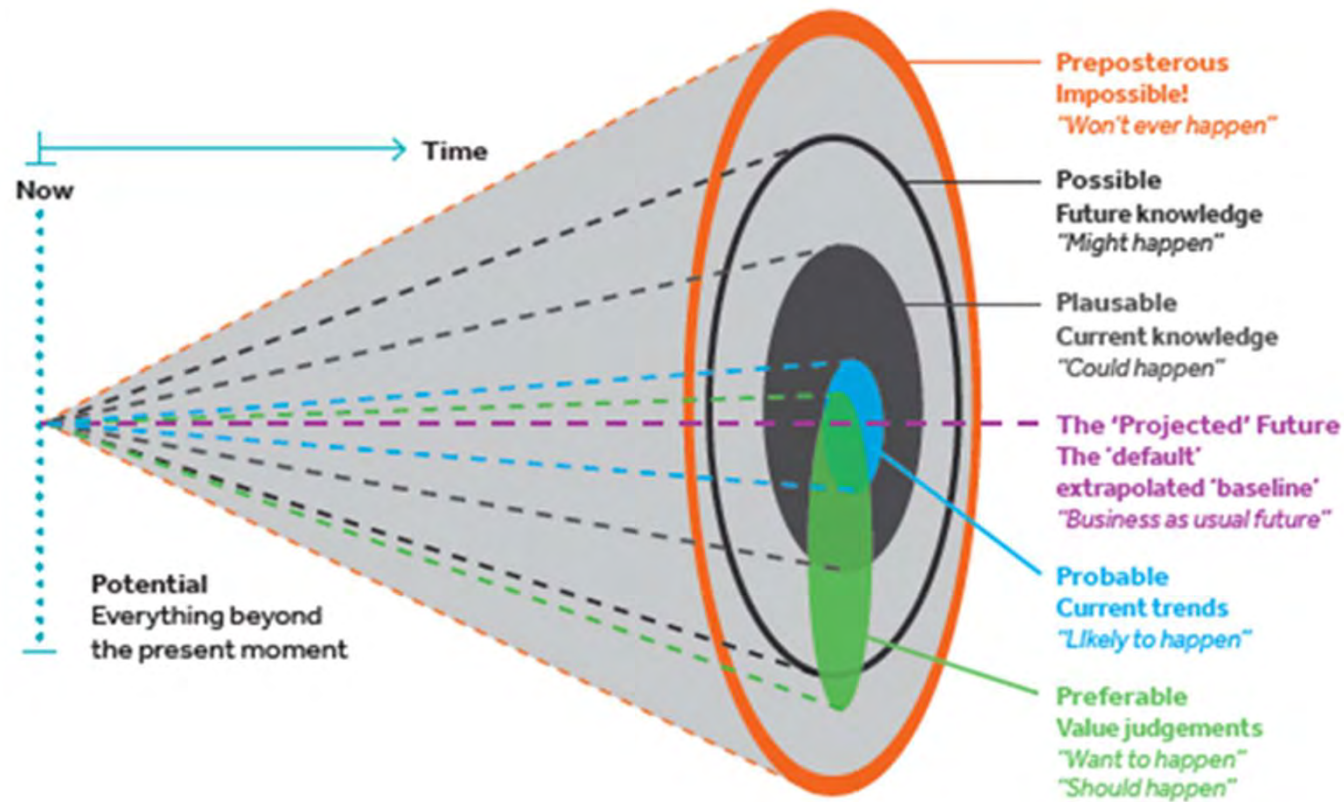


Figure 5: Lyons, G. (2016), *Uncertainty ahead: Which way forward for transport, CIHT Futures*.

# What does future mobility look like?



## Accessible

Accessible vehicles, infrastructure, and services create barrier-free environments without regard for ability or socioeconomic circumstance while improving the complete trip for all.



## Automated

Mobility systems which use computers and sensors to travel more efficiently and predictably in less space, effectively increasing road capacity and safety while lowering maintenance and operations costs.



## Connected

Modes and infrastructure enabled with Wi-Fi, cellular, or dedicated short-range communication devices that allow two-way communication between vehicles, cyclists, pedestrians, and more, increasing safety and efficiency.



## Electric

Battery electric vehicles ideally powered by renewable energy to reduce fossil fuel consumption and harmful emissions.



## Shared

Vehicles – whether cars, bikes, scooters, shuttles, buses or rail cars – that share rides, ownership, or use, to reduce congestion costs and total vehicle miles travelled, while enabling new access options for underserved neighborhoods.

A complex network of white dots connected by thin white lines, forming a spherical, web-like structure that resembles a molecular or network diagram. It is positioned in the top right corner of the slide.

Gravity

A small, solid yellow square located below the word "Gravity".

# Gravity Rail Restoration

Transport Strategy

- Gravity have ambitions to restore the former rail connection to Gravity
- Passenger and freight, subject to occupiers needs
- Gravity and the HoSW LEP have funded a feasibility study with Network Rail
- Collaboration with Network Rail confirmed feasibility
- The Study confirms proposes construction costs of up to £50m.
- Gravity seeks partnership approach to accelerate delivery to connect people and places to new opportunities
- Opportunity to collaborate with others to reduce commuting and support new modal choices
- Scheme will deliver significant socio-economic benefits
- Promotion to Cabinet Office and DfT

# Strategic Freight Delivery

- Phased
- Freeport Zone
- Rail head
- Fuel cell lorries (40 – 60 mins from Avonmouth Docks)
- Futures – Autonomous freight





A complex network of white dots connected by thin white lines, forming a spherical, web-like structure in the top right corner of the slide.

**Gravity**

A small, solid yellow square located below the Gravity logo.

# Gravity Mobility Strategy

Transport Strategy

# MaaS

Monthly /Annual travel package

Taxi share



Autonomous mobility loop



Community



Micromobility Network and Docking



Commuter services inc Gravity rail



Flexible and Homeworking / Work Hub



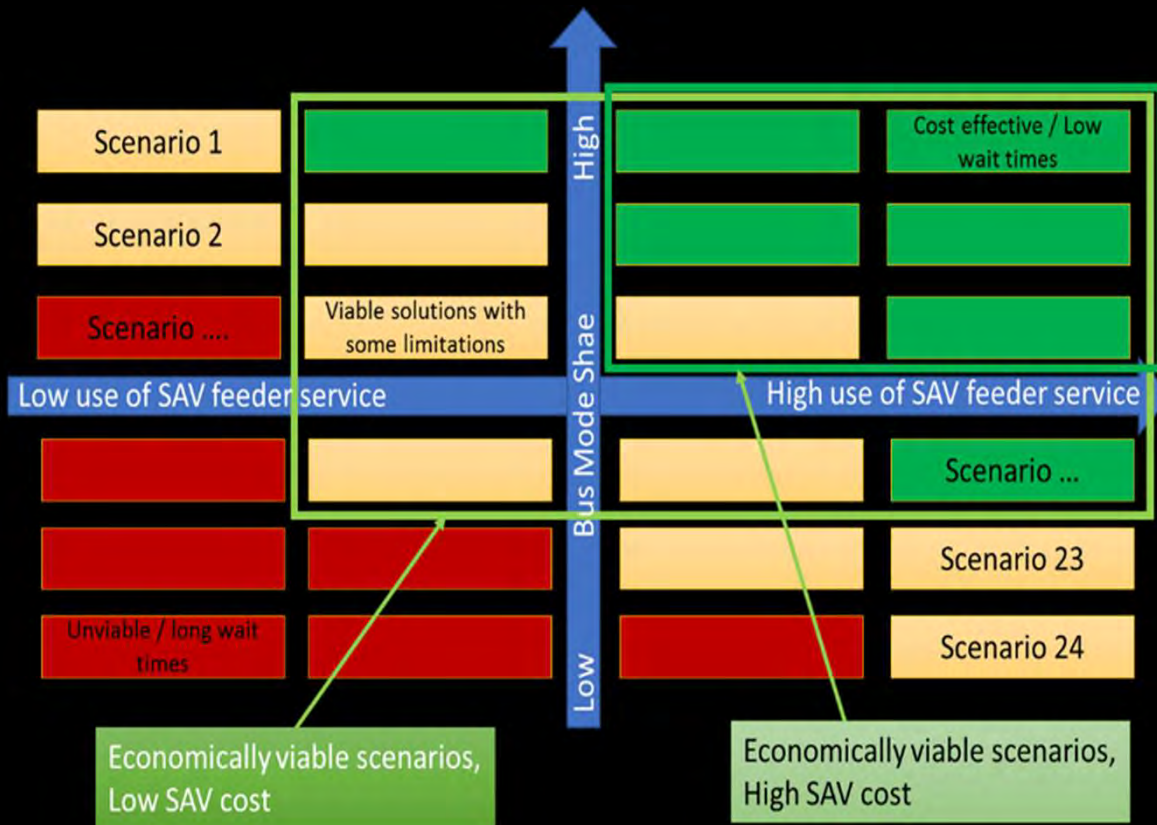
Zero Emission DRT / Bus services



Gravity E:On Drive Car Club



# Changing the assessment process – vision and validate and scenario testing



Agree objectives to describe the place-based vision;

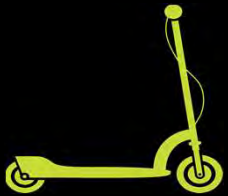
Use scenarios to understand the range of possible future travel and other outcomes;

Use tools to estimate travel outcomes across the range of scenarios;

Identify which transport solutions are most effective and resilient in meeting the vision;

# Route Map Evolutionary & Revolutionary

By 2025



Marketing Suite early  
micromobility SMITH R+D  
5G Create Logistics/  
freeport

2030



Rail Restoration,  
Consolidated Parking and  
EV Technologies , CAV

2035



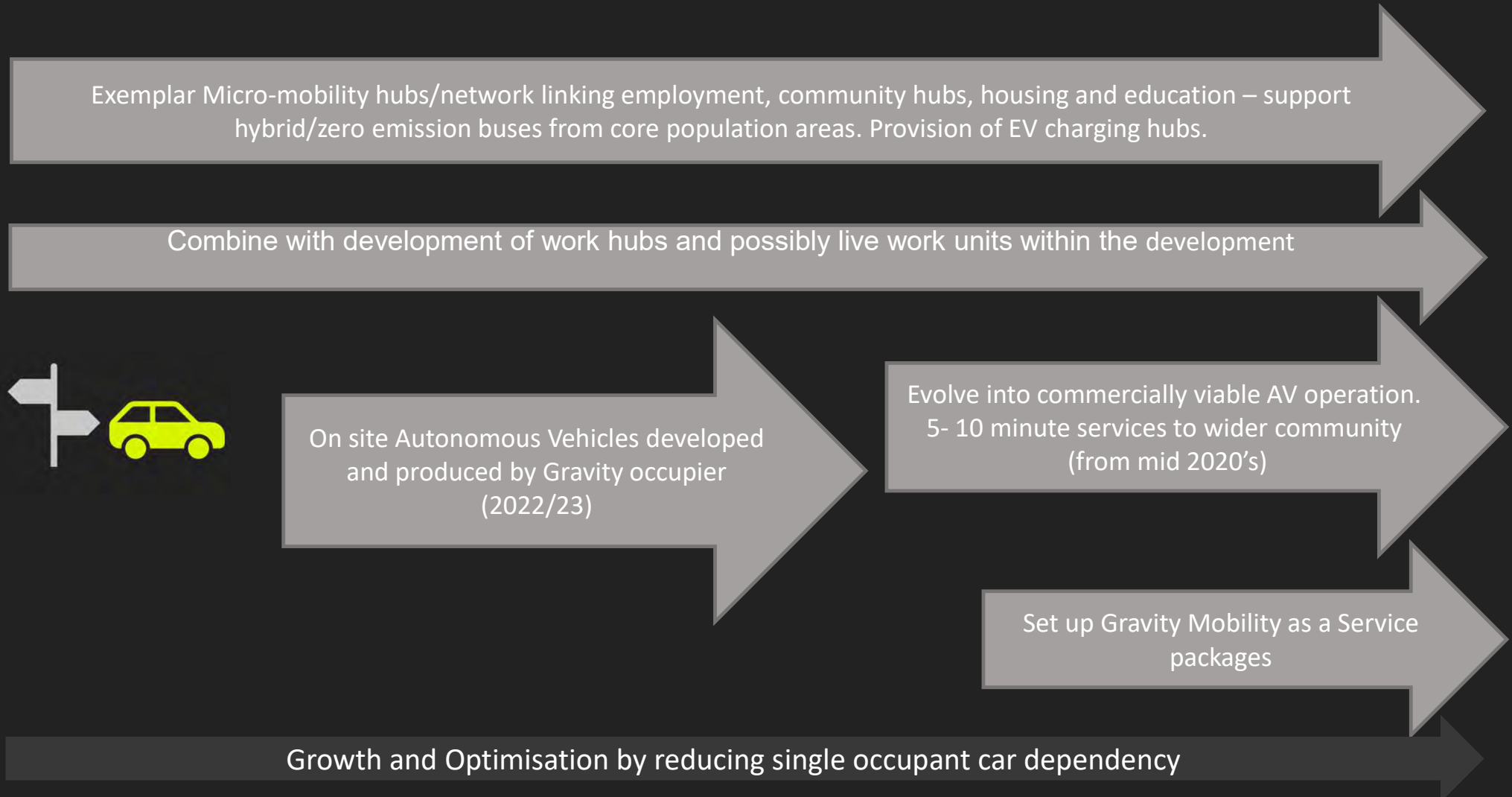
CAV, Full Micro mobility  
Mass Transit and  
Managed Networks

2040 +



Zero Carbon, Fully Shared  
Autonomous networks

# A broad based roadmap to a **mixed** mobility future





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**Gravity**

A small, solid yellow square located below the word "Gravity".

# Gravity Transport Appraisal Approach

Transport Strategy

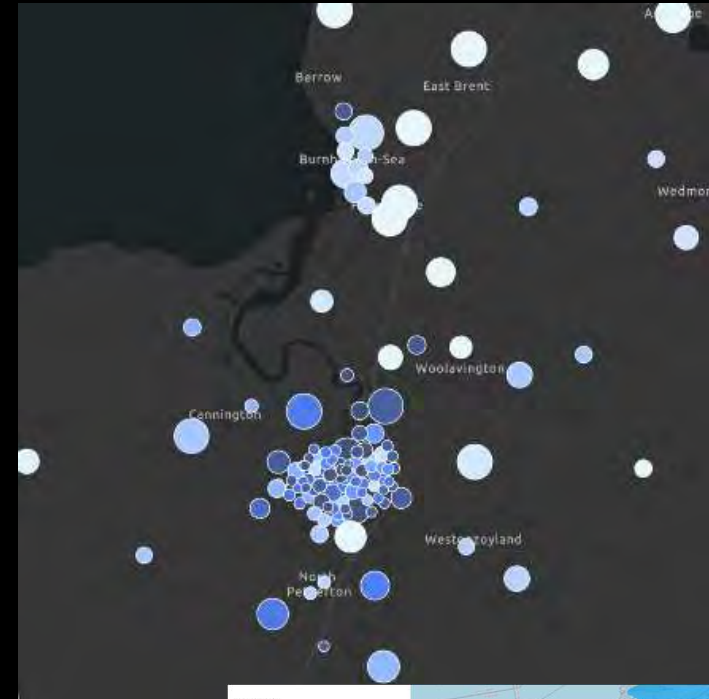
# SDC Transport Model

- SCC and HE engagement undertaken
- Data gathering and gap analysis tasks completed
- Zoning system and network for model study area defined and developed
- Impact of COVID has meant delays to data gap collection, and therefore model calibration and validation – now likely to be completed in Spring / Summer 2021
- Propose to use consistent base dataset and work up Gravity scenarios separately from the authority models
- Analysis will ultimately feed back into the SDC model



# SDC Base Data

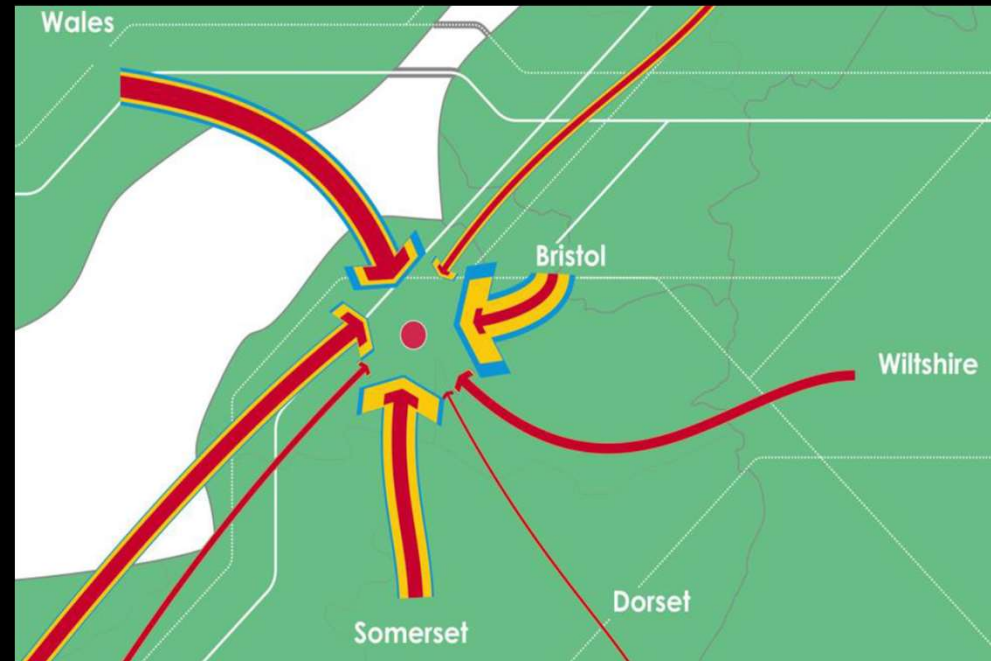
- Data available having been collected and collated for SDC
  - Demand Data:
    - Census Travel to Work
    - National Travel Survey
    - TEMPRONTEM
    - Highways England WebTRIS: Traffic count data
    - SDC Traffic Data: transport assessments, SDC TIS 2050, Eastover, J22 – J23 Paramics Model etc)
    - Somerset County Council ATC data
    - Planning Data: Council base and forecast outline plans
    - Donor Models (SWRTM, TSTM)
    - Supply Data:
      - Transport Network
      - Traffic Signal Data (provided by SDC)
      - Zoning System
- Data still being processed
- **Teletrac Navman:** Journey time data
- **Mobile Phone Data**
- **HE RTM2 Data collection** (pre-Covid traffic counts currently being requested through HE)



© OpenStreetMap contributors. Data available under the Open Database Licence

# Appraisal Framework

- 1. Obtain background data (SDC and HE) / matrices and network (SDC) to establish an agreed baseline for assessments
- 2. Prepare Gravity specific land use / trip generation / scenario testing tool – generating multi modal trip matrices
- 3. Agreed future base scenarios (reference case)
- 4. Simplify output from tool into visual format – to assist with sharing of results and stakeholder presentation
- 5. Local junction testing and mitigation - Undertaken downstream once we have understood and optimised the scenarios on a 'mitigate at source' basis



# Trip Generation / Scenario Testing Tool

- Flexible tool to forecast output travel patterns and movements for Gravity
- Trip matrix format consistent with SDC model matrices

Site zoning

Daily / peak  
person trip  
generation by trip  
purpose

Land use mix /  
scale

Trip distribution /  
internalisation

Home / remote  
working

Variable travel  
mode by trip  
origin for potential  
interventions:

Shuttles

Micromobility

MaaS

Rail connection



# Transport Appraisal Programme

Time Period	Transport Assessment Programme Core Activities
Sept 20- Dec 20	Technical Scoping, LDO Vision Workshops and Land Use / Mobility Scenario Testing
Jan 21 – June 21	LDO Parameter Plans 'Fix' - Detailed Technical Assessment / Forecast Modelling Outcomes and Identification of LDO Mitigation Requirements
July 21 – August 21	Transport Assessment and ES Document Production
August 21- October 21	Technical Negotiations and responses to Statutory Consultees and Committee
November 2021	LDO Adoption

# Stantec Contacts

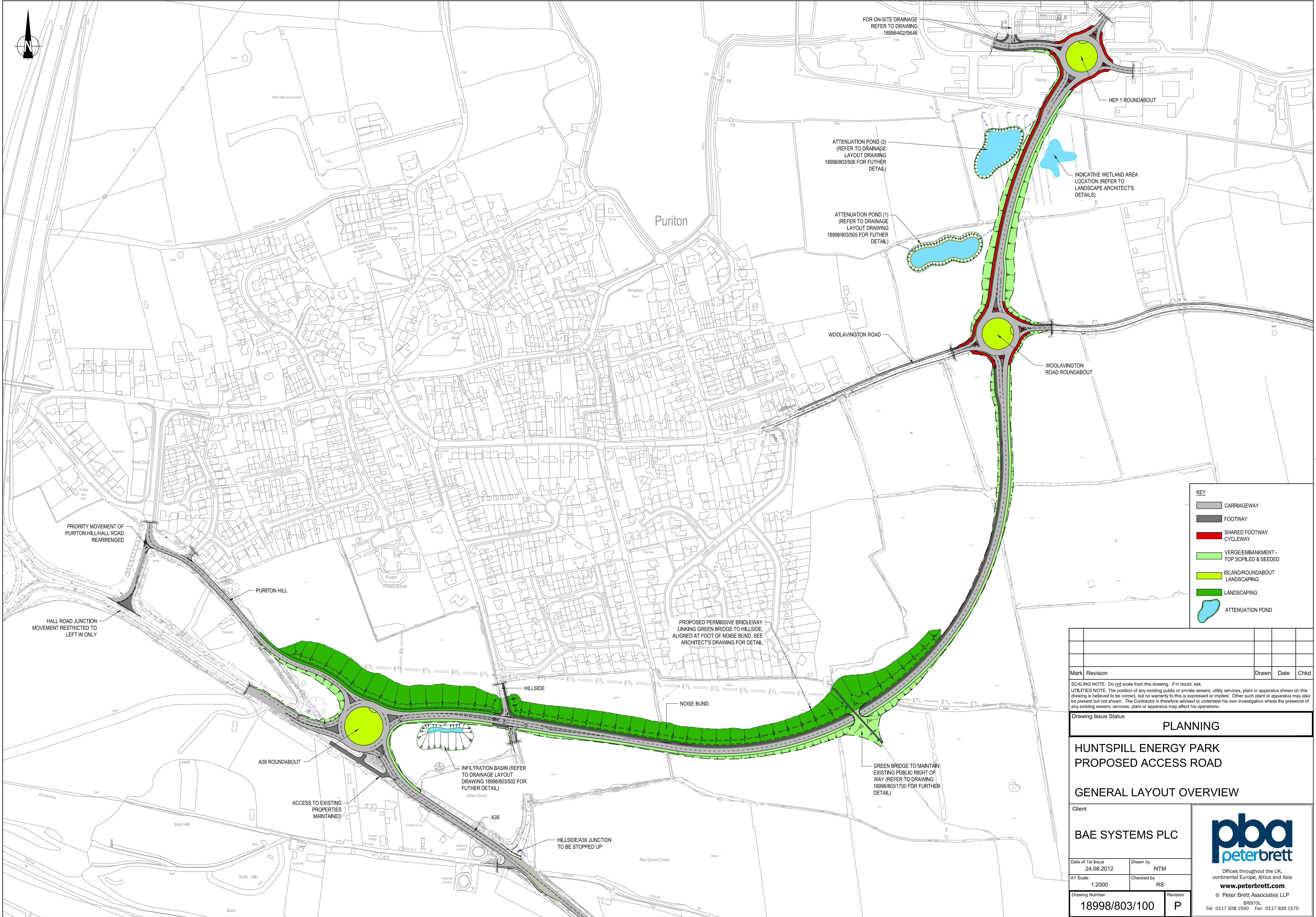
Scott Witchalls, Director Transport and Infrastructure - 0118  
9520681 / [scott.witchalls@stantec.com](mailto:scott.witchalls@stantec.com)

Craig Mason, Associate Transport Planner – 01823 218962 /  
[craig.mason@stantec.com](mailto:craig.mason@stantec.com)

## **Appendix B    General Arrangement Drawing of HEP Access Road**

DRAFT





KEY	
	CARRIAGEWAY
	FOOTWAY
	SHARED FOOTWAY CYCLEWAY
	VERGE/EMBANKMENT - TOP SOPPED & SEEDED
	ISLAND/ROUNDABOUT LANDSCAPING
	LANDSCAPING
	ATTENUATION POND


Mark	Revision	Drawn	Date	Chkd

SCALING NOTE: Do not scale from this drawing. If in doubt, ask.  
UTILITIES NOTE: The position of any existing public or private sewers, utility services, plant or apparatus shown on this drawing is believed to be correct, but no warranty to this is expressed or implied. Other such plant or apparatus may also be present but not shown. The Contractor is therefore advised to undertake his own investigation where the presence of any existing sewers, services, plant or apparatus may affect his operations.

Drawing Issue Status	PLANNING
----------------------	----------

HUNTSPILL ENERGY PARK PROPOSED ACCESS ROAD
---

GENERAL LAYOUT OVERVIEW
-------------------------

Client		 <p>Offices throughout the UK, continental Europe, Africa and Asia <b>www.peterbrett.com</b> © Peter Brett Associates LLP BRISTOL Tel: 0117 928 1560 Fax: 0117 928 1570</p>
BAE SYSTEMS PLC		
Date of 1st Issue 24.08.2012	Drawn by NTM	
A1 Scale 1:2000	Checked by RS	
Drawing Number 18998/803/100	Revision P	





## Gravity: A Smart Campus

**Draft**

**Transport Scoping Report**

**Work in Progress**

On behalf of **This is Gravity**

Project Ref: 49102 | Rev: 01 | Date: November 2020

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Registered Office: Buckingham Court Kingsmead Business Park, London Road, High Wycombe, Buckinghamshire, HP11 1JU  
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## Document Control Sheet

**Project Name:** Gravity: A Smart Campus

**Project Ref:** 49102

**Report Title:** Draft Transport Scoping Report

**Doc Ref:** Draft Issue to Transport Sub Group

**Date:** November 2020

	Name	Position	Signature	Date
<b>Prepared by:</b>	Craig Mason	Associate		20.11.2020
<b>Reviewed by:</b>	Scott Witchalls	Director		20.11.2020
<b>Approved by:</b>	Scott Witchalls	Director		20.11.2020
<b>For and on behalf of Stantec UK Limited</b>				

Revision	Date	Description	Prepared	Reviewed	Approved
00	20.11.2020	Final Draft Client Draft	CM	SW	SW
01	20.11.2020	Draft Issue to Transport Sub Group	CM	SW	SW

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Appendix B	General Arrangement Drawing of HEP Access Road

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# 1 Introduction

## 1.1 Project Brief

- 1.1.1 Gravity is a 616-acre Enterprise Zone (EZ) site at a strategic location in the South West of England with the potential to be one of the most sustainable smart campuses in Europe, of international significance. It is an UK destination for inward investment in a post Brexit context, and is being marketed by the Department of International Trade (DIT). The site has a strategic role in economic restructuring and transformation as part of the Green Industrial Revolution, to assist the UK transitioning towards decarbonisation and clean growth.
- 1.1.2 The site is situated approximately 5km north east of Bridgwater and located north of Woolavington Road between the villages of Puriton and Woolavington. The site is located between the M5, to the west, the Huntspill River to the north, and Woolavington Road and the B3139 Causeway to the south and east, respectively.
- 1.1.3 Stantec UK Limited (Stantec) have been appointed by 'This is Gravity' (Gravity) to provide transport support in relation to the delivery of the Gravity EZ Local Development Order (LDO). The LDO approach for Gravity that is being followed was approved by Sedgemoor District Council (SDC) on 15th July 2020.
- 1.1.4 The recommended approach for large sites in single ownership, and specifically EZ's, is to progress an LDO as a marketing tool to attract inward investment. A Memorandum of Understanding (MOU) is in place between SDC, Somerset County Council (SCC) and the Heart of the South West Local Enterprise Partnership (HotSW LEP) and the Ministry of Housing, Communities and Local Government (MHCLG) to agree the EZ, its' delivery from 1.4.2017 - 31.3.2042 through simplified planning and business rates retention, with the first buildings open and occupied in 2020.
- 1.1.5 The EZ partners as listed previously form part of the EZ board to oversee delivery. The Board's focus, especially that of MHCLG, is on delivery and the site is behind the implementation plan agreed. No simplified planning strategy is in place compared to competitor sites and EZ's, and no occupiers are in place.
- 1.1.6 The function of an LDO is to accelerate delivery, aligned to meeting market needs, and LDO's can permit any kind of development and be time limited or permanent. They are about adopting a local solution to simplifying planning and provide local authorities with a flexible tool to address particular circumstances. Over 100 LDOs now exist across 80 authorities who wish to be proactive in attracting investment.
- 1.1.7 Implementing the Gravity EZ through an LDO and Clean and Inclusive Growth Strategy as proposed will represent a leading-edge response to climate action and transformational economic renewal.
- 1.1.8 This draft Scoping Report has been prepared by Stantec as a follow-on from the first Gravity LDO Transport Sub Group Meeting held on 11<sup>th</sup> November 2020. Mike O'Dowd Jones and Jon Fellingham from Somerset County Council (SCC) attended that meeting, as did Rachel Sandy and Andy Roberts from Highways England (HE). The content of this Report reflects and builds upon the approach and methodology principles that were previously presented by Stantec to the Sub Group. **Appendix A** contains a copy of the presentation slides that were shared at that meeting.
- 1.1.9 Stantec has prepared this Transport Scoping Report to explain the main principles of the Mobility Strategy for Gravity, and to demonstrate how the scheme is to be assessed in terms of its multi-modal transport impact on the surrounding highway network.



- 1.1.10 It is envisaged that the transport scope will be developed and agreed in a staged manner, through a series of sub group meetings and written reports, to ensure that SCC and HE officers are consulted appropriately at each stage and to provide opportunity for collaboration.
- 1.1.11 This report represents the first of several scoping documents that will be prepared by Stantec. It is intended that the transport principles and assessment methodology set out herein will be developed in further detail and reported at a later date, following more meeting discussions involving SCC and HE.
- 1.1.12 This Scoping Report (and any subsequent documents) will therefore form the basis of an agreement with both SCC and HE on the scope and parameters of the transport work required to support the Gravity LDO.

## 1.2 Emerging LDO Proposals

- 1.2.1 The LDO developer-led approach will focus on speed, certainty and flexibility to deliver a new era of market led growth, in direct response to the Clean Growth Grand Challenge, to reflect the ambition and potential of the site to deliver the UK Industrial Strategy and the commitment and drive behind its delivery from This is Gravity, its partner EON, and to the benefit of the local authority partners and local communities.
- 1.2.2 The UK have responded to the global climate emergency and committed to 'net zero' carbon by 2050 through the Climate Change Act. The National commitment to deliver a net zero carbon economy by 2050 requires a seismic shift in how growth is planned and delivered.
- 1.2.3 Creating a route to delivering clean and inclusive economic growth is the greatest industrial opportunity of our history. Gravity's strategy is to seize this opportunity and create a smart campus and integrated community which delivers the 4th Industrial Revolution, providing an exemplar in the UK and a beacon for wayfinding on this Clean Growth journey.
- 1.2.4 Effectively, Gravity will be creating a new market opportunity to drive and enable economic restructuring as well as a legacy beyond the Hinkley Point C construction project. Bids are under consideration to establish Gravity as part of the 5G Create research and development project in the M5 corridor, creating the digital architecture to enable a free port zone. The free port bidding process will take place shortly with submissions due in February 2021. Heat Network Investment and rail restoration are other key elements of mobilising to create the right investment conditions to enable delivery and job creation.
- 1.2.5 Gravity will create a low carbon smart campus generating more than 4,000 green collar jobs, providing both a strategic economic stimulus to drive economic renewal, shaping and connecting to a green supply chain across the UK. Home to international business, start-ups and SMEs, Gravity will be a home for Clean Growth and green industries, creating the space to innovate and create green solutions from energy solutions to smart mobility.
- 1.2.6 An MOU between the various Delivery Group partners has been produced to promote effective co-ordination and co-operation between the partners to secure the delivery of the Gravity EZ through an LDO process.
- 1.2.7 The Gravity LDO Project Charter states that Gravity will:

- Be an exemplar in responding to the **Clean Growth** challenge, striving to accelerate the transition to a net zero carbon model fit for the future.
- Have a transparent approach to responding to the **Sustainable Development Goals**, and will establish clear priorities on well-being and inclusivity, clean energy, transport, natural resources, digital and innovation.
- Be underpinned by a clean growth energy strategy through Eon, providing an ectogrid and a 'tool box' of low carbon **energy management and supply solutions** to reduce energy consumption and demand, capture energy generation from the site, and to deploy bespoke energy systems to meet occupier needs.
- Be inclusive, creating 'decent' **employment opportunities**, local supply chain opportunities, linked to apprenticeships, training and development, embedded in employment and skills plans.
- Offer a UK proposition for **FDI through DIT and BEIS**, including a freeport zone site, and space to host international and national scale facilities in the South West
- Target **advanced manufacturing**, life-sciences, cyber, automotive / electric vehicles/ e-mobility and agri-tech sectors.
- Reduce the need to travel, providing choice and a range of **smart mobility** options geared towards decarbonising transport.
- Facilitate **rail restoration and new transport choices** with end to end e-mobility.
- Be a test bed for **innovation**, including smart mobility and 5G deployment.
- Integrate a broad range of ancillary uses to support and increase the attractiveness of the **smart campus**, to enable a 'live work play' scenario, thereby enabling deliverability.
- Create a range of housing solutions as part of a linked, **clean and smart community**, which seeks to reduce the need to travel, including homes for key workers, through private sector rent serviced accommodation, hotels, executive homes and inter-generational and extra care housing to ensure a cohesive and sustainable community.
- Consider **the art of the possible** in responding to the challenge, whether large scale, or small.

1.2.8 At the current time, the following outcomes are predicted for Gravity (subject to change):



- **Planning consent** for the 616 acre Enterprise Zone.
- **Accelerated response to climate change**, withdrawing from combustion based energy generation technologies and minimising in early phases to enable first moves, and transition to a net zero carbon model.
- **Support approaches to green house gas emission removal technology.**
- **National scale energy supply** as primary attractor to Gravity. Connections to the National Grid, including substations, maximising the potential of renewable energy, battery storage, waste energy capture, recycling and storage, and potentially alternative energy generation below 50 MW.
- **Energy management system** to reduce energy consumption, and providing a heating and cooling grid across the smart campus and community.
- **Attracting new businesses and sectors** to Sedgemoor, Somerset, the South West and UK in sectors that can be sustained into the future.
- **Create over 4000 new jobs** (estimate for all development phases), to help transition from a low value, low wage economy to anticipate and respond proactively to economic and structural change, as a result of climate change, and mechanisation. (Note, job numbers will vary enormously between B uses with some having few employees such as in data centres, agri-tech and the energy centre.)
- **500,000m2 to 1,000,000m2 commercial floorspace** which would sit within B1, B2, B8, sui generic floorspace uses. To potentially accommodate a Gigafactory and / or a freeport location for advanced manufacturing and trade.
- **A range of ancillary uses** including restaurants/ cafes, shops, leisure uses up to 100,000m2.
- **Approximately 1300 homes** / units including hotels, private rented sector key worker homes, executive homes and inter-generational housing and extra care facilities.
- **A Strategic Design Code**, refreshed and updated.
- **Enhanced landscape infrastructure and biodiversity**, as a key asset as part of 'super reserve' link.
- **Inclusive campus with public access.**
- **Sustainable water management strategy** and water treatment.
- **Work towards zero avoidable waste by 2030 across the campus.**
- **A new sustainable transport strategy**, geared to minimising impacts on the strategic and local road network, striving for decarbonisation and smart mobility, including the provision of charging infrastructure, consolidated parking and alternative fuel use.
- **Rail restoration** as part of a multi model and smart mobility strategy.
- **Contribute more than £1 billion** to the local economy
- **Contribution to local, regional and national growth ambitions** linked to post Brexit economy, grand challenges of the Industrial Strategy and responding to the climate emergency and drive to net zero carbon outcomes
- **Strategic response post Covid-19 to stimulate economic recovery** and provide a focus for governmental investment.
- **New templates** for compliance and fast track decision making.
- **Fee schedule** through an LDO.
- **Permitted development** through an LDO.

### 1.3 Site Planning Context

- 1.3.1 Gravity is supported at a national level, as denoted by its priority for Government through the DIT and Cabinet Office, and its EZ status which became live on 1<sup>st</sup> April 2017, and Growth Deal Funding granted from the Heart of the South West LEP for the construction of the new site access road (discussed later).
- 1.3.2 The EZ runs for 25 years until 2042 and covers 616 acres excluding the access road. A key part of the EZ local benefits is the business rate retention to various partners (SDC, SCC and Heart of the South West LEP), to be reinvested locally, with the priority on site first, and the establishment of a simplified planning regime to form part of a proactive approach to inward investment marketing to target Foreign Direct Investment (FDI).
- 1.3.3 A Memorandum of Understanding has been agreed with Government on implementation and the first buildings are due to be constructed and occupied during 2020. In effect, this means the project is not currently on track to offer a simplified planning regime to occupiers or generate the level of business rates predicted for delivery partners.
- 1.3.4 The full EZ site was allocated in the former Core Strategy and committed into the current local plan. The hybrid planning application reference 42/13/00010, for the site formerly known as Huntspill Energy Park (HEP), was submitted by BAE Systems as a speculative application to enable site disposal, pre-EZ status being agreed. Nonetheless, its consent (which was granted in November 2017) has fixed parameters and uses and does not constitute a simplified planning regime which is recommended for an EZ.
- 1.3.5 It also includes and makes provision for a substantial area of safeguarded land for energy uses, which do not align with an approach to reduce carbon emissions and have a proactive approach on climate action. There is no certainty in the delivery of outcomes relating to land safeguarded for energy, leisure and rail restoration as no specific consent was granted for those elements of the scheme.
- 1.3.6 The current mix of uses approved under application 42/13/00010 are set out below:
- 8.78 ha of B1 (max 32,150 sqm)
  - 14.84 ha of B2 (max 43,600 sqm)
  - 30.45 ha of B2 (max 101,310 sqm)
  - Safeguarded: 38.74 ha of energy generation uses, 11.22 ha of leisure / community uses and the rail head
- 1.3.7 The consented levels of vehicle trip generation for the full site, as approved under application reference 42/13/00010, are as shown in **Table 1-1**. The totals equate to 1,482 two-way vehicle movements generated in the AM peak period, and a further 1,300 two-way vehicle movements in the PM peak period.

Land Use	AM			PM		
	Arrival (trips per 100 <sup>2</sup> )	Departure (trips per 100m <sup>2</sup> )	Two-way (trips per 100m <sup>2</sup> )	Arrival (trips per 100 <sup>2</sup> )	Departure (trips per 100m <sup>2</sup> )	Two-way (trips per 100m <sup>2</sup> )
B1a	193	32	225	33	176	208
B1b	68	6	74	7	54	61
B1c	79	37	116	14	54	69
B2	322	149	471	58	221	279
B8	259	221	481	238	330	568
CCGT*	56	0	56	0	56	56
Peaking Plant*	8	0	8	0	8	8
Biomass Plant*	39	12	51	12	39	51
<b>Total</b>	<b>1,026</b>	<b>457</b>	<b>1,482</b>	<b>361</b>	<b>939</b>	<b>1,300</b>

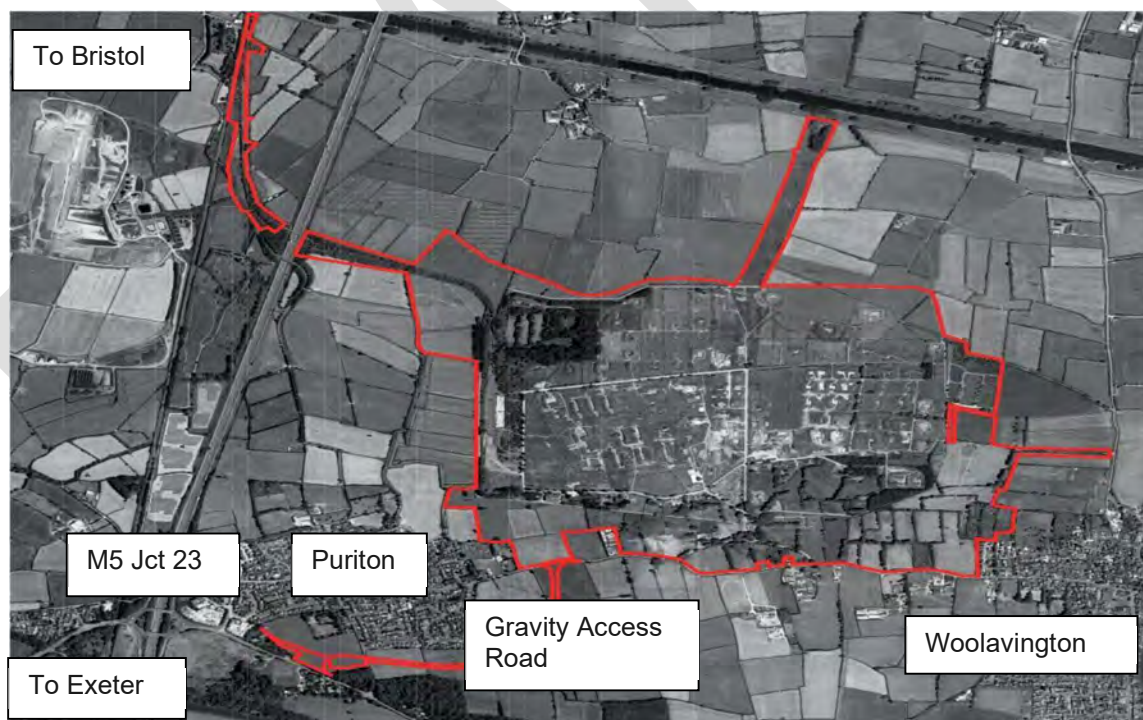
Note: Rounding has been applied to the figures within the table

Table 1-1 Consented vehicle trip generation for full HEP development

- 1.3.8 SCC and HE have already agreed that the consented levels of vehicle traffic generation shown can be accommodated on the local and strategic road network surrounding the site, provided that certain identified off-site highway improvements are delivered.
- 1.3.9 Highway works are specified within the signed Section 106 Agreement as follows, with updates on delivery provided in brackets:
- New access road and its associated junctions, including the Green Bridge (construction due to be completed in Spring 2021)
  - Improvements to the A39 / Hillside junction (as above)
  - Improvements to the A39 / Hall Road junction (as above)
  - M5 Junction 23 partial signalisation or a contribution toward (scheme delivered already by another party so the obligation is no longer valid)
  - A38 Dunball Roundabout upgrade or a contribution toward up to a maximum sum of £850,000 (based on trigger points linked to the occupation of B1, B2, B8 use floorspace)
  - Puriton and Woolavington village enhancement schemes (planning approval granted, technical approval process being undertaken)
  - Travel plan obligations (approach being framed as part of the discharge process for the existing consent to enable and encourage early investors / first movers)



- 1.3.10 The consented mix of uses severely limits inward investment marketing and EZ delivery due to the consent being out of alignment with the government's Clean Growth and Industrial Strategies, and market needs, as well as act as a deterrent to some potential occupiers. This in practice, will affect the pace and quality of delivery and outcomes, and creates significant uncertainty on the ability of the EZ to generate transformational economic renewal and the business rates predicted based on the current consent. Simply put, the multiple due diligence processes prior to disposal to attract the right 'owner' and the lack of new occupiers demonstrates the limited ability to deliver the current consent and outcomes sought. Site optimisation, led by ambitions for clean and inclusive growth and the creation of 'place' where investors and people want to be, will transform site marketability, improve outcomes, and enable Gravity to be competitive and secure inward investment into Sedgemoor, wider Somerset and the South West.
- 1.3.11 Excellent progress has been made since the purchase of the site by Salamanca in November 2017 with the collaborative approach between SDC and Gravity on the Compulsory Purchase Order process to enable the site access and this is now in its final legal stages. The site remediation is advanced and nearing conclusion this year and the new access road construction is currently underway, with the appropriate safeguards in place on social distancing. The new road is due to open in Spring 2021.
- 1.3.12 Implementing the Gravity EZ through an LDO and Clean Growth Strategy as proposed will represent a leading-edge response to climate action and transformational economic renewal in the UK.
- 1.3.13 The Gravity LDO red line boundary is shown below.



1.3.14 The Gravity Clean and Inclusive Growth Strategy sets out a total of 50 objectives which includes the following specifically in relation to transport:

- |  |   |
|--|---|
| <p>32. De-carbonise transport, enabling shift to EV's and alternative fuels through investments into infrastructure that enable an interaction between transport needs and energy supply.</p> <p>33. Strive to minimise transport impacts on the strategic and local road network.</p> <p>34. Participate in research and development to offer a free port site, linked to a Free Port Zone enabled by digital infrastructure.</p> <p>35. Establish multimodal transport infrastructure combining rail restoration, motorway to micro mobility and autonomous shuttles.</p> <p>36. Create a micro mobility grid through green infrastructure creating routes and spaces.</p> <p>37. Blend commuting and campus movement into single Movement as a Service deal (MaaS @Gravity) for occupancy based on blockchain transaction ledger. Discourage and phase out single mode travel using behavioral change and incentivisation mechanisms.</p> | <p>38. Enable the supply chain for zero carbon movement and logistics, creating scaled hydrogen and power supply through infrastructure investments or alternatives.</p> <p>39. Provide 5G infrastructure, sensors and edge computing to enable fully autonomous movement within the smart campus.</p> <p>40. Integrate facilities for a helipad / electric taxis and look into the future to consider the UK's first International drone port to connect UK Industrial Clusters to Europe.</p> <p>41. Design corridor infrastructure to enable logistic autonomous movement and platooning.</p> <p>42. Incubate zero emission transport and smart mobility SME's.</p> <p>43. Design civil engineering solutions for future mobility requirements.</p> <p>44. Enable working from home and localised working linked to the campus geared to reducing the overall need to travel through the Gravity Home Hub Model.</p> |
|--|---|

1.3.15 The Gravity LDO programme is as shown below and leads up to its adoption in November 2021.

2020	July	SDC Executive decision to prepare an LDO
	Sept	Delivery Group Established
	Oct	Technical work – ongoing
	Nov	Visioning and parameters plans
	Dec	EIA Screening
2021	Feb	EIA Scoping
	March	Draft LDO / Design Guide / EIA
	May	Informal public consultation
	Aug	Statutory consultation
	Nov	Adopt LDO

## 1.4 Transport Documentation Supporting LDO

- 1.4.1 It is proposed that Stantec will produce Transport Assessment, Framework Travel Plan and EZ Investment and Infrastructure Plan documents that can be submitted to support the Gravity LDO.
- 1.4.2 It is envisaged that the TA will include the following content, much of which will be discussed and agreed through collaborative working with both SCC and HE prior to submission being made:
- Introduction and site history / planning context (also covered within this report).
  - Baseline transport conditions review including an assessment of the site's accessibility by all main modes of transport, along with an updated road safety analysis based on the latest available Personal Injury Accident data (study area to be agreed through scoping discussions).
  - National and local transport policy and guidance review and an assessment of how the scheme complies with those.
  - Detailed description and explanation of the LDO smart campus and community, and specifically market needs/ scenarios/ parameters including the Mobility Strategy package to be implemented (the principles to be developed further are covered within this report).
  - Scenario testing explanation, methodology and outputs including trip generation, distribution and modal share (the principles to be developed further are covered within this report).
  - Development impact assessment methodology and results whilst taking account of the consented traffic generation for the site.
  - If residual transport impacts are generated, a final chapter will set out how such impacts are proposed to be addressed.
- 1.4.3 A separate and bespoke Framework Travel Plan (FTP) will be prepared in general accordance with the SCC Travel Planning Guidance document, but reflecting a step change in travel planning in accordance with the mobility principles to be adopted at Gravity, and it is again envisaged that the approach and content will be discussed and agreed as far as possible prior to submission. A key aspect of this will be to shape an FTP that works as part of the LDO as a marketing tool to attract new businesses and occupiers to the UK and the South West. Its style and approach must be solution/ service orientated and geared to the business and its workforce and business needs, whilst of course aligning and delivering against key principles. This aligns with a similar approach to workforce development and skills.
- 1.4.4 The FTP will form the basis upon which each individual Occupier Travel Plan (OTP) will need to be prepared to enable timely mobilisation and implementation. These Occupier Travel Plans would take into account their own specific travel planning requirements, for example arising from differing working practices and operations within employment uses. The form of these documents will be subject to the scale of each unit and either based upon a '*Measures-only Travel Statement*', '*Travel Plan Statement*' or '*Full Travel Plan*' as detailed in SCC's Travel Planning Guidance, but again according with the mobility principles to be adopted at Gravity. It is expected that delivery partners will have a key role to play in implementation.
- 1.4.5 The remainder of this report provides further information regarding the principles of the proposed transport assessment approach.



## 2 Baseline Transport Conditions

### 2.1 Introduction

- 2.1.1 The HEP TA and TPF documents that were approved under consented application reference 42/13/00010 included a comprehensive assessment of existing transport conditions covering the site access, accessibility to local facilities, pedestrian, cycle and public transport, and the local and strategic road network.
- 2.1.2 Given that the HEP consent is already in place and represents an extant consent, this chapter will generally only provide a high level overview of the baseline transport conditions for the LDO scheme, and will instead focus on any key changes that have already or are planned to take place.

### 2.2 Site Access

- 2.2.1 The site benefits from an established access onto Woolavington Road in the form of a Y shaped priority junction where the Eastern and Western Approach Roads link to form a single point of entry to the 37 Club and main site. A secondary vehicular access connects the site with the B3139 to the east.
- 2.2.2 Both Woolavington Road and the B3139 Causeway in the vicinity of the site are rural in character and considered sub-standard in part along its length in terms of general alignment, forward visibility and highway capacity. To this end the current access arrangements were not considered suitable to provide the main strategic access to support the full HEP scheme.
- 2.2.3 As such, the HEP consented scheme included the construction of a new access road and junctions linking the development to the A39 Puriton Hill, whilst also providing direct access to the M5 motorway via Junction 23 and the A38 via Dunball Roundabout. A general arrangement drawing of the approved access road is provided in **Appendix B**.
- 2.2.4 Whilst the principle function of the new access road is to provide a strategic access to the development site, it will also provide additional local benefits including:
- The provision of access, highway and safety improvements at the existing junctions of Hall Road, Old Puriton Hill and Hillside
  - Restrict HGV traffic through Puriton and Woolavington villages
  - Reduce through traffic movement in Puriton
  - Facilitate public realm and complementary traffic management measures in Puriton and Woolavington villages and Woolavington Road
  - Improve connectivity, accessibility and general safety for pedestrians and cyclists and public transport users
- 2.2.5 In April 2018 the Heart of the South West LEP approved a £3.94m grant to Gravity towards the cost of the access road. Following this allocation of funding, Alun Griffiths were appointed as contractor to undertake the construction works.
- 2.2.6 The access road had an initial 12-month build programme to be followed by landscaping work and creation of a noise bund. Due to the impact of COVID-19 it is anticipated that the road will now open in Spring 2021.



## 2.3 Local Facilities

- 2.3.1 Within the vicinity of the villages of Puriton and Woolavington, there is Court Farm Butchers in Puriton, also providing grocery needs and located on Riverton Road, and Co-op Food on Woolavington Hill, with shops providing day to day convenience goods for local residents. The nearest supermarkets to the villages are in Bridgwater, Budgens adjacent to Bristol Road or Sainsburys approximately 3.7km and 5.3km respectively from the centre of Puriton. A post office is also located on Middle Street within the centre of Puriton.
- 2.3.2 The healthcare needs of the residents can be accommodated within Woolavington at the Woolavington Branch Surgery. Bridgwater Hospital also lies approximately 4.5 km from the centre of Puriton and 5 km from Woolavington and has an Accident and Emergency centre. The nearest dental facility is 'myDentist' located on Symons Way, Bridgwater approximately 5km from Puriton.
- 2.3.3 Within each village there is a primary school. Puriton Primary School is accessed via Rowlands Rise, which contains wide footways either side of the carriageway. Woolavington Village Primary School is located on the southern side of Higher Road and has limited car parking facilities outside but is only served by footways to the east. The closest secondary schools to the villages are Chilton Trinity and Bridgwater College Academy, both within Bridgwater.
- 2.3.4 Within Puriton there is one pub, The Puriton Inn, located on Puriton Hill. As set out above, the National Cycle Network Route runs to the east of Woolavington and north to Highbridge and is accessible via Cossington Lane. There is also Puriton Sports Centre and 37 Sports and Social Club accessed via Batch Road and Woolavington Road respectively.

## 2.4 Walking and Cycling

- 2.4.1 The site lies within open countryside between the villages of Puriton and Woolavington. The semi – rural location is reflected in the current relatively poor accessibility of the site to local facilities and services, within reasonable walk distance. Bridgwater provides the nearest settlement for access to higher order facilities and services.
- 2.4.2 The footway network reflects the rural character of both villages of Puriton and Woolavington. Footway provision lacks consistency with narrow or no footway in places, and only one formal crossing point in each village, therefore currently limiting local pedestrian accessibility and connectivity. However, the consented Village Enhancement Schemes (discussed below) will address these local connectivity issues within and between the two villages.
- 2.4.3 There are no formal cycle paths in the immediate vicinity of the two village settlements, however National Cycle Network Route 3 runs under A39 Bath Road adjacent to Woolavington Hill and later connects to NCNR 33, which runs to the east of Woolavington and up into Highbridge. Surrounding roads and those leading into Bridgwater appear appropriate for cycling, due to their adequate width and the residential nature of the local area.
- 2.4.4 There is currently an absence of formal footways or cycleways adjacent to Woolavington Road, therefore restricting access by these modes between the site and the local villages of Puriton and Woolavington where there are some local facilities available. Again, the consented Village Enhancement Schemes will address these local connectivity issues within and between the two villages.

## **Puriton**

- 2.4.5 Pedestrian footways are provided on at least one side of the carriageway for the length of Hall Road, which also includes a pedestrian crossing adjacent to the Village Hall bus stop prior to forming Riverton Road. Level and adequately surfaced footways then continue on at least one side of the carriageway through Puriton, with dropped kerbs and tactile paving at crossing points such as Rowlands Rise and the Butchers Shop.
- 2.4.6 Puriton Primary School is accessed via Rowlands Rise, which has wide and well surfaced footways on either side. Between the Butchers Shop and Hillside the footway on the eastern side of the carriageway is narrow and is not supported by a footway on its western side.
- 2.4.7 Hillside is served by footways on at least one side of the carriageway until Cypress Drive. However, during a short section of the AM peak it experiences high levels of on street parking linked to the Primary school drop off.
- 2.4.8 Woolavington Road, east of Hillside, is served by wide footways on at least one side of the carriageway with dropped kerbs and tactile paving at informal crossing points. The footways end to the east of Puriton Park.

## **Woolavington**

- 2.4.9 There is currently only one formal pedestrian crossing point on Woolavington Hill B3141 prior to the junction with Higher Road and Vicarage Road. However, there are several informal dropped kerb pedestrian crossing points, but these do not have tactile paving.
- 2.4.10 To the west of Lynham Close, there are no footways on either side of the road along Woolavington Road. To the east, there is a footway on the northern side of the carriageway until Chertsey Close, where a crossing with tactile paving is provided to the footway on the southern side of Higher Road, which continues to the junction with Woolavington Hill, except for a section in front of Woolavington Village Primary School. A crossing with tactile paving is provided by 'The Green' bus stops.
- 2.4.11 Along Woolavington Hill, south of the junction with Higher Road, there are footways provided on both sides of the carriageway. The footways continue until the southern junction with Old Mill Road where a footway is only provided on the eastern side of the carriageway, until the footway comes to an end at Cossington Lane.
- 2.4.12 Along the B3141, north of the junction with Higher Road footways are provided on at least one side of the carriageway for the majority of the route, except for a short section south of the junction with Church Street. The footways provided are narrow in parts along Lockswell with limited crossing points.

## **Village Enhancement Scheme Overview**

- 2.4.13 The Section 106 Agreement for HEP included the requirement to deliver a Village Enhancement Scheme (VES) within and between the villages of Puriton and Woolavington as additional works to construction of the new site access road.
- 2.4.14 Following a public consultation event held in March 2020, a VES scheme has been developed and has achieved planning consent under planning reference 42/20/00022. Stantec are now working to make technical approval submissions in the near future.
- 2.4.15 The VES proposals look to respond to key highway issues, bringing about a change in character of place, reducing traffic speeds and likelihood of collisions through providing appropriate traffic calming measures supported by SCC guidance. The scheme will also create improved environments for utilising sustainable modes within and between the villages. Further details regarding the numerous elements of the VES are set out below.

## **Village Enhancement Scheme – Puriton Proposals**

### ***Puriton Hill / Hall Road***

- 2.4.16 The review of traffic survey data and PIC data highlighted that high vehicle speeds are recorded on Hall Road, with the 85th percentile speeds in excess of the speed limit, relatively low traffic flows, and a collision involving a cyclist identified.
- 2.4.17 As part of the gravity access road scheme, there is a change in priority from Hall Road to Old Puriton Hill. This change in highway geometry introduces a speed reduction measure and will encourage slower vehicle speeds. Hall Road will be enhanced to a northbound one-way layout with on-street parking and a deflection island.
- 2.4.18 Northbound vehicles will therefore need to give-way to vehicles travelling from Puriton Hill to Hall Road, a build out has been provided to deflect traffic, highlighting the change to priority. Southbound vehicles will be required to slow down due to the change in priority and speed control bend with Hall Road continuing into Puriton Hill.
- 2.4.19 It is considered that these proposals will serve to encourage lower vehicles speeds and therefore address the current identified issue.
- 2.4.20 It is also proposed to tighten the radii of the junction of Puriton Hill / Hall Road (on the western side of Hall Road) and provide an overrun area. These proposals are provided to reduce vehicle speeds and reduce pedestrian crossing time.

### ***Hall Road / Riverton Road***

- 2.4.21 As highlighted through the review of traffic survey data and PIC data, there were low vehicle speeds recorded on Riverton Road, with the 85th percentile speeds below the speed limit, relatively low traffic flows, and a collision involving a pedestrian stepping into traffic.
- 2.4.22 As outlined in the proposal set out above, the changes of priority at the junction of Hall Road / Puriton Hill will encourage lower vehicle speeds. Also, since the recorded collision in 2017, the Taylor Wimpey development on Green Acres has provided tightened geometry via a speed control bend, which will encourage lower speeds to the north.
- 2.4.23 It is considered that these proposals will encourage lower vehicles speeds and existing informal crossing points will provide pedestrian connectivity and therefore address the current issues identified.

### ***Riverton Road***

- 2.4.24 As highlighted through the review of traffic survey data and PIC data, there were low vehicle speeds recorded on Riverton Road, with the 85th percentile speeds below the speed limit, relatively low traffic flows, and no collisions recorded.
- 2.4.25 In order to maintain the low vehicle speeds and provide regular spacing of traffic calming measures, on a bus route, speed cushions have been proposed.

### ***Riverton Road / Newlyn Crescent / Rowlands Rise***

- 2.4.26 A site visit identified key desire lines in the vicinity of the Newlyn Crescent / Rowland Rise junction with Riverton Road, which were attributed to parents and children walking to Puriton Primary School and bus stops to the east of Rowlands Rise.
- 2.4.27 It is proposed that a raised table junction with tightened junction kerbing and crossings will accommodate the desire lines and promote pedestrian movement to Puriton Primary School

and local centre. These proposals also fulfil need for the regular spacing of traffic calming measures to maintain low vehicle speeds.

#### **Riverton Road / Woolavington Road**

- 2.4.28 The site visit identified key desire lines evident in the AM peak as pedestrians seek to access the local centre and the bus stop.
- 2.4.29 A review was undertaken to provide a crossing in this location to accommodate desire lines to the local centre. However, due to existing levels and third-party land constraints, there is no opportunity to provide a safe crossing point. Instead, a contrasting surface colour has been proposed to alert drivers of potential hazards.
- 2.4.30 It is considered that widening the footway to 1.8 metres on the eastern side of Woolavington Road will reduce the number of pedestrians using the western side of the carriageway and improve accessibility to the local centre. Minimum carriageway and footway width will be maintained as part of proposals.

#### **Hillside / Woolavington Road**

- 2.4.31 The junction between Woolavington Road and Hillside suffers from conflicting movements, unaided by high levels of on street parking, narrow footways and lack of safe crossing points.
- 2.4.32 Proposals include a raised table junction with crossings to accommodate observed desire lines to Puriton Primary School and Local centre. The raised table junction will encourage slower vehicle speeds on approach to the existing 'S' bend.
- 2.4.33 Traffic calming measures to the east on the bend along Woolavington Road have not been proposed as measures would displace existing on street parking.
- 2.4.34 It is considered that these proposals will maintain low vehicle speeds and accommodate the identified desire lines, therefore addressing existing issues.

#### **Hillside / Cypress Drive**

- 2.4.35 Due to third party land constraints and existing on street parking, there are limited opportunities to provide traffic calming measures along Hillside.
- 2.4.36 Proposals do include a raised table junction between Hillside and Cypress Drive to encourage slower vehicle speeds on approach to Puriton Village and the connection to the Gravity access road.

#### **Woolavington Road**

- 2.4.37 As highlighted through the review of traffic survey data and PIC data, there were high vehicle speeds recorded, with the 85th percentile speeds exceeding the speed limit, and two collisions were recorded to the east of the Woolavington Road / Spring Rise junction.
- 2.4.38 Proposals include a raised table to the west of Manse Lane and proposed H-Bar markings to discourage parking on or adjacent to existing crossing, which will undergo refurbishments.
- 2.4.39 A 3.5m pinch point is proposed to the east of Manse Lane, with priority control, incorporating crossing and widened footways, narrowing the carriageway to a single lane. Proposed give way road markings to the west form a priority control, which encourages slower speeds for eastbound traffic. The build out ensures optimal visibility for pedestrians and slows eastbound traffic.



- 2.4.40 To the east of Manse Lane is a build out with a crossing provided with bollards providing a connection to a footway along the southern side of Woolavington Road and to encourage slower vehicle speeds.
- 2.4.41 The existing bus stop could be relocated further west to improve bus vehicle movement travelling east after the proposed pinch point. However, discussions with Travel Somerset and bus companies will be required. An additional flat top road hump is located to the east of Spring Rise, which incorporates a crossing with tactile paving providing connection to the footway along the northern side of Woolavington Road and encouraging slower vehicle speeds.
- 2.4.42 To the east of Puriton, speed cushions are proposed to the east of Canns Lane to encourage lower vehicle speeds and a raised table to the east of Puriton Park accommodates pedestrian movement and slows vehicle speeds westbound entering the village. Reduced bellmouth kerb radii at Puriton Park also encourages reduced vehicle speeds and reduces pedestrian crossing distance.
- 2.4.43 Proposals also include the provision of a new footway providing pedestrian link to Woolavington with the width ranging between 1.2 metres to 2 metres. The proposed footway will connect into shared foot/cycleway currently being constructed as part of Gravity access road works.
- 2.4.44 Improvements to existing Puriton Gateway and a new 'slow' marking are also proposed on the eastern entrance to the village. The proposals seek to bring about a change in character, which is supported by SCC guidance stating that measures are required approximately every 100 metres to maintain a 30mph speed.

### **Village Enhancement Scheme – Woolavington Proposals**

#### **Woolavington Road Gateway**

- 2.4.45 As highlighted through the review of traffic survey data and PIC data, there were high vehicle speeds recorded, with the 85th percentile speeds exceeding the speed limit, and one collision involving a motorcycle exiting Woolavington Branch Surgery.
- 2.4.46 Proposals include a 'slow' marking to encourage slower speeds on the approach to Woolavington and an improvement to the existing Woolavington village entrance gateway with the change of speed limit signage to be refreshed.
- 2.4.47 Additionally, a 3 metre shared foot / cycleway is proposed to link to Woolavington Road with cycle transition at the peak point of visibility on the north of the carriageway. Approximately 80m of hedgerow will be removed to accommodate footway / cycleway access and visibility splays.
- 2.4.48 In addition, a proposed crossing and footway will link to existing public right of way and proposed shared footway / cycleway. The proposed crossing point includes a build-out, reducing the carriageway width to a single lane of traffic and give way road marking to the west forming a priority control, which encourages slower speeds for eastbound traffic. The introduction of the build-out and crossing point links to Crancombe Lane and the wider Public Right of Way network.
- 2.4.49 It is considered that the proposals will decrease speeds on the entrance and exit of Woolavington at a point of speed change from 60mph to 30mph, whilst also providing increased accessibility for cyclists and pedestrians.

### **Higher Road / Woolavington Village Primary School**

- 2.4.50 As highlighted through the review of traffic survey data and PIC data, there were high vehicle speeds recorded, with the 85th percentile speeds exceeding the speed limit on the entrance to Woolavington, however no collisions were recorded.
- 2.4.51 A flat top road hump is proposed to the west of the entrance to Woolavington Village Primary School to encourage slower vehicle speeds on approach to the school. Pedestrian movement is supported by existing informal crossing points providing connection to the footway along the southern side of Higher Road and bus stop.
- 2.4.52 Proposals include the provision of a footway across the front of Woolavington Village Primary School, which include new crossing points with tactile paving.
- 2.4.53 A raised table junction with crossings is proposed to the east of Woolavington Village Primary School between Higher Road and The Drive. This proposal accommodates observed desire lines to the school and will encourage slower vehicle speeds on approach to the school.
- 2.4.54 Speed cushions are proposed to the east of Crancombe Lane adjacent to The Green to the west of existing bus stops to lower vehicle speeds through the regular spacing of traffic calming measures.

### **Higher Road / Causeway / Vicarage Road / Woolavington Hill**

- 2.4.55 As highlighted through the review of traffic survey data and PIC data, there were high vehicle speeds recorded, with the 85th percentile speeds exceeding the speed limit through Woolavington, however no collisions were recorded.
- 2.4.56 In order to accommodate observed desire lines over The Green a new footpath could be provided subject to land ownership, which would provide access to bus stops along Higher Road.
- 2.4.57 The existing zebra crossing on Woolavington Hill will be incorporated into a flat top road hump to encourage slower vehicle speeds.
- 2.4.58 Speed cushions are proposed to maintain existing low vehicle speeds and provide regular spacing of traffic calming measures along Causeway to the north of the junction. Chicane barriers are proposed on the footway to the western side of the carriageway, along with improved crossing facilities providing access to the existing bus stop. Proposals include new bus cage markings and high access kerbs on the existing footway to serve buses operating in both directions.

### **B3141 Causeway**

- 2.4.59 The review of traffic survey data and PIC data suggested there were high speeds recorded in both directions, with the 85th percentile speeds in excess of the speed limit and three collisions were recorded over the time period as a result, which can be attributed to high speeds.
- 2.4.60 Awareness of existing Woolavington Gateway, associated with the change of speed limit are to be refreshed and improved as part of proposals.
- 2.4.61 Speed cushions are proposed south of the gateway and existing speed limit road markings along Causeway on the northern edges of the village will be refreshed and improved to reduce and maintain low speeds and provide regular spacing of traffic calming measures.

### **Causeway / Lower Road / Church Street / Lockswell**

- 2.4.62 As highlighted by the review of traffic survey data and PIC data, high speeds recorded in both directions, with the 85th percentile speeds in excess of the speed limit, however no collisions were recorded.
- 2.4.63 Proposals include a flat top road hump, incorporating a crossing to the north of Causeway / Lower Road junction, which is to encourage slower vehicle speeds and accommodate desire lines and connectivity to existing footways.
- 2.4.64 There is potential for contrasting surface colour treatment to the indicative extent of Causeway's intersections between Lower Road, Church Street and Lockswell.
- 2.4.65 Improved informal crossing facilities are proposed across Church Street and a new crossing provided along Lockswell to avoid utilities and to provide a connection to the footway along western side of Lockswell. A new section of footway is also proposed to connect the existing footway north of Church Street to the existing footway along Lockswell.
- 2.4.66 Speed cushions are proposed to the south of the proposed surface treatment area along Lockswell to lower vehicle speeds through the regular spacing of traffic calming measures.
- 2.4.67 It is considered that proposals will encourage and maintain low speeds into the centre of Woolavington and provide increased levels of accessibility for pedestrians.

### **Woolavington Hill**

- 2.4.68 As highlighted by the review of traffic survey data and PIC data, high speeds recorded in both directions, with the 85th percentile speeds in excess of the speed limit, however no collisions were recorded. The two collisions recorded in this area were on Old Mill Road within the internal residential network.
- 2.4.69 Woolavington Hill is already served by existing build outs, which will be refreshed to improve awareness and integrate landscaping, however raised planters should not impair visibility for any potential pedestrians using the build outs to cross.
- 2.4.70 To the north of the northern access of Old Mill Road, speed cushions are proposed to maintain existing low vehicle speeds and provide regular spacing of traffic calming measures.
- 2.4.71 On the access to Old Mill Road proposals include the tightening of the junction radius to encourage lower vehicle speeds on the approach to the junction, which also include improved crossing facilities. A flat top road hump is also proposed on the southern side of the junction, which incorporates the current crossing to encourage slower vehicle speeds.
- 2.4.72 Between the northern and southern access points of Old Mill Road, proposals include two new sets of additional speed cushions and the refreshment of a second existing build out which will also include landscaping that should not impact pedestrian visibility.
- 2.4.73 The southern junction between Old Mill Road and Woolavington Hill will similarly include the tightening of the junction radius and improved crossing facilities. A flat top road hump is also proposed on the southern side of the junction, which incorporates the current crossing to the eastern side of Woolavington Hill as no footway is provided on the western side.
- 2.4.74 Further south of the Old Mill Road and Woolavington Hill junction, speed cushions are proposed to lower vehicle speeds on the entrance and exit of Woolavington through the regular spacing of traffic calming measures.

- 2.4.75 Southern Woolavington gateway feature will also be improved and refreshed as well as the existing rumble strips, increasing awareness of the change in speed limit on the entrance and exit of the village.
- 2.4.76 It is considered that proposals will maintain low vehicle speeds through the regular spacing of traffic calming measures and also improve pedestrian accessibility and connectivity through the improvement of crossing facilities.

#### **Village Enhancement Scheme – Shared foot/cycleway between Puriton and Woolavington**

- 2.4.77 As part of the VES scheme proposals, a foot/cycleway is also proposed between the villages of Puriton and Woolavington.
- 2.4.78 The proposed footway ties into Gravity access road construction currently underway at the Woolavington Roundabout. Concrete steps with wooden handrails will provide a link to the access road with a new pedestrian crossing to the north of Woolavington Roundabout.
- 2.4.79 The 3.5 metre foot/cycle becomes a segregated route to the east of the roundabout before running to the north of the 37 Club and joining the existing entrance to the ROF site. The indicative route is shown on Drawing 43444/2025/122.
- 2.4.80 The route will run on the field side of the hedge to the east of the existing access, on land entirely within Gravity ownership. To the east of the ROF entrance the foot/cycleway the route mirrors the eastern approach road before running parallel to Woolavington Road, adjoining the road at the western gateway of Woolavington. The indicative route is shown on Drawing 43444/2025/123.
- 2.4.81 Where the shared foot / cycleway meets the carriageway, the removal of vegetation and the location of the exit point on the bend is designed to accommodate maximum visibility splays for pedestrians and cyclists.

## **2.5 Public Transport**

- 2.5.1 Bus stops through the centre of both villages are serviced by the 75 bus, which operates a loop service from Wells to Bridgwater 7 times a day from 07:45 to 18:27 (Woolavington The Green). The 66 and X75 bus also operate daily from Axbridge to Bridgwater College Monday to Saturday and Wells to Bridgwater College on weekdays respectively, as shown in Table 2-1.

<b>Bus</b>	<b>Service</b>	<b>Frequency (Weekdays)</b>
66	Axbridge – Bridgwater College	1 service a day
75	Wells – Bridgwater (loop)	7 services per day
X75	Wells – Bridgwater College	1 service a day

Table 2-1 Local bus services



- 2.5.2 Recent on-site observations also identified that private school buses operated in the morning peak, servicing secondary schools outside of both Puriton and Woolavington.
- 2.5.3 Hinkley Point C also operates an extensive local bus service for the extensive site workforce, some of whom live locally in permanent or temporary accommodation.

## 2.6 Highway Network

- 2.6.1 Both Puriton and Woolavington can be accessed via the A39 with Puriton on the eastern side of the M5 and Woolavington further to the east, with Woolavington Road connecting the two villages.
- 2.6.2 The A39 provides strategic connectivity to the M5 corridor providing access to Bristol within 45 minutes and other economic centres of Taunton and Exeter within approximately 15 minutes and 50 minutes respectively. M5 Junction 23 also provides easy access to the A38, part of the SCC Major Road Network, via the Dunball Roundabout, and has recently been upgraded to signal control through the mitigation agreed for the Hinkley C project. A Government announcement has been made that the junction would be further improved as part of a £25 million Roads Investment Strategy (RIS) programme however this was not progressed by the Major Projects team. The improvement works completed however removes the need for the HEP scheme to improve Junction 23 in line with the Section 106 obligation for the existing consent, and the capacity of the junction has been increased in anticipation of the additional traffic that could be generated by the extant consent.
- 2.6.3 The village of Puriton is currently accessed from the A39 via Hall Road, Hillside and previously Puriton Hill. However, the access road (currently under construction) will provide for a new roundabout access from the A39 joining with Puriton Hill, with Hillside stopped up and Hall road limited to left turn in movements only from the A39. Hall Road leads on to Riverton Road, and then forms Woolavington Road at the junction with Middle Street and Rye. Woolavington Road aligns to the south forming a junction with Hillside, while Woolavington Road continues east to Woolavington approximately 2km from the centre of Puriton.
- 2.6.4 Woolavington Road provides the westerly access to Woolavington before forming Higher Road, which passes by Woolavington Village Primary School. The centre point of the village is the crossroads between Higher Road / B3141 Causeway / Vicarage Road and Woolavington Hill. The Causeway provides connections to East Huntspill and then Highbridge to the north.
- 2.6.5 Woolavington Hill provides the access from the south to Woolavington. Woolavington Hill forms junctions with Old Mill Road connecting to the residential area to the south west of the village. Woolavington Hill also connects to Cossington Lane, providing access to the small village of Cossington to the east and also continues south to the A39 Bath Road leading towards Street.
- 2.6.6 There are two existing traffic calming build outs on Woolavington Road; one located between the junctions with Old Mill Road, the other to the north of the junction with Combe Lane. As stated previously, the Gravity development will provide an access road from the A39 which is currently under construction. The access road will connect A39 directly to the site via a roundabout with Woolavington Road. The access road, in conjunction with the VES, will alleviate pressure on the internal networks of the villages mitigating the development traffic impact within Puriton and Woolavington.

## 3 Future Travel Trends & Mobility

### 3.1 Introduction

- 3.1.1 There is a growing evidence base demonstrating a shift in travel behaviour because of disruptive technological and societal changes, especially amongst the younger generations.
- 3.1.2 There is widespread evidence demonstrating that there is less reliance on the car from younger generations, aspiration to socialise or work while travelling, high costs of car ownership and change in priorities of spend (car not being a status symbol) all leading to a consensus that future travel behaviour will lead to lower levels of private car use.
- 3.1.3 This chapter provides an overview of a selection of key evidence documents that are underpinning these trends, including:
- Understanding the drivers of road travel: current trends in and factors behind road use (DfT, Jan 2015)
  - Provision of Travel Trends Analysis and Forecasting Model Research (Atkins, AECOM and Imperial College London (2017)
  - Young People's Travel – What's Changed and Why? Review and Analysis: Report to DfT (UWE, 2018)
  - A Time of Unprecedented Change in the Transport System, The Future of Mobility (Government Office for Science, January 2019)
  - TRICS Guidance Note on Changes in Travel Behaviour (August 2019)
  - Planning Transport and Development: All Change – Independent Transport Commission and Peter Brett Associated (no date)
  - DfT Road Investment Strategy 2 (2020-2025)
  - SDC 2050 Transport Investment Strategy (2019)

### 3.2 Understanding the drivers of road travel: current trends in and factors behind road use (DfT, Jan 2015)

- 3.2.1 DfT research suggests that *"over recent decades growth in road traffic has been slowing"*, and additionally indicates that *"car traffic has shown the greatest growth over the long-run but national levels are currently at the levels seen in 2002."*
- 3.2.2 As part of the 2015 report, the DfT have considered multiple factors affecting car use. Some of these include:
- Younger people not learning to drive due to the high cost of learning and car insurance, leading to a decline in car use in this demographic (based on NTS data);
  - Employment rates; a fall in 'real income' amongst younger people over the last decade has made driving cost-prohibitive, whilst employment rates among "females and older age groups", who are driving more, has increased;
  - Traffic levels are shown to track and 'mirror' the changes in Gross Domestic Product;

- Declines in company car use have been found to account for the largest reduction in mileage amongst men between the ages of 30 and 60 and may also be linked with the decline of car use in London. DfT link this to changes in company car taxation rules;
- Urbanisation and increases in population density have been found to have brought down car demand in recent decades;
- There is evidence to suggest that “increasing congestion in urban areas is contributing to the levelling of traffic in these areas, and that more people in these areas are travelling by public transport”; and
- The report suggests also that “we may expect traffic in urban areas to grow less strongly, as... the availability of public transport services [keeps] traffic growth down, alongside more limited road capacity”, and it additionally suggests that “public transport might be expected to continue becoming an increasingly important feature in these areas, whilst greater support and access to cycling... may encourage people to travel by other modes”.

### **3.3 Provision of Travel Trends Analysis and Forecasting Model Research (Atkins, AECOM and Imperial College London (2017))**

3.3.1 The report, which aimed to develop a forecasting model using statistical relationships identified in travel trends and drivers, cites evidence which suggests that:

- “Average trip rates have decreased between 1988 and 2010 for the majority of trip purposes”, including commuting and leisure, and suggested that based on their analysis, it is “changes in walking trips and short trips... [which] have made a significant contribution to the overall observed trends in trip rates”;
- Trip rates amongst all age groups except the 65+ age group have decreased, whilst the 65+ age group has increased only “slightly”;
- Whilst annual car mileage has increased more amongst females and older age groups, there has been “a decline in distance travelled by car... predominantly [seen] amongst the young people and men”; and
- A comparison of 2001 and 2011 Census data has shown that “the proportions of workers categorised as ‘working mainly at or from home’ has increased by 1.4 percentage points to 10.6% in 2011”.

3.3.2 The report therefore suggests that:

- “...reasons for changes in mobility patterns include the differential costs of motor insurance as well as learning to drive, which disproportionately accrue to younger age groups”, which may have in impact on the number of people choosing to drive or own a car;
- “...an increase in the number of individuals who work from home regularly is linked to a reduction in the number of commuting trips made” and it is hypothesised that “using online social networks and online gaming substitute social travel to some extent”, and;
- The overall decline in average trip rates may be mostly due to “changes in walking trips and short trips”.

### 3.4 Young People's Travel – What's Changed and Why? Review and Analysis: Report to DfT (UWE, 2018)

- 3.4.1 Research undertaken by the Centre for Transport & Society (UWE and University of Oxford) found that *"young adults [ages 17-29] in Great Britain and other countries are driving less now than young adults did in the early 1990s"*, and that this change began approximately 25 years ago.
- 3.4.2 This is evidenced in that as of 2014, only 29% of 17-20 year olds and 63% of 21-29 year olds held a driving licence, representing a 19% and 12% decrease respectively. Additionally, it is cited that *"between 1995-99 and 2010-14 there was a 36% drop in the number of car driver trips per person made by people aged 17-29"*.
- 3.4.3 The causes behind this change are hypothesised to be the prohibitive cost of motoring amongst younger people (linked in also with the *"stagnation in wage rates"* and decline in disposable income) as well as younger people accepting not driving, or their peers not driving, as evidenced by surveys and interviews.
- 3.4.4 Additionally, these decreases are linked to increases in *"time spent at home"*, more young people are living in urbanised areas with public transport having a *"greater impact" on commuting choice*, and increased enrolment in higher education which may delay when younger people choose to own a car.
- 3.4.5 The report also suggests that whilst evidence of the impact of technology on travel behaviour is *"contradictory"*, it remains a *"a plausible contributor to the fall in total travel by young people"* as well as changes to signifiers and understandings of 'adulthood'.

### 3.5 A Time of Unprecedented Change in the Transport System, The Future of Mobility (Government Office for Science, January 2019)

- 3.5.1 The report notes that *"we are currently travelling less at an individual level"*, with a greater shift away from use of the private car amongst young people linked in part to changing economic situations, choices of where people live, and a *"greater openness to the sharing economy, which new technology will increasingly facilitate"*.
- 3.5.2 Additionally, the report confirms that the different modes of transport are *"deeply interrelated: the increasing use of one often leads to a reduction in another"*. Whilst it does add that *"the relationship... [can] be complementary"*, it can be inferred that a shift towards more sustainable modes of transport to fulfil trip purposes (the most common of which are cited to be commuting and shopping) will in turn lead to a shift away from the private car.
- 3.5.3 The report therefore advocates for transport to be considered as a system, as well as *"exploring different futures, identify[ing] opportunities and help[ing to] mitigate the unintended consequences of new transport modes, technologies and/or trends"*, and concludes that:  
  
*"transport needs to be considered as a holistic system, not as sequential or separate elements. The 'predict and provide' principle that guided transport planning between the 1950s and 1990s tended to treat modes separately, but this will no longer suffice"*.
- 3.5.4 The report states that *"there has been a general decrease in both trips and mileage (per person) for personal transport in rural, semi-urban and urban areas"*, evidenced by a 12% decrease in car trips and distance travelled since 2002. Whilst it is noted that the factors influencing travel behaviour, both now and in future are *"too many to list"*, key considerations include:



- The digitalisation of services, which will impact future mobility of passengers and businesses;
- Increased home-working may reduce the need to travel;
- An ageing population who historically travel less and at different times to the working population, which will cause the “nature of travel demand to shift”, whilst the younger cohort tend to also be travelling less;
- A sharp increase in car, bike and lift sharing, are predicted likely to grow further towards 2040;
- The influence of the built environment, i.e. people are more likely to walk and cycle if they are in proximity to local facilities and amenities that would otherwise necessitate car travel, i.e. shops, restaurants, schools, and
- Mobility as a Service (MaaS) could “support a move away from car ownership, potentially reducing congestion”.

### 3.6 TRICS Guidance Note on Changes in Travel Behaviour (August 2019)

- 3.6.1 TRICS Consortium Limited (TRICS) is responding to the fact that the world is experiencing significant change in relation to social, technological, economic and environmental drivers which in turn is creating new dynamics in travel behaviour and challenges for transport planning. In the face of deep uncertainty, the “predict and provide” paradigm that has framed transport planning processes is to give way to “decide and provide” paradigm – decide on the preferred future and provide the means to work towards that which can accommodate uncertainty.
- 3.6.2 The TRICS report includes a review of the National Travel Survey (NTS) 2016 and Road Traffic Forecasts 2018. The following is stated:
- The total distance travelled per person per year has fallen by 9% between 2007 and 2016. Distance by all motorised private transport has fallen by about 13% since 2003, and as a car driver by about 10% since 2007;
  - Evidence from the NTS demonstrates vehicle trip rates have been declining over the last 20 years, with a reduction in trip rates of 13% since 2002; and
  - Due to uncertainty around socio economic trends, the Road Traffic Forecasts assumes that young people reduce their licence holding acquisition compared to current levels and have extrapolated this trend in young people’s licence holding up until 2050.
- 3.6.3 The TRICS report also sets out its own trend analysis dated May 2019. It states that there has been a 12% decline in vehicle trip rates (morning peak and all day) for residential development between 1989 and 2018.
- 3.6.4 The TRICS report further comments on the implications of the above evidence for TRICS. It states:
- “The evidence reviewed from All Change, the DfT RTF 18, NTS 2016 and the TRICS historic review demonstrates that there has been a sustained change in travel behaviour. This change is reflected in the trip rates for residential, retail (super food) and employment sites. Care need to be taken to ensure that the design of the residential and retail development, in particular, take account of these changes in travel behaviour”;

- “If no recognition is given to the trends shown in the evidence from All Change and the DfT RTF18 report then it is inevitable that transport planning will continue to provide infrastructure that meets previous predicted needs rather than the transport needs of the future. This could lead to the over provision of highway capacity which in turn induces travel demand or the analysis could lead to the under provision of walking and cycling infrastructure or public transport services. The consequences are serious and we run the risk of planning and developing stranded or underutilised assets”; and
- “The Business as Usual or “rear view mirror” approach, i.e. projecting past traffic growth trends and socio economic trends to determine the need for infrastructure, in particular new roads and junction capacity has diminished relevance. The question becomes how to plan in light of the evidence of trends and the uncertainty that lies ahead. As change in travel behaviour continues, it is anticipated there would a need for a more flexible approach in adapting or providing new transport measures for the development”.

### 3.7 Planning Transport and Development: All Change

3.7.1 The ITC’s review of National Travel Survey data demonstrates that there have been huge changes to our travel patterns over the last 20 years, including:

- The number of trips and number of miles travelled per person per year have declined since the late 1990s, whilst average trip distance and time have increased.
- The number of car driver trips made per person per year has reduced in all regions of the country, in both rural and urban areas.
- Despite a 9% increase in population, total personal car traffic has remained broadly constant between 2002 and 2014.
- There has been a reduction in car travel in all age and gender bands, except men and women over 60. The most significant reduction in car travel is in men aged 17 to 34, and then men aged 35 to 59.
- Travel distance by non-car modes has increased by 19%, with the biggest increase being seen in surface rail travel.

3.7.2 The All Change report continues to refer to six ‘game changers’ that could significantly change the way we travel, including:

- Big data - The digital revolution has bought us so much data that it is possible to plan better for people’s needs. The opportunities are vast.
- Internet of things – this is about connecting devices over the internet, letting them talk to us, applications, and each other, allowing the travel industry to track people and vehicles to reduce the need to travel or co-ordinate seamless travel.
- Connected vehicles – a system that allows vehicles to communicate with each other and the world around them, connecting them to the Internet of Things. It supplies information to allow drivers make informed decisions about their travel.
- The Sharing Economy – we are sharing cars, taxis, lifts, driveways, houses, tools and many more things. This could change when and how we travel, and whether we do it together.
- Mobility as a Service – Maas will offer consumers access to a range of vehicle types and journey experiences. It is a digital interface to source and manage the provision of transport related services. Basically, it’s a contract for travel, similar to a mobile phone

contract – pay as you go, monthly or annually for different levels of service. An app would allow you to select your travel choice. Alerts and information will guide you on your journey to your destination, giving real-time information, on where and when to get each means of travel.

- Driverless vehicles – these already exist and are being trialled by many manufacturers. The UK has one of the best regulatory regimes for testing automated vehicles in the world, therefore providing a good platform for developments in this industry.

3.7.3 The All Change report concludes that in the future we will make fewer trips, our journeys will be shorter, we will travel by car less, and car ownership will reduce. Our approach to travel planning needs to take account of these changes as our transport networks need to be resilient and able to adapt to the changes the future could bring. This means that new developments need to be designed for the future too, to influence travel with investments developed and prioritised to support and encourage sustainable travel in line with the DfT's user hierarchy.

### **3.8 DfT Road Investment Strategy 2 (2020-2025)**

3.8.1 This second Road Investment Strategy (RIS2) sets a long-term strategic vision for the strategic road network. It specifies the performance standards HE must meet, lists planned enhancement schemes to be built, and states the funding will be made available for this.

3.8.2 RIS2 includes a long-term vision for what the strategic road network should like in 2050 – so that it is 'future ready'. In doing so, it recognises that new technology opportunities are becoming available and that travel trends are also changing.

3.8.3 In particular, RIS 2 acknowledges that overall trip rates for the majority of trip purposes have been declining and there is a trend of more young people not learning to drive.

### **3.9 SDC Transport Investment Strategy 2050 (October 2019)**

3.9.1 In addition to the above documents, the SDC 2050 Transport Investment Strategy identifies the key transport schemes required to support economic growth and new housing in Sedgemoor, aligning transport infrastructure with development.

3.9.2 Within the Strategy document, it also acknowledges changing attitudes to driving, including a trend towards fewer young people holding driving licenses meaning they are less likely to drive than previous generations. They also acknowledge DfT conclusions that changes in young people's attitudes to driving were the result of wider socio-economic trends including a greater proportion of young people in higher education than previously, lower paid jobs and greater job insecurity and trends towards urban living and lower levels of home ownership than previous generations.

3.9.3 The Strategy also places an emphasis on the potential role that Mobility as a Service (MaaS) could play going forwards in the light of recent and ongoing advances in digital technology, something which is discussed further below.

### 3.10 Future of Mobility

3.10.1 As indicated above, recent travel trends suggest that the way people and especially younger generations consider travel and mobility is changing.

3.10.2 The DfT Future of Mobility Strategy document explains that the following multiple changes in transport technology are happening:

**1. Data and connectivity are transforming journeys** - the increasing availability of data and improved connectivity are allowing travellers to plan multi-stage journeys with confidence and on the go. Vehicles capable of communicating with each other and with infrastructure have the potential to provide information to network operators and users in real time to optimise fleet and network management.

**2. Transport is becoming increasingly automated** - improved sensing technology, computing power and software engineering are leading to increasing levels of automation in transport, across many different modes.

**3. Transport is becoming cleaner** - rapidly falling battery prices, improvements in energy density and electric motors and developments in alternative fuels have the potential to reduce emissions across a range of modes.

**4. New modes are emerging** - technology is enabling new ways of transporting people and goods. In the air, drones are being used to address local needs, from supporting emergency services to improving the safety of infrastructure inspections. On the roads, improved batteries and motors are facilitating the introduction of new forms of micromobility, providing ever more options for the movement of people and goods. These include electric scooters, electrically assisted pedal cycles (e-bikes) and e-cargo bikes.

**5. Travel demand is rising overall but falling at an individual level** - overall growth in road travel demand across England and Wales is forecast to continue over the coming decades.<sup>37</sup> However, this is largely driven by population growth; people are travelling less per person now than one or two decades ago. One of the reasons behind reduced individual travel is a decline in commuting.

**6. The population is ageing, and travel choices show clear generational differences** - the UK's population structure is expected to change considerably in the coming decades. The 65+ population is projected to grow by around 50% in both urban and rural areas between 2016 and 2039. In comparison, the younger population (aged under 65 years) is only projected to grow by 8% in urban areas, with virtually no increase in the younger population in rural areas.

**7. Consumer attitudes are changing** - rising customer expectations are driving passenger transport and delivery services that are increasingly affordable, convenient and personalised.

**8. New digitally enabled business models are changing** - closely linked to changing consumer attitudes and the harnessing of data and connectivity, we are seeing the emergence of new digitally enabled models of transport provision. These include ride-hailing and MaaS.

**9. Shared mobility is becoming more prevalent** - while public transport remains a fundamental form of shared mobility, new models based on shared use or ownership of vehicles are proliferating, enabled by digital platforms and in line with a shift towards a sharing economy in other sectors.



3.10.3 In summary, future mobility has the potential to include the opportunities set out below.

## What does future mobility look like?



### Accessible

Accessible vehicles, infrastructure, and services create barrier-free environments without regard for ability or socioeconomic circumstance while improving the complete trip for all.



### Automated

Mobility systems which use computers and sensors to travel more efficiently and predictably in less space, effectively increasing road capacity and safety while lowering maintenance and operations costs.



### Connected

Modes and infrastructure enabled with Wi-Fi, cellular, or dedicated short-range communication devices that allow two-way communication between vehicles, cyclists, pedestrians, and more, increasing safety and efficiency.



### Electric

Battery electric vehicles ideally powered by renewable energy to reduce fossil fuel consumption and harmful emissions.



### Shared

Vehicles – whether cars, bikes, scooters, shuttles, buses or rail cars – that share rides, ownership, or use, to reduce congestion costs and total vehicle miles travelled, while enabling new access options for underserved neighborhoods.

Source: Stantec

3.10.4 All of the above means there is an opportunity to improve mobility dramatically. New technology and business models could deliver substantial benefits for society, the environment and the economy.

### 3.11 COVID-19 and Future Trends

3.11.1 The Google COVID-19 Community Mobility Report database has been reviewed to analyse the impact of the pandemic on commuting trips in Somerset. Data from April / May 2020, during the first lockdown period, confirms that commuting trips dropped by 49% from the usual baseline level at that time.

3.11.2 By comparison, additional data from September / October 2020, a period when lockdown was not in place, demonstrates that commuting trips had increased from April levels, but were down by 24% from the usual baseline level.

3.11.3 Whilst the Somerset data obtained demonstrates that commuting trips increased by 25% between May and October 2020, it is evident that the October levels still indicate very significant levels of homeworking taking place. The data suggests that some of the changes to commuting practices could be temporary, but others could be more permanent, reflecting an acceleration of business transformation and changes to the way we work.

3.11.4 It is also possible that COVID-19 will accelerate anticipated economic restructuring and employment decline in key sectors in Sedgemoor and Somerset, which are dominated by low value, low wage businesses and are at risk from mechanisation and automation. This will be further considered by economic colleagues to inform the LDO.

3.11.5 The Chartered Institute of Highways and Transport are promoting a report produced jointly by CBI and KPMG called '*Commuting Beyond the Coronavirus*'<sup>1</sup> which is dated July 2020. The CBI and KPMG report sets out the following key points, and importantly suggests that some of the temporary changes to commuting practices are likely to continue to impact commuters' lives in the years ahead:

- The coronavirus pandemic has had a dramatic impact on how people and businesses operate day-to-day, not least in how they approach travelling to and from places of work. Attempts to contain the disease have had an instant and unprecedented effect on working patterns all over the country, with the lockdown and increased working from home dramatically reducing use of networks and demand for public transport.
- According to Office for National Statistics (ONS) only 1.7million people in the UK worked from home before the pandemic, whereas during the lockdown this saw an increase to an estimated 20 million people working from their homes.
- Policy makers must anticipate and adapt to the longer-term shifts in working patterns that are starting to emerge and that may well stick beyond the current crisis. As the UK seeks opportunities to 'build back better' there is an opportunity to create commutes that are more reliable, affordable, and environmentally sustainable. This will mean building vibrant cities and town centres that have a mix of both public transport and active travel options, offering choice to users. All these changes will help to drive economic growth.
- People are likely to work more from home, but transport connectivity will remain an important driver of productivity and prosperity. Public transport offerings need to modernise to better meet customer demand. Future commutes must produce fewer emissions and help set us on a path to net zero.
- Steps should be taken to ensure that changes which have contributed to the increased uptake of cycling and walking to work by employees, have a long-term effect on journey choices. From the £2bn package to create a new era for cycling and walking to the fast-tracked legislation for e-scooter trials, the response has shown the government's ability to accelerate future of mobility ambitions. This capacity for innovation and quick policy design should be retained and seen as an opportunity to recast the way we plan and design for future transport infrastructure.

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<sup>1</sup> <https://www.cbi.org.uk/media/5101/cbi-kpmg-commuting-beyond-the-coronavirus-july-2020-final-1.pdf>

## 4 A New Approach to Transport Appraisal

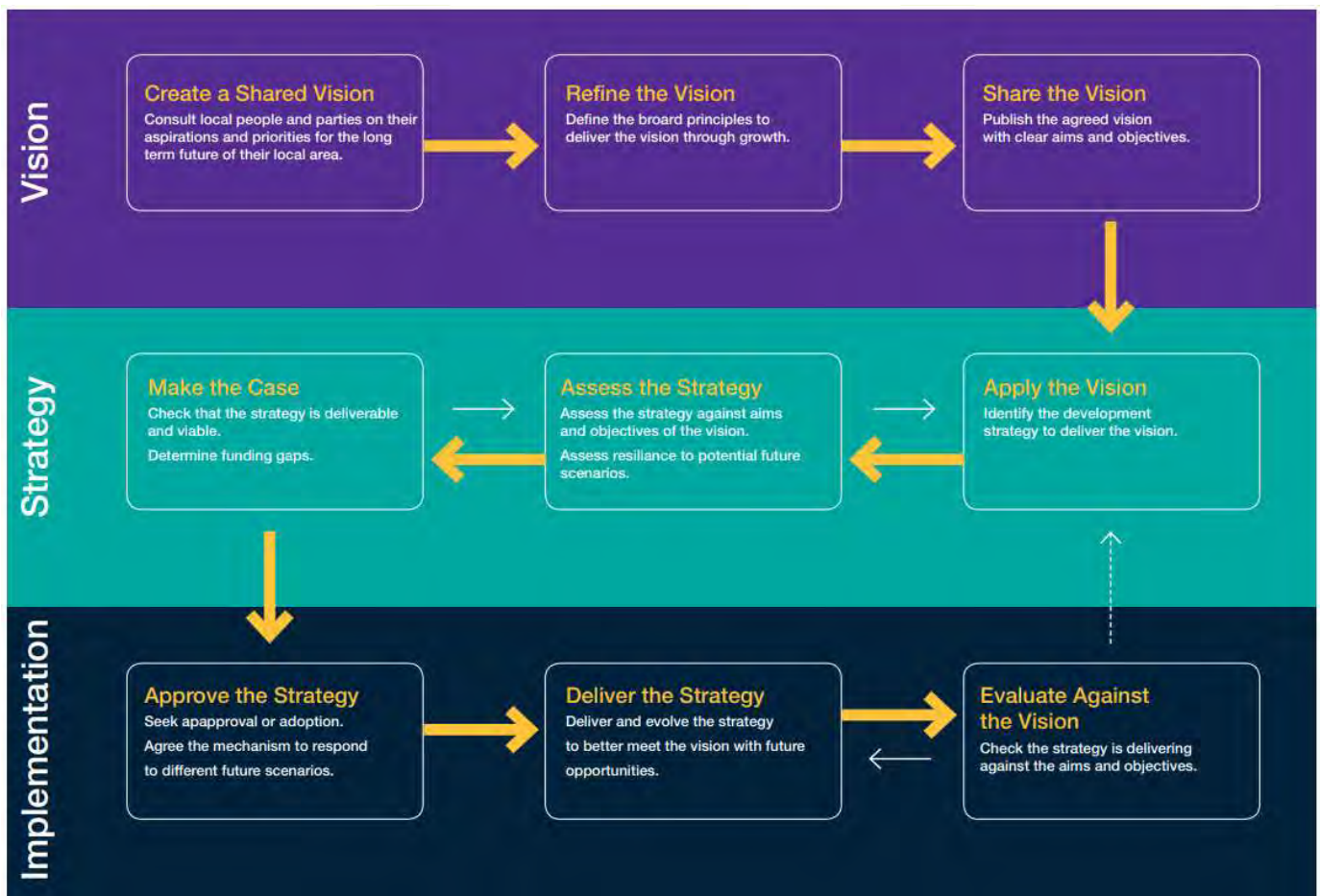
### 4.1 The Need for Change

- 4.1.1 Chapter 3 of this report identified in detail that there are major societal shifts and other disruptive changes expected to have a significant impact on the way we travel in the future. We are likely to make fewer trips, shorter journeys, travel less by car and see reduced levels of car ownership.
- 4.1.2 Notwithstanding this, the way we assess the effects of increasing travel demand using 'Predict and Provide', and how we plan for the transport effects of development, has undergone little significant change since the publication of Planning Practice Guidance 13 over 20 years ago.
- 4.1.3 The traditional predict and provide assessment assumes no societal or technological changes in travel behaviour, which contradicts the vast amount of evidence. including those presented previously, which counters this approach.
- 4.1.4 In urban areas this approach tends to conclude that the road network cannot accommodate additional traffic without significant and often prohibitively costly highway capacity increases. In this situation, one solution is to continue to ever increase car capacity through increasing the scale of junctions and / or widening road links. However, evidence suggests that this approach just induces further traffic which quickly take up the additional headroom in capacity created. This leads to undesirable outcomes including car dominated environments, poor quality of life, severance and health & wellbeing, for example, as well as a return to congested conditions over time.
- 4.1.5 The approach to transport and land use planning needs to take account of societal, technological and behavioural changes. Transport networks need to be resilient and able to adapt to the changes the future could bring. This means that new developments need to be designed for the future too, to influence travel with investments developed and prioritised to support and encourage sustainable travel in line with the DfT's user hierarchy.
- 4.1.6 The DfT transport planning hierarchy does encourage proper assessment of sustainable modes before planning for residual traffic growth, and this is a step forward, but this analysis is included in an otherwise very much 'business as usual' transport assessment environment. Meanwhile, 'Monitor and Manage' techniques have been employed in a limited way to encourage investment in new highway capacity only when necessary.

### 4.2 Vision and Validate / Places First

- 4.2.1 Professor Peter Jones at UCL has proposed that Transport Planning needs to be 'turned on its head'. Jones points out that we are still in the game of predicting and providing, predicting transport demand using modelling, and then trying to provide the infrastructure the models say is needed.
- 4.2.2 The issue is that past models have consistently over-estimated demand. Jones suggests that, rather than to continue with 'predict and provide', we should employ a 'vision and validate' approach. This would envision what we want 'good growth' to look like, and use forecasting and design skills to test scenarios in order to identify the approach which will provide us with the best opportunity of achieving that vision.

- 4.2.3 This means starting with a shared understanding about the nature of the place we are aiming to create, devising a strategy to deliver the agreed vision, and then using our transport assessment skills to demonstrate the most appropriate way of delivering this. This process needs to test alternative policy scenarios to identify the most resilient strategy, taking into account the uncertainties associated with forecasting in a fast-changing world. An adaptive approach to implementation will be an essential part of the process, making the monitoring and management of outcomes central to the process (see figure below).

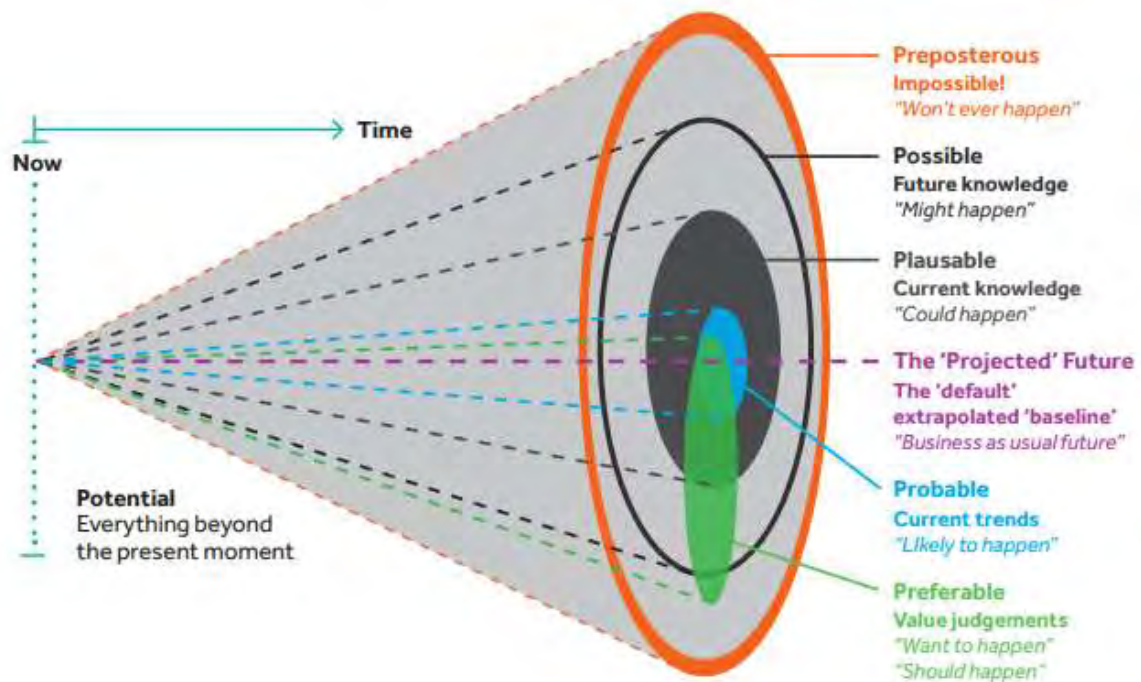


Source: Stantec

### 4.3 Scenario Planning

- 4.3.1 The CIHT 'Better Planning, Better Transport, Better Places' publication dated August 2019 also recommends that the way transport assessments are undertaken needs to change and focus on meeting place-based objectives. It states that the options to come out of the assessment process need to be stress-tested through the lens of alternative possible future scenarios to arrive at a preferred approach that can be secured through planning.
- 4.3.2 'Scenario planning' therefore assumes multiple possible futures as shown in the figure below produced by G.Lyons for the '*Uncertainty Ahead: Which Way Forward for Transport*' report (2016).





Source: G.Lyons

- 4.3.3 The process of stress-testing alternative land-use and transport options through different scenarios is fundamental to devising an effective, sustainable, and deliverable plan, as is a multi-criteria assessment that considers a wide range of planning and delivery factors. The appraisal process needs to be iterative, with the evolution of policies and scenarios set against a clear vision with key indicators.



## 5 Gravity Mobility Strategy Principles

### 5.1 Approach

- 5.1.1 Gravity will embrace the latest thinking in mobility solutions, allowing smarter and people focused movement through the site while creating flexible and efficient plots.
- 5.1.2 The transport proposals put forward in support of development at Gravity aim at delivering a framework for access and movement that is deliverable and effective based on current technologies, but also resilient to future travel patterns and systems.
- 5.1.3 The Gravity Mobility Strategy will focus on each of the following elements which are outlined in more detail within the remainder of this chapter:
- Reducing the need to travel
  - Reducing travel distances - creating sustained, better quality employment locally
  - Improving access and choice for pedestrian movement
  - Improving access and choice for cycle movement
  - Introducing new and innovative Micromobility measures
  - Improving local bus / public transport connectivity
  - Improving rail connectivity - passengers and freight
  - Parking management principles
  - Reducing car trips
- 5.1.4 It is anticipated that all of the above can be combined into an overall service package for Gravity, that can be provided to users via MaaS, with further details on this being set out in Section 5.11.

### 5.2 Reducing the Need to Travel

- Flexible / remote working practices and technological solutions including videoconferencing and online collaboration will be available to employees where possible. Flexible working arrangements allow for the opportunity to travel a little earlier or later than normal to fit in with bus or train times or to avoid the busiest time on the road, saving both time and fuel.
- The Gravity campus could include live-work units and / or work hubs which could serve to further reduce the overall need to travel off the site for some trip purposes.
- The campus will be 24/7.

### 5.3 Reducing Travel Distances

- The creation of circa 4,000 new green-collar jobs at Gravity should reduce the need for the local residents of Bridgwater and its surrounding areas to travel to larger settlements such as the cities of Bristol and Exeter for access to better skilled work opportunities.

## 5.4 Improving Access and Choice for Pedestrian Movement

- All streets are to have a minimum of a dedicated footway to promote pedestrian movement.
- Pedestrian connections from Puriton and Woolavington to be designed for inclusivity and permeability.
- Mobility on site will be impacted positively by adoption of the design principles around waste and resource management. Reducing waste will reduce service movements and a co-ordinated management process throughout the development efficiencies will also be realised, reducing any conflict between servicing requirements and non-motorised user requirements.

## 5.5 Improving Access and Choice for Cycle Movement

- Provision of high-quality off-site highway improvements as part of the new access road and the village enhancement scheme will facilitate and encourage trips to the site by bike.
- All streets to incorporate high quality cycling provisions to facilitate and encourage trips by bike.
- Provision of accessible, safe, secure and sheltered cycle parking facilities at key destinations throughout the site.
- Provision of cycle equipment storage, changing and shower areas across the site in appropriate areas.

## 5.6 Introducing New and Innovative Micromobility Measures

- Implementing micromobility solutions for people and goods through the site will reduce the burden of private cars and HGV/LGV movement.
- Where a goods hub is provided on site, this should be used by all tenants where practicable.
- Provisions for the use of scooters and e-bikes will be built into the scheme from an early stage.

## 5.7 Improving Local Bus / Public Transport Connectivity

- External bus routes to enter the site via the new access road.
- Streets have been developed as a flexible grid to allow for scalable mass mobility solutions within the site.
- In the early phases, an electric / alternative fuel bus loop will distribute people around the site in an expedient manner.
- It is anticipated that as the site technology develops, provision will be made for autonomous people moving vehicles using zero emission Demand Responsive Transport (DRT) such as taxis / buses.

## 5.8 Improving Rail Connectivity

- Reinstatement of rail for passenger and freight services is currently being explored via the Rail Restoration Fund, and in conjunction with Network Rail who have confirmed that the reopening would be feasible.

## 5.9 Parking Management Principles

- Opportunities will be sought to develop consolidated parking hubs to make efficient use of land, integrate EV charging, and reduce the visual impact of parking.
- On-plot parking to be minimised and where utilised must be sensitively built into the development and must not be prominent from the street.
- Eon Drive Car Club on site, while EV charging points will be integrated into parking areas and / or bespoke commercial facilities.
- Designing in EV charging and smart infrastructure into design codes to ensure effective and seamless implementation

## 5.10 Reducing Car Trips

- To reduce private car trips to the site, a two pronged strategy will be developed which considers the interface between Gravity as a Place (on-site solutions) and the wider transport network (offsite solutions) provided for in the Section 106 agreement.
- A comprehensive Travel Plan will be implemented at the development including modal share targets, measures to encourage travel by sustainable modes of transport, and a robust monitoring and review programme.

## 5.11 Mobility as a Service (Maas)

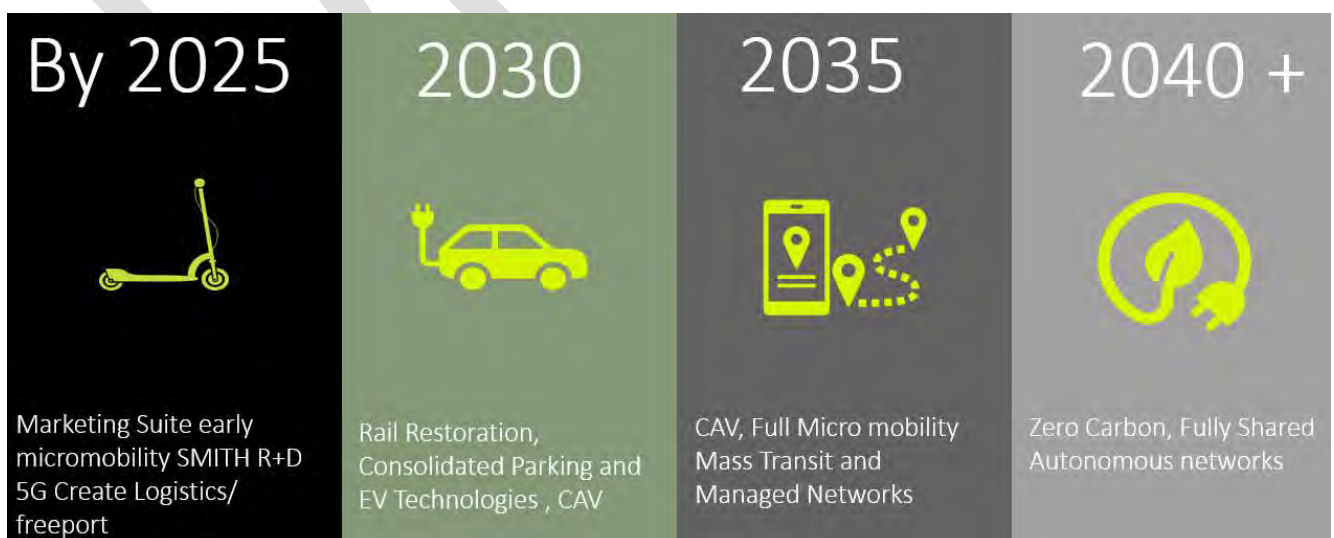
- 5.11.1 MaaS is the term used to describe the integration of transport services into a single mobility service accessible on demand, which is leading to the transition away from personally owned vehicles.
- 5.11.2 The aim of these services is to provide an integrated end-to-end solution utilising a single platform for booking, payment and journey management. Services are designed to reduce dependence on private cars leading to greener journeys of the future by utilising the most efficient transport mode through a streamlined user experience.
- 5.11.3 Changes in working patterns and transportation needs, including as a consequence of Covid-19, could provide an opportunity for achieving efficient and sustainable transport solutions at Gravity using MaaS.



Source: Stantec

## 5.12 Route Map to a Mixed Mobility Future

- 5.12.1 The range of transport measures proposed for Gravity will not all be available from day one of the development opening. There are many issues that will impact on the timing of measures becoming available including but not limited to things such as the availability of technology, cost of equipment, and the fact that different groups in society will respond to / take up new technology at differing rates. As such the route map to a mixed mobility future at the development will be both revolutionary and evolutionary.
- 5.12.2 It is therefore important that Gravity is delivered in such a way that delivers sufficient flexibility and resilience so that it can adapt to the future of travel when such opportunities present themselves. An illustration of how this vision could potentially be achieved at Gravity is set out below.



Source: Stantec

## 6 Transport Appraisal Methodology Principles

### 6.1 Introduction

6.1.1 An appropriate appraisal methodology has been developed to assess the Gravity development which takes account of the following:

- The LDO route being followed offers significant flexibility over the final development mix which will be market led.
- The large scale and atypical nature of the development proposed.
- The SDC Transport Model tool is not suitable for full use before Summer 2021 which does not align with the LDO programme (further information below).

### 6.2 Sedgemoor District Council Transport Model

6.2.1 SDC are preparing a Transport Model for the district which is at the development stage now where it can be used as a source of data for the Gravity development, however the model is not suitable for forecasting analysis work. However, the market facing LDO approach lends itself to a more flexible scenario assessment process. This does mean that scenario testing can be undertaken within the programme outlined for the LDO below.

Time Period	Transport Assessment Programme Core Activities
Sept 20- Dec 20	Technical Scoping, LDO Vision Workshops and Land Use / Mobility Scenario Testing
Jan 21 – June 21	LDO Parameter Plans 'Fix' - Detailed Technical Assessment / Forecast Modelling Outcomes and Identification of LDO Mitigation Requirements
July 21 – August 21	Transport Assessment and ES Document Production
August 21- October 21	Technical Negotiations and responses to Statutory Consultees and Committee
November 2021	LDO Adoption

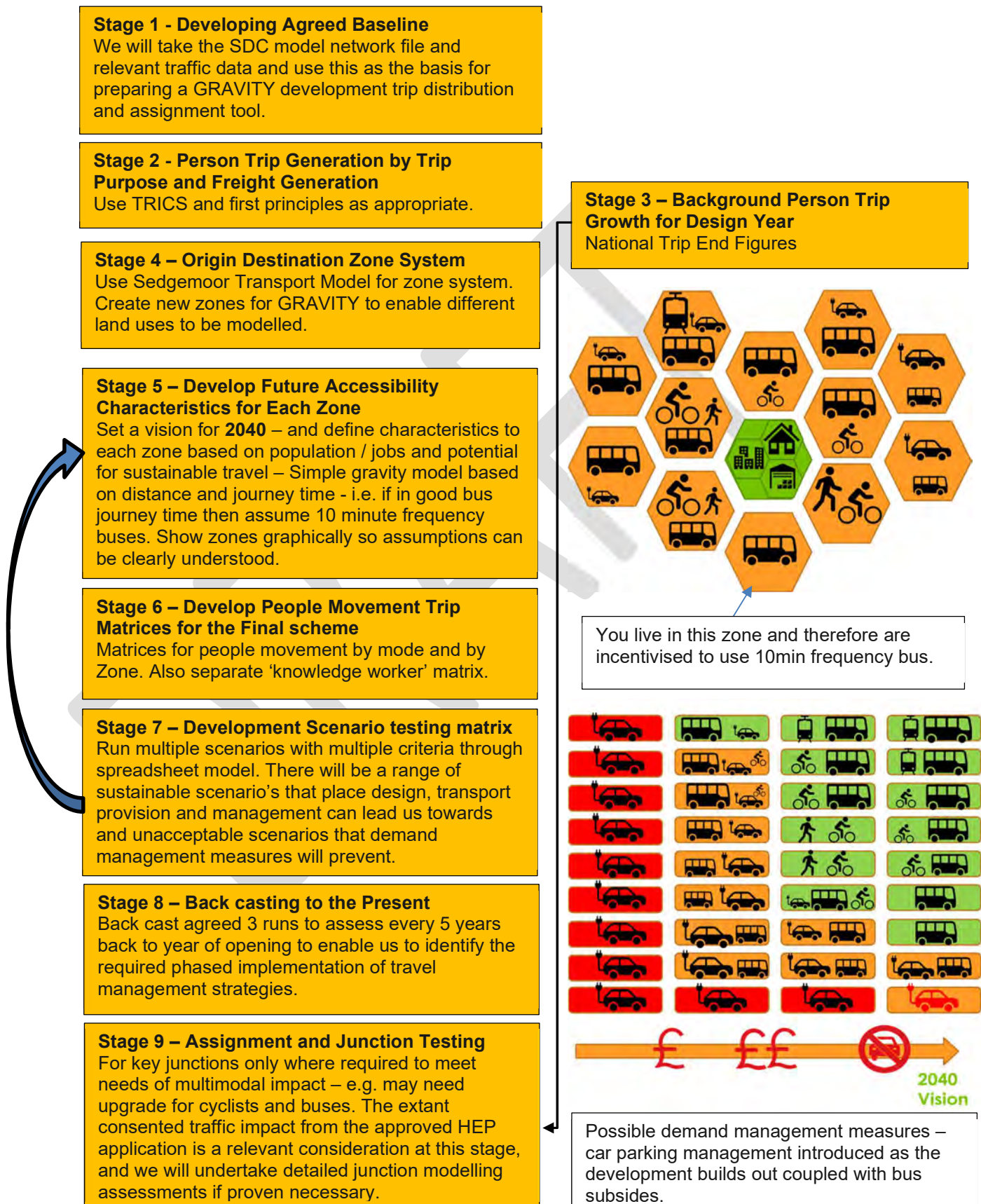
### 6.3 Gravity LDO Assessment Methodology

- 6.3.1 It is proposed to use a consistent base dataset and to work up the Gravity development scenarios in parallel with the authority model. This will give a better understanding of the potential development impacts at an earlier stage, based on the testing of a range of variable options which can be discussed further in collaboration with the working group.
- 6.3.2 The Gravity assessment will be undertaken using the following process which still encapsulates the four traditional model development stages comprising of trip generation, trip distribution, modal share and trip assignment.
- 6.3.3 The assessment methodology principles are set out in further detail below in the form of both visual illustrations and text.



## 6.4 Assessment Methodology Flowchart

6.4.1 The assessment will involve the following processes as shown in the flowchart below.



## 6.5 Stage 1 of Assessment Methodology – Developing Agreed Baseline

- 6.5.1 We will obtain background data / recent information from SDC and HE to establish an agreed baseline for assessments. We have approval from SDC to have access to their data.
- 6.5.2 We will take the SDC model network file and traffic data and use this as the basis for preparing a Gravity development trip distribution and assignment tool. Local calibration and validation will need to be based on available travel time data.
- 6.5.3 The range of traffic data expected to be available to Stantec is shown below:

### **Demand Data:**

- Census Travel to Work
- National Travel Survey
- TEMPRO \ NTEM
- Highways England WebTRIS: Traffic count data
- SDC Traffic Data: transport assessments, SDC TIS 2050, Eastover, J22 – J23 Paramics Model etc)
- Somerset County Council ATC data
- Planning Data: Council base and forecast outline plans
- Donor Models (SWRTM, TSTM)

### **Supply Data:**

- Transport Network
- Traffic Signal Data (provided by SDC)
- Zoning System

### **Data still being processed:**

- Teletrac Navman: Journey time data
- Mobile Phone Data
- HE RTM2 Data collection (pre-Covid traffic counts currently being requested through HE)

## 6.6 Stage 2 of Assessment Methodology – Gravity Person Trip Generation by Trip Purpose

- 6.6.1 We will assess the person movement trip generation for each of the potential development options for the site. We will use TRICS as the main source of data for the residential and employment sites but may supplement with other research if specialist facilities are proposed.
- 6.6.2 We will include the percentage of homeworking in trip calculation tables and include specific allowance for Live Work units (adjustable to inform scenario tests as per Stage 7 below).

6.6.3 Where advanced manufacturing/ sui generis uses are being provided on the site, potentially to be linked to the operation of the freeport, we will undertake a freight trip generation exercise based on TRICS and the capacity of the facility including the potential volume of HGV / rail movements for the proposed use.

6.6.4 The detail of this will depend on particular land use scenarios created and will need agreeing as the project develops. Freight assignment will be specific to the use and further stages for this will be developed in consultation with the working group.

## **6.7 Stage 3 of Assessment Methodology – Background Trip End Growth and Committed Developments**

6.7.1 We will undertake an exercise using the national trip end growth figures to derive background growth in people movement. We will evaluate this against known developments to prevent double counting.

6.7.2 We will not be creating a full assignment model with our spreadsheet approach and hence this data will be used in two ways. Firstly, we can match up movements that would benefit from the future mobility strategy and hence assign additional movements to public transport, for example. Secondly, if we need to undertake a junction assessment, we will be able to use this to derive traffic flows and hence local impact.

## **6.8 Stage 4 of Assessment Methodology – Origin Destination Zone System**

6.8.1 We will adopt the Sedgemoor transport model as the basis for developing a zoning system for person trips to the site. We will add in site specific zones for the different land uses so that we can reflect the different land uses to be provided on the site.

6.8.2 Splitting the site by land use will also allow internal trip distribution to be taken into account within the trip distribution stage of the assessment process.

## **6.9 Stage 5 of Assessment Methodology – Develop Future Accessibility Characteristics for Each Zone**

6.9.1 We will create a set of characteristics for each zone in the model, which at this early stage, could include:

- Population (now and with committed development) – Using Census / NTEM data
- Employee numbers (now and with committed development) – Using Census / NTEM data
- Accessibility by car – average journey time based on current traffic conditions
- Accessibility by bus – average journey time based on current traffic conditions – existing bus timetables will be used as part of developing evidence, however this will be based on the assumption that there will be a frequent and accessible bus service to / from the zone.
- Accessibility by Demand Responsive Bus - this is the potential to bus from the zone
- Accessibility by Rail - this is the potential to travel by rail from the zone
- Accessibility by e-bike – this is the potential to cycle from the zone
- Accessibility by bike – this is the potential to cycle from the zone (using the DfT Propensity to Cycle Tool)

- Accessibility by walk - this is the potential to walk from the zone

6.9.2 The above factors and others to be agreed during future discussions will form variables within the scenario testing to be undertaken in Stage 7.

6.9.3 We will develop an overall attractiveness weighting for each zone based on the accessibility (no mode is deemed more or less attractive than another at this stage), population/employee numbers, and journey time using a distribution of proportion of journeys to work within a certain time. As we will have separate zones internally within the site, internal development trips are also covered in this process.

6.9.4 A spreadsheet zone model will be linked to a GIS mapping system so that the different criteria applied can be simply shown and checked.

6.9.5 The spreadsheet model will be set up so that changes in factors / variables can be easily made and tested. For example, to sensitivity test lower journey times to work in the future vs home working.

## **6.10 Stage 6 of Assessment Methodology – Develop People Movement Trip Matrices**

6.10.1 We will develop separate trip matrices for each of the land uses for the full development based on the zone characteristics and distribution. This process will also account for the target population areas / skills likely to be needed for employers at Gravity.

6.10.2 We will setup a variable daily flow profile of movements to allow for different working practices to be tested – including but not limited to 9-5 or 24/7 for example.

6.10.3 We will assign an adjustable factor for a proportion of trips that will be homeworking. These will be separate for each land use to reflect those types of jobs that can homework more readily.

## **6.11 Stage 7 of Assessment Methodology – Development of Scenario Testing Matrix**

6.11.1 We will prepare a multiple scenario testing approach with circa 20 or 30 scenarios (to be determined in the earlier stages and agreed with the working group). This approach aims to give a much better indication of likely future outcomes and the measures that may be required to steer the operation of the site to achieve the Clean Growth vision.

6.11.2 This approach will also enable us to better understand the sensitivity of the outcomes to different future issues and hence better focus measures to manage the outcomes to an acceptable traffic impact.

6.11.3 The range of assumptions / variables may include:

- Car club use
- Taxi sharing take up
- Micromobility use
- Rail use
- Bus / DRT use
- Flexible and homeworking

- Walking / cycling levels
- Land use mix

- 6.11.4 Ranges will be based on real world examples where possible, e.g. potential cycle mode share, potential homeworking experience from Covid 19 lockdown.
- 6.11.5 The aim will be to undertake a wide range of spreadsheet runs of simple scenarios to be able to evaluate the likelihood of achieving sustainable outcomes and the types of measures that may need to be put in place to secure this – e.g. car parking management coming into place as the development builds out coupled with bus subsidies.
- 6.11.6 There will be an iteration in this to ensure that, for example, buses are viable – i.e. if there are too few trips from a zone to support the level of bus provision, then the zone characteristic will change and the output re-run. We will also be able to test relationships such as flexible working hours and the ability to support a high-quality bus service.
- 6.11.7 This will enable us to set a vision for different development mixes for the site allowing for sustainable movement and the development of place, and map this against measures. The future potential for shared autonomous vehicles and Mobility Services will also be mapped against this as affecting the likelihood of certain outcomes. For example, we may identify a group of 8 out of 30 scenarios that address the Clean Growth vision. There will be a range of factors that will ensure that the end result sits within the range of the 8 scenarios that work. We will set a package of measures that will guide the outcome to the preferred vision.
- 6.11.8 We will develop an interface to enable the different outcomes to be clearly visualised and understood by the working group. This will include spatial visualisation to help with understanding of the outputs.

## **6.12 Stage 8 of Assessment Methodology – Back Casting to the Present Time**

- 6.12.1 Once the future vision has been understood we will work back to year of opening in 5-year steps, allowing for the incremental growth in development on the site and external factors such as phasing of automation and sharing.
- 6.12.2 We will likely focus on 3 runs as being most representative of likely outcomes. This back casting will enable us to identify the required phased implementation of travel management strategies.

## **6.13 Stage 9 of Assessment Methodology – Assignment and Junction Testing**

- 6.13.1 We will use this process to understand which junctions may need to be assessed for peak traffic impact.
- 6.13.2 The spreadsheet tool will not assign traffic to all roads on the network, but instead will enable, though grouping zones, the impact of trips through the key junctions to be understood.
- 6.13.3 We will look at the movement of people by all modes through the junctions to understand whether multi-modal junction improvements are required.
- 6.13.4 The extant consented traffic impact from the approved HEP application is a relevant consideration at this stage, and we will undertake detailed junction modelling assessments if proven necessary. In this case we will also review the background growth potential at the junctions and consider wider network capacity, the potential for growth to arise at the junctions and the timing of journeys, for example through peak spreading.



## **Appendix A    11<sup>th</sup> November 2020 Transport Sub Group Meeting Presentation Slides**

DRAFT

An abstract graphic in the top right corner consisting of a dense network of white dots connected by thin white lines, forming a complex, web-like structure that resembles a molecular or network diagram.

# Gravity



Transport Sub Group Meeting  
11<sup>th</sup> November 2020

# Purpose

To establish a collaborative approach to develop and deliver the transport strategy set within the context of the Gravity Vision.

We will therefore briefly cover:

- Understanding the Vision
- Charter and MOU
- The Clean and Inclusive Growth Strategy
- Enabling delivery through LDO, to programme
- Gravity background
- Emerging proposals
- Transformational transport strategy – evolutionary and revolutionary
- Proposed transport appraisal approach
- Rail progress update
- Next Delivery Group meeting on 23<sup>rd</sup> November 2020

# Gravity Vision

Gravity - a clean smart campus and community

To meet the challenges of the future, the UK must urgently shift to a cleaner economy

UK Priority for DIT as a destination for inward investment in post Brexit context: large scale advancing manufacturing – potential free port zone, enabled by rail and 5G

Opportunity to respond to recession, climate change and covid leading out on a green recovery

There is no other UK site ready to be developed at such scale and speed: on-site water provision, renewable and low carbon on-site energy infrastructure and building energy management, dark fibre, excellent transport links, accessible talent pool and knowledge economy

Creating 4000+ jobs beyond Hinkley Point with integral community

Live lab and test bed on transport decarbonisation

Gravity will be market led and agile, with flexibility at its heart

Gravity will be a beacon for a clean growth economy

# Smart Campus Components





# Gravity

A Smart Campus and Community

Clean and Inclusive Growth Strategy

Fast-track to the future, naturally | [thisisgravity.co.uk](https://thisisgravity.co.uk)



## Clean Transport @Gravity

32. De-carbonise transport, enabling shift to EV's and alternative fuels through investments into infrastructure that enable an interaction between transport needs and energy supply.
33. Strive to minimise transport impacts on the strategic and local road network.
34. Participate in research and development to offer a free port site, linked to a Free Port Zone enabled by digital infrastructure.
35. Establish multimodal transport infrastructure combining rail restoration, motorway to micro mobility and autonomous shuttles.
36. Create a micro mobility grid through green infrastructure creating routes and spaces.
37. Blend commuting and campus movement into single Movement as a Service deal (MaaS @Gravity) for occupancy based on blockchain transaction ledger. Discourage and phase out single mode travel using behavioral change and incentivisation mechanisms.
38. Enable the supply chain for zero carbon movement and logistics, creating scaled hydrogen and power supply through infrastructure investments or alternatives.
39. Provide 5G infrastructure, sensors and edge computing to enable fully autonomous movement within the smart campus.
40. Integrate facilities for a helipad / electric taxis and look into the future to consider the UK's first International drone port to connect UK Industrial Clusters to Europe.
41. Design corridor infrastructure to enable logistic autonomous movement and platooning.
42. Incubate zero emission transport and smart mobility SME's.
43. Design civil engineering solutions for future mobility requirements.
44. Enable working from home and localised working linked to the campus geared to reducing the overall need to travel through the Gravity Home Hub Model.

The Gravity logo is a complex, spherical network of white dots connected by thin white lines, resembling a molecular structure or a data network. It is positioned in the top right corner of the slide.

**Gravity**



# LDO Planning Framework

Transport Strategy

# Purpose of LDO

LDOs are a Governmental response and tool of choice

- A positive planning tool used to **make good development happen - expedite delivery**
- A localised, flexible and agile approach
- Ideally suited to large sites and Enterprise zones
- Marketing tool to attract inward investment
- A mechanism to **fulfil Gov deal for simplified planning**
- LDOs can:
  - Permit any kind of development
  - Be time limited or permanent

**Sedgemoor District Council approves the preparation of a Local Development Order for Gravity**

**Gravity**





## LDO Red Line



## Memorandum of Understanding

Purpose: To promote effective co-ordination and co-operation between the MOU partners to secure the delivery of Gravity.

Key working principles around collaboration and a commitment to timely delivery and maintaining momentum.

Strategy - including co-operation around planning, highways, commercial and environmental matters, and liaison with key agencies, potential occupiers, community groups and other stakeholders.

## Project Charter

Purpose: To facilitate the delivery of Gravity as an Enterprise Zone, an international, leading edge smart campus and community

Gravity aims and outcomes

Partner specific commitments

Governance and Structure



## LDO Programme - Milestones

2020	July	SDC Executive decision to prepare an LDO
	Sept	Delivery Group Established
	Oct	Technical work – ongoing
	Nov	Visioning and parameters plans
	Dec	EIA Screening
2021	Feb	EIA Scoping
	March	Draft LDO / Design Guide / EIA
	May	Informal public consultation
	Aug	Statutory consultation
	Nov	Adopt LDO



# Gravity

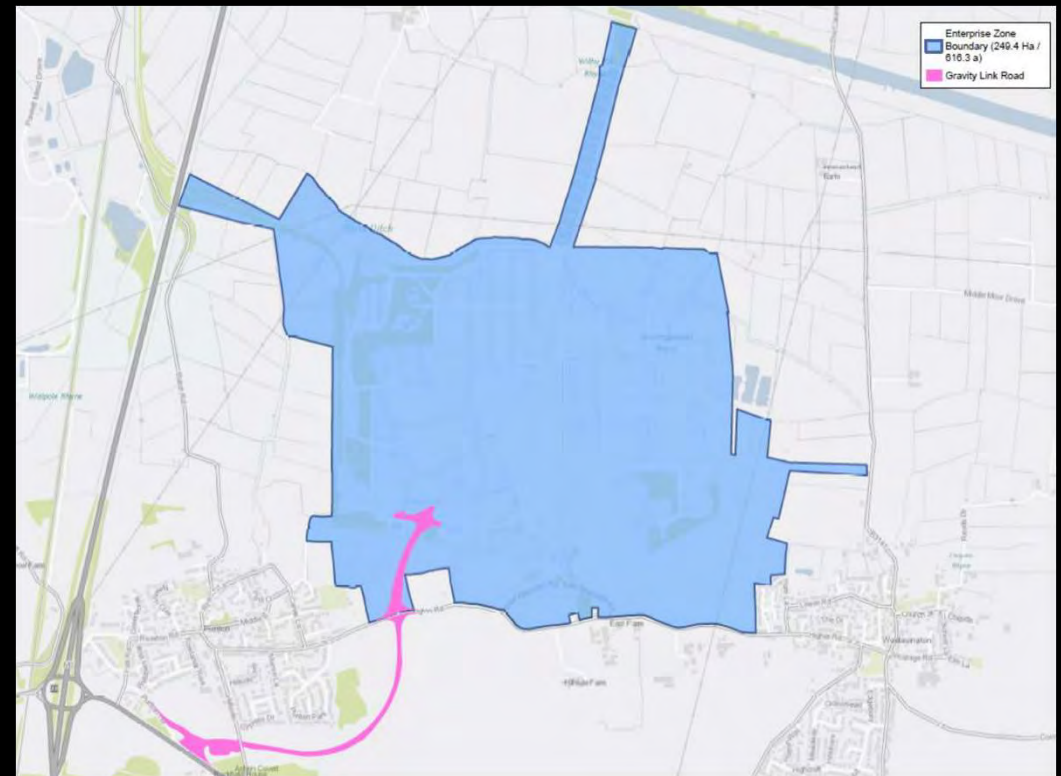


# Gravity Background

Transport Strategy

# Enterprise Zone

- Designated as part of the Heart of the South West LEP multi-sited Enterprise Zone (EZ ) in 2015, commencing April 2017.
- EZ designation runs through to April 2042 (25 yrs).
- EZ covers full 616 a site within the red line (excluding access road).
- EZ MOU with MHLCG –first buildings due to be occupied 2020 – MOU establishes Gov deal on business rates retention and simplified planning.
- MHCLG advice and support for LDO as delivery mechanism.
- DIT marketing underway: priority for UK



# Background

Hybrid consent 42/12/00010: parameters and phasing

Full permission for access road and B8 for 1,858 sqm – road due to open in Spring 2021.

Required works to M5 J23 signalisation works completed.

Contribution to Dunball roundabout improvements

Outline permission for:

- 8.78 ha of B1 (max 32,150 sqm)
- 14.84 ha of B2 (max 43,600 sqm)
- 30.45 ha of B2 (max 101,310 sqm)

Safeguarded

- Rail head, leisure





A graphic in the top right corner consisting of a dense, interconnected network of white dots and lines, resembling a molecular structure or a complex network, partially overlapping the black background.

**Gravity**

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# Emerging LDO Proposals

Transport Strategy



LDO Vision, predicted outcomes

Market analysis underway

Smart Campus and Community

616 acres

Approximately 4,000 new jobs  
(estimate for all development phases)

500,000 to 1,000,000 sqm commercial  
floorspace – B1/B2/B8/Sui Generis  
uses

Range of ancillary uses – restaurants /  
cafes / shops / leisure uses up to  
100,000 sqm

Approximately 1,300 new homes



## Transport Context

1. Collaborative working and agreements towards the solution
2. Baseline data
3. Development and transport opportunities
4. Agree scoping
5. Scenario testing / forecasting
6. Plan, monitor and manage
7. Agreed transport package for LDO



Gravity



# Transformational Transport Strategy

Transport Strategy

**PLANNING  
TRANSPORT &  
DEVELOPMENT**

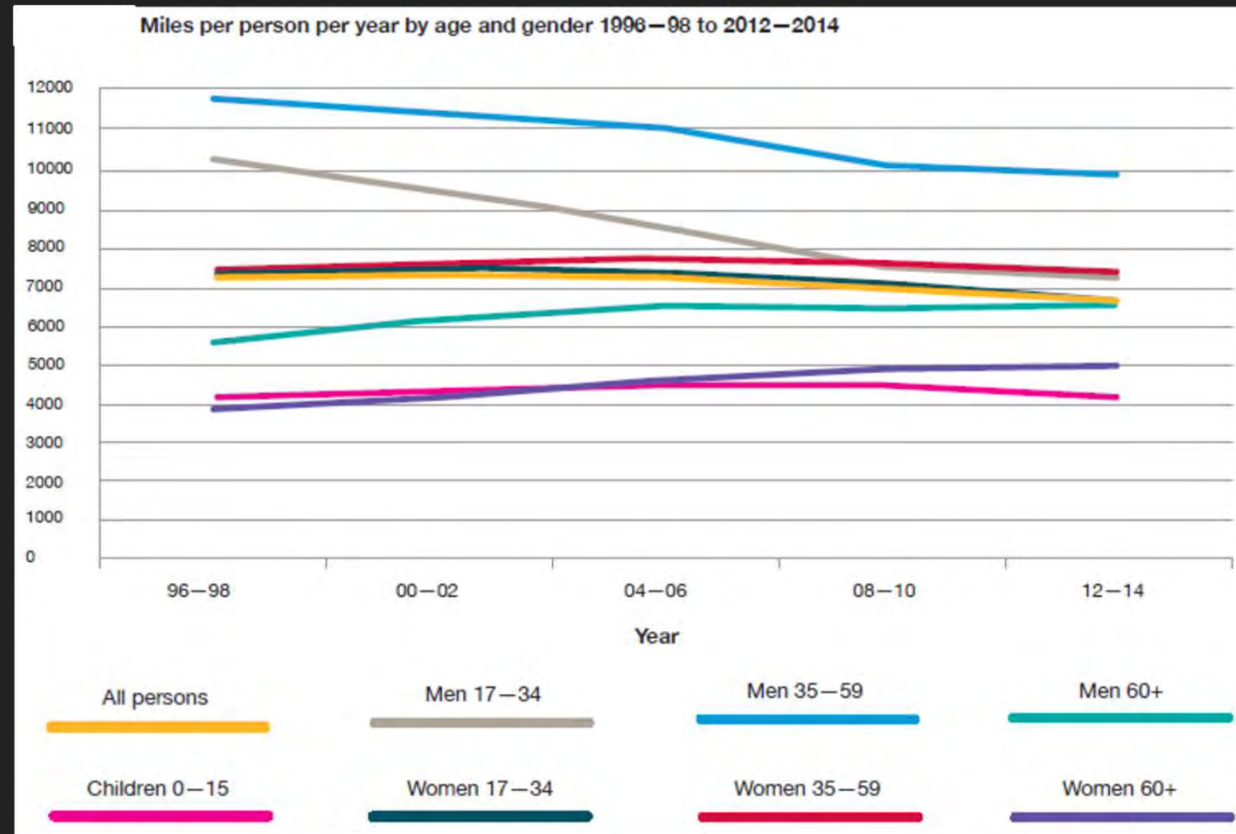
**ALL CHANGE?**

**pba**  
peter boff associates

Peter Boff Associates  
working with the  
Independent Transport Consultants

Icons at the bottom: a person in a wheelchair, a bus, a person walking, a bicycle, a car, a television, and a mobile phone with signal waves.

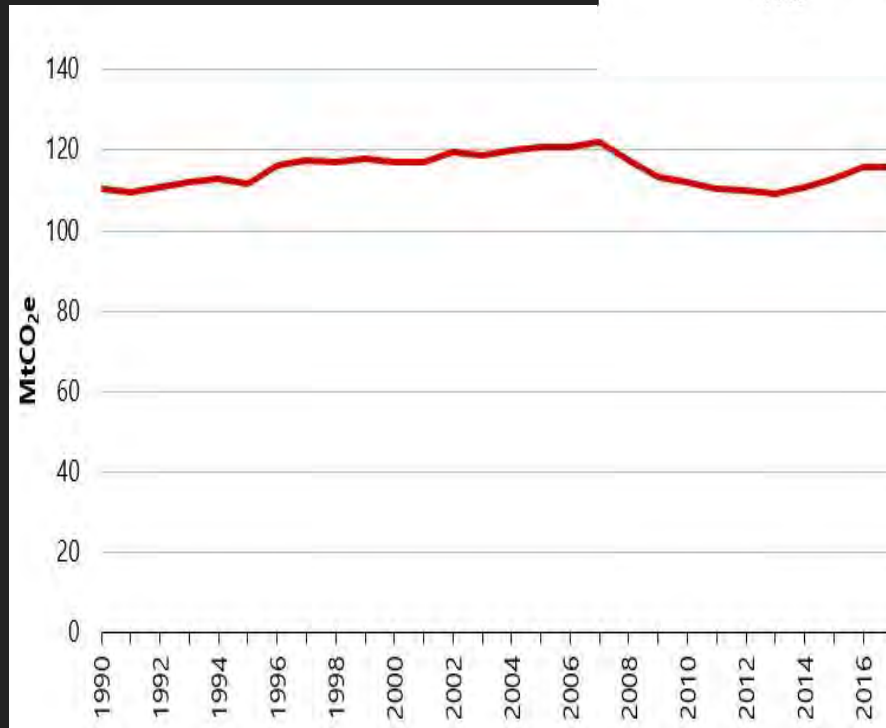
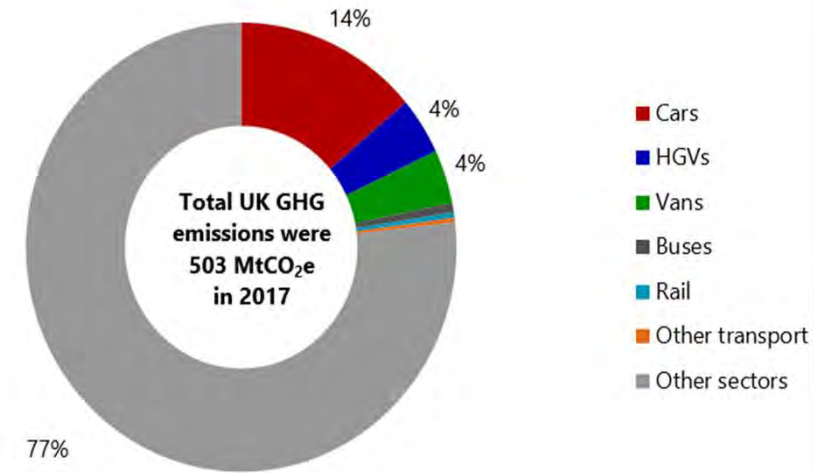
# Changing Lifestyles



# Our Challenge...

## The Causes

- Transport is now the biggest single sector contributor to CO<sub>2</sub> in UK
- No reduction in 25 years
- Why ?
  - Car dependency
  - Traffic Growth
  - Bigger Vehicles





# 'Lockdown' travel data

## Somerset

### Retail and recreation

-60% compared to baseline



### Supermarket and pharmacy

-11% compared to baseline



### Parks

+47% compared to baseline



### Public transport

-31% compared to baseline



### Workplaces

-49% compared to baseline



### Residential

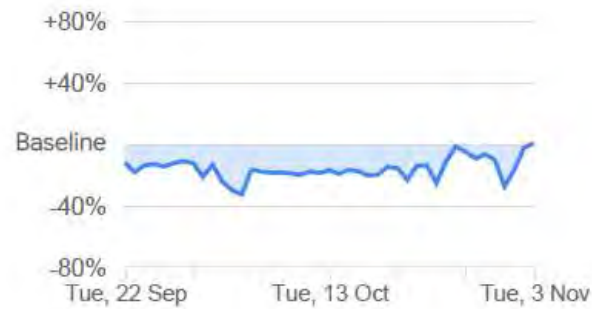
+18% compared to baseline



# 'October 2020' travel data

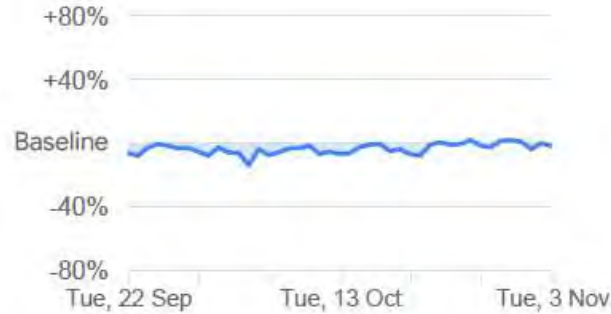
Retail and recreation

**+1%**



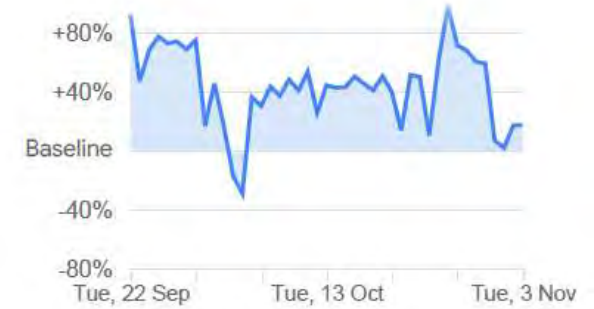
Supermarket and pharmacy

**-2%**



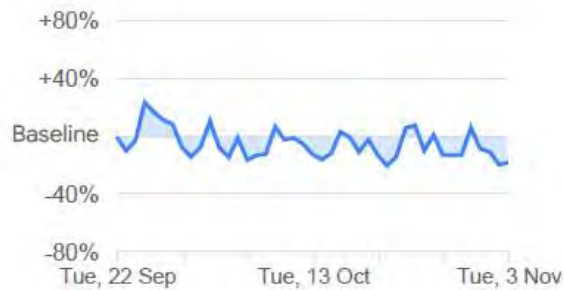
Parks

**+18%**



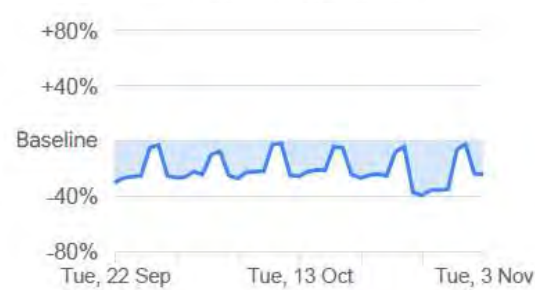
Public transport

**-18%**



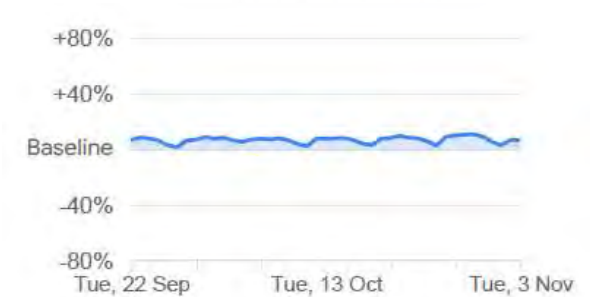
Workplaces

**-24%**

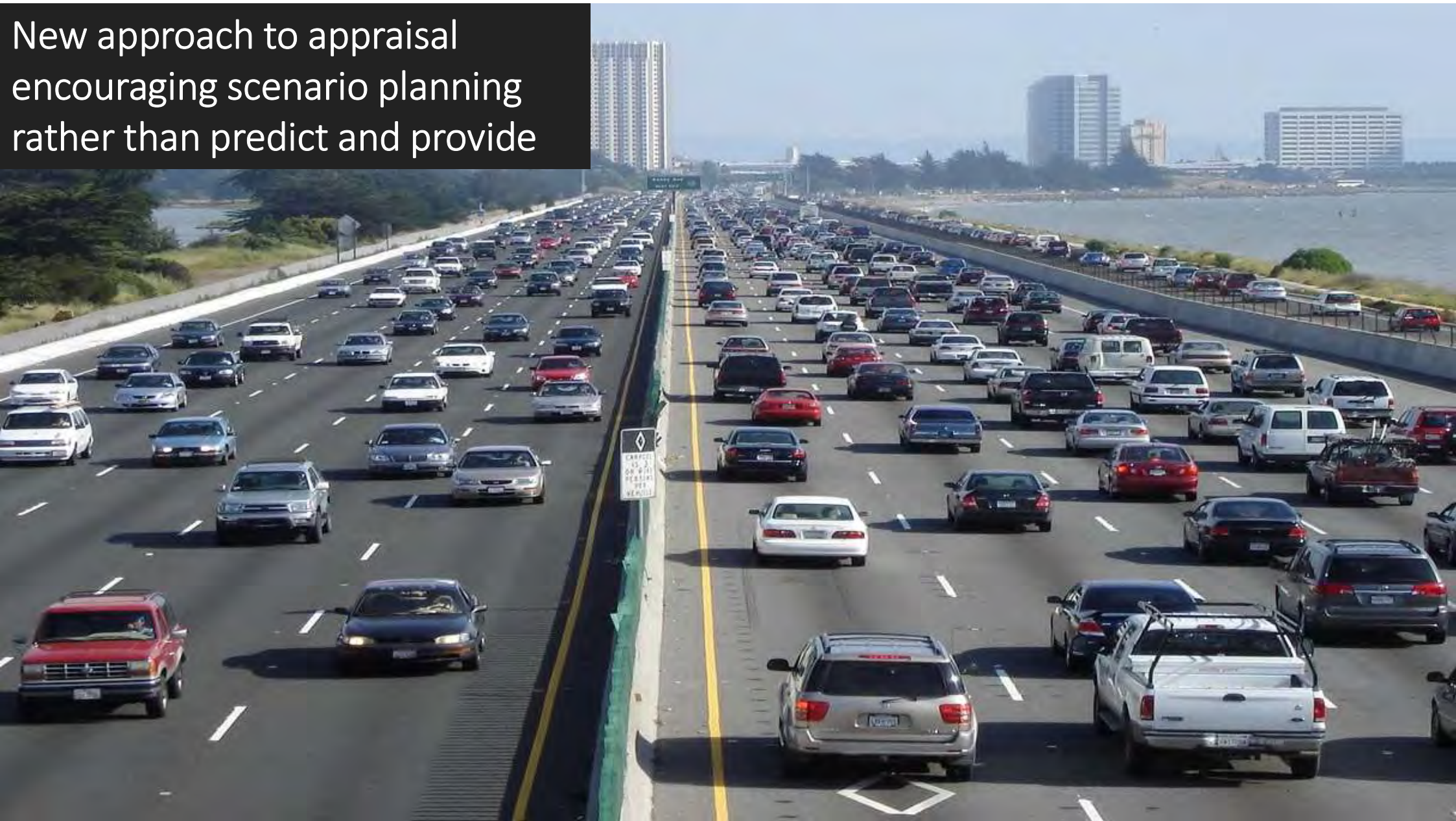


Residential

**+7%**

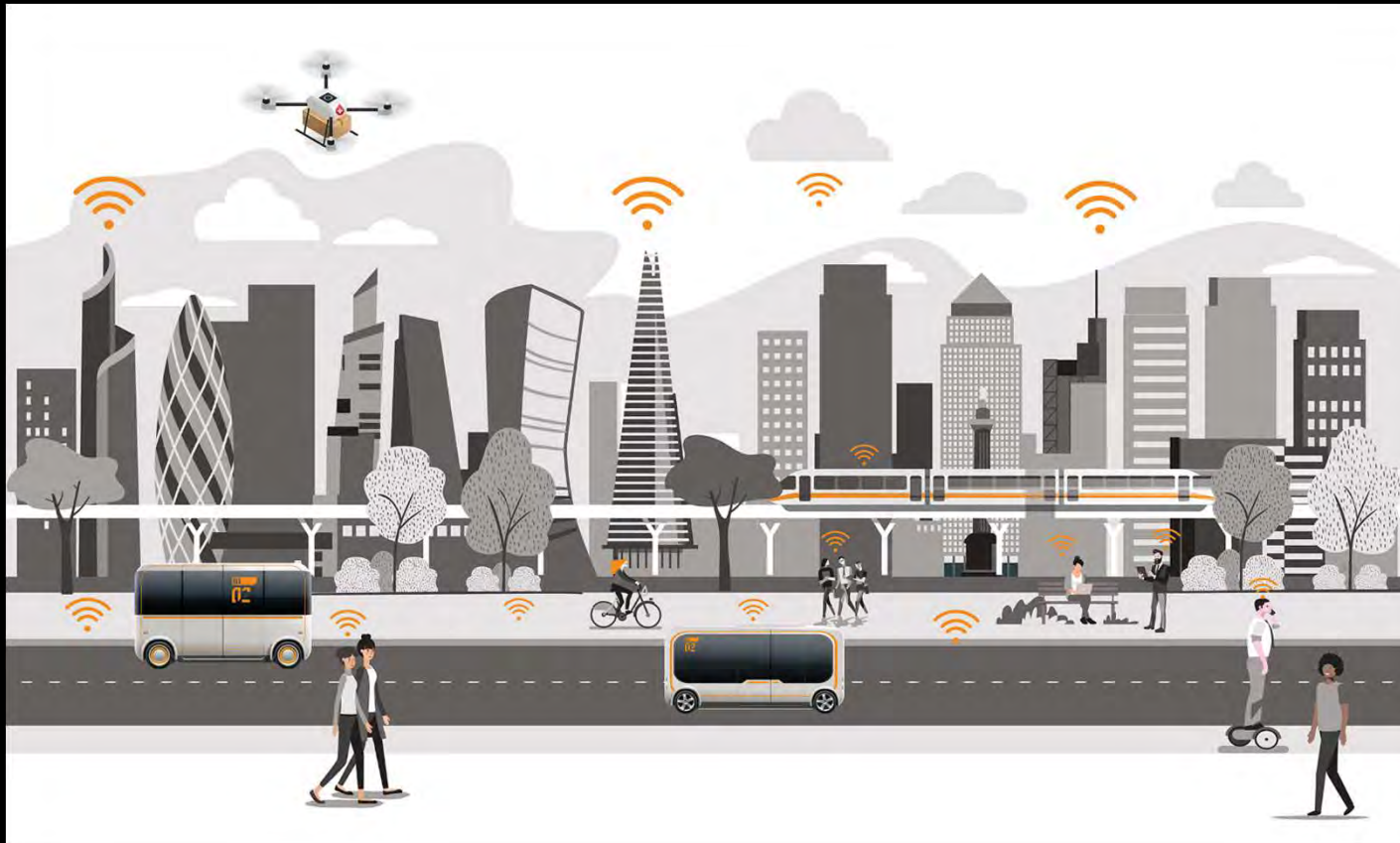


New approach to appraisal  
encouraging scenario planning  
rather than predict and provide





# What is the new approach?



Places First:  
Creating  
Communities Fit for  
the Future

# Potential future

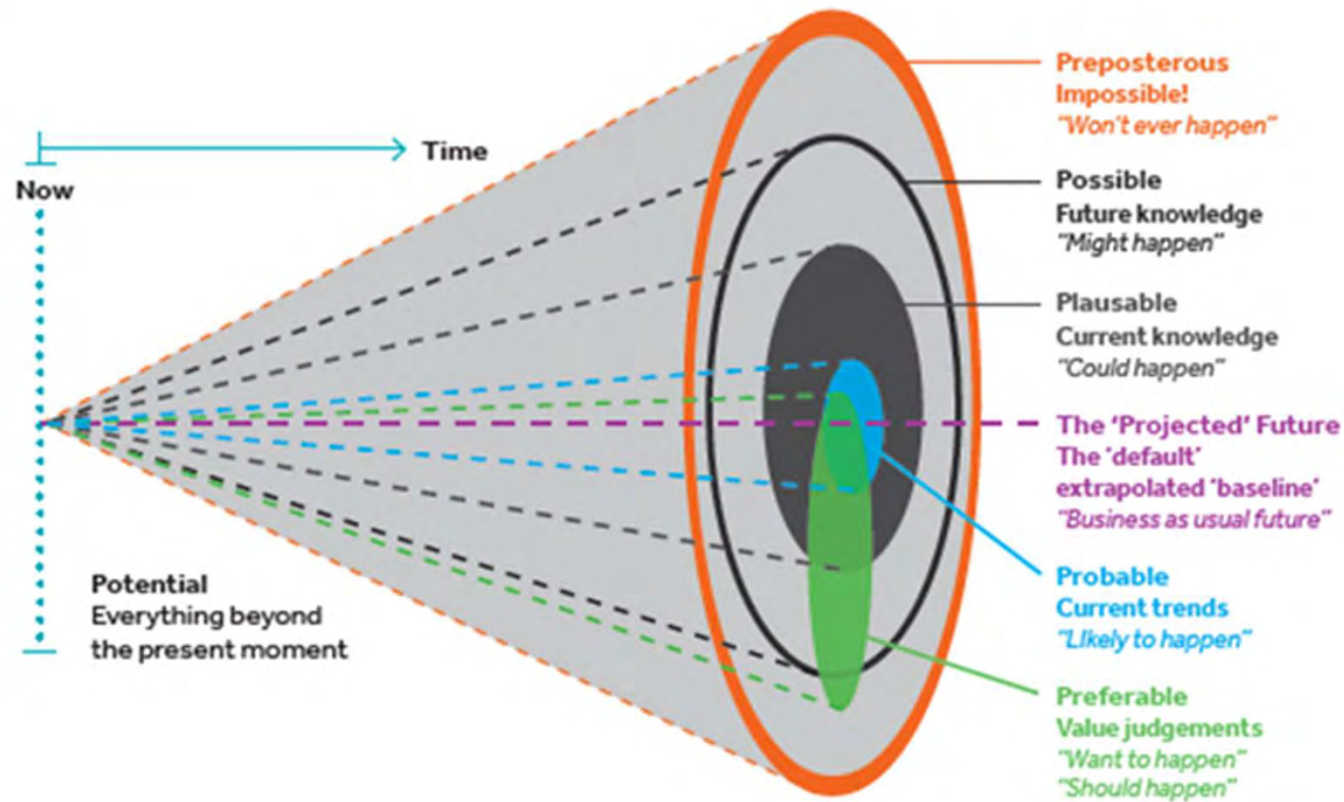


Figure 5: Lyons, G. (2016), *Uncertainty ahead: Which way forward for transport, CIHT Futures*.



# What does future mobility look like?



## Accessible

Accessible vehicles, infrastructure, and services create barrier-free environments without regard for ability or socioeconomic circumstance while improving the complete trip for all.



## Automated

Mobility systems which use computers and sensors to travel more efficiently and predictably in less space, effectively increasing road capacity and safety while lowering maintenance and operations costs.



## Connected

Modes and infrastructure enabled with Wi-Fi, cellular, or dedicated short-range communication devices that allow two-way communication between vehicles, cyclists, pedestrians, and more, increasing safety and efficiency.



## Electric

Battery electric vehicles ideally powered by renewable energy to reduce fossil fuel consumption and harmful emissions.



## Shared

Vehicles – whether cars, bikes, scooters, shuttles, buses or rail cars – that share rides, ownership, or use, to reduce congestion costs and total vehicle miles travelled, while enabling new access options for underserved neighborhoods.

A complex network of white dots connected by thin white lines, forming a spherical, web-like structure that resembles a molecular or network diagram. It is positioned in the top right corner of the slide.

Gravity

A small, solid yellow square located below the word "Gravity".

# Gravity Rail Restoration

Transport Strategy

- Gravity have ambitions to restore the former rail connection to Gravity
- Passenger and freight, subject to occupiers needs
- Gravity and the HoSW LEP have funded a feasibility study with Network Rail
- Collaboration with Network Rail confirmed feasibility
- The Study confirms proposes construction costs of up to £50m.
- Gravity seeks partnership approach to accelerate delivery to connect people and places to new opportunities
- Opportunity to collaborate with others to reduce commuting and support new modal choices
- Scheme will deliver significant socio-economic benefits
- Promotion to Cabinet Office and DfT

# Strategic Freight Delivery

- Phased
- Freeport Zone
- Rail head
- Fuel cell lorries (40 – 60 mins from Avonmouth Docks)
- Futures – Autonomous freight





A graphic in the top right corner consisting of a dense, interconnected network of white dots and lines, resembling a molecular structure or a complex network, partially overlapping the black background.

**Gravity**

A small, solid yellow square located below the Gravity logo graphic.

# Gravity Mobility Strategy

Transport Strategy

# MaaS

Monthly /Annual travel package

Taxi share



Autonomous mobility loop



Community



Micromobility Network and Docking



Commuter services inc Gravity rail



Flexible and Homeworking / Work Hub



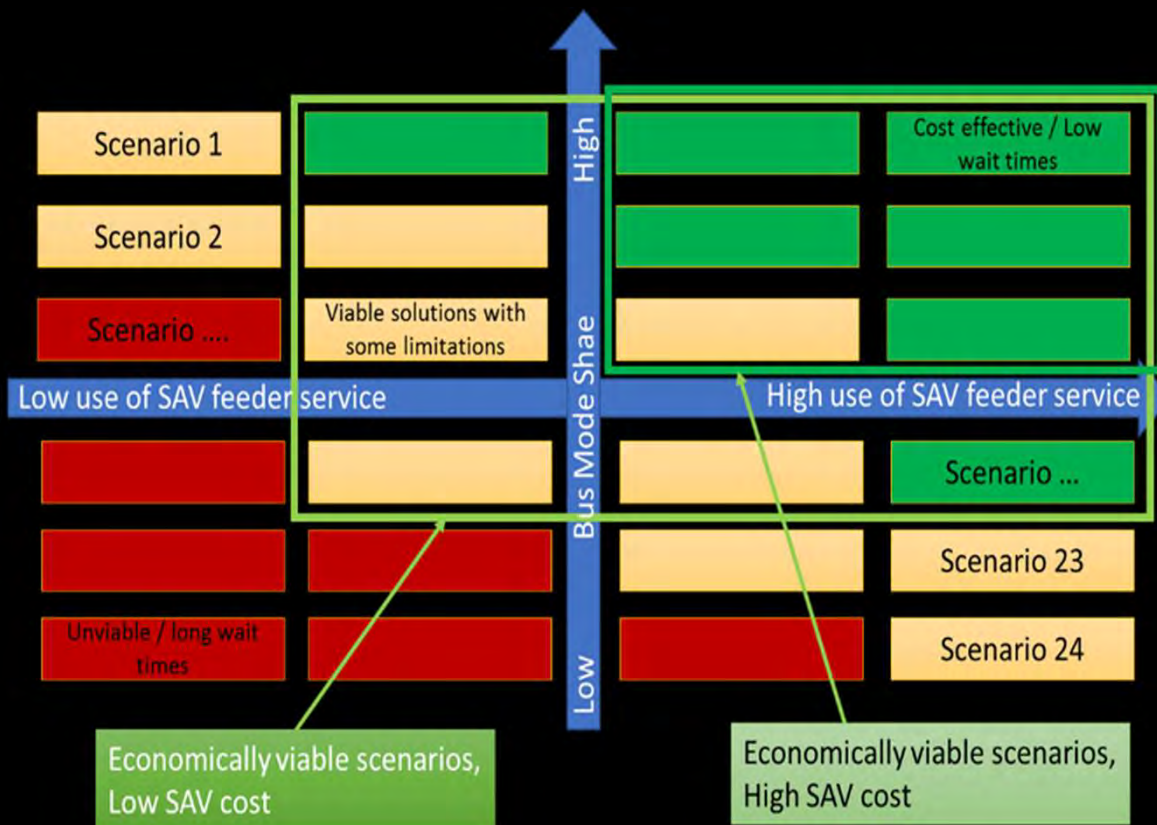
Zero Emission DRT / Bus services



Gravity E:On Drive Car Club



# Changing the assessment process – vision and validate and scenario testing



Agree objectives to describe the place-based vision;

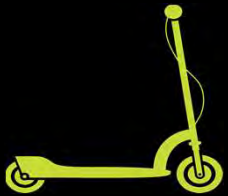
Use scenarios to understand the range of possible future travel and other outcomes;

Use tools to estimate travel outcomes across the range of scenarios;

Identify which transport solutions are most effective and resilient in meeting the vision;

# Route Map Evolutionary & Revolutionary

By 2025



Marketing Suite early  
micromobility SMITH R+D  
5G Create Logistics/  
freeport

2030



Rail Restoration,  
Consolidated Parking and  
EV Technologies , CAV

2035



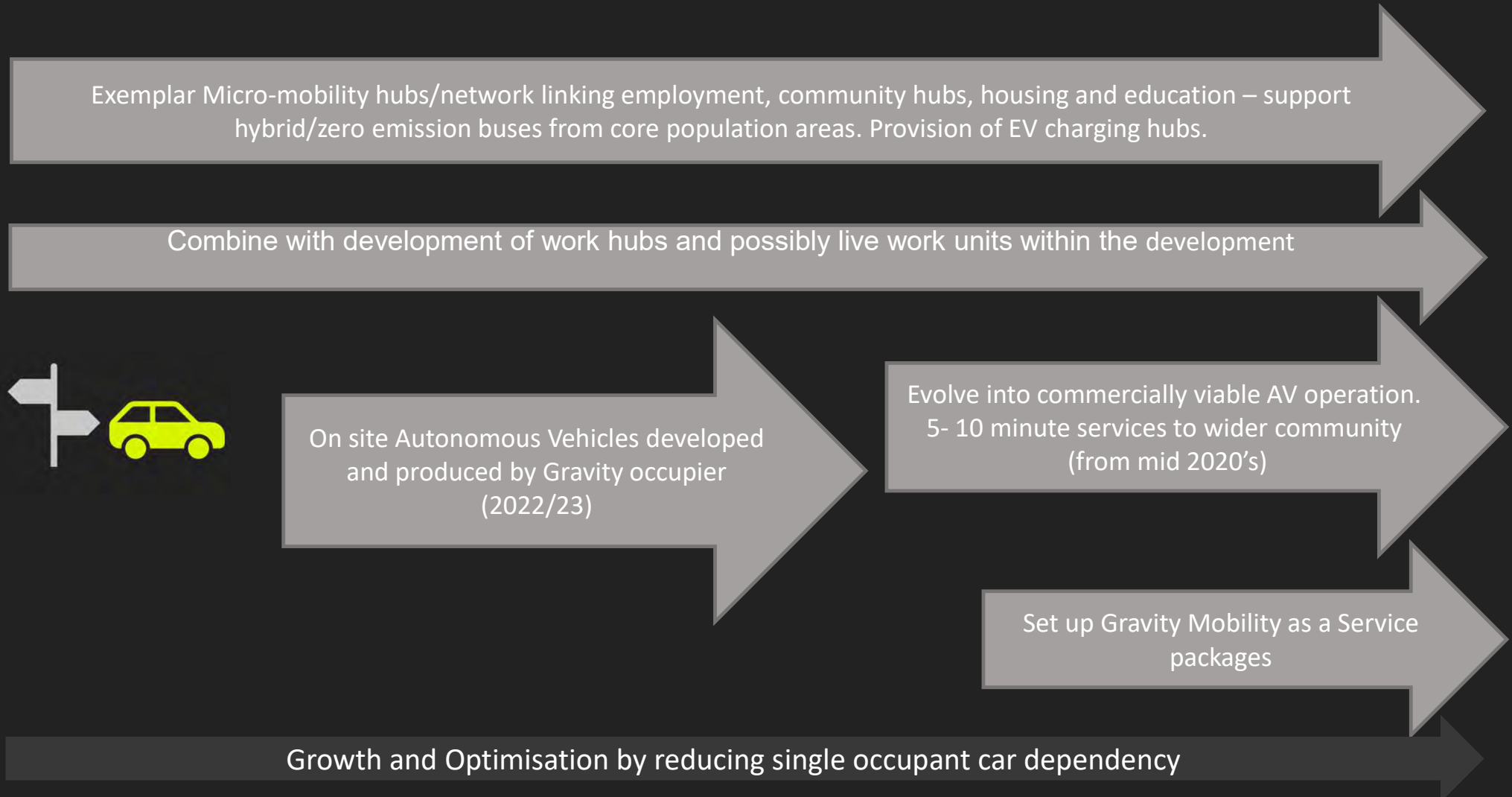
CAV, Full Micro mobility  
Mass Transit and  
Managed Networks

2040 +



Zero Carbon, Fully Shared  
Autonomous networks

# A broad based roadmap to a **mixed** mobility future





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Gravity

A small, solid yellow square located below the word "Gravity".

# Gravity Transport Appraisal Approach

Transport Strategy

# SDC Transport Model

- SCC and HE engagement undertaken
- Data gathering and gap analysis tasks completed
- Zoning system and network for model study area defined and developed
- Impact of COVID has meant delays to data gap collection, and therefore model calibration and validation – now likely to be completed in Spring / Summer 2021
- Propose to use consistent base dataset and work up Gravity scenarios separately from the authority models
- Analysis will ultimately feed back into the SDC model



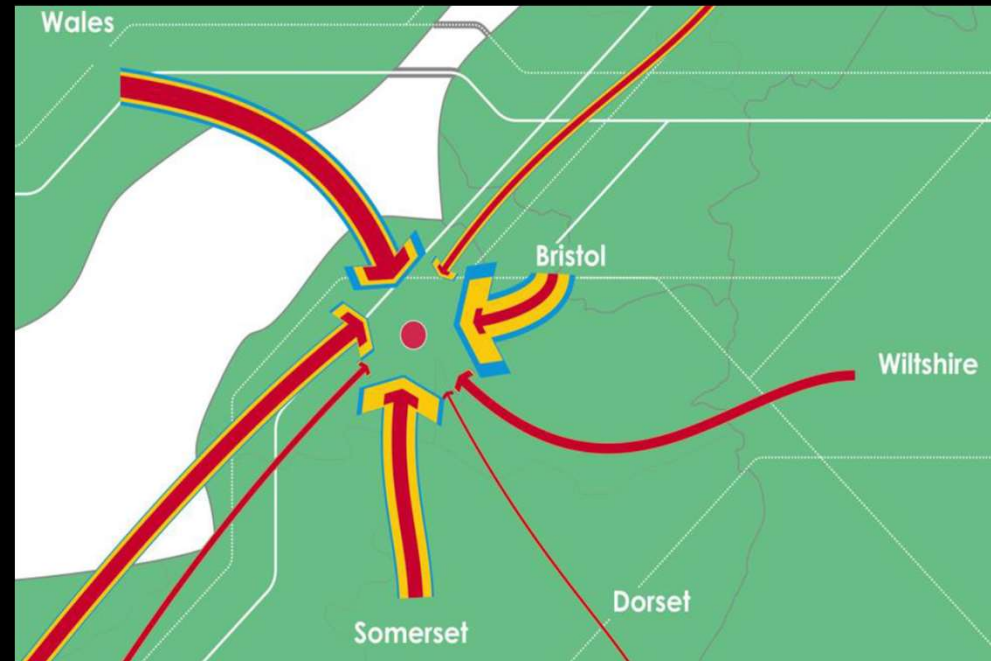
# SDC Base Data

- Data available having been collected and collated for SDC
  - Demand Data:
    - Census Travel to Work
    - National Travel Survey
    - TEMPRONTEM
    - Highways England WebTRIS: Traffic count data
    - SDC Traffic Data: transport assessments, SDC TIS 2050, Eastover, J22 – J23 Paramics Model etc)
    - Somerset County Council ATC data
    - Planning Data: Council base and forecast outline plans
    - Donor Models (SWRTM, TSTM)
    - Supply Data:
      - Transport Network
      - Traffic Signal Data (provided by SDC)
      - Zoning System
- Data still being processed
- **Teletrac Navman:** Journey time data
- **Mobile Phone Data**
- **HE RTM2 Data collection** (pre-Covid traffic counts currently being requested through HE)



# Appraisal Framework

- 1. Obtain background data (SDC and HE) / matrices and network (SDC) to establish an agreed baseline for assessments
- 2. Prepare Gravity specific land use / trip generation / scenario testing tool – generating multi modal trip matrices
- 3. Agreed future base scenarios (reference case)
- 4. Simplify output from tool into visual format – to assist with sharing of results and stakeholder presentation
- 5. Local junction testing and mitigation - Undertaken downstream once we have understood and optimised the scenarios on a 'mitigate at source' basis



# Trip Generation / Scenario Testing Tool

- Flexible tool to forecast output travel patterns and movements for Gravity
- Trip matrix format consistent with SDC model matrices

Site zoning

Daily / peak  
person trip  
generation by trip  
purpose

Land use mix /  
scale

Trip distribution /  
internalisation

Home / remote  
working

Variable travel  
mode by trip  
origin for potential  
interventions:

Shuttles

Micromobility

MaaS

Rail connection



# Transport Appraisal Programme

Time Period	Transport Assessment Programme Core Activities
Sept 20- Dec 20	Technical Scoping, LDO Vision Workshops and Land Use / Mobility Scenario Testing
Jan 21 – June 21	LDO Parameter Plans 'Fix' - Detailed Technical Assessment / Forecast Modelling Outcomes and Identification of LDO Mitigation Requirements
July 21 – August 21	Transport Assessment and ES Document Production
August 21- October 21	Technical Negotiations and responses to Statutory Consultees and Committee
November 2021	LDO Adoption

# Stantec Contacts

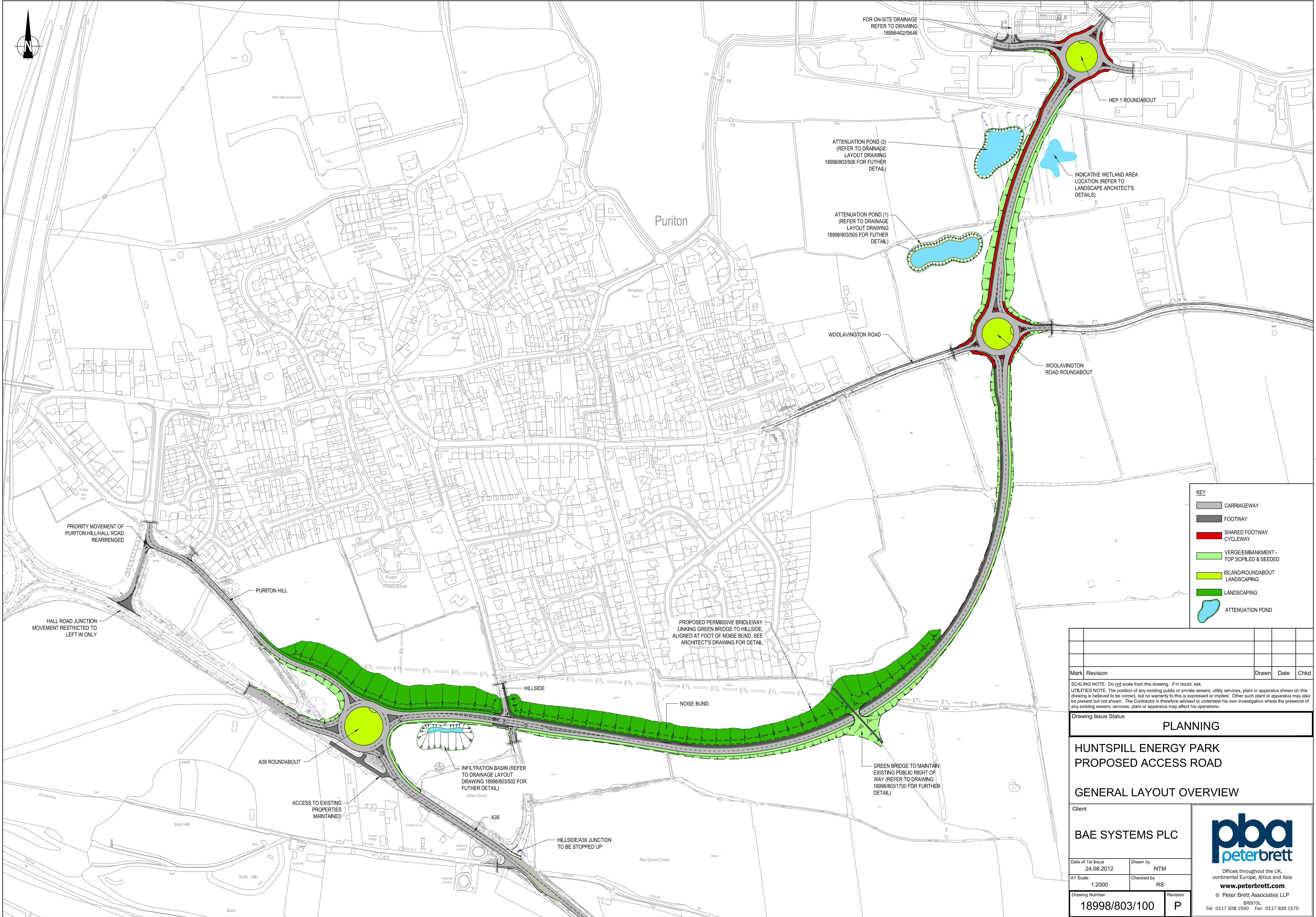
Scott Witchalls, Director Transport and Infrastructure - 0118  
9520681 / [scott.witchalls@stantec.com](mailto:scott.witchalls@stantec.com)

Craig Mason, Associate Transport Planner – 01823 218962 /  
[craig.mason@stantec.com](mailto:craig.mason@stantec.com)

## **Appendix B    General Arrangement Drawing of HEP Access Road**

DRAFT





KEY	
	CARRIAGEWAY
	FOOTWAY
	SHARED FOOTWAY CYCLEWAY
	VERGE/EMBANKMENT - TOP SOPED & SEEDED
	ISLAND/ROUNDABOUT LANDSCAPING
	LANDSCAPING
	ATTENUATION POND

Mark	Revision	Drawn	Date	Chkd

SCALING NOTE: Do not scale from this drawing. If in doubt, ask.  
UTILITIES NOTE: The position of any existing public or private sewers, utility services, plant or apparatus shown on this drawing is believed to be correct, but no warranty to this is expressed or implied. Other such plant or apparatus may also be present but not shown. The Contractor is therefore advised to undertake his own investigation where the presence of any existing sewers, services, plant or apparatus may affect his operations.

Drawing Issue Status	PLANNING
----------------------	----------

HUNTSPILL ENERGY PARK  
PROPOSED ACCESS ROAD

GENERAL LAYOUT OVERVIEW

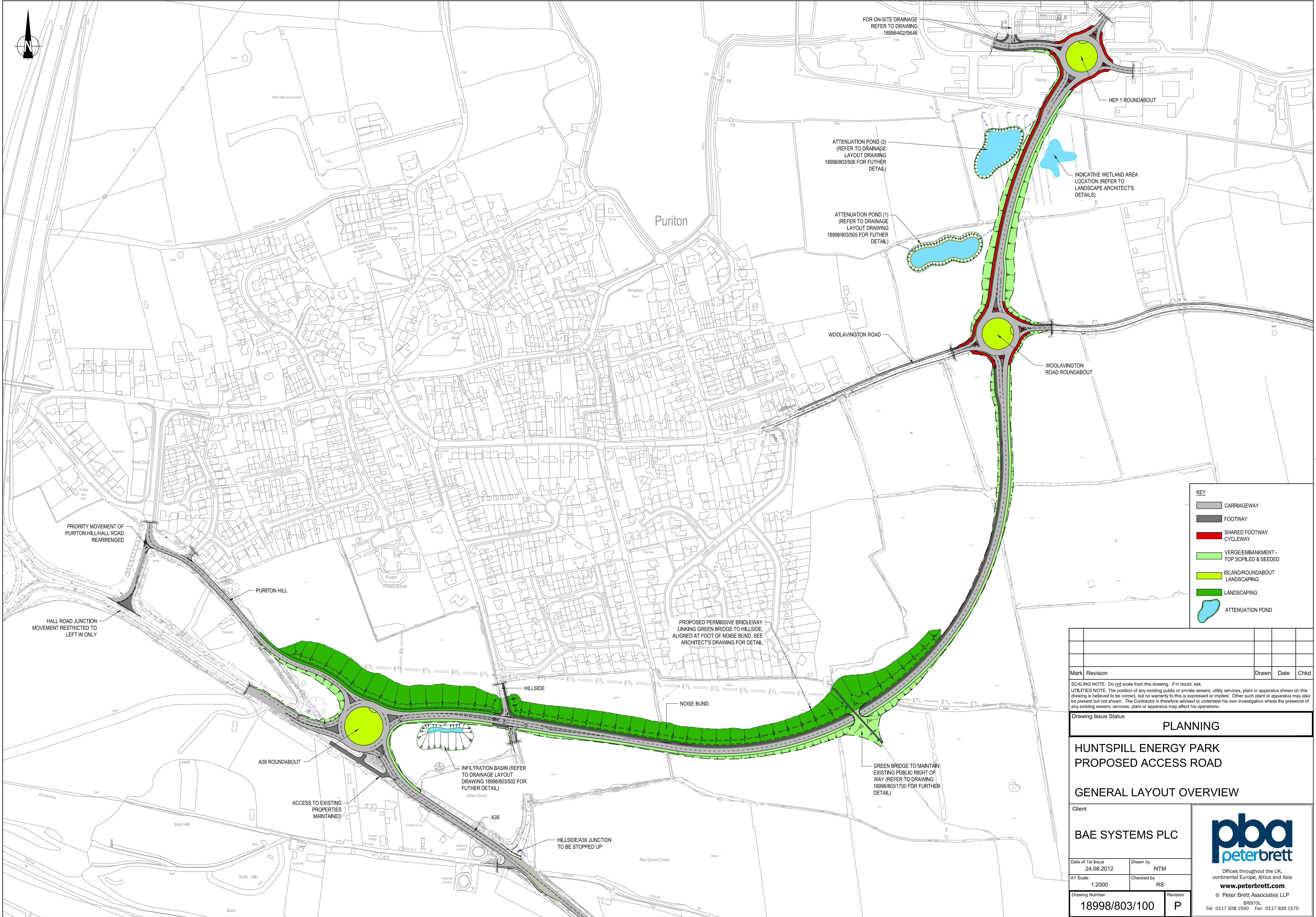
Client		BAE SYSTEMS PLC	
Date of 1st Issue	24.08.2012	Drawn by	NTM
A1 Scale	1:2000	Checked by	RS
Drawing Number	18998/803/100	Revision	P

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BRISTOL  
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## **Appendix E      GA Plan for GLR**





KEY	
	CARRIAGEWAY
	FOOTWAY
	SHARED FOOTWAY CYCLEWAY
	VERGE/EMBANKMENT - TOP SOPPED & SEEDDED
	ISLAND/ROUNDABOUT LANDSCAPING
	LANDSCAPING
	ATTENUATION POND


Mark	Revision	Drawn	Date	Chkd

SCALING NOTE: Do not scale from this drawing. If in doubt, ask.  
UTILITIES NOTE: The position of any existing public or private sewers, utility services, plant or apparatus shown on this drawing is believed to be correct, but no warranty to this is expressed or implied. Other such plant or apparatus may also be present but not shown. The Contractor is therefore advised to undertake his own investigation where the presence of any existing sewers, services, plant or apparatus may affect his operations.

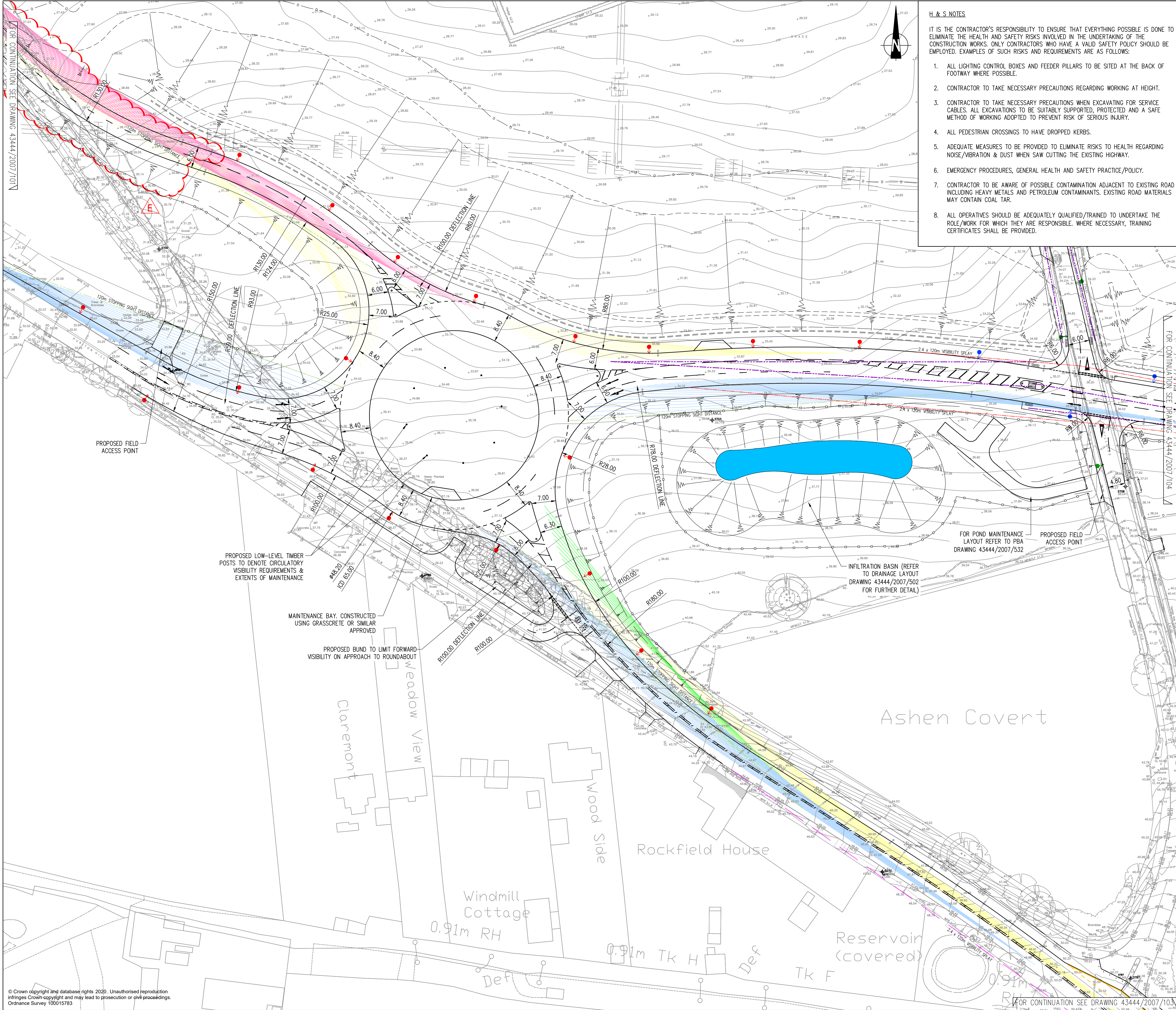
Drawing Issue Status	PLANNING
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HUNTSPILL ENERGY PARK PROPOSED ACCESS ROAD
---

GENERAL LAYOUT OVERVIEW
-------------------------

Client		 <p>Offices throughout the UK, continental Europe, Africa and Asia <b>www.peterbrett.com</b> © Peter Brett Associates LLP BRISTOL Tel: 0117 928 1560 Fax: 0117 928 1570</p>
BAE SYSTEMS PLC		
Date of 1st Issue 24.08.2012	Drawn by NTM	
A1 Scale 1:2000	Checked by RS	
Drawing Number 18998/803/100	Revision P	





H & S NOTES

IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT EVERYTHING POSSIBLE IS DONE TO ELIMINATE THE HEALTH AND SAFETY RISKS INVOLVED IN THE UNDERTAKING OF THE CONSTRUCTION WORKS. ONLY CONTRACTORS WHO HAVE A VALID SAFETY POLICY SHOULD BE EMPLOYED. EXAMPLES OF SUCH RISKS AND REQUIREMENTS ARE AS FOLLOWS:

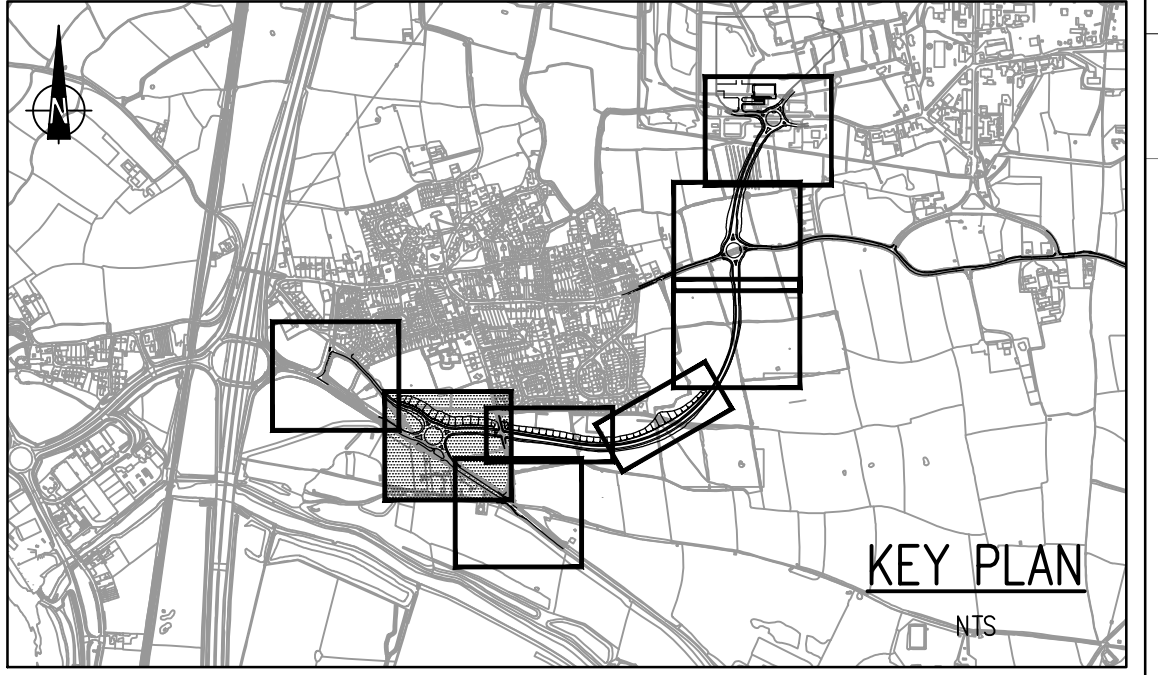
1. ALL LIGHTING CONTROL BOXES AND FEEDER PILLARS TO BE SITED AT THE BACK OF FOOTWAY WHERE POSSIBLE.
2. CONTRACTOR TO TAKE NECESSARY PRECAUTIONS REGARDING WORKING AT HEIGHT.
3. CONTRACTOR TO TAKE NECESSARY PRECAUTIONS WHEN EXCAVATING FOR SERVICE CABLES. ALL EXCAVATIONS TO BE SUITABLY SUPPORTED, PROTECTED AND A SAFE METHOD OF WORKING ADOPTED TO PREVENT RISK OF SERIOUS INJURY.
4. ALL PEDESTRIAN CROSSINGS TO HAVE DROPPED KERBS.
5. ADEQUATE MEASURES TO BE PROVIDED TO ELIMINATE RISKS TO HEALTH REGARDING NOISE/VIBRATION & DUST WHEN SAW CUTTING THE EXISTING HIGHWAY.
6. EMERGENCY PROCEDURES, GENERAL HEALTH AND SAFETY PRACTICE/POLICY.
7. CONTRACTOR TO BE AWARE OF POSSIBLE CONTAMINATION ADJACENT TO EXISTING ROAD INCLUDING HEAVY METALS AND PETROLEUM CONTAMINANTS. EXISTING ROAD MATERIALS MAY CONTAIN COAL TAR.
8. ALL OPERATIVES SHOULD BE ADEQUATELY QUALIFIED/TRAINED TO UNDERTAKE THE ROLE/WORK FOR WHICH THEY ARE RESPONSIBLE. WHERE NECESSARY, TRAINING CERTIFICATES SHALL BE PROVIDED.

KEY

- 10 METRE COLUMN TO SCC SPECIFICATION TECEO 2 – TC02\_88LED\_NEUT\_WH\_0\_5098\_312701 LAMP 88LED\_NEUT\_WH\_0\_500mA
- 10 METRE COLUMN TO SCC SPECIFICATION TECEO 1 – 5098-40 LEDS 500mA NW FLAT, GLASS EXTRA CLEAR, SMO LAMP 40 LEDS
- 8 METRE COLUMN TO SCC SPECIFICATION AXIA-AXIA/5078/CLEAR P./24LEDS 350MA NW (3.6 KLM) 29/31312F LAMP 24LEDS 350mA NW (3.6KLM)
- VISIBILITY TO PEDESTRIAN CROSSING POINTS DMRB TO 16/07 PARAGRAPH 8.12
- VISIBILITY ON APPROACH TO ROUNDABOUT (SSD) 120m
- VISIBILITY ON APPROACH TO ROUNDABOUT (SSD) 90m
- VISIBILITY ON EXIT OF ROUNDABOUT (SSD) 120m
- VISIBILITY ON EXIT OF ROUNDABOUT (SSD) 90m
- ILLUMINATED BOLLARD

GENERAL NOTES

1. THE CONTRACTOR IS TO CHECK AND VERIFY ALL SITE DIMENSIONS AND LEVELS, INCLUDING SEWER INVERT LEVELS, BEFORE WORKS START ON SITE. THE CONTRACTOR IS TO COMPLY IN ALL ASPECTS WITH THE CURRENT BUILDING LEGISLATION, BRITISH STANDARDS, BUILDING REGULATIONS ETC.
2. POSITIONS OF EXISTING SERVICES/STATUTORY UNDERTAKERS APPARATUS ADJACENT TO OR CROSSING PROPOSED EXCAVATIONS ARE TO BE CHECKED BY THE CONTRACTOR PRIOR TO STARTING WORK.
3. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH AND CHECKED AGAINST ALL OTHER DRAWINGS, ENGINEERING DETAILS, SPECIFICATION AND ANY STRUCTURAL, GEOTECHNICAL OR OTHER SPECIALIST DOCUMENT PROVIDED.
4. ANY ANOMALY OR CONTRADICTION BETWEEN ANY OF THE ABOVE IS TO BE REPORTED TO PBA'S ENGINEER
5. THIS DRAWING IS SCHEMATIC FOR CLARITY ONLY, POSITIONS OF PIPE RUNS AND MANHOLES MAY VARY ON SITE DUE TO SITE CONDITIONS.
6. THE USE OF THIS DRAWING DOES NOT ABSOLVE THE CLIENT FROM HIS RESPONSIBILITIES UNDER HEALTH AND SAFETY: THE CONSTRUCTION (DESIGN AND MANAGEMENT) REGULATIONS 2015. THE PRINCIPAL DESIGNER IS REQUIRED TO CONTACT PBA PRIOR TO PERMITTING THESE DRAWINGS TO BE USED WITH ANY CONSTRUCTION WORKS.
7. ALL WORKS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH 'MANUAL OF CONTRACT DOCUMENTS FOR HIGHWAY WORKS, SOMERSET COUNTY COUNCIL'S ADOPTION STANDARDS AND SEWERS FOR ADOPTION SEVENTH EDITION DATED AUGUST 2012.
8. ALL WORKS WITHIN THE LIMIT OF THE HIGHWAY SHALL BE SIGNED IN ACCORDANCE WITH THE DEPARTMENT OF TRANSPORT'S TRAFFIC SIGNS MANUAL (2006) CHAPTER 8 'TRAFFIC SAFETY MEASURES AND SIGNING FOR ROAD WORKS AND TEMPORARY SITUATIONS'.
9. STREET LIGHTING DESIGN UNDERTAKEN BY SOMERSET COUNTY COUNCIL, RECEIVED ON 31.10.2016. SUBSEQUENTLY LIGHTING COLUMNS ON A39 ROUNDABOUT RELOCATED FOLLOWING SCC RSA COMMENT RECEIVED ON 21.11.2016.
10. THE SPECIFICATION FOR STREET LIGHTING, ILLUMINATED TRAFFIC SIGNS AND BOLLARDS SHALL BE IN ACCORDANCE WITH THE SCC TERM LIGHTING MAINTENANCE CONTRACT AND IN PARTICULAR VOLUME 2 GENERAL, SPECIFIC AND MATERIALS CLAUSES.



E	PURITON HILL ALIGNMENT & VISI SPLAY UPDATED	01.10.20	CL	LB	JMH
D	REPLACED KNEE RAIL FENCE WITH TIMBER POSTS	02.03.20	LB	JMH	RAS
C	REVISED FOR CONSTRUCTION	05.08.19	TM	LB	RAS
B	UPDATED ALIGNMENT OF PURITON HILL	14.06.19	AJW	LB	RAS
A	ISSUED FOR TENDER	04.03.19	AJW	JMH	RAS
Mark	Revision	Date	Drawn	Chkd	Appd

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UTILITIES NOTE: The position of any existing public or private sewers, utility services, plant or apparatus shown on this drawing is believed to be correct, but no warranty to this is expressed or implied. Other such plant or apparatus may also be present but not shown. The Contractor is therefore advised to undertake their own investigation where the presence of any existing sewers, services, plant or apparatus may affect their operations.

Drawing Issue Status  
**FOR CONSTRUCTION**

GRAVITY  
PROPOSED ACCESS ROAD  
GENERAL ARRANGEMENT  
SHEET 2 OF 7

Client  
**THIS IS GRAVITY LTD**

Date of 1st Issue  
13.07.2018

A1 Scale  
1:500

Drawing Number  
43444/2007/102

Designed  
JMH

Checked  
LB

Revision  
E

Drawn  
JMH

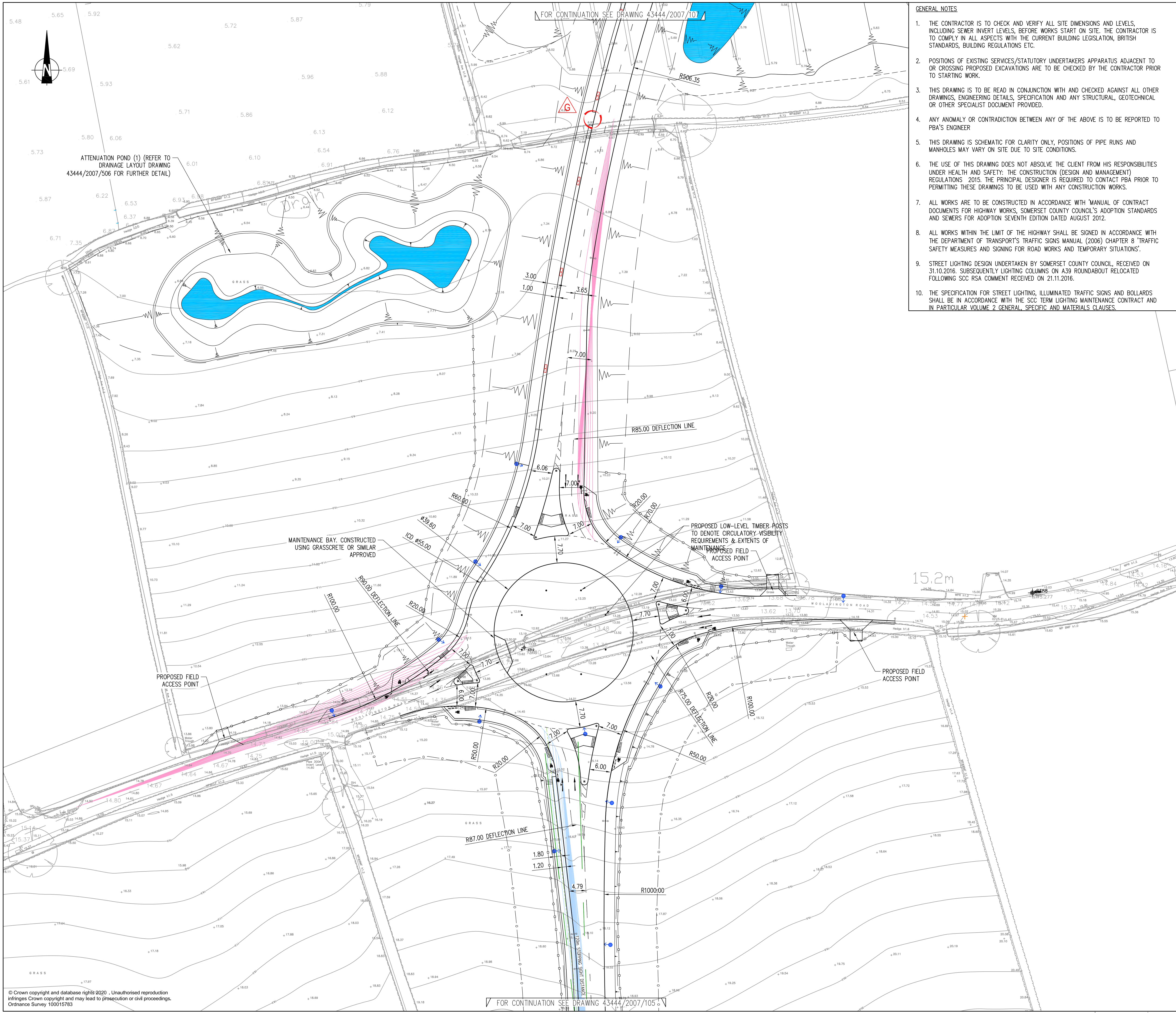
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RAS

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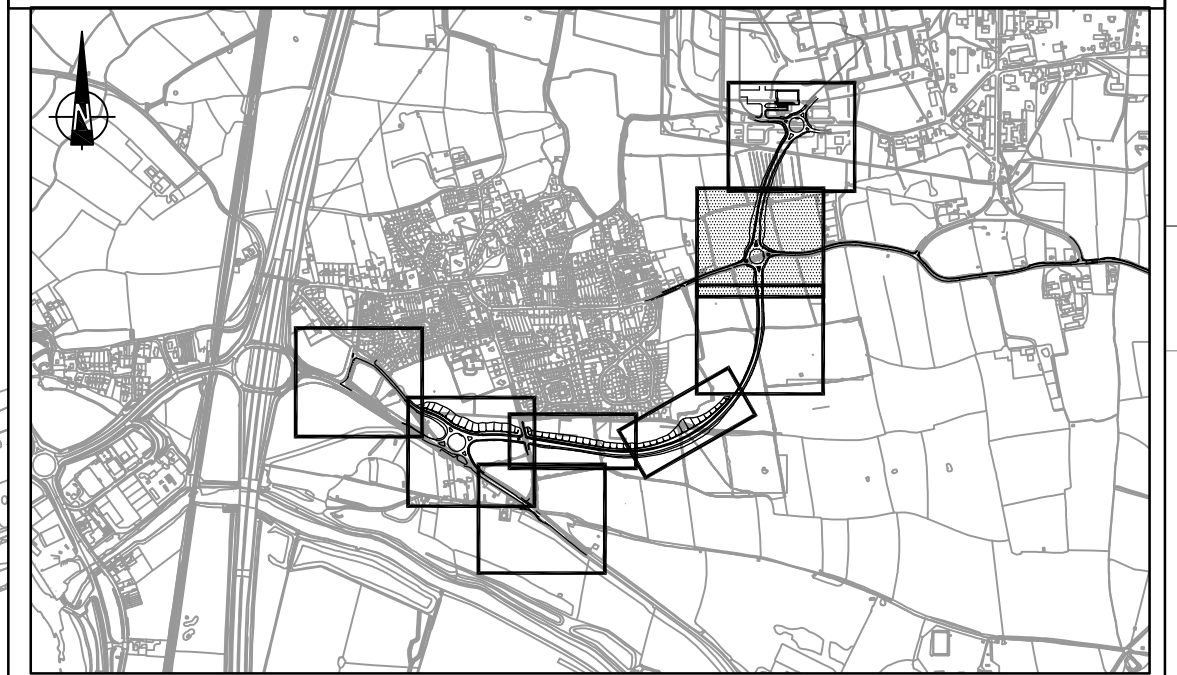




- GENERAL NOTES**
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  - ALL WORKS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH 'MANUAL OF CONTRACT DOCUMENTS FOR HIGHWAY WORKS, SOMERSET COUNTY COUNCIL'S ADOPTION STANDARDS AND SEWERS FOR ADOPTION SEVENTH EDITION DATED AUGUST 2012.
  - ALL WORKS WITHIN THE LIMIT OF THE HIGHWAY SHALL BE SIGNED IN ACCORDANCE WITH THE DEPARTMENT OF TRANSPORT'S TRAFFIC SIGNS MANUAL (2006) CHAPTER 8 'TRAFFIC SAFETY MEASURES AND SIGNING FOR ROAD WORKS AND TEMPORARY SITUATIONS'.
  - STREET LIGHTING DESIGN UNDERTAKEN BY SOMERSET COUNTY COUNCIL, RECEIVED ON 31.10.2016. SUBSEQUENTLY LIGHTING COLUMNS ON A39 ROUNDABOUT RELOCATED FOLLOWING SCC RSA COMMENT RECEIVED ON 21.11.2016.
  - THE SPECIFICATION FOR STREET LIGHTING, ILLUMINATED TRAFFIC SIGNS AND BOLLARDS SHALL BE IN ACCORDANCE WITH THE SCC TERM LIGHTING MAINTENANCE CONTRACT AND IN PARTICULAR VOLUME 2 GENERAL, SPECIFIC AND MATERIALS CLAUSES.

- KEY**
- 10 METRE COLUMN TO SCC SPECIFICATION TECEO 1 – 5098-40 LEDS 500mA NW FLAT, GLASS EXTRA CLEAR, SMO LAMP 40 LEDS
  - 8 METRE COLUMN TO SCC SPECIFICATION AXIA-AXIA/5078/CLEAR P./24LEDS 350MA NW (3.6 KLM) 29/31312F LAMP 24LEDS 350mA NW (3.6KLM)
  - PROPOSED RS177 NAL SOCKET WITH TWIN DUCT
  - VISIBILITY TO PEDESTRIAN CROSSING POINTS DMRB TO 16/07 PARAGRAPH 8.12
  - VISIBILITY TO PEDESTRIAN CROSSING POINT 120m DMRB TA 90/05 TABLES 3.3 & 3.4
  - VISIBILITY TO PEDESTRIAN CROSSING POINTS 90m DMRB TA 90/05 TABLES 3.3 AND 3.4
  - VISIBILITY ON APPROACH TO ROUNDABOUT (SSD) 120m
  - VISIBILITY ON APPROACH TO ROUNDABOUT (SSD) 90m
  - VISIBILITY ON EXIT OF ROUNDABOUT (SSD) 120m
  - VISIBILITY ON EXIT OF ROUNDABOUT (SSD) 90m
  - ILLUMINATED BOLLARD
  - PROPOSED TACTILE PAVING AND DROPPED KERBS
  - PROPOSED CORDUROY PAVING

- H & S NOTES**
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT EVERYTHING POSSIBLE IS DONE TO ELIMINATE THE HEALTH AND SAFETY RISKS INVOLVED IN THE UNDERTAKING OF THE CONSTRUCTION WORKS. ONLY CONTRACTORS WHO HAVE A VALID SAFETY POLICY SHOULD BE EMPLOYED. EXAMPLES OF SUCH RISKS AND REQUIREMENTS ARE AS FOLLOWS:
- ALL LIGHTING CONTROL BOXES AND FEEDER PILLARS TO BE SITED AT THE BACK OF FOOTWAY WHERE POSSIBLE.
  - CONTRACTOR TO TAKE NECESSARY PRECAUTIONS REGARDING WORKING AT HEIGHT.
  - CONTRACTOR TO TAKE NECESSARY PRECAUTIONS WHEN EXCAVATING FOR SERVICE CABLES. ALL EXCAVATIONS TO BE SUITABLY SUPPORTED, PROTECTED AND A SAFE METHOD OF WORKING ADOPTED TO PREVENT RISK OF SERIOUS INJURY.
  - ALL PEDESTRIAN CROSSINGS TO HAVE DROPPED KERBS.
  - ADEQUATE MEASURES TO BE PROVIDED TO ELIMINATE RISKS TO HEALTH REGARDING NOISE/VIBRATION & DUST WHEN SAW CUTTING THE EXISTING HIGHWAY.
  - EMERGENCY PROCEDURES, GENERAL HEALTH AND SAFETY PRACTICE/POLICY.
  - CONTRACTOR TO BE AWARE OF POSSIBLE CONTAMINATION ADJACENT TO EXISTING ROAD INCLUDING HEAVY METALS AND PETROLEUM CONTAMINANTS. EXISTING ROAD MATERIALS MAY CONTAIN COAL TAR.
  - ALL OPERATIVES SHOULD BE ADEQUATELY QUALIFIED/TRAINED TO UNDERTAKE THE ROLE/WORK FOR WHICH THEY ARE RESPONSIBLE. WHERE NECESSARY, TRAINING CERTIFICATES SHALL BE PROVIDED.



KEY PLAN					
NTS					
G	CROSSING POINT ADDED	13.01.21	ET	LB	JMH
F	NAL SOCKETS ADDED	07.01.21	ET	LB	JMH
E	ADJUSTED POSITION OF LIGHTING COLUMNS	05.11.20	TM	JMH	JMH
D	ADJUSTED POSITION OF LIGHTING COLUMN, TIMBER POSTS	02.03.20	LB	JMH	RAS
C	REVISED FOR CONSTRUCTION	05.08.19	TM	LB	RAS
B	UPDATED BASINS FOLLOWING TRP PROPOSALS	12.04.19	LB	JMH	RAS
A	ISSUED FOR TENDER	04.03.19	AJW	JMH	RAS
Mark	Revision	Date	Drawn	Chkd	Appd

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Drawing Issue Status  
**FOR CONSTRUCTION**

**GRAVITY  
PROPOSED ACCESS ROAD  
GENERAL ARRANGEMENT  
SHEET 6 OF 7**

Client

THIS IS GRAVITY LTD

Date of 1st Issue  
13.07.2018

Designed  
JMH

Drawn  
JMH

A1 Scale  
1:500

Checked  
LB

Approved  
RAS

Drawing Number  
43444/2007/106

Revision  
G

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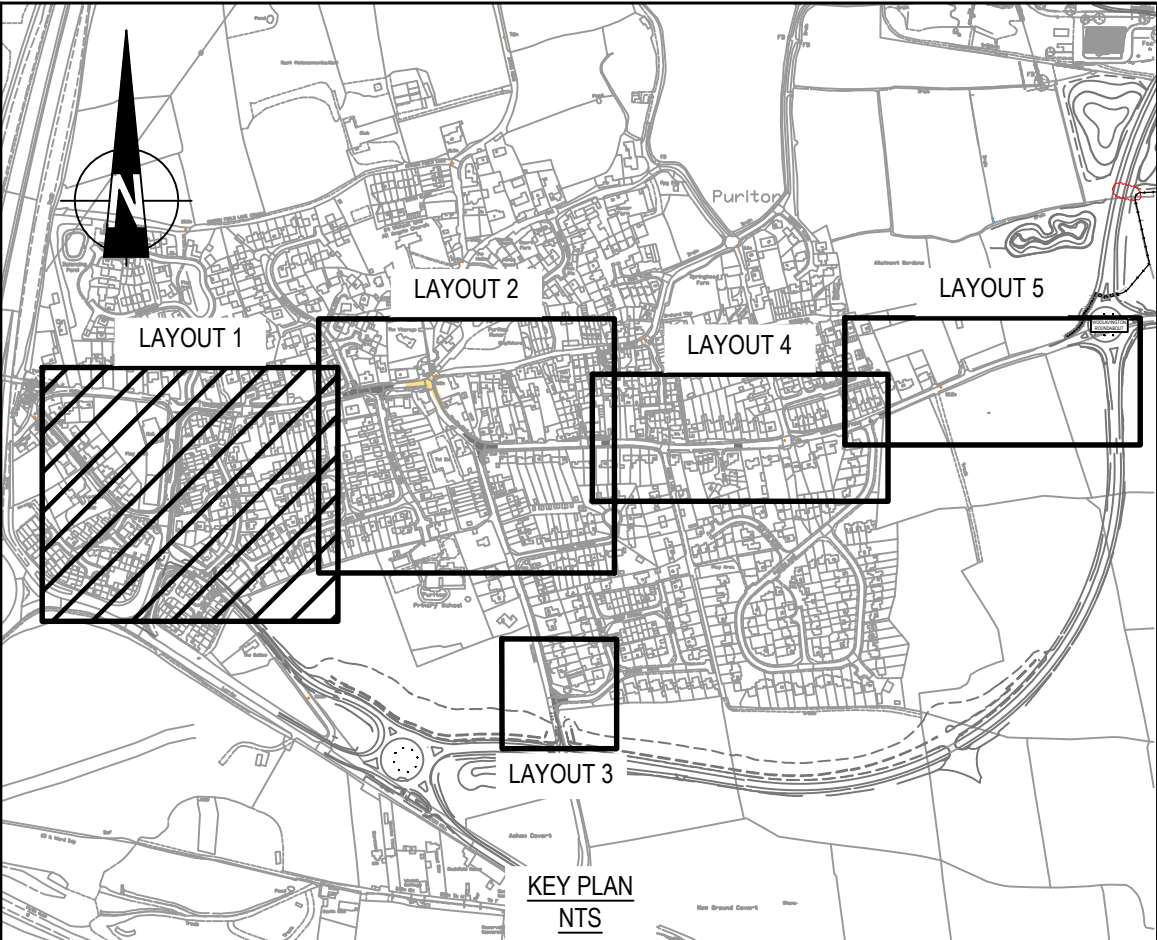
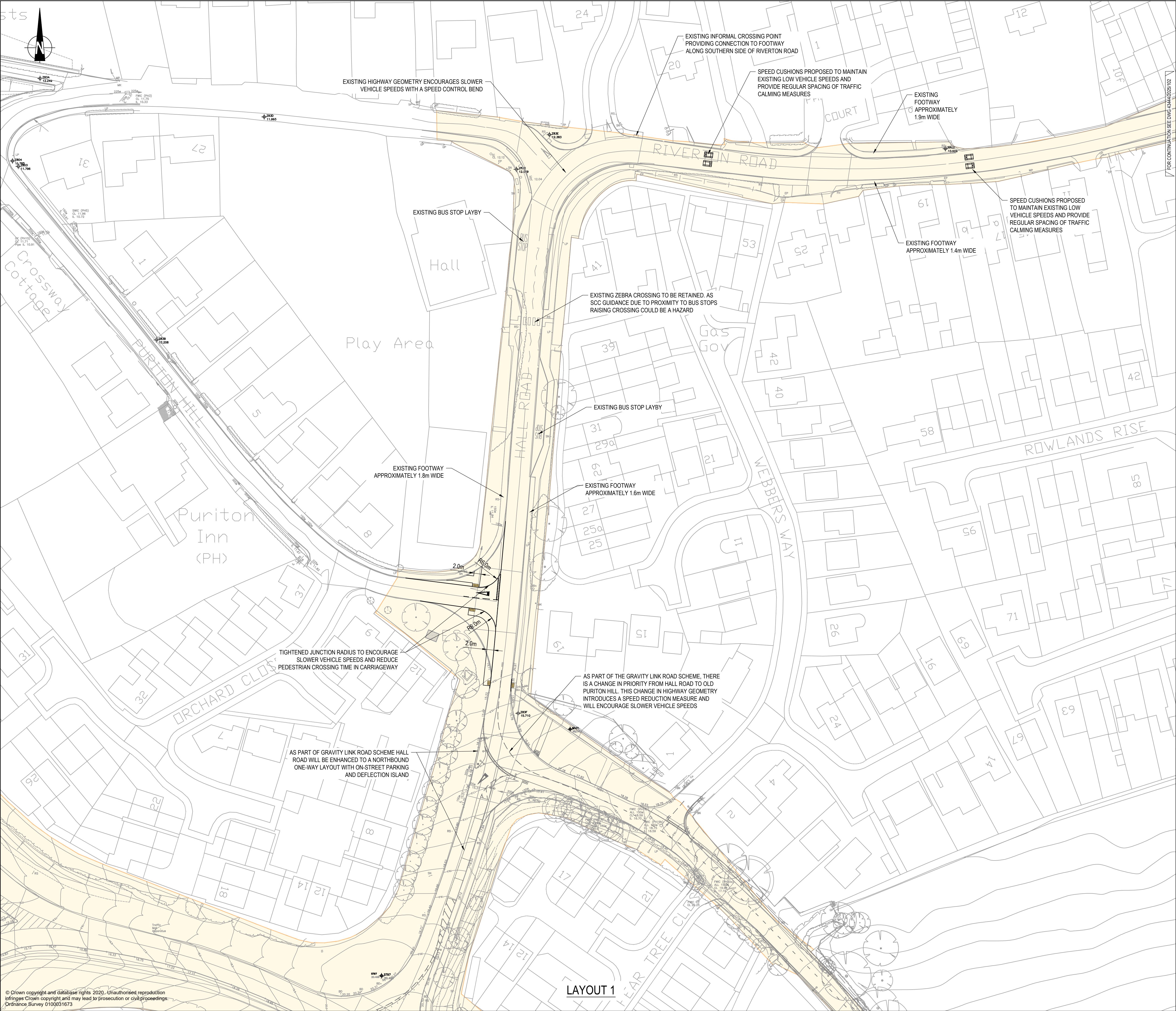
BRISTOL  
Tel: 01173 327 840

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## **Appendix F    VES Plans**





- NOTES:
1. THE LAYOUT IS SUBJECT TO DETAILED DESIGN, GROUND INVESTIGATIONS RESULTS & EARTHWORKS MODELLING, UTILITIES & SERVICES AND CONFIRMATION OF LAND OWNERSHIP.
  2. THE DETAILED DESIGN LAYOUT WILL BE DESIGNED IN ACCORDANCE WITH ALL RELEVANT DESIGN GUIDANCE AND STANDARDS.
  3. THE LAYOUT HAS BEEN BASED ON THE APPROPRIATE DESIGN SPEED FOR OUR CURRENT PROPOSALS.
  4. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ALL RELEVANT ASSOCIATED DOCUMENTS.
  5. THE USE OF THE DRAWING DOES NOT ABSOLVE THE CLIENT FROM THEIR RESPONSIBILITIES IN REGARDS TO HEALTH & SAFETY AND CDM REGULATIONS.

- KEY
- PROPOSED TACTILE PAVING
  - PROPOSED RAISED TABLE RAMPS
  - HIGHWAY BOUNDARY AREA
  - PROPOSED FLAT-TOP ROAD HUMP CROSSING/RAISED TABLE JUNCTION
  - PROPOSED CONTRASTING SURFACE COLOUR
  - PROPOSED AREA OF NO-DIG CONSTRUCTION (SEE INSET 1)

B	REVISED FOR PLANNING	26.06.20	ET	RAS	RAS
A	REVISED FOLLOWING CONSULTATION WITH PARISH COUNCILS	20.03.20	TM	LB	RAS
Mark	Revision	Date	Drawn	Chkd	Appd

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Drawing Issue Status  
**FOR PLANNING**

**GRAVITY**  
**VILLAGE ENHANCEMENT SCHEME**  
**PURITON VILLAGE**

Client

**Gravity**

stantec.com/uk

**Stantec**

Date of 1st Issue  
24.01.2020

Designed  
LB

Drawn  
ARL

A1 Scale  
1:500

Checked  
LB

Approved  
PC

Drawing Number  
**43444/2025/101**

Revision  
**B**

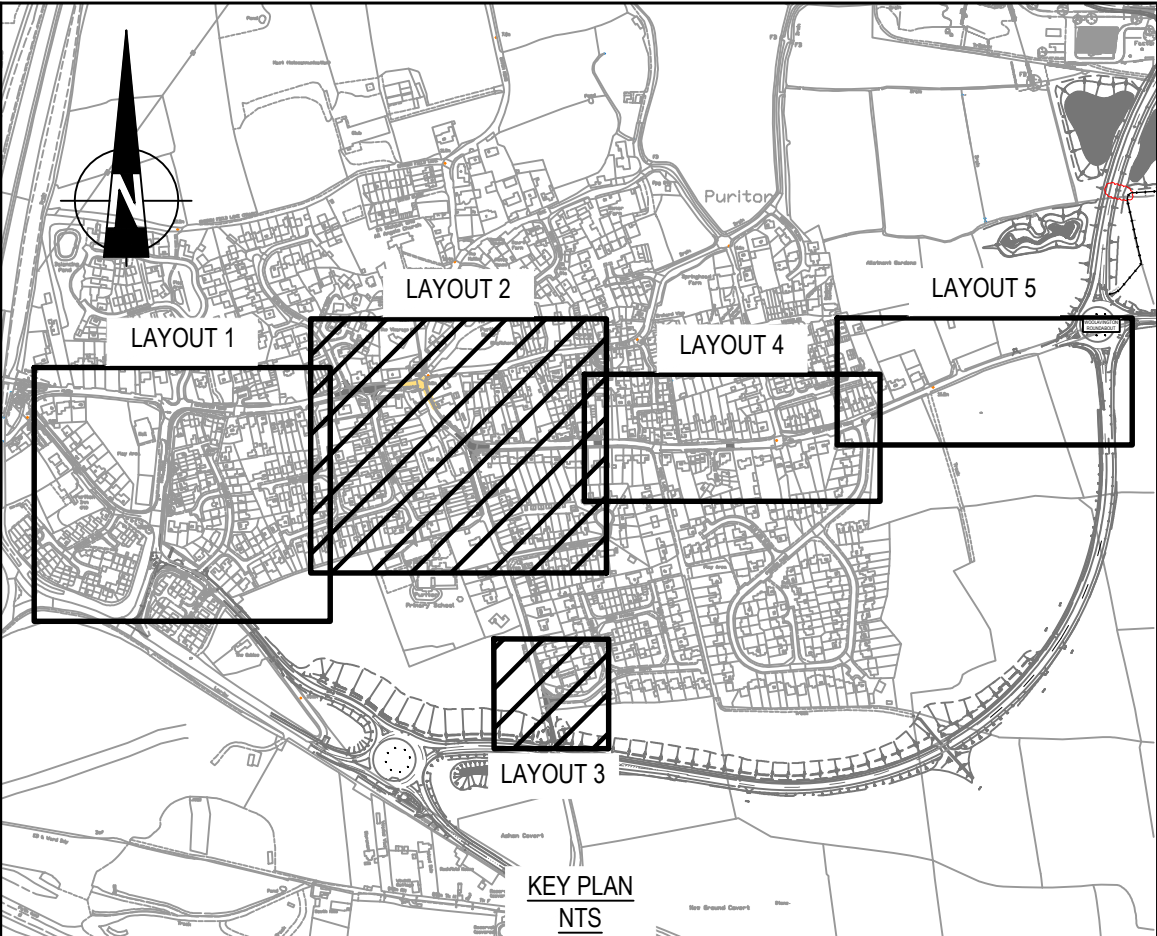
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File Location: j:\43444 gravity\cad\ref 2025\dwg\43444-2025-101-103 & 111-114 & 121 - ves layout plans.dwg





- NOTES:
1. THE LAYOUT IS SUBJECT TO DETAILED DESIGN, GROUND INVESTIGATIONS RESULTS & EARTHWORKS MODELLING, UTILITIES & SERVICES AND CONFIRMATION OF LAND OWNERSHIP;
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- KEY
- PROPOSED TACTILE PAVING
  - PROPOSED RAISED TABLE RAMPS
  - HIGHWAY BOUNDARY AREA
  - PROPOSED FLAT-TOP ROAD HUMP CROSSING/RAISED TABLE JUNCTION
  - PROPOSED CONTRASTING SURFACE COLOUR
  - PROPOSED AREA OF NO-DIG CONSTRUCTION (SEE INSET 1)

D	REVISED FOR PLANNING	26.06.20	ET	RAS	RAS
C	REVISED FOLLOWING DISCUSSIONS WITH SCC & SDC	18.05.20	LB	SH	RAS
B	REVISED FOLLOWING PUBLIC CONSULTATION	01.04.20	LB	SH	RAS
A	REVISED FOLLOWING CONSULTATION WITH PARISH COUNCILS	20.03.20	TM	LB	RAS
Mark	Revision	Date	Drawn	Chkd	Appd

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Drawing Issue Status

FOR PLANNING

GRAVITY

VILLAGE ENHANCEMENT SCHEME

PURITON VILLAGE

Client

Gravity

Stantec

stantec.com/uk

Date of 1st Issue  
24.01.2020

Designed  
LB

Drawn  
ARL

A1 Scale  
1:500

Checked  
LB

Approved  
PC

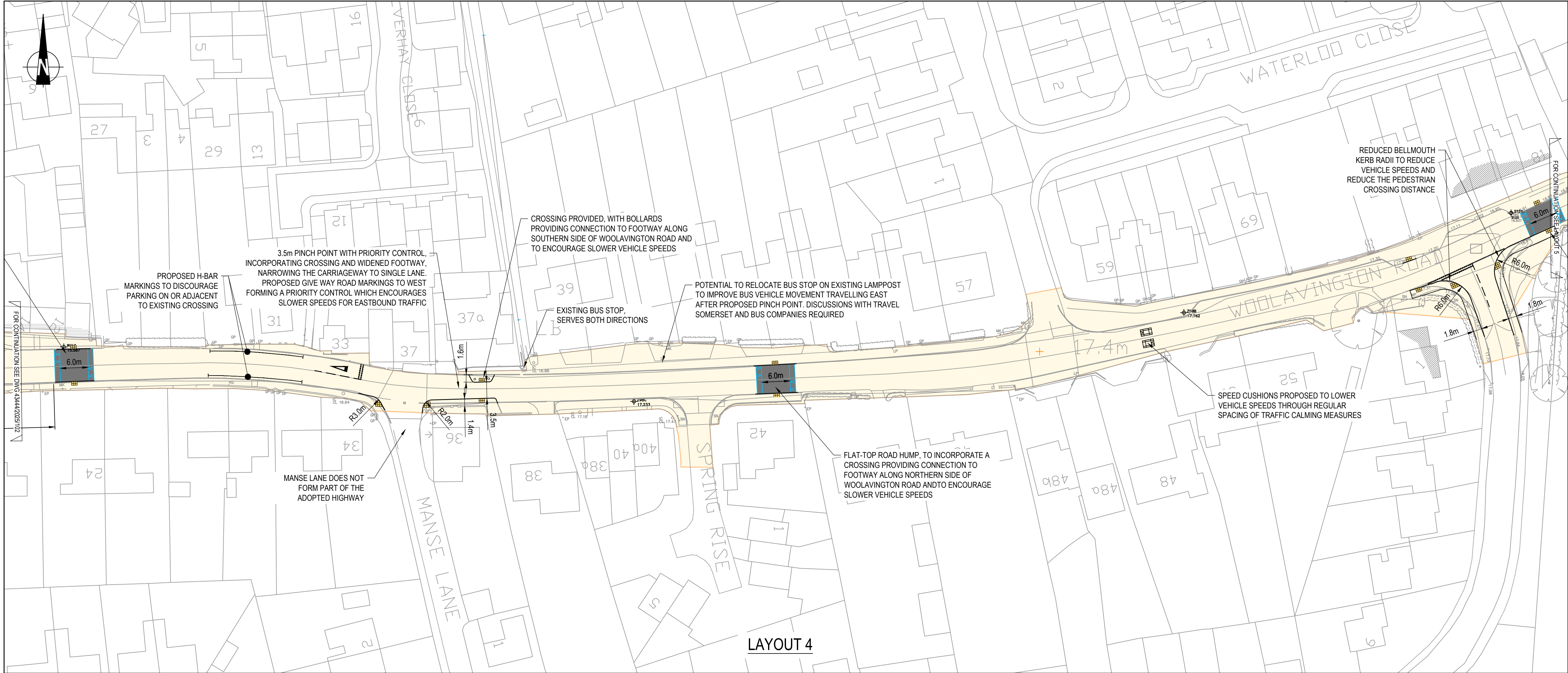
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Revision  
D

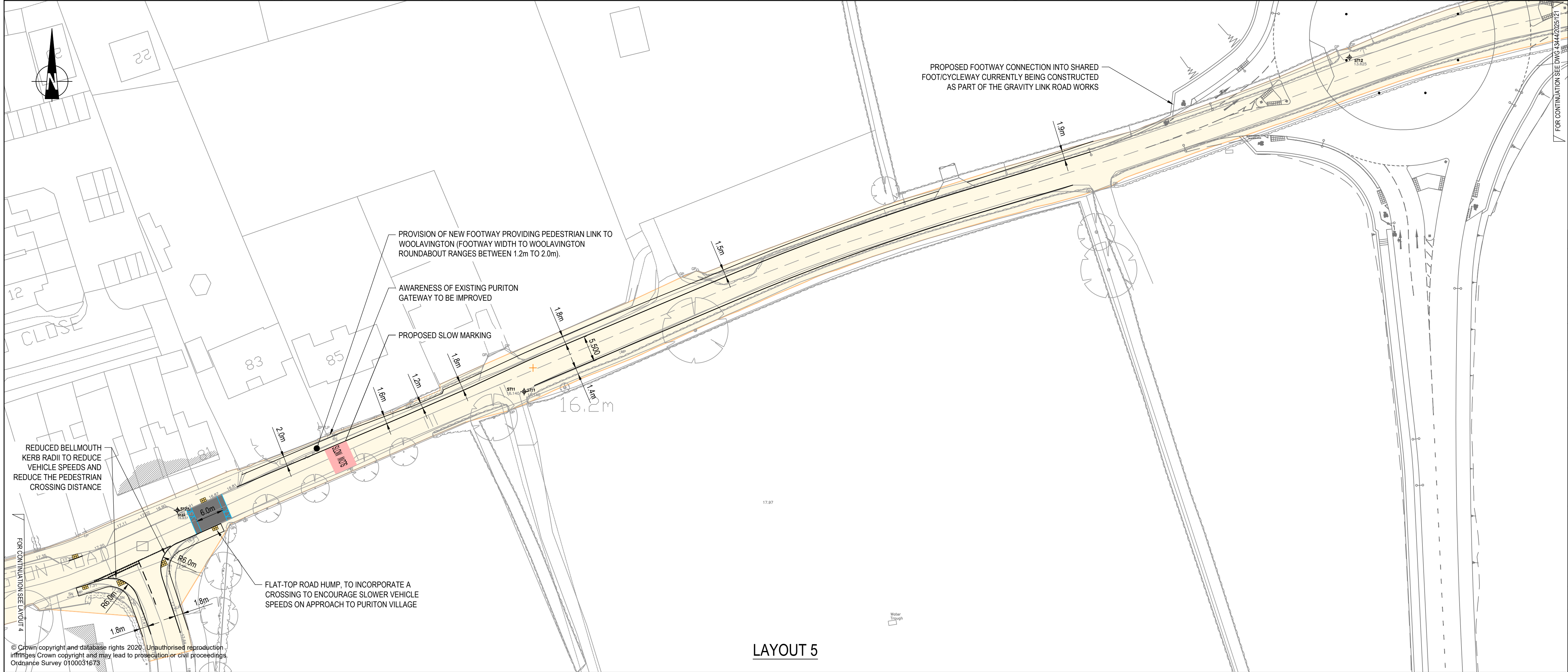
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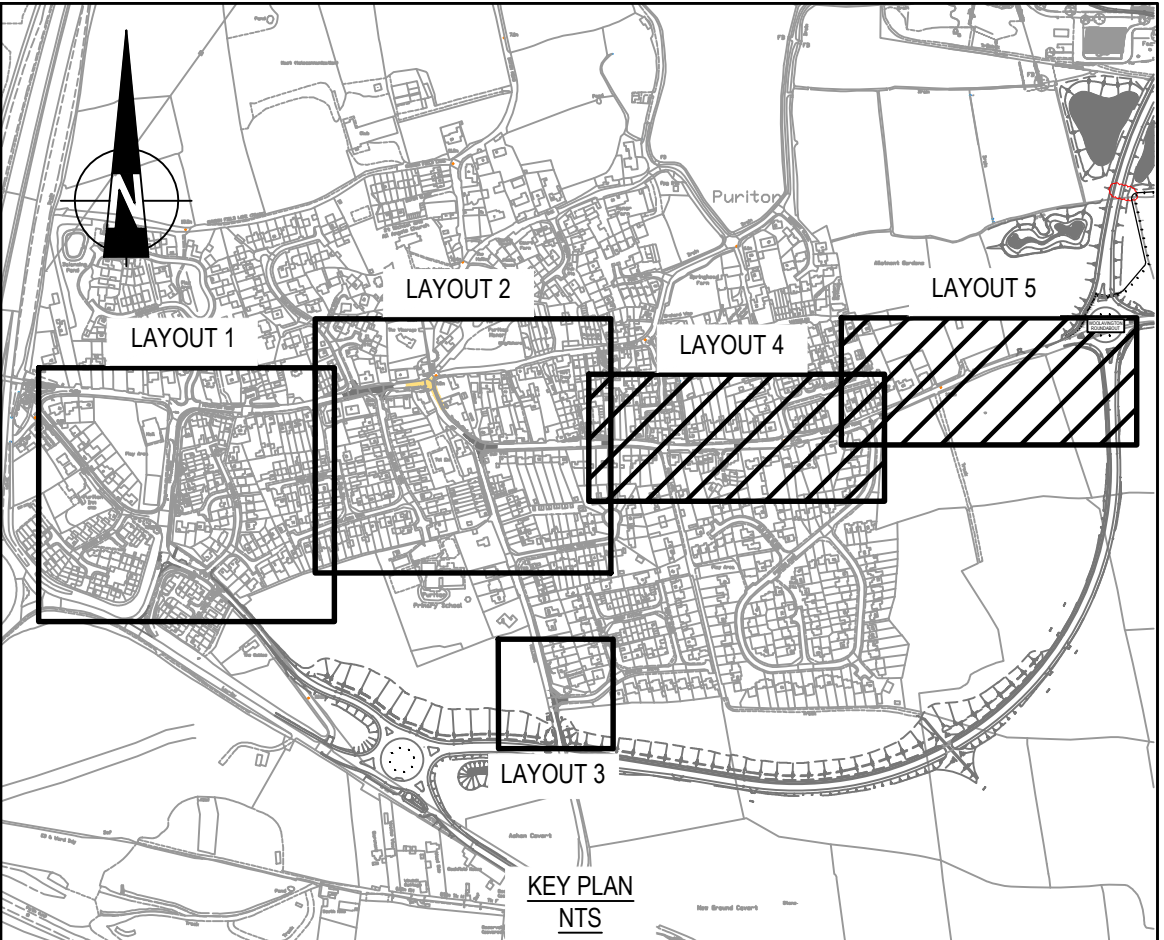




LAYOUT 4



LAYOUT 5





D	REVISED FOR PLANNING	26.06.20	ET	RAS	RAS
C	REVISED FOLLOWING DISCUSSIONS WITH SCC & SDC	18.05.20	LB	SH	RAS
B	REVISED FOLLOWING PUBLIC CONSULTATION	01.04.20	LB	SH	RAS
A	REVISED FOLLOWING CONSULTATION WITH PARISH COUNCILS	20.03.20	TM	LB	RAS
Mark	Revision	Date	Drawn	Chkd	Appd

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Drawing Issue Status  
**FOR PLANNING**

**GRAVITY**  
**VILLAGE ENHANCEMENT SCHEME**  
**PURITON VILLAGE**

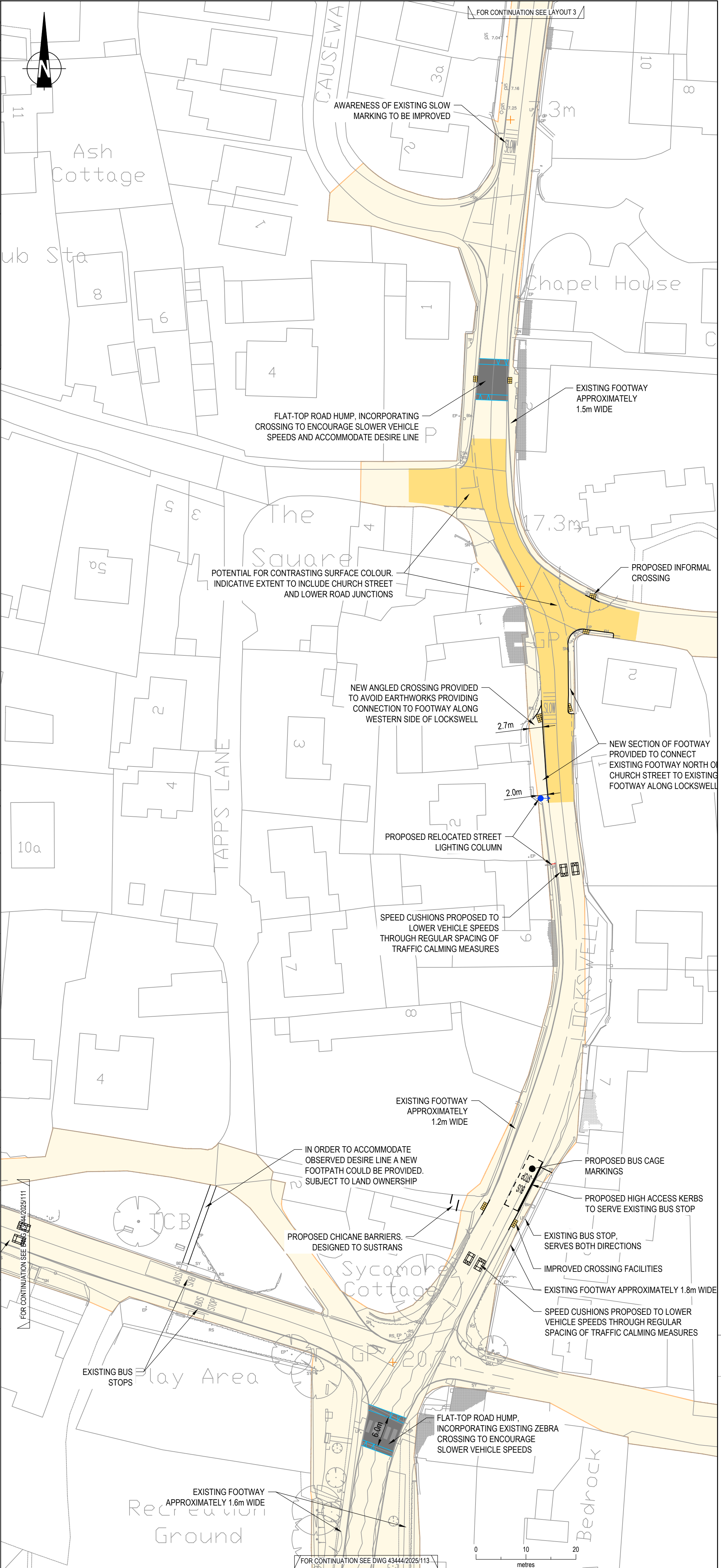
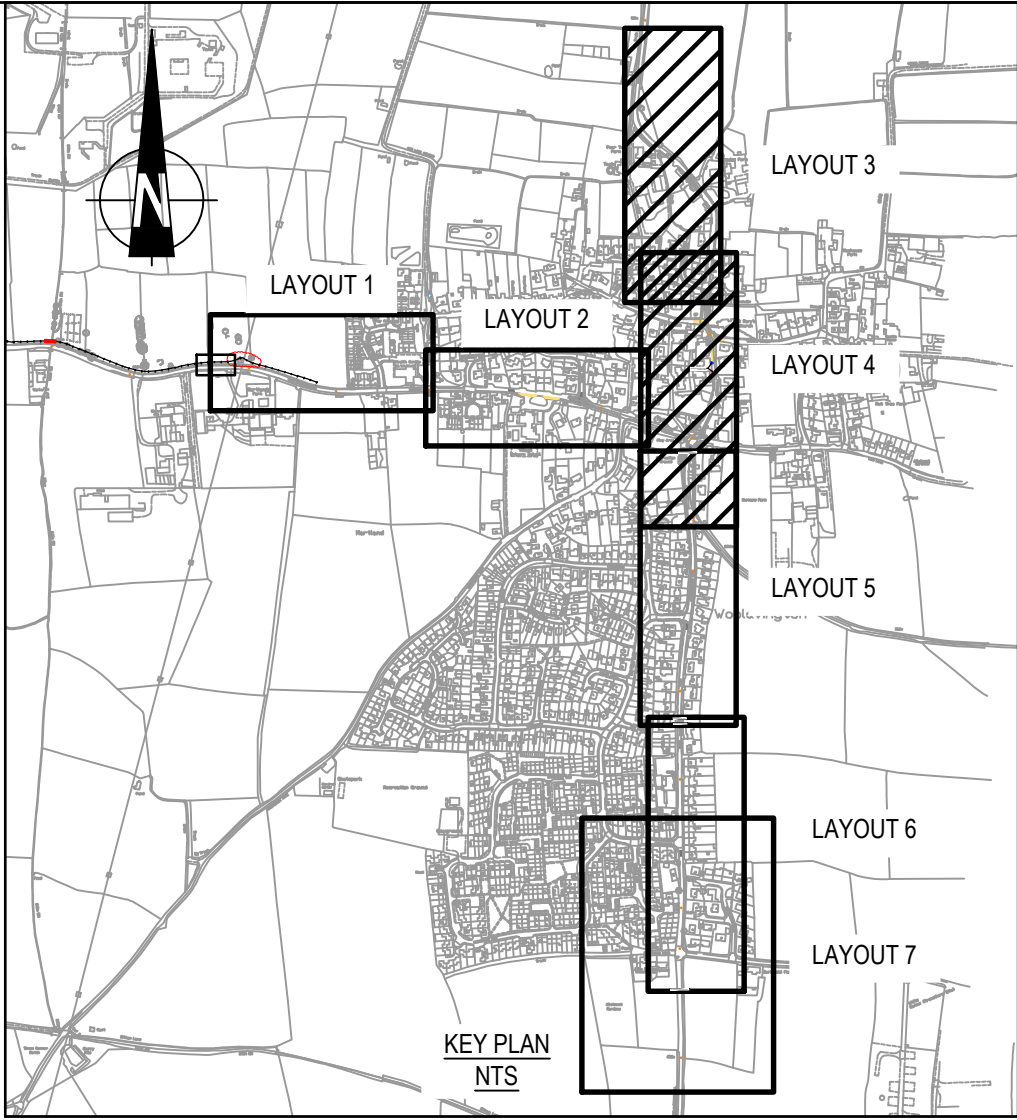
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Date of 1st Issue					Designed	Drawn
A1 Scale					Checked	Approved
Drawing Number					Revision	
43444/2025/103			D			

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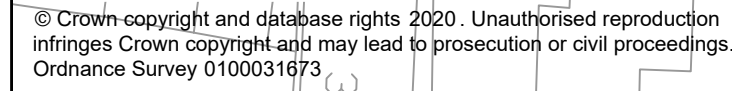
Drawing Issue Status
FOR APPROVAL

GRAVITY

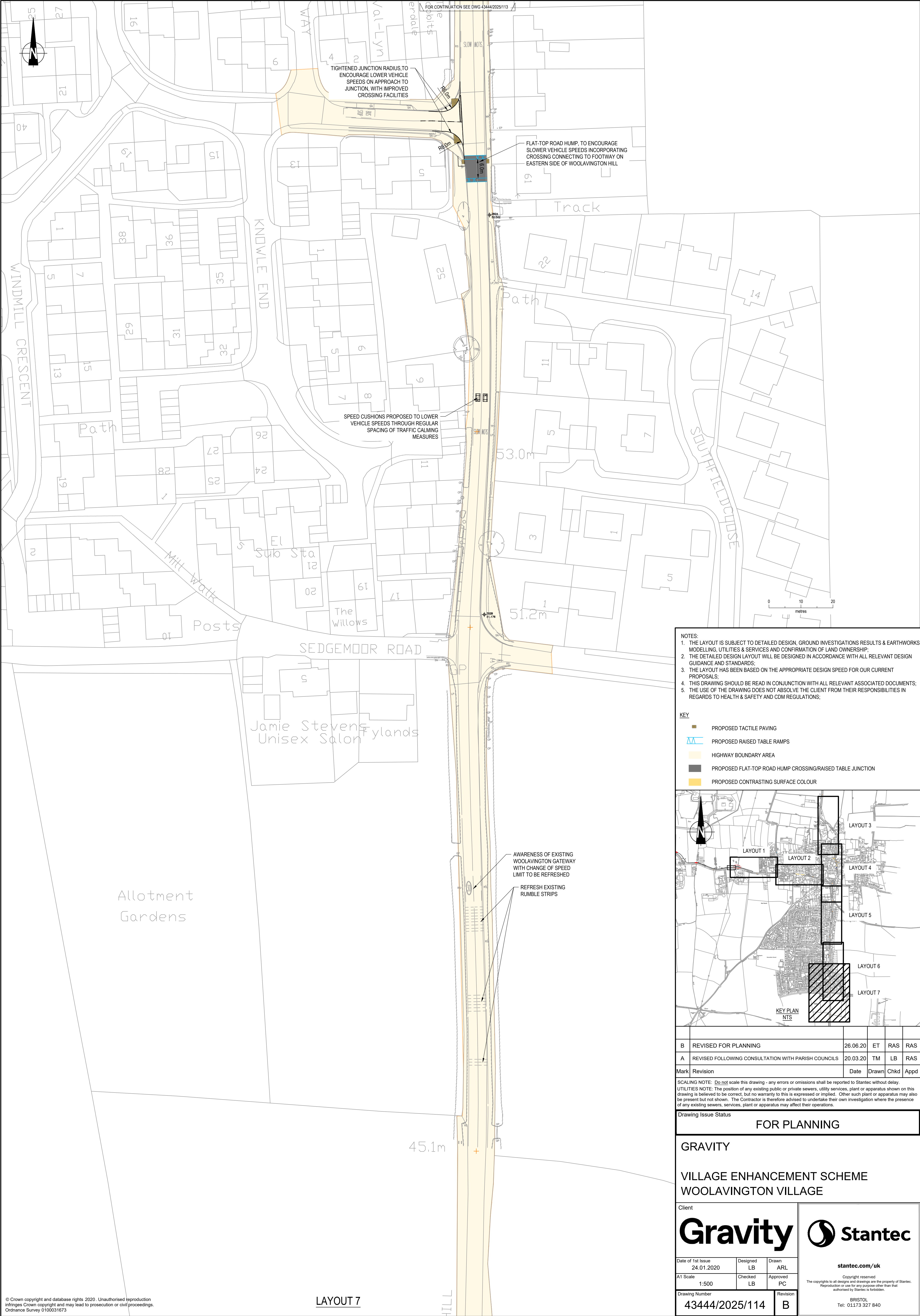
VILLAGE ENHANCEMENT SCHEME  
WOOLAVINGTON VILLAGE

Client		 	
Date of 1st Issue 24.01.2020		Designed LB	Drawn ARL
A1 Scale 1:500	Checked LB	Approved PC	
Drawing Number 43444/2025/112		Revision D	



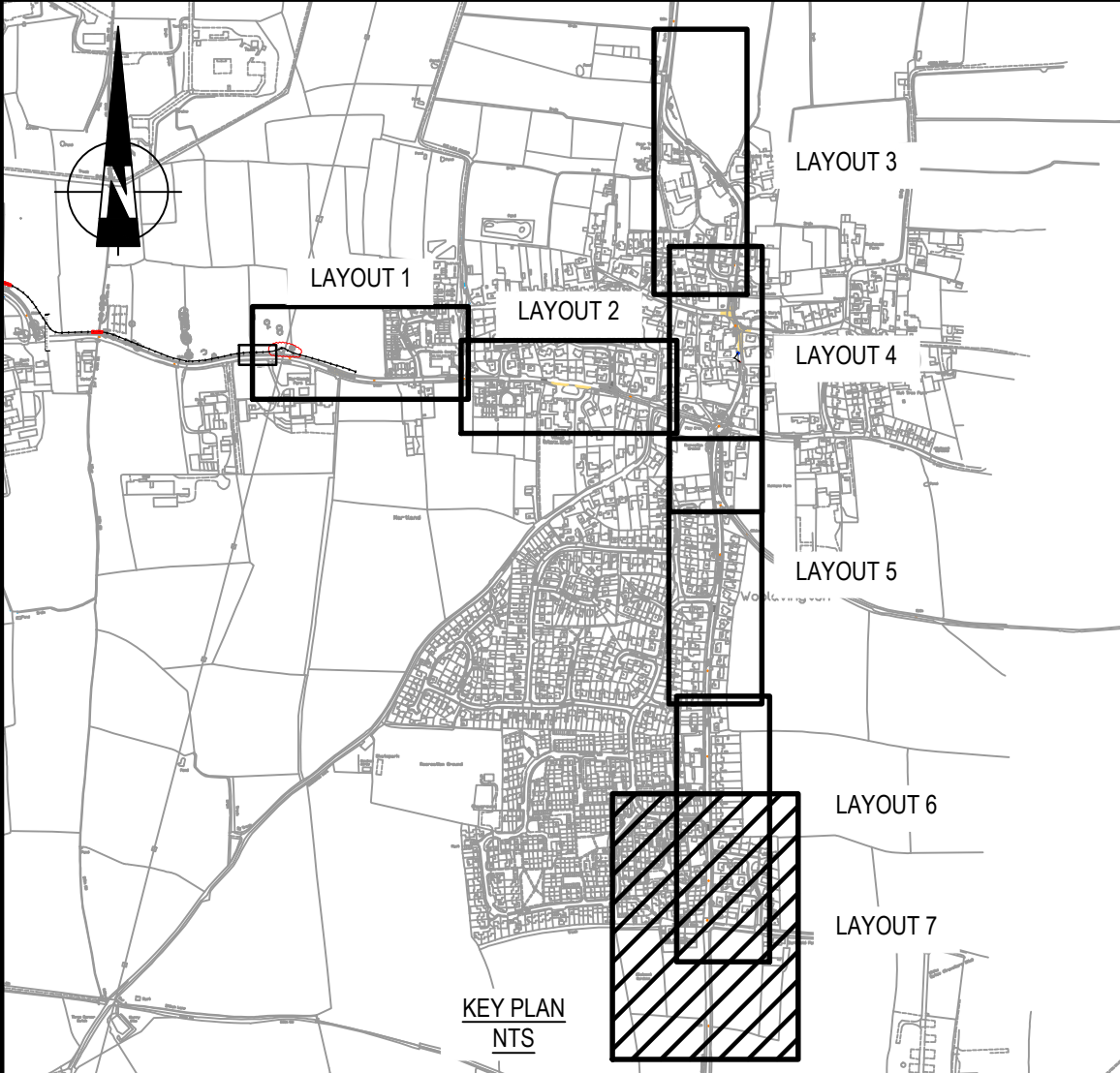






- NOTES:
1. THE LAYOUT IS SUBJECT TO DETAILED DESIGN, GROUND INVESTIGATIONS RESULTS & EARTHWORKS MODELLING, UTILITIES & SERVICES AND CONFIRMATION OF LAND OWNERSHIP;
  2. THE DETAILED DESIGN LAYOUT WILL BE DESIGNED IN ACCORDANCE WITH ALL RELEVANT DESIGN GUIDANCE AND STANDARDS;
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KEY	
	PROPOSED TACTILE PAVING
	PROPOSED RAISED TABLE RAMPS
	HIGHWAY BOUNDARY AREA
	PROPOSED FLAT-TOP ROAD HUMPS CROSSING RAISED TABLE JUNCTION
	PROPOSED CONTRASTING SURFACE COLOUR



Mark	Revision	Date	Drawn	Chkd	Appd
B	REVISED FOR PLANNING	26.06.20	ET	RAS	RAS
A	REVISED FOLLOWING CONSULTATION WITH PARISH COUNCILS	20.03.20	TM	LB	RAS

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Drawing Issue Status

FOR PLANNING

GRAVITY

VILLAGE ENHANCEMENT SCHEME

WOOLAVINGTON VILLAGE

Client

Date of 1st Issue  
24.01.2020

Designed  
LB

Drawn  
ARL

A1 Scale  
1:500

Checked  
LB

Approved  
PC

Drawing Number  
43444/2025/114

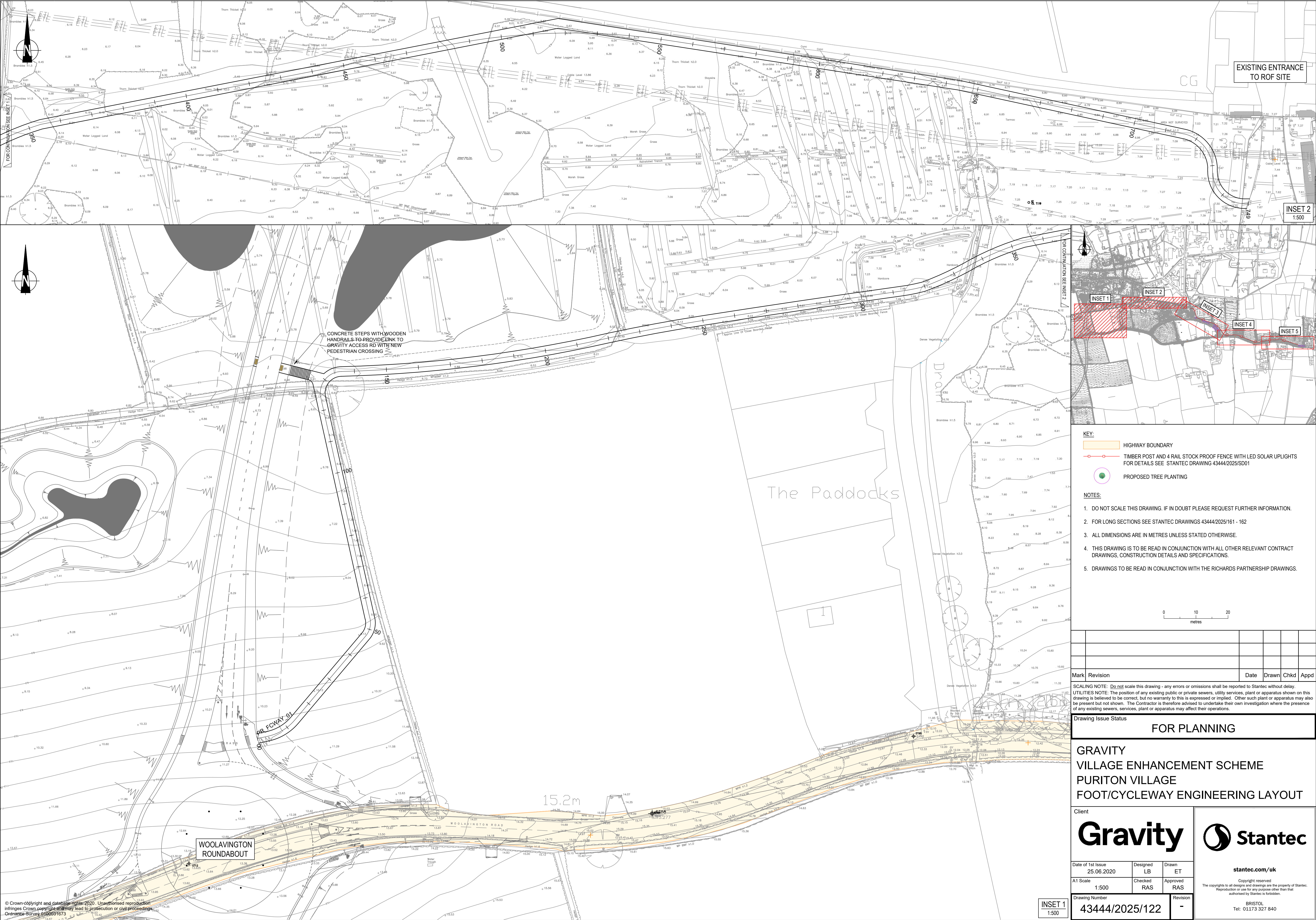
Revision  
B

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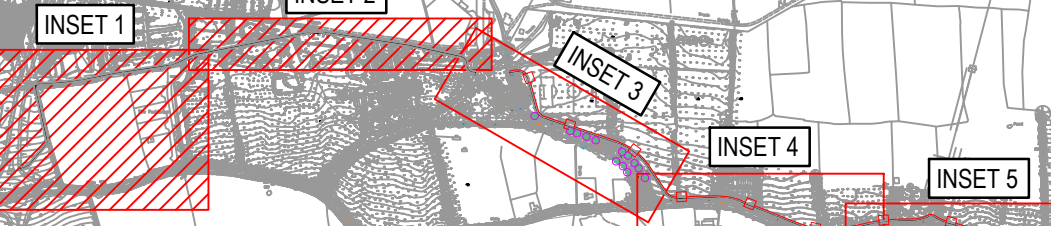
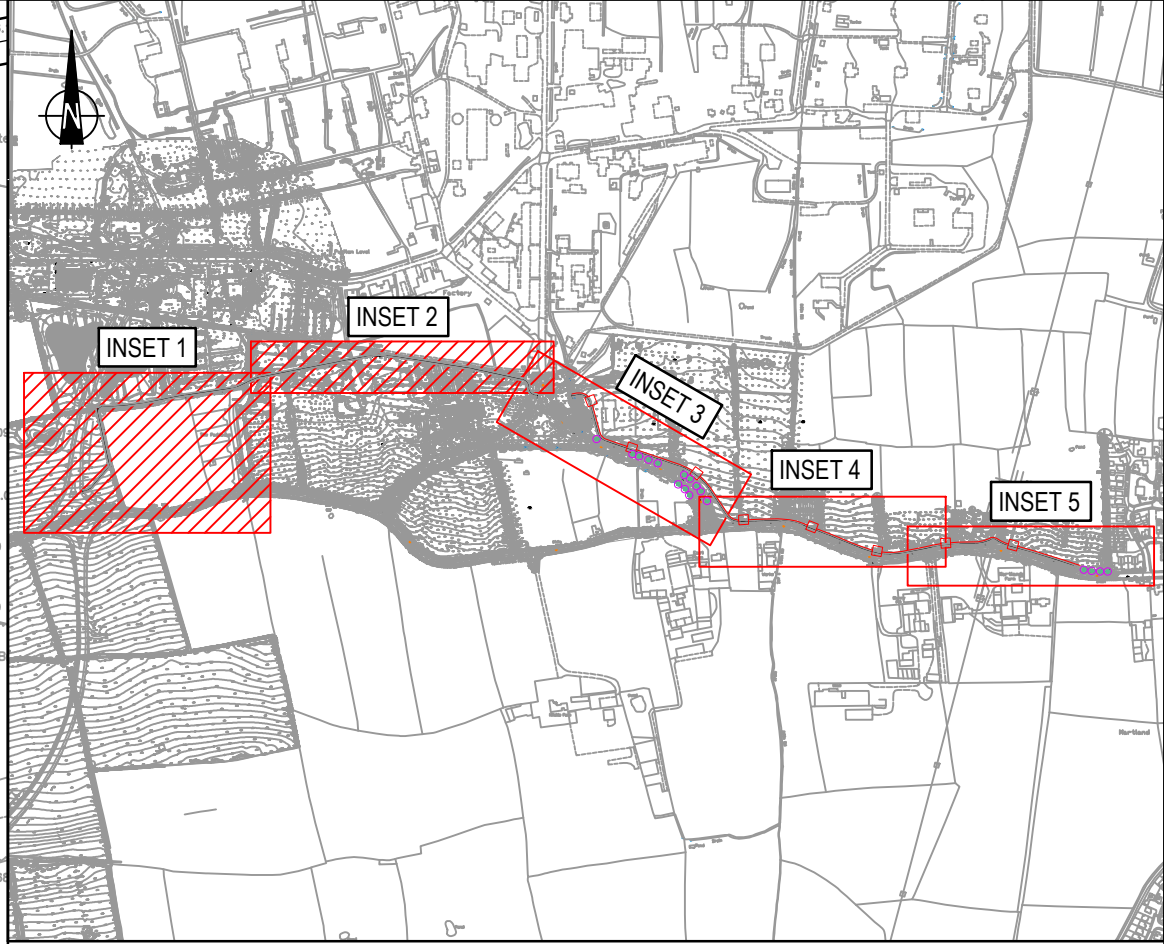
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Tel: 01173 327 840





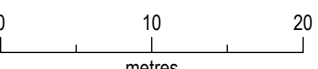
EXISTING ENTRANCE  
TO ROF SITE

INSET 2  
1:500



- KEY:**
- HIGHWAY BOUNDARY
  - TIMBER POST AND 4 RAIL STOCK PROOF FENCE WITH LED SOLAR UPLIGHTS  
FOR DETAILS SEE STANTEC DRAWING 43444/2025/SD01
  - PROPOSED TREE PLANTING

- NOTES:**
- DO NOT SCALE THIS DRAWING. IF IN DOUBT PLEASE REQUEST FURTHER INFORMATION.
  - FOR LONG SECTIONS SEE STANTEC DRAWINGS 43444/2025/161 - 162
  - ALL DIMENSIONS ARE IN METRES UNLESS STATED OTHERWISE.
  - THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT CONTRACT DRAWINGS, CONSTRUCTION DETAILS AND SPECIFICATIONS.
  - DRAWINGS TO BE READ IN CONJUNCTION WITH THE RICHARDS PARTNERSHIP DRAWINGS.



Mark	Revision	Date	Drawn	Chkd	Appd
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Drawing Issue Status  
**FOR PLANNING**

## GRAVITY VILLAGE ENHANCEMENT SCHEME PURITON VILLAGE FOOT/CYCLEWAY ENGINEERING LAYOUT

Client

Date of 1st Issue  
25.06.2020

Designed  
LB

Drawn  
ET

A1 Scale  
1:500

Checked  
RAS

Approved  
RAS

Drawing Number  
43444/2025/122

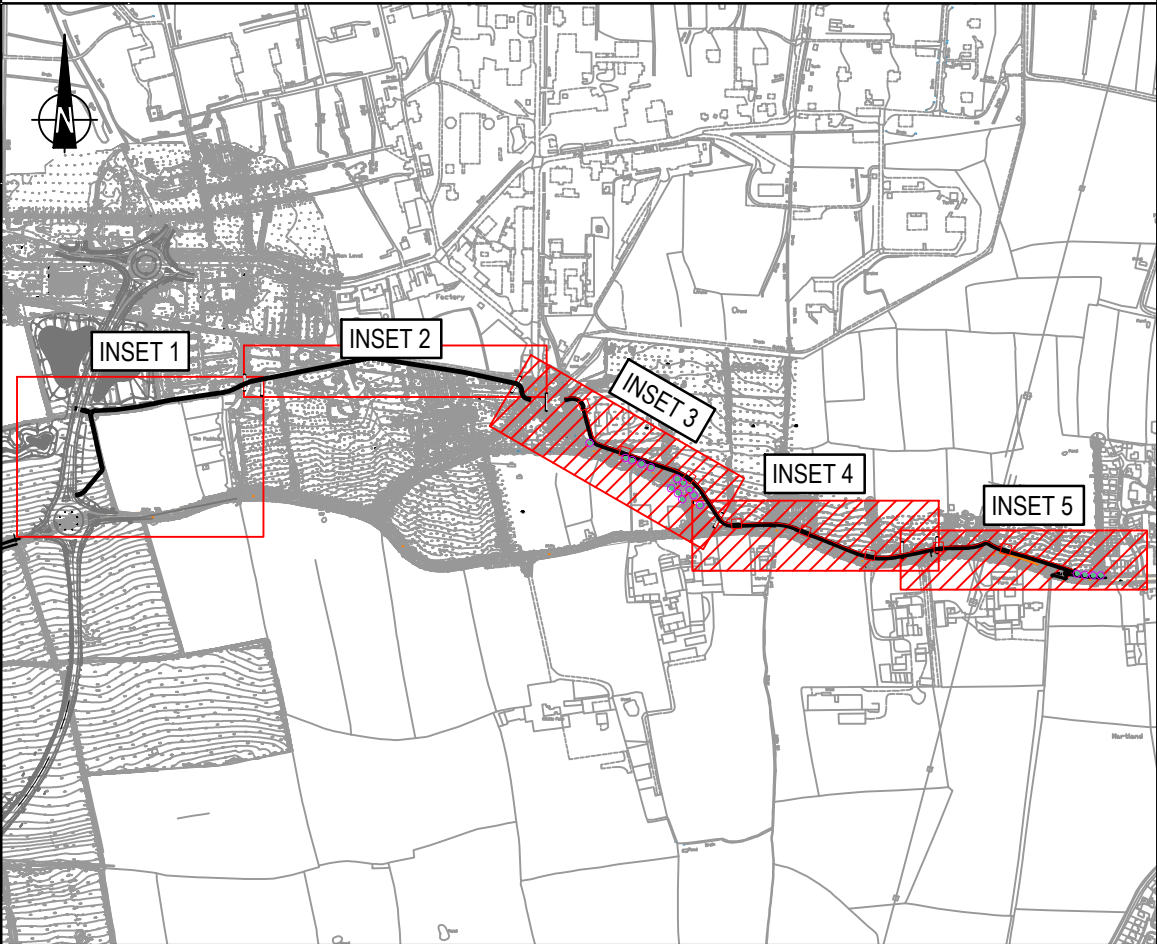
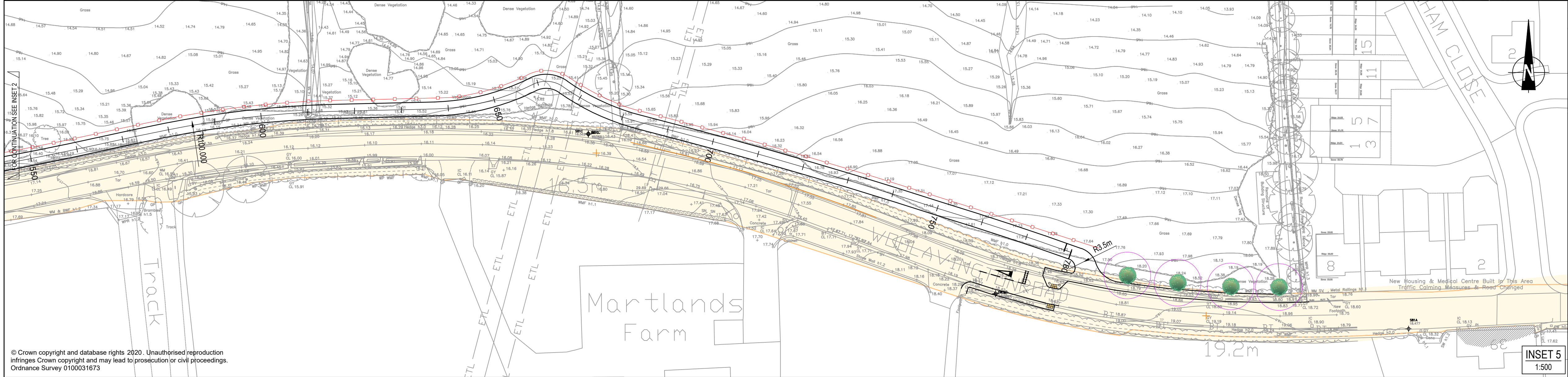
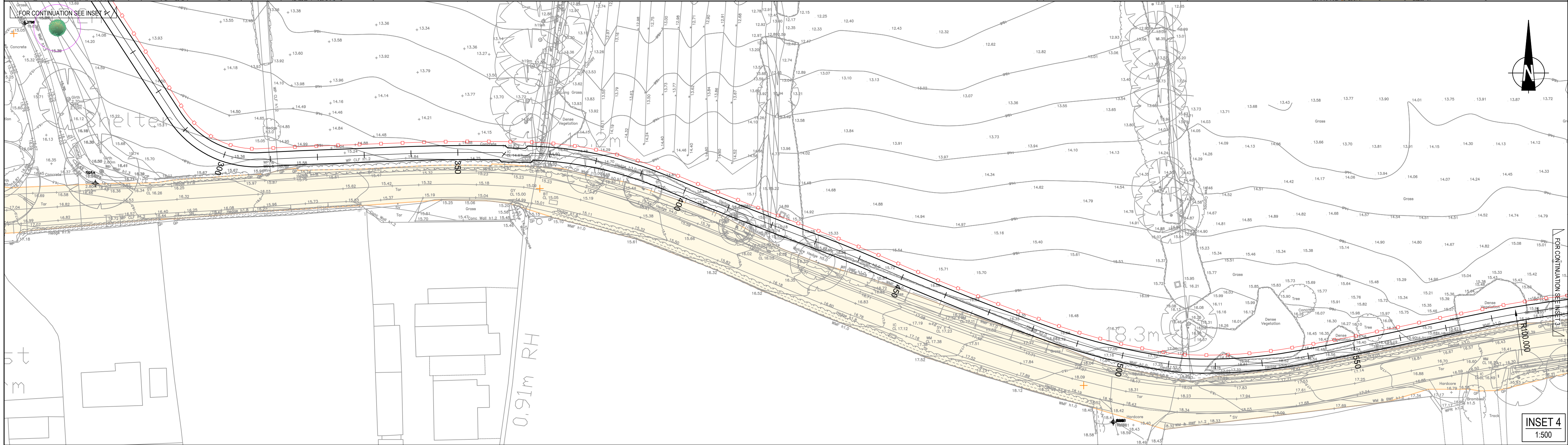
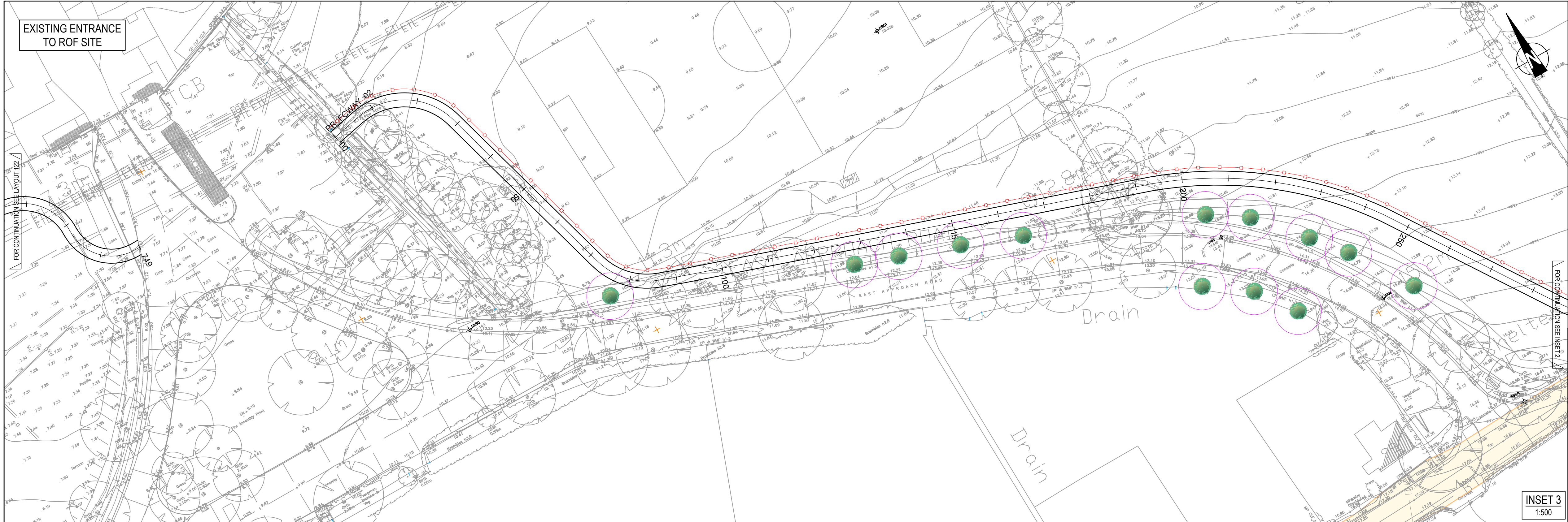
Revision  
-

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BRISTOL  
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- KEY:**
- HIGHWAY BOUNDARY
  - TIMBER POST AND 4 RAIL STOCK PROOF FENCE WITH LED SOLAR UPLIGHTS FOR DETAILS SEE STANTEC DRAWING 43444/2025/SD01
  - PROPOSED TREE PLANTING

- NOTES:**
- DO NOT SCALE THIS DRAWING. IF IN DOUBT PLEASE REQUEST FURTHER INFORMATION.
  - FOR LONG SECTIONS SEE STANTEC DRAWINGS 43444/2025/161 - 162
  - ALL DIMENSIONS ARE IN METRES UNLESS STATED OTHERWISE.
  - THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT CONTRACT DRAWINGS, CONSTRUCTION DETAILS AND SPECIFICATIONS.
  - DRAWINGS TO BE READ IN CONJUNCTION WITH THE RICHARDS PARTNERSHIP DRAWINGS.



0 10 20  
metres

Mark	Revision	Date	Drawn	Chkd	Appd
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SCALING NOTE: Do not scale this drawing - any errors or omissions shall be reported to Stantec without delay.  
UTILITIES NOTE: The position of any existing public or private sewers, utility services, plant or apparatus shown on this drawing is believed to be correct, but no warranty to this is expressed or implied. Other such plant or apparatus may also be present but not shown. The Contractor is therefore advised to undertake their own investigation where the presence of any existing sewers, services, plant or apparatus may affect their operations.

Drawing Issue Status  
**FOR PLANNING**

**GRAVITY  
VILLAGE ENHANCEMENT SCHEME  
WOOLAVINGTON VILLAGE  
FOOT/CYCLEWAY ENGINEERING LAYOUT**

Client						
Date of 1st Issue 25.06.2020		Designed LB	Drawn ET			
A1 Scale 1:500		Checked RAS	Approved RAS			
Drawing Number 43444/2025/123			Revision -			

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★ **FLAT TOP ROAD HUMP**

FLAT TOP ROAD HUMPS ARE SIMILAR TO SPEED HUMPS BUT HAVE A FLAT TOP AND SPAN A GREATER LENGTH. THEY OFTEN INCORPORATE CROSSING POINTS FOR PEDESTRIANS AND/OR CYCLISTS.



★ **SPEED CUSHIONS**

SPEED CUSHIONS ARE A SMALL RAISED SECTION ON THE ROAD. 'WHEEL CUTOUTS' ALLOW LARGE VEHICLES TO PASS UNAFFECTED (SUCH AS BUSES), BUT SMALLER VEHICLES (I.E. CARS) MUST REDUCE SPEEDS.



★ **PINCH POINTS**

THIS IS WHERE THE WIDTH OF THE ROAD IS REDUCED SO THAT TRAFFIC CAN ONLY PASS THROUGH THE FEATURE IN ONE DIRECTION AT A TIME.



★ **GATEWAY FEATURE**

A GATEWAY FEATURE IS A VISUAL FORM OF ENTRANCE AND ARE USED TO DRAW THE DRIVER'S ATTENTION TO A SIGNIFICANT CHANGE IN THE ROAD ENVIRONMENT.



★ **RAISED TABLE JUNCTIONS**



RAISED TABLE JUNCTIONS ARE SIMILAR TO ROAD HUMPS BUT HAVE A FLAT TOP AND ARE LONGER. THEY OFTEN INCORPORATE CROSSING POINTS FOR PEDESTRIANS AND/OR CYCLISTS.

Mark	Revision	Date	Drawn	Chkd	Appd
A	REVISED FOLLOWING LAYOUT AMENDMENTS	24.06.20	ET	RAS	RAS

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Drawing Issue Status  
**FOR INFORMATION**

**GRAVITY**  
**VILLAGE ENHANCEMENT SCHEME**  
**PURITON**  
**TRAFFIC CALMING LOCATIONS**

Client			 	
Date of 1st Issue 11.03.2020			Designed LB	Drawn LB
A1 Scale 1:1250	Checked RAS	Approved SH	<p><b>stantec.com/uk</b></p> <p>Copyright reserved The copyrights to all designs and drawings are the property of Stantec. Reproduction or use for any purpose other than that authorised by Stantec is forbidden.</p> <p><b>BRISTOL</b> Tel: 01173 327 840</p>	
Drawing Number 43444/2025/SK01		Revision A		





★ **FLAT TOP ROAD HUMP**

FLAT TOP ROAD HUMPS ARE SIMILAR TO SPEED HUMPS BUT HAVE A FLAT TOP AND SPAN A GREATER LENGTH. THEY OFTEN INCORPORATE CROSSING POINTS FOR PEDESTRIANS AND/OR CYCLISTS.



★ **GATEWAY FEATURE**

A GATEWAY FEATURE IS A VISUAL FORM OF ENTRANCE AND ARE USED TO DRAW THE DRIVER'S ATTENTION TO A SIGNIFICANT CHANGE IN THE ROAD ENVIRONMENT.



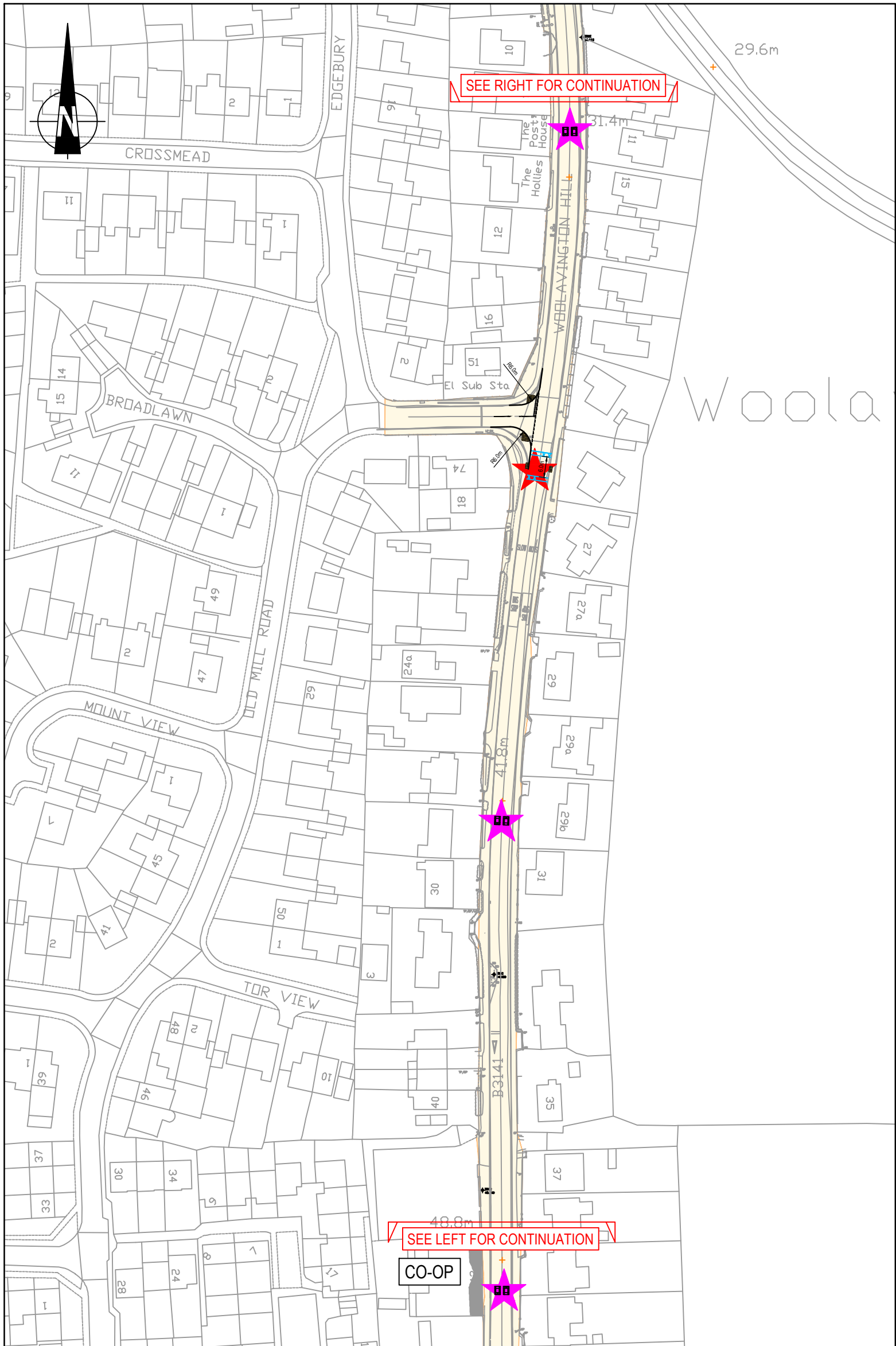
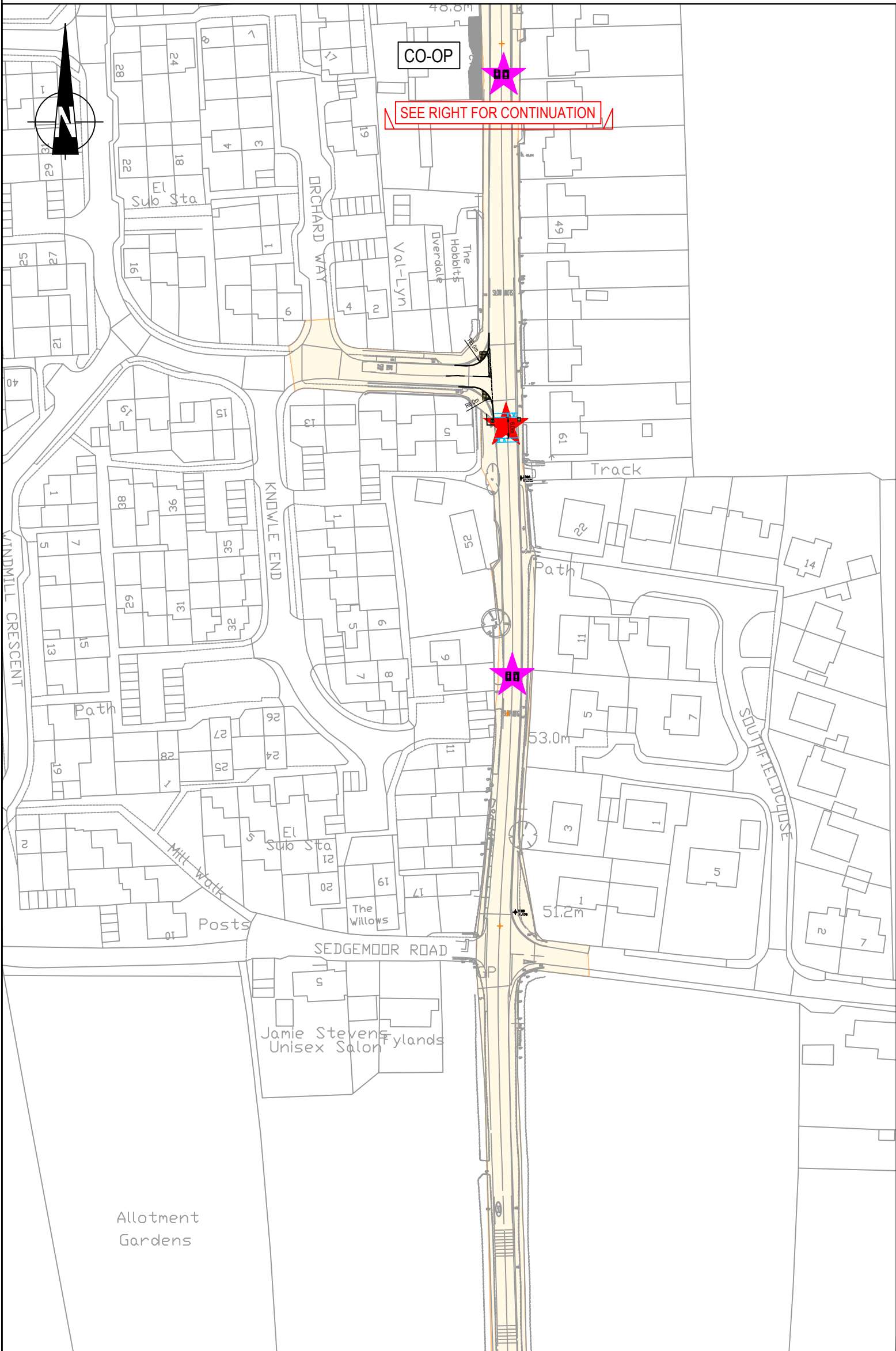
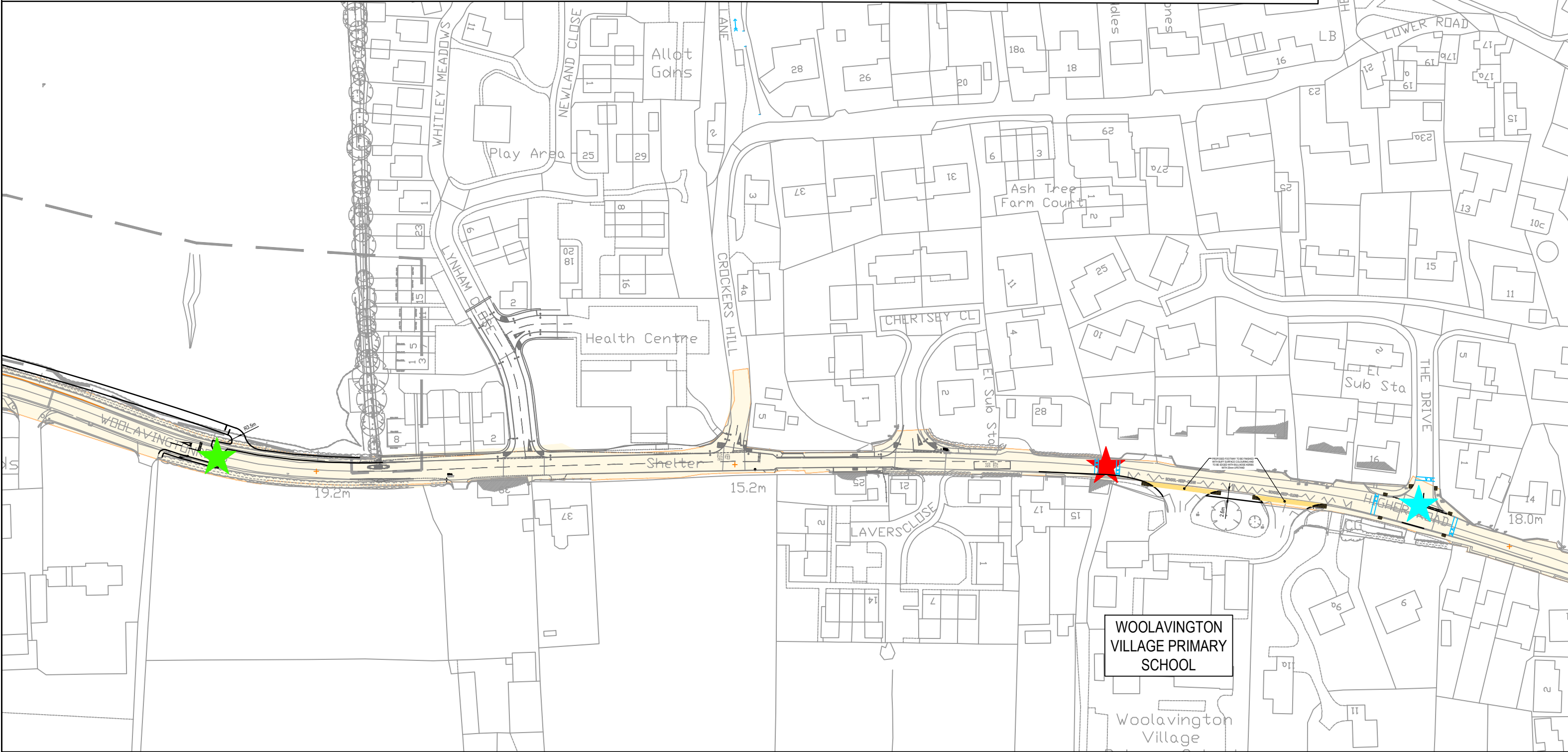
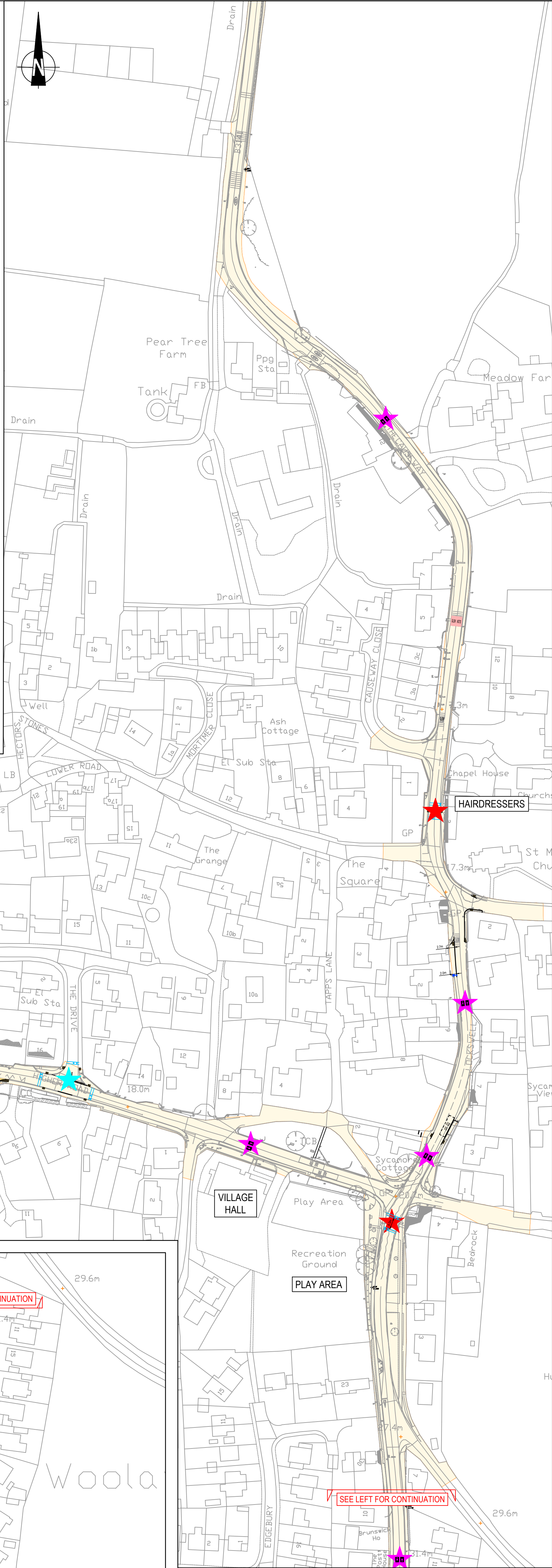
★ **SPEED CUSHIONS**


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★ **RAISED TABLE JUNCTIONS**

RAISED TABLE JUNCTIONS ARE SIMILAR TO ROAD HUMPS BUT HAVE A FLAT TOP AND ARE LONGER. THEY OFTEN INCORPORATE CROSSING POINTS FOR PEDESTRIANS AND/OR CYCLISTS.

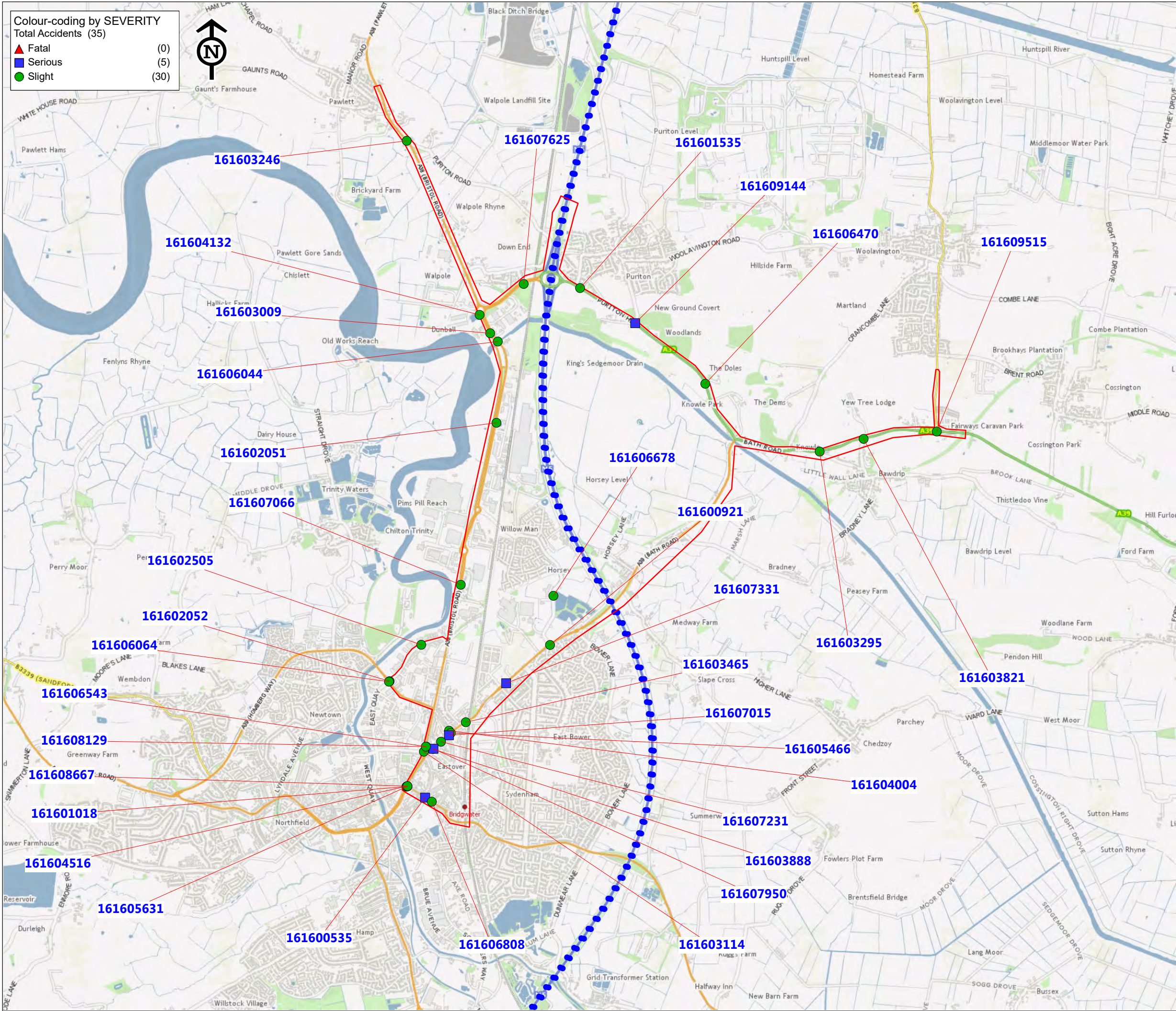


A	REVISED FOLLOWING LAYOUT AMENDMENTS	26.06.20	ET	RAS	RAS
Mark	Revision	Date	Drawn	Chkd	Appd
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Drawing Issue Status					
FOR INFORMATION					
GRAVITY VILLAGE ENHANCEMENT SCHEME WOOLAVINGTON TRAFFIC CALMING LOCATIONS					
Client					
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## **Appendix G    PIC Data from SCC**





# Bridgwater

Collisions  
between  
01/01/2016  
and  
31/12/2016

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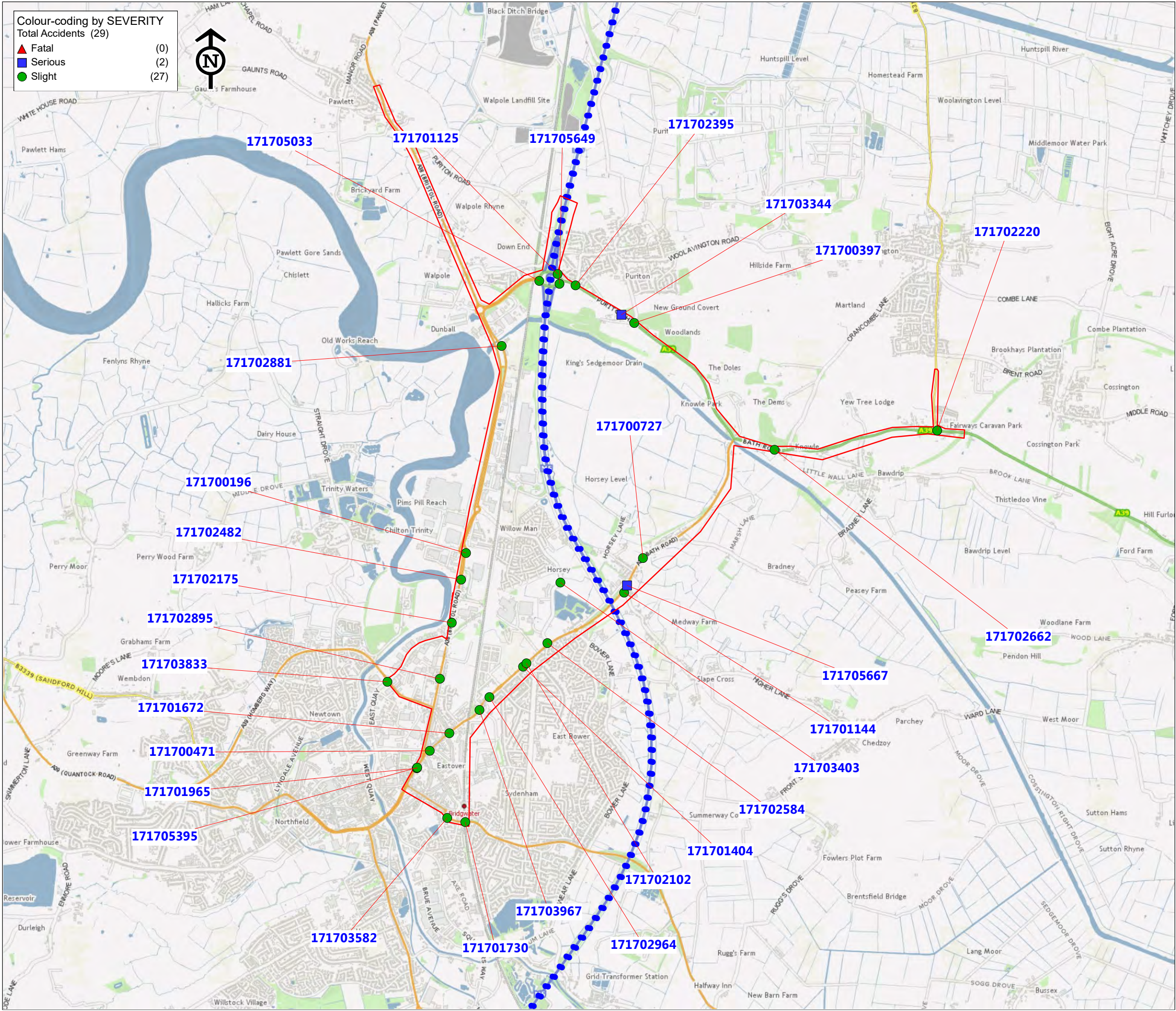
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SCALE	1 : 30000
DATE	13/08/2021
DRAWING No.	0019A/2021
DRAWN BY	M.P.D
CHECKED BY	D.H





# Bridgwater

Collisions  
between  
01/01/2017  
and  
30/06/2017

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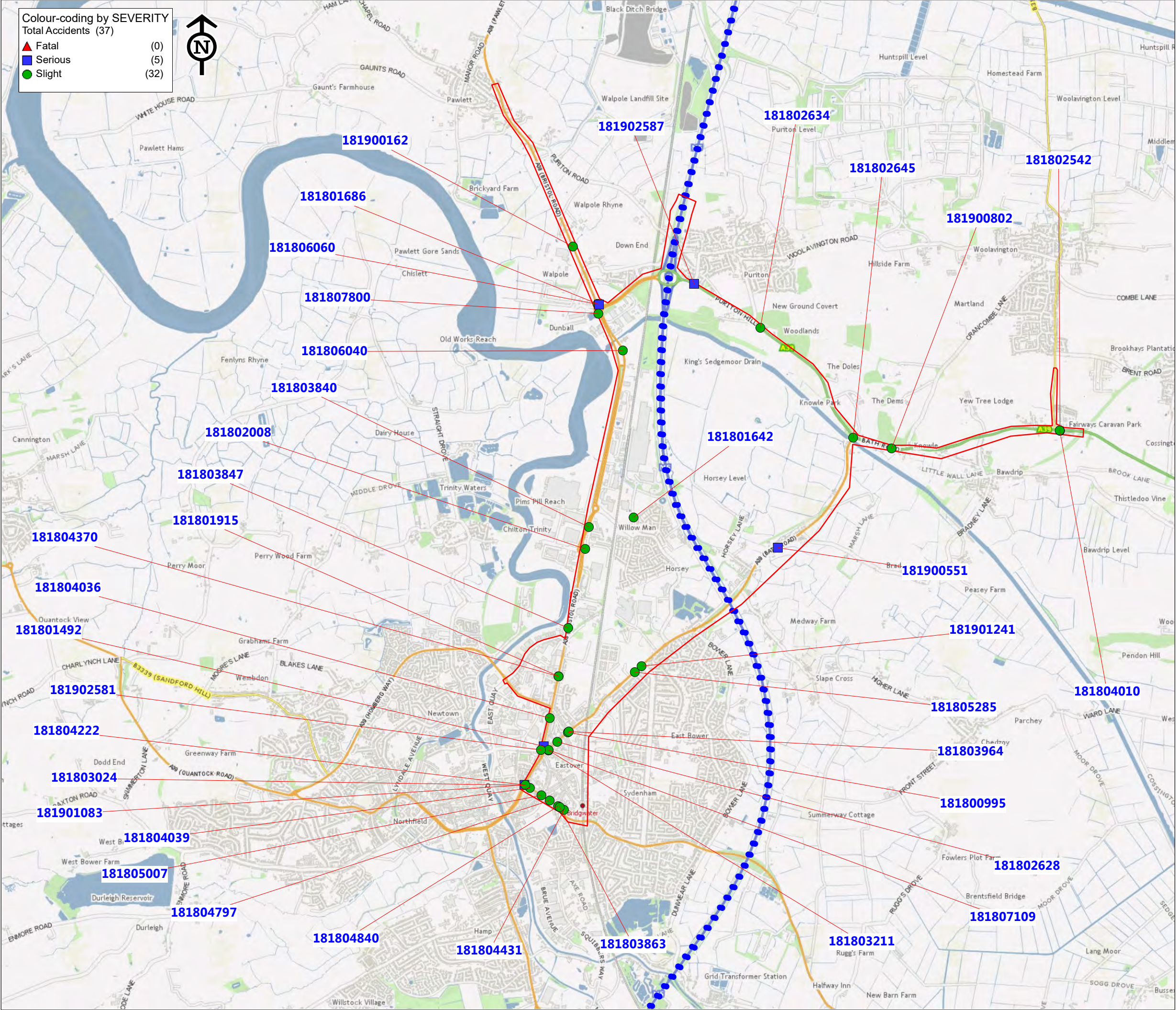


SCALE	1 : 30000
DATE	13/08/2021
DRAWING No.	0019B/2021
DRAWN BY	M.P.D
CHECKED BY	D.H









# Bridgwater

Collisions  
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31/12/2018

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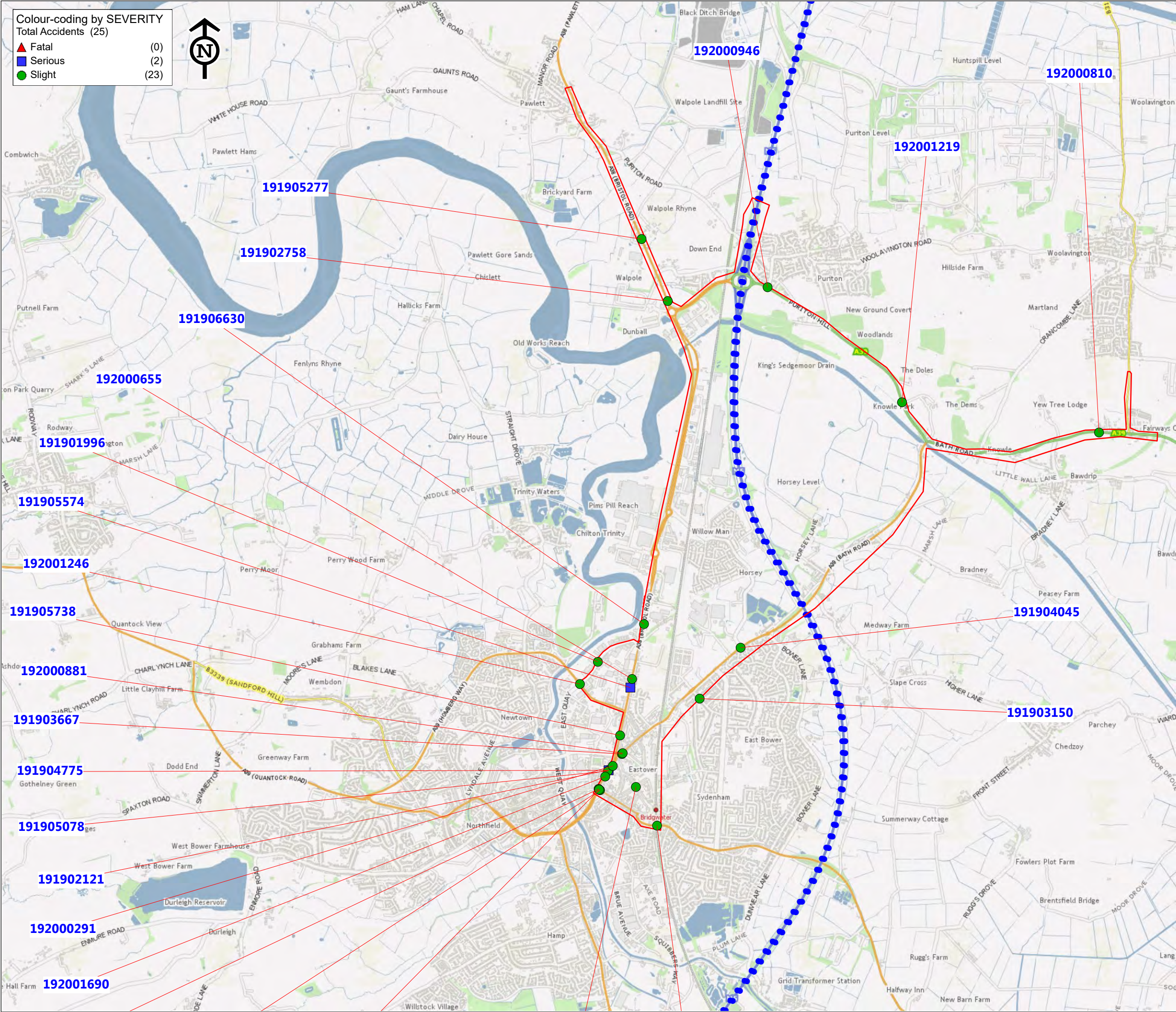
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DRAWING No.	0019D/2021
DRAWN BY	M.P.D
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# Bridgwater

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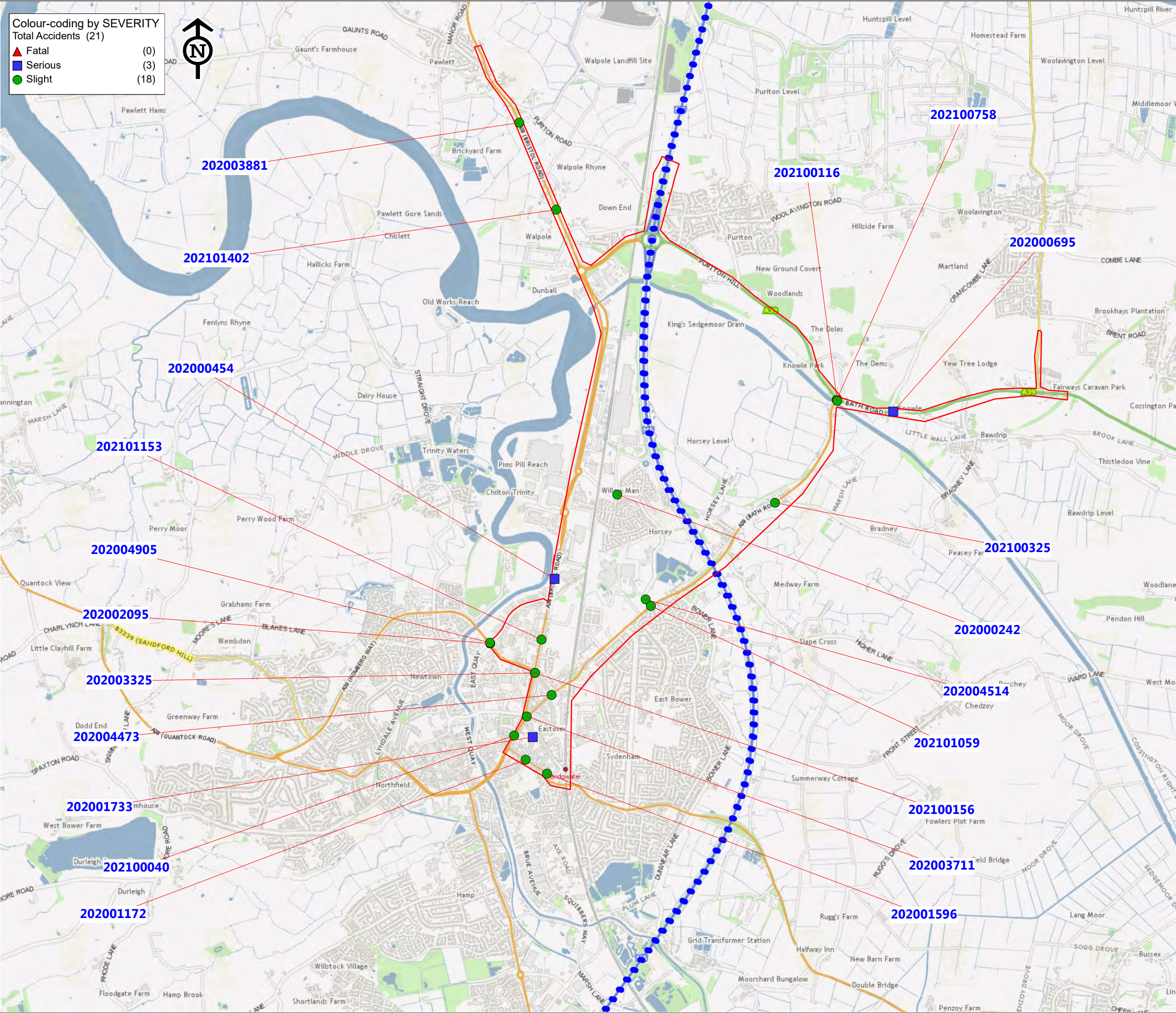
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DRAWN BY	M.P.D
CHECKED BY	D.H





# Bridgwater

Collisions  
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and  
31/12/2020

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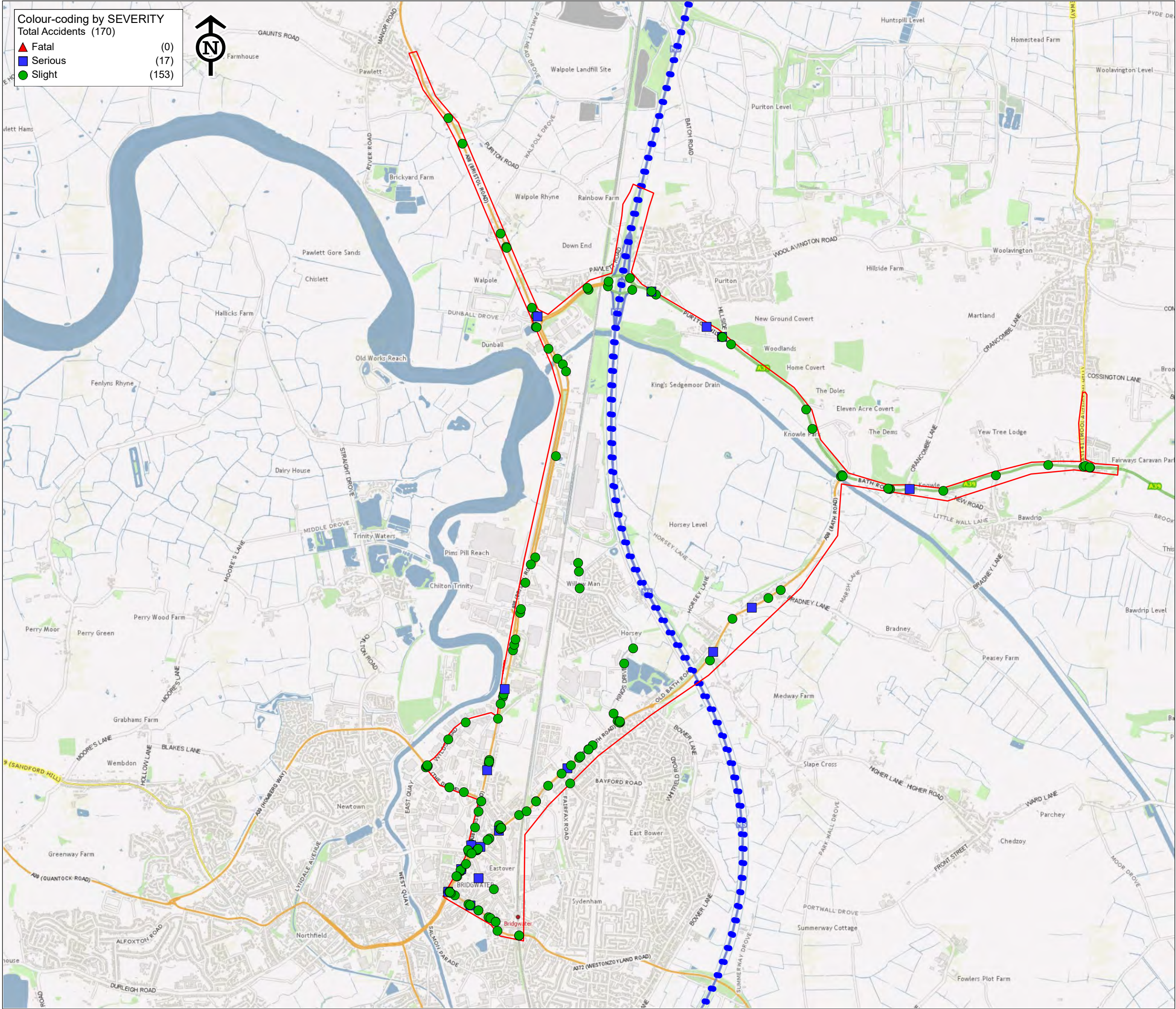
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DRAWING No.	0019F/2021
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Bridgwater

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31/12/2020

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CHECKED BY	D.H



## AccsMap - Collision Analysis System

Collisions between dates 01/01/2016 and 31/12/2020 (60) months

## Selection:

Selected using Manual Selection

## Notes:

Bridgwater

161600535 24/01/2016 Sunday Time 1115 Vehicles 2 Casualties 1 Serious  
 Fine without high winds Road surface Wet/Damp Daylight: street lights present  
 Special Conditions None Road Type Single carriageway  
 V1 & V2 TRAVELLING NORTH WEST TOWARDS BROADWAY APPROACHING THE LIGHTS BY KWIK FIT,  
 V2 COLLIDED WITH REAR OF V1. V2 FAILED TO STOP.  
 Occurred on A372 ST JOHN ST OUTSIDE KWIK FIT AT JCT WITH CRANLEIGH GARDENS, BRIDGWATER.

Vehicle Reference 1 Pedal cycle Going ahead  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Front Age of Driver 42  
 Vehicle direction SE to NW  
 FRV Not foreign registered vehicle Journey 6  
 Casualty Reference: 1 Age: 42 Female Driver/rider Severity: Serious

Vehicle Reference 2 Car Going ahead  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Nearside Age of Driver  
 Vehicle direction SE to NW  
 FRV Not foreign registered vehicle Journey 6

161601535 27/01/2016 Wednesday Time 0830 Vehicles 3 Casualties 1 Slight  
 Fine with high winds Road surface Wet/Damp Daylight: street lights present  
 Special Conditions None Road Type Single carriageway  
 ALL 3 VEHS WERE TRAVELLING IN THE SAME DIRECTION TOWARDS J23 OF THE M5 ALONG PURITON HILL.  
 TRAFFIC AHEAD SLOWED AND THEN SUDDENLY STOPPED. V3 STOPPED, FOLLOWED BY V2.  
 V1 FAILED TO STOP IN TIME HITTING THE REAR OF V2 AND PUSHING IT INTO V3.  
 Occurred on ON A39 PURITON HILL, 35M EAST OF HALL ROAD, BRIDGWATER.

Vehicle Reference 1 Car Going ahead  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Front Age of Driver 30  
 Vehicle direction SE to NW  
 FRV Not foreign registered vehicle Journey 6  
 Vehicle Reference 2 Motorcycle over 500cc Waiting to go ahead but held up  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Back Age of Driver 46  
 Vehicle direction SE to NW  
 FRV Not foreign registered vehicle Journey 6  
 Casualty Reference: 1 Age: 46 Male Driver/rider Severity: Slight

Vehicle Reference 3 Car Waiting to go ahead but held up  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Back Age of Driver 44  
 Vehicle direction SE to NW  
 FRV Not foreign registered vehicle Journey Journey as part of work

## AccsMap - Collision Analysis System

Collisions between dates 01/01/2016 and 31/12/2020 (60) months

## Selection:

Selected using Manual Selection

## Notes:

Bridgwater

161601018 30/01/2016 Saturday Time 0050 Vehicles 2 Casualties 1 Slight  
 Fine without high winds Road surface Wet/Damp Darkness: street lights present and lit  
 Special Conditions None Road Type Single carriageway  
 V1 WAS TRAVELLING NORTH WEST ALONG ST JOHN ST APPROACHING THE TRAFFIC LIGHTS TO HEAD  
 ONTO EASTOVER. THE LIGHTS WERE GREEN GIVING V1 THE RIGHT OF WAY TO MAKE THE MANOEUVRE.  
 AS V1 STARTED TO CROSS THE JCT, V2 WAS TRAVELLING NORTH EAST ALONG BR  
 Occurred on A38 MONMOUTH ST, AT JCT WITH A372 ST JOHN ST, BRIDGWATER

Vehicle Reference 1 Car Going ahead  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Front Age of Driver 54  
 Vehicle direction SE to NW  
 FRV Not foreign registered vehicle Journey 6  
 Casualty Reference: 1 Age: 54 Male Driver/rider Severity: Slight

Vehicle Reference 2 Car Going ahead  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Front Age of Driver 38  
 Vehicle direction SW to NE  
 FRV Not foreign registered vehicle Journey 6

161600921 08/02/2016 Monday Time 1604 Vehicles 2 Casualties 1 Slight  
 Fine without high winds Road surface Dry Daylight: street lights present  
 Special Conditions None Road Type Single carriageway  
 V1 WAS PULLING AWAY FROM STATIC LIGHTS IN LEFT HAND LANE. THERE IS A FILTER SYSTEM AT THE LIGHTS AND  
 V2 WAS IN THE RIGHT HAND LANE, SPED PAST V1 AND CUT IN TO THE LEFT HAND LANE CAUSING DAMAGE TO THE  
 OFFSIDE REAR OF V1  
 Occurred on A39 BATH ROAD, BRIDGWATER

Vehicle Reference 1 Car Moving off  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Offside Age of Driver 41  
 Vehicle direction NE to SW  
 FRV Not foreign registered vehicle Journey 6  
 Casualty Reference: 1 Age: 41 Female Driver/rider Severity: Slight

Vehicle Reference 2 Goods <= 3.5 tonnes mgw Waiting to turn right  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Nearside Age of Driver  
 Vehicle direction NE to SW  
 FRV Not foreign registered vehicle Journey Journey as part of work

## AccsMap - Collision Analysis System

Collisions between dates 01/01/2016 and 31/12/2020 (60) months

## Selection:

Selected using Manual Selection

## Notes:

Bridgwater

161602052 27/02/2016 Saturday Time 1103 Vehicles 2 Casualties 1 Slight  
 Fine without high winds Road surface Dry Daylight: street lights present  
 Special Conditions None Road Type Single carriageway  
 V1 WAS HEADING FROM WYLDs ROAD AND TURNING RIGHT ONTO WESTERN WAY  
 V2 WAS HEADING FROM EAST QUAY GOING STRAIGHT INTO WYLDs ROAD AS V2 CROSSED THE LIGHT  
 V1 CROSSED IN FRONT V1 CAUSING V2 TO COLLIDE WITH V1  
 Occurred on A39 THE DROVE, AT JCT WITH WYLDs ROAD, BRIDGWATER

Vehicle Reference	1	Car	Turning right
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Offside	Age of Driver	26
Vehicle direction	NE to NW		
FRV	Not foreign registered vehicle	Journey	6
Vehicle Reference	2	Motorcycle over 125cc and up to	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front	Age of Driver	37
Vehicle direction	SW to NE		
FRV	Not foreign registered vehicle	Journey	6
Casualty Reference:	1	Age:	37
		Female	Driver/rider
			Severity: Slight

161602051 29/02/2016 Monday Time 0630 Vehicles 2 Casualties 1 Slight  
 Fine without high winds Road surface Frost/Ice Darkness: street lights present and lit  
 Special Conditions None Road Type Single carriageway  
 V1 & V2 TRAVELLING SOUTHBOUND. V1 WAS HEADING TOWARDS THE PETROL STATION.  
 V1 FAILED TO NOTICE V2 AND V1 COLLIDED WITH V2.  
 Occurred on A38 BRISTOL ROAD, BRIDGWATER

Vehicle Reference	1	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front	Age of Driver	24
Vehicle direction	N to S		
FRV	Not foreign registered vehicle	Journey	6
Vehicle Reference	2	Pedal cycle	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Back	Age of Driver	34
Vehicle direction	N to S		
FRV		Journey	6
Casualty Reference:	1	Age:	34
		Female	Driver/rider
			Severity: Slight



## AccsMap - Collision Analysis System

Collisions between dates 01/01/2016 and 31/12/2020 (60) months

## Selection:

Selected using Manual Selection

## Notes:

Bridgwater

161602505 05/04/2016 Tuesday Time 1730 Vehicles 2 Casualties 1 Slight  
 Fine without high winds Road surface Dry Daylight: street lights present  
 Special Conditions None Road Type Single carriageway  
 V1 WAS TRAVELLING NORTH EAST ALONG WYLDs ROAD ON OUTSIDE OF VEHS DUE TO HEAVY TRAFFIC.  
 V2 EMERGED FROM A CAR PARK TURNING RIGHT OPPOSITE DIRECTION. V2 COLLIDED WITH V1.  
 Occurred on WYLDs ROAD, BRIDGWATER.

Vehicle Reference 1 Motorcycle over 500cc Overtaking stationary vehicle on its offside  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Front Age of Driver 26  
 Vehicle direction SW to NE  
 FRV Not foreign registered vehicle Journey 6  
 Casualty Reference: 1 Age: 26 Male Driver/rider Severity: Slight

Vehicle Reference 2 Car Turning right  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Front Age of Driver 45  
 Vehicle direction NW to SW  
 FRV Not foreign registered vehicle Journey 6

161603009 22/04/2016 Friday Time 1445 Vehicles 3 Casualties 1 Slight  
 Raining without high winds Road surface Wet/Damp Daylight: street lights present  
 Special Conditions None Road Type Dual carriageway  
 V1 SLOWING DOWN ON APPROACH TO RAB.  
 V2 FAILED TO BRAKE AND HIT V1 FROM BEHIND WHICH PUSHED V1 INTO REAR OF V3.  
 Occurred on A38 APPROACHING DUNBALL RAB, OPPOSITE THE ADMIRALS TABLE, PURITON.

Vehicle Reference 1 Car Slowing or Stopping  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Back Age of Driver 20  
 Vehicle direction SE to NW  
 FRV Not foreign registered vehicle Journey 6  
 Casualty Reference: 1 Age: 20 Female Driver/rider Severity: Slight

Vehicle Reference 2 Car Slowing or Stopping  
 Not in restricted lane Skidded  
 First point of impact Front Age of Driver 80  
 Vehicle direction SE to NW  
 FRV Not foreign registered vehicle Journey 6  
 Vehicle Reference 3 Car Slowing or Stopping  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Back Age of Driver 20  
 Vehicle direction SE to NW  
 FRV Not foreign registered vehicle Journey 6

## AccsMap - Collision Analysis System

Collisions between dates 01/01/2016 and 31/12/2020 (60) months

## Selection:

Selected using Manual Selection

## Notes:

Bridgwater

161603114 22/04/2016 Friday Time 1437 Vehicles 2 Casualties 1 Slight  
 Fine without high winds Road surface Dry Daylight: street lights present  
 Special Conditions None Road Type Dual carriageway  
 V1 WAS TRAVELLING NORTH ACROSS THE RAB TOWARDS BRISTOL ROAD. V2 TRAVELLING EAST  
 WENT THROUGH A GAP IN THE QUEUED TRAFFIC. V1 FAILED TO SEE V2 AND V1 COLLIDED WITH V2.  
 Occurred on A38 CROSS RIFLES RAB, AT JCT WITH A39, BRIDGWATER.

Vehicle Reference 1 Goods between 3.5 and 7.5 tonnes Going ahead  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Front Age of Driver 23  
 Vehicle direction S to N  
 FRV Not foreign registered vehicle Journey Journey as part of work

Vehicle Reference 2 Car Going ahead  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Front Age of Driver 42  
 Vehicle direction W to E  
 FRV Not foreign registered vehicle Journey 6

Casualty Reference: 1 Age: 42 Female Driver/rider Severity: Slight



## AccsMap - Collision Analysis System

Collisions between dates 01/01/2016 and 31/12/2020 (60) months

## Selection:

Selected using Manual Selection

## Notes:

Bridgwater

161603295 29/04/2016 Friday Time 1745 Vehicles 3 Casualties 2 Slight  
 Fine without high winds Road surface Dry Daylight: street lights present  
 Special Conditions None Road Type Single carriageway  
 V1, V2 & V3 ALL TRAVELLING EAST. V3 WAS STOPPED AT JCT OF A39 AND NEW ROAD  
 READY TO TURN RIGHT SOUTHBOUND. V2 PULLED UP BEHIND V3. V1 DROVE UP BEHIND,  
 WAS DISTRACTED BY ANOTHER VEH AND COLLIDED WITH V2 WHICH, IN TURN, HIT V1.  
 Occurred on A39 BATH ROAD AT JCT WITH NEW ROAD, BAWDRIP.

Vehicle Reference	1	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front		Age of Driver 17
Vehicle direction	W to E		
FRV	Not foreign registered vehicle		Journey 6
Vehicle Reference	2	Car	Waiting to turn right
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Back		Age of Driver 37
Vehicle direction	W to E		
FRV	Not foreign registered vehicle		Journey Journey as part of work
Casualty Reference:	1	Age: 37	Female Driver/rider Severity: Slight
Vehicle Reference	3	Car	Waiting to turn right
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Back		Age of Driver 20
Vehicle direction	W to S		
FRV	Not foreign registered vehicle		Journey 6
Casualty Reference:	2	Age: 20	Female Driver/rider Severity: Slight

Collisions between dates 01/01/2016 and 31/12/2020 (60) months

**Selection:**

Selected using Manual Selection

**Notes:**

Bridgwater

161603246 01/05/2016 Sunday Time 1300 Vehicles 2 Casualties 1 Slight  
Raining without high winds Road surface Wet/Damp Daylight: street lights present  
Special Conditions None Road Type Single carriageway  
V1 & V2 TRAVELLING NORTH WEST. V1 STOPPED AND INDICATED TO TURN RIGHT.  
V2 BRAKED BUT FAILED TO STOP IN TIME AND COLLIDED WITH THE REAR OF V1.  
Occurred on A38 BRISTOL ROAD (RICHMOND COTTAGES), PAWLETT.

Vehicle Reference	1	Car	Waiting to turn right
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Back	Age of Driver	20
Vehicle direction	SE to NW		
FRV	Not foreign registered vehicle	Journey	6
Casualty Reference:	1	Age: 14	Male Passenger Severity: Slight

Vehicle Reference	2	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front	Age of Driver	54
Vehicle direction	SE to NW		
FRV	Not foreign registered vehicle	Journey	6

161603465 12/05/2016 Thursday Time 1130 Vehicles 2 Casualties 1 Slight  
Fine without high winds Road surface Dry Daylight: street lights present  
Special Conditions None Road Type Unknown  
V1 WAS TRAVELLING ALONG BATH ROAD WHEN THE VEH IN FRONT STOPPED TO ALLOW A PED  
TO CROSS THE ROAD, JUST BEFORE THE BRIDGE, BEFORE BRIDGWATER COLLEGE ON THE RIGHT.  
V2 BEHIND V1 COLLIDED INTO THE REAR OF V1.  
Occurred on A39 BATH ROAD, BRIDGWATER.

Vehicle Reference	1	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Did not impact	Age of Driver	20
Vehicle direction	SW to NE		
FRV	Not foreign registered vehicle	Journey	6
Casualty Reference:	1	Age: 20	Female Driver/rider Severity: Slight

Vehicle Reference	2	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Did not impact	Age of Driver	68
Vehicle direction	SW to NE		
FRV	Not foreign registered vehicle	Journey	6



Collisions between dates 01/01/2016 and 31/12/2020 (60) months

**Selection:**

Selected using Manual Selection

**Notes:**

Bridgwater

161603821 15/05/2016 Sunday Time 1534 Vehicles 2 Casualties 1 Slight  
Fine without high winds Road surface Dry Daylight: street lights present  
Special Conditions None Road Type Single carriageway  
V1 & V2 TRAVELLING WEST IN SLOW MOVING TRAFFIC. ANOTHER VEH WHICH WAS IN FRONT OF V1,  
AND DID NOT STAY AT SCENE AFTER RTA, DID AN EMERGENCY STOP. V1 STOPPED BEHIND THIS VEH  
BUT V2 FAILED TO STOP AND RAN INTO THE REAR OF V1.  
Occurred on A39, BAWDRIP.

Vehicle Reference	1	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Back	Age of Driver	66
Vehicle direction	E to W		
FRV	Not foreign registered vehicle	Journey	6
Vehicle Reference	2	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front	Age of Driver	80
Vehicle direction	E to W		
FRV	Not foreign registered vehicle	Journey	6
Casualty Reference:	1	Age: 83	Female Passenger Severity: Slight

161604004 23/05/2016 Monday Time 1150 Vehicles 2 Casualties 1 Slight  
Fine without high winds Road surface Dry Daylight: street lights present  
Special Conditions None Road Type Single carriageway  
V1 TRAVELLING SOUTH EAST, V2 TRAVELLING SOUTH WEST.  
V1 MOVED OFF AFTER MAKING A DELIVERY AND COLLIDED WITH V2.  
Occurred on UNION ST, BRIDGWATER

Vehicle Reference	1	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front	Age of Driver	38
Vehicle direction	NW to SE		
FRV	Not foreign registered vehicle	Journey	Journey as part of work
Vehicle Reference	2	Pedal cycle	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front	Age of Driver	24
Vehicle direction	SW to NE		
FRV	Not foreign registered vehicle	Journey	6
Casualty Reference:	1	Age: 24	Male Driver/rider Severity: Slight

## AccsMap - Collision Analysis System

Collisions between dates 01/01/2016 and 31/12/2020 (60) months

## Selection:

Selected using Manual Selection

## Notes:

Bridgwater

161604132 25/05/2016 Wednesday Time 1200 Vehicles 2 Casualties 1 Slight

Unknown Road surface Dry Daylight: street lights present

Special Conditions None Road Type Roundabout

V1 WAS ON THE DUNBALL RAB COMING FROM MOTORWAY DIRECTION PAST BRIDGWATER JCT. ANOTHER VEH WAS STATIONARY ALLOWING V1 TO GO AROUND. V2 ENTERED THE RAB AT SPEED AND COLLIDED WITH V1.

Occurred on A38 DUNBALL RAB, PURITON.

Vehicle Reference 1 Car

Going ahead

Tram/light rail track

No skidding, jack-knifing or overturning

First point of impact Nearside

Age of Driver 45

Vehicle direction E to S

FRV Not foreign registered vehicle

Journey 6

Casualty Reference: 1 Age: 45 Female Driver/rider Severity: Slight

Vehicle Reference 2 Car

Going ahead

Not in restricted lane

No skidding, jack-knifing or overturning

First point of impact Front

Age of Driver 26

Vehicle direction S to N

FRV Not foreign registered vehicle

Journey 6

161603888 29/05/2016 Sunday Time 1323 Vehicles 1 Casualties 1 Slight

Fine without high winds Road surface Dry Daylight: street lights present

Special Conditions None Road Type Dual carriageway

PED WAS WALKING ALONG WITH FAMILY. V1 CAME FROM BEHIND, MOUNTED PAVEMENT AND MADE CONTACT WITH RIGHT ELBOW OF PED.

Occurred on A39 BATH ROAD, OUTSIDE NO 14, BRIDGWATER

Vehicle Reference 1 Goods between 3.5 and 7.5 tonnes Going ahead

Not in restricted lane

No skidding, jack-knifing or overturning

First point of impact Did not impact

Age of Driver 45

Vehicle direction SW to NE

FRV Not foreign registered vehicle

Journey 6

Casualty Reference: 1 Age: 9 Male Pedestrian Severity: Slight

Pedestrian Direction: NE

**Collisions between dates**      **01/01/2016 and 31/12/2020**    (60) months

**Selection:**

Selected using Manual Selection

**Notes:**

Bridgwater

161605631      31/05/2016      Tuesday      Time 1009    Vehicles    2    Casualties    2    Slight  
 Fine without high winds                      Road surface    Dry                      Daylight: street lights present  
 Special Conditions    None                      Road Type    Single carriageway  
 V1 WAS DRIVING FROM ST JOHN ST ACROSS THE JCT ONTO EASTOVER AND PASSED THROUGH A GREEN  
 LIGHT TO DO SO. V2 IS A POLICE VEH ON AN EMERGENCY CODE CALL AND WAS DRIVING WITH LIGHTS AND  
 SIREN ON FROM MONMOUTH ST ACROSS THE JCT ONTO EAATOVER. V1 COLLIDED WITH V2.  
 Occurred on    A38 MONMOUTH ROAD, AT JCT WITH ST JOHN ST, BRIDGWATER.

Vehicle Reference	1	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front		Age of Driver    65
Vehicle direction	NE to SW		
FRV	Not foreign registered vehicle		Journey    6
Vehicle Reference	2	Car	Turning left
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Nearside		Age of Driver    34
Vehicle direction	SW to W		
FRV	Not foreign registered vehicle		Journey    6
Casualty Reference:	1	Age: 34	Female    Driver/rider    Severity: Slight
Casualty Reference:	2	Age: 50	Male    Passenger    Severity: Slight

161604516      14/06/2016      Tuesday      Time 1815    Vehicles    2    Casualties    1    Slight  
 Fine without high winds                      Road surface    Dry                      Daylight: street lights present  
 Special Conditions    None                      Road Type    Unknown  
 V1 & V2 (POLICE VEH ON EMERGENCY CALL) TRAVELLING SOUTH WEST.  
 V2 WAS CROSSING RED TRAFFIC LIGHTS - V1 COLLIDED WITH NEAR SIDE OF V2.  
 Occurred on    A38 MONMOUTH ST AT JCT WITH A372 ST JOHN ST, BRIDGWATER

Vehicle Reference	1	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front		Age of Driver    66
Vehicle direction	NE to SW		
FRV	Not foreign registered vehicle		Journey    6
Casualty Reference:	1	Age: 66	Male    Driver/rider    Severity: Slight
Vehicle Reference	2	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Back		Age of Driver    31
Vehicle direction	NE to SW		
FRV	Not foreign registered vehicle		Journey    6



Collisions between dates 01/01/2016 and 31/12/2020 (60) months

**Selection:**

Selected using Manual Selection

**Notes:**

Bridgwater

161606064 27/07/2016 Wednesday Time 1130 Vehicles 2 Casualties 1 Slight  
Fine without high winds Road surface Dry Daylight: street lights present  
Special Conditions None Road Type Single carriageway  
V1 WAS WAITING IN THE MIDDLE OF THE JCT TO TURN LEFT SOUTH EAST ALONG THE DROVE.  
V2 WAS TRAVELLING STRAIGHT THROUGH THE JCT NORTH WEST AND PROCEEDED THROUGH THE JCT.  
V1 ALSO PROCEEDED AND COLLIDED WITH V2.  
Occurred on WYLDs ROAD, AT JCT WITH THE DROVE, BRIDGWATER.

Vehicle Reference	1	Car	Turning left
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front	Age of Driver	29
Vehicle direction	NE to SE		
FRV	Not foreign registered vehicle	Journey	6
Vehicle Reference	2	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front	Age of Driver	43
Vehicle direction	SE to NW		
FRV	Not foreign registered vehicle	Journey	6
Casualty Reference:	1	Age: 43	Male Driver/rider Severity: Slight

161605466 28/07/2016 Thursday Time 1730 Vehicles 2 Casualties 1 Slight  
Fine without high winds Road surface Dry Daylight: street lights present  
Special Conditions None Road Type Single carriageway  
V1 WAS DRIVING ALONG MAIN ROAD OUT OF BRIDGWATER WHEN V2 CAME OUT OF UNION ST  
WITHOUT LOOKING. V1 SWERVED TO AVOID V2 AND TRIED TO OVERTAKE V2  
BUT V2 VEERED ACROSS THE PATH OF V1. V1 COLLIDED WITH V2.  
Occurred on A39 BATH ROAD, AT JCT WITH UNION ST, BRIDGWATER.

Vehicle Reference	1	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Offside	Age of Driver	60
Vehicle direction	NE to SW		
FRV	Not foreign registered vehicle	Journey	6
Vehicle Reference	2	Pedal cycle	Turning right
Cycleway			No skidding, jack-knifing or overturning
First point of impact	Front	Age of Driver	25
Vehicle direction	NW to SW		
FRV	Not foreign registered vehicle	Journey	6
Casualty Reference:	1	Age: 25	Male Driver/rider Severity: Slight

**Collisions between dates**      **01/01/2016 and 31/12/2020**    (60) months

**Selection:**

Selected using Manual Selection

**Notes:**

Bridgwater

161606044      10/08/2016    Wednesday    Time 1300    Vehicles    2    Casualties    1    Slight  
 Fine without high winds                      Road surface    Dry                      Daylight: street lights present  
 Special Conditions    None                                      Road Type    Single carriageway  
 V1 TRAVELLING NORTH ALONG A38 TOWARDS PAWLETT. V2 TRAVELLING IN OPPOSITE DIRECTION.  
 A REAR NEARSIDE WHEEL DETACHED FROM V1 AND BOUNCED ACROSS THE CARRIAGWAY  
 COLLIDING WITH V2. CAUSING RIDER OF V2 TO FALL FROM MACHINE.  
 Occurred on    A38 BRISTOL ROAD, PURITON.

Vehicle Reference	1	Goods between 3.5 and 7.5 tonnes	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Did not impact	Age of Driver	48
Vehicle direction	S to N		
FRV	Not foreign registered vehicle	Journey	Journey as part of work
Vehicle Reference	2	Pedal cycle	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Back	Age of Driver	19
Vehicle direction	N to S		
FRV	Not foreign registered vehicle	Journey	6
Casualty Reference:	1	Age:	19
		Male	Driver/rider
			Severity:
			Slight

161606470      10/08/2016    Wednesday    Time 1615    Vehicles    2    Casualties    1    Slight  
 Raining without high winds                      Road surface    Wet/Damp                      Daylight: street lights present  
 Special Conditions    None                                      Road Type    Single carriageway  
 V1 & V2 TRAVELLING SOUTH EAST. V1 COLLIDED WITH REAR OF V2.  
 Occurred on    A39 PURITON HILL, BAWDRIP.

Vehicle Reference	1	Motorcycle over 125cc and up to	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front	Age of Driver	17
Vehicle direction	NW to SE		
FRV	Not foreign registered vehicle	Journey	6
Casualty Reference:	1	Age:	17
		Male	Driver/rider
			Severity:
			Slight

Vehicle Reference	2	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Back	Age of Driver	60
Vehicle direction	NW to SE		
FRV	Not foreign registered vehicle	Journey	6

**Collisions between dates**      **01/01/2016 and 31/12/2020**    (60) months

**Selection:**

Selected using Manual Selection

**Notes:**

Bridgwater

161607331      10/08/2016    Wednesday    Time 1318    Vehicles    2    Casualties    1    Serious  
 Fine without high winds                      Road surface    Dry                      Daylight: street lights present  
 Special Conditions    None                      Road Type    Single carriageway  
 V1 & V2 TRAVELLING SOUTH WEST. V1 WAS TOWING A SMALL TRAILER LOADED WITH WOODEN PLANKS.  
 WHILST TRAVELLING A LEAST ONE OF THESE PLANKS FROM THE TRAILER STRUCK V2.  
 RIDER OF V2 FELL FROM MACHINE.  
 Occurred on    A39 BATH ROAD APPROXIMATELY 50M EAST OF JCT WITH FREDERICK ROAD, BRIDGWATER.

Vehicle Reference    1	Car	Going ahead
Not in restricted lane		No skidding, jack-knifing or overturning
First point of impact    Did not impact	Age of Driver	
Vehicle direction    NE to SW		
FRV    Not foreign registered vehicle	Journey    6	
Vehicle Reference    2	Pedal cycle	Going ahead
Footway (pavement)		No skidding, jack-knifing or overturning
First point of impact    Did not impact	Age of Driver    24	
Vehicle direction    NE to SW		
FRV    Not foreign registered vehicle	Journey    6	
Casualty Reference:    1	Age:    24	Female    Driver/rider    Severity:    Serious

161607015      06/09/2016    Tuesday    Time 1805    Vehicles    1    Casualties    2    Serious  
 Fine without high winds                      Road surface    Dry                      Daylight: street lights present  
 Special Conditions    None                      Road Type    Single carriageway  
 V1 TRAVELLING SOUTH WEST. PED WAS WALKING ACROSS A PED CROSSING. PED DID NOT LOOK BOTH WAYS  
 AND WALKED OUT DIRECTLY IN FRONT OF V1. RIDER OF V1 DID NOT REACT AND COLLIDED WITH PED.  
 Occurred on    A39 BATH ROAD, OUTSIDE NO.80, BRIDGWATER

Vehicle Reference    1	Motorcycle over 50cc and up to 125cc	Going ahead
Not in restricted lane		No skidding, jack-knifing or overturning
First point of impact    Front	Age of Driver    17	
Vehicle direction    NE to SW		
FRV    Not foreign registered vehicle	Journey    6	
Casualty Reference:    1	Age:    17	Male    Driver/rider    Severity:    Slight
Casualty Reference:    2	Age:    17	Female    Pedestrian    Severity:    Serious
Pedestrian Direction:		



Collisions between dates 01/01/2016 and 31/12/2020 (60) months

**Selection:**

Selected using Manual Selection

**Notes:**

Bridgwater

161606543 10/09/2016 Saturday Time 1320 Vehicles 1 Casualties 1 Slight  
Unknown Road surface Dry Daylight: street lights present  
Special Conditions None Road Type Single carriageway  
V1 TRAVELLING SOUTH WEST. A PED WAS USING THE ZEBRA CROSSING.  
V1 DROVE ONTO THE ZEBRA CROSSING AND HIT THE PED. V1 FAILED TO STOP.  
Occurred on A38 BRISTOL ROAD, BRIDGWATER

Vehicle Reference 1 Car Going ahead  
Not in restricted lane No skidding, jack-knifing or overturning  
First point of impact Offside Age of Driver  
Vehicle direction NE to SW  
FRV Not foreign registered vehicle Journey 6  
Casualty Reference: 1 Age: 18 Male Pedestrian Severity: Slight  
Pedestrian Direction: E

161606678 14/09/2016 Wednesday Time 0830 Vehicles 2 Casualties 1 Slight  
Fine without high winds Road surface Dry Daylight: street lights present  
Special Conditions None Road Type Single carriageway  
V1 TRAVELLING NORTH, V2 TRAVELLING WEST. V2 CROSSED THE ROAD WITHOUT LOOKING,  
DRIVER OF V1 DID AN EMERGENCY STOP BUT WAS UNABLE TO AVOID A COLLISION WITH V2.  
Occurred on KINGS DRIVE, BRIDGWATER

Vehicle Reference 1 Car Going ahead  
Not in restricted lane No skidding, jack-knifing or overturning  
First point of impact Front Age of Driver 47  
Vehicle direction S to N  
FRV Not foreign registered vehicle Journey Journey as part of work  
Vehicle Reference 2 Pedal cycle Moving off  
Footway (pavement) No skidding, jack-knifing or overturning  
First point of impact Front Age of Driver 8  
Vehicle direction E to W  
FRV Not foreign registered vehicle Journey Pupil riding to/from school  
Casualty Reference: 1 Age: 8 Male Driver/rider Severity: Slight  
School pupil to or from school

**Collisions between dates**      **01/01/2016 and 31/12/2020**    (60) months

**Selection:**

Selected using Manual Selection

**Notes:**

Bridgwater

161606808      19/09/2016      Monday      Time 1610    Vehicles 2    Casualties 2    Slight  
 Raining without high winds      Road surface Wet/Damp      Daylight: street lights present  
 Special Conditions None      Road Type Dual carriageway  
 V1 & V2 TRAVELLING NORTH WEST. V1 WENT TO OVERTAKE VEH ON LEFT HAND SIDE AS ROAD SPLIT  
 INTO TWO LANES. V2 APPROACHED FROM BEHIND OVERTOOK V1 AND COLLIDED WITH REAR OF V1.  
 Occurred on ST JOHN ST, BRIDGWATER.

Vehicle Reference 1      Car      Overtaking on nearside  
 Not in restricted lane      No skidding, jack-knifing or overturning  
 First point of impact Back      Age of Driver 30  
 Vehicle direction SE to NW  
 FRV Not foreign registered vehicle      Journey 6  
 Casualty Reference: 1      Age: 5      Female      Passenger      Severity: Slight

Casualty Reference: 2      Age: 34      Female      Passenger      Severity: Slight

Vehicle Reference 2      Car      Overtaking on nearside  
 Not in restricted lane      No skidding, jack-knifing or overturning  
 First point of impact Front      Age of Driver  
 Vehicle direction SE to NW  
 FRV Not foreign registered vehicle      Journey 6

161607625      19/09/2016      Monday      Time 1630    Vehicles 3    Casualties 1    Slight  
 Raining without high winds      Road surface Wet/Damp      Daylight: street lights present  
 Special Conditions None      Road Type Single carriageway  
 V1 & V2 TRAVELLING SOUTH WEST. V3 TRAVELLING OPPOSITE DIRECTION. V2 SLOWED AND SIGNALLED TO TURN  
 RIGHT INTO DOWNEND ROAD. V2 WAS STRUCK FROM BEHIND BY V1 WHICH THEN SWERVED INTO THE PATH OF V3.  
 Occurred on A39, AT JCT WITH DOWNEND ROAD, PURITON.

Vehicle Reference 1      Goods >= 7.5 tonnes mgw      Going ahead  
 Not in restricted lane      No skidding, jack-knifing or overturning  
 First point of impact Front      Age of Driver 54  
 Vehicle direction NE to SW  
 FRV Not foreign registered vehicle      Journey 6  
 Vehicle Reference 2      Car      Turning right  
 Not in restricted lane      No skidding, jack-knifing or overturning  
 First point of impact Back      Age of Driver 23  
 Vehicle direction NE to NW  
 FRV Not foreign registered vehicle      Journey 6  
 Casualty Reference: 1      Age: 23      Female      Driver/rider      Severity: Slight

Vehicle Reference 3      Car      Going ahead  
 Not in restricted lane      No skidding, jack-knifing or overturning  
 First point of impact Front      Age of Driver 24  
 Vehicle direction SW to NE  
 FRV Not foreign registered vehicle      Journey 6

**Collisions between dates**      **01/01/2016 and 31/12/2020**    (60) months

**Selection:**

Selected using Manual Selection

**Notes:**

Bridgwater

161607066      27/09/2016      Tuesday      Time 1405    Vehicles    1    Casualties    1    Slight  
 Fine without high winds      Road surface    Dry      Daylight: street lights present  
 Special Conditions    None      Road Type    Single carriageway  
 V1 TRAVELLING SOUTH. PED CAME OUT OF 219 BRISTOL ROAD AND COLLIDED WITH V1.  
 Occurred on    A38 BRISTOL ROAD, BRIDGWATER

Vehicle Reference    1      Pedal cycle      Going ahead  
 Footway (pavement)      No skidding, jack-knifing or overturning  
 First point of impact    Front      Age of Driver    35  
 Vehicle direction    N    to    S  
 FRV    Not foreign registered vehicle      Journey    Commuting to/from work  
 Casualty Reference:    1      Age:    45      Male      Pedestrian      Severity:    Slight  
 9

161607231      02/10/2016      Sunday      Time 1615    Vehicles    2    Casualties    1    Slight  
 Fine without high winds      Road surface    Dry      Daylight: street lights present  
 Special Conditions    None      Road Type    Single carriageway  
 V1 PARKED FACING NORTH EAST, V2 TRAVELLING SAME DIRECTION.  
 DRIVER OF V1 PUSHED OPEN WING MIRROR , V2 HIT DRIVER OF V1. V2 FAILED TO STOP.  
 Occurred on    A39 BATH ROAD, BRIDGWATER

Vehicle Reference    1      Car      Going ahead  
 Not in restricted lane      No skidding, jack-knifing or overturning  
 First point of impact    Nearside      Age of Driver    30  
 Vehicle direction    SW    to    NE  
 FRV    Not foreign registered vehicle      Journey    6  
 Vehicle Reference    2      Car      Parked  
 Not in restricted lane      No skidding, jack-knifing or overturning  
 First point of impact    Did not impact      Age of Driver    90  
 Vehicle direction    Park to    Parked  
 FRV    Not foreign registered vehicle      Journey    6  
 Casualty Reference:    2      Age:    90      Male      Driver/rider      Severity:    Slight



Collisions between dates 01/01/2016 and 31/12/2020 (60) months

**Selection:**

Selected using Manual Selection

**Notes:**

Bridgwater

161609144 21/10/2016 Friday Time 1856 Vehicles 2 Casualties 1 Serious  
Fine without high winds Road surface Dry Darkness: street lights present and lit  
Special Conditions None Road Type Single carriageway  
V1 TRAVELLING SOUTH WEST, V2 TRAVELLING SOUTH EAST. V1 PULLED OUT FROM JCT  
TO TURN RIGHT NORTH WEST. V2 SWERVED BUT STILL MADE CONTACT WITH FRONT OF V1.  
Occurred on A39 PURITON HILL, AT JCT WITH HILLSIDE, PURITON.

Vehicle Reference	1	Car	Turning right
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front	Age of Driver	38
Vehicle direction	NE to NW		
FRV	Not foreign registered vehicle	Journey	6
Vehicle Reference	2	Motorcycle over 500cc	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front	Age of Driver	55
Vehicle direction	NW to SE		
FRV	Not foreign registered vehicle	Journey	6
Casualty Reference:	1	Age: 55	Male
			Driver/rider
			Severity: Serious

161607950 24/10/2016 Monday Time 2130 Vehicles 1 Casualties 1 Serious  
Raining without high winds Road surface Wet/Damp Darkness: street lights present and lit  
Special Conditions None Road Type Single carriageway  
V1 TRAVELLING NORTH EAST - PED WAS CROSSING ROAD ON ZEBRA CROSSING.  
V1 HAVING NEGOTIATED RAB FAILED TO NOTICE PED ON CROSSING. V1 COLLIDED WITH PED.  
Occurred on A39 BATH ROAD, OUTSIDE CROSS RIFLES PUBLIC HOUSE, BRIDGWATER.

Vehicle Reference	1	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front	Age of Driver	55
Vehicle direction	SW to NE		
FRV	Not foreign registered vehicle	Journey	6
Casualty Reference:	1	Age: 55	Male
			Pedestrian
			Severity: Serious

Collisions between dates 01/01/2016 and 31/12/2020 (60) months

**Selection:**

Selected using Manual Selection

**Notes:**

Bridgwater

161608129 24/10/2016 Monday Time 2135 Vehicles 1 Casualties 1 Slight  
Fine without high winds Road surface Wet/Damp Darkness: street lights present and lit  
Special Conditions None Road Type Unknown  
V1 TRAVELLING SOUTH. A PED CROSSED FROM SUPERMARKET TOWARDS THE 'CROSS RIFLES' PH.  
AS PED CROSSED V1 APPROACHED AND COLLIDED WITH PED.  
Occurred on A38 BRISTOL ROAD, BRIDGWATER

Vehicle Reference 1 Car Going ahead  
Not in restricted lane No skidding, jack-knifing or overturning  
First point of impact Front Age of Driver 41  
Vehicle direction N to S  
FRV Not foreign registered vehicle Journey 6  
Casualty Reference: 1 Age: 30 Male Pedestrian Severity: Slight  
Pedestrian Direction: E

161608667 27/10/2016 Thursday Time 0906 Vehicles 2 Casualties 1 Slight  
Fine without high winds Road surface Dry Daylight: street lights present  
Special Conditions None Road Type Dual carriageway  
V1 TRAVELLING NORTH EAST, V2 TRAVELLING OPPOSITE DIRECTION. V1 TURNED RIGHT SOUTH EAST  
INTO ST JOHN ST. THERE IS A NO RIGHT TURN AT THIS JCT. V2 COLLIDED WITH TRAILER OF V1.  
Occurred on A38 MONMOUTH ST, AT JCT WITH A372 ST JOHN ST, BRIDGWATER.

Vehicle Reference 1 Car Turning right  
Not in restricted lane No skidding, jack-knifing or overturning  
First point of impact Nearside Age of Driver 49  
Vehicle direction SW to SE  
FRV Not foreign registered vehicle Journey 6  
Vehicle Reference 2 Car Going ahead  
Not in restricted lane No skidding, jack-knifing or overturning  
First point of impact Front Age of Driver 57  
Vehicle direction NE to SW  
FRV Not foreign registered vehicle Journey 6  
Casualty Reference: 1 Age: 57 Male Driver/rider Severity: Slight

**Collisions between dates**      **01/01/2016 and 31/12/2020**    (60) months

**Selection:**

Selected using Manual Selection

**Notes:**

Bridgwater

161609515      16/12/2016      Friday      Time 1515    Vehicles    2    Casualties    1    Slight  
 Fine without high winds                      Road surface    Dry                      Daylight: street lights present  
 Special Conditions    None                      Road Type      Single carriageway  
 V1 TRAVELLING WEST, V2 TRAVELLING SOUTH. V1 WAS WAITING TO TURN RIGHT NORTH ONTO B3141.  
 V2 WAS WAITING TO TURN RIGHT WEST ONTO A39. V2 PULLED OUT AND TURNED RIGHT,  
 COLLIDING WITH V1. V2 FAILED TO STOP.  
 Occurred on      A39, AT JCT WITH B3141, BAWDRIP.

Vehicle Reference    1              Car                      Waiting to turn right  
 Not in restricted lane                      No skidding, jack-knifing or overturning  
 First point of impact    Did not impact              Age of Driver    31  
 Vehicle direction      E      to    N  
 FRV    Not foreign registered vehicle                      Journey    6  
 Casualty Reference:    1              Age:    31              Female              Driver/rider              Severity:    Slight

Vehicle Reference    2              Goods <= 3.5 tonnes mgw              Waiting to turn right  
 Not in restricted lane                      No skidding, jack-knifing or overturning  
 First point of impact    Nearside                      Age of Driver  
 Vehicle direction      N      to    W  
 FRV    Not foreign registered vehicle                      Journey    6

171700196      04/01/2017      Wednesday    Time 2100    Vehicles    2    Casualties    3    Slight  
 Fine without high winds                      Road surface    Dry                      Darkness: street lights present and lit  
 Special Conditions    None                      Road Type      Roundabout  
 V1 TRAVELLING EAST, V2 TRAVELLING SOUTH. V1 EMERGED ONTO RABT WITHOUT DISPLAYING LIGHTS.  
 V2 SLOWED BUT V1 FAILED TO REACT IN TIME AND COLLIDED WITH REAR OF V2.  
 Occurred on      A38 BRISTOL ROAD, AT JCT WITH EXPRESS PARK RAB, BRIDGWATER.

Vehicle Reference    1              Car                      Going ahead  
 Not in restricted lane                      No skidding, jack-knifing or overturning  
 First point of impact    Front                      Age of Driver    34  
 Vehicle direction      N      to    S  
 FRV    Not foreign registered vehicle                      Journey    6  
 Casualty Reference:    2              Age:    8              Male              Passenger              Severity:    Slight  
 Casualty Reference:    3              Age:    8              Male              Passenger              Severity:    Slight

Vehicle Reference    2              Car                      Slowing or Stopping  
 Not in restricted lane                      No skidding, jack-knifing or overturning  
 First point of impact    Back                      Age of Driver    43  
 Vehicle direction      W      to    S  
 FRV    Not foreign registered vehicle                      Journey    6  
 Casualty Reference:    1              Age:    43              Female              Driver/rider              Severity:    Slight



Collisions between dates 01/01/2016 and 31/12/2020 (60) months

**Selection:**

Selected using Manual Selection

**Notes:**

Bridgwater

171700397 15/01/2017 Sunday Time 1720 Vehicles 1 Casualties 1 Slight  
Fine without high winds Road surface Dry Darkness: no street lighting  
Special Conditions None Road Type Unknown  
V1 TRAVELLING NORTH WEST. PED CROSSED THE A39 PURITON HILL AT THE JCT WITH HALL ROAD,  
AN UNLIT AREA AND WAS STRUCK BY V1. PED FELL TO THE FLOOR.  
Occurred on A39 PURITON HILL, AT JCT WITH HALL ROAD, PURITON.

Vehicle Reference 1 Car Going ahead  
Not in restricted lane No skidding, jack-knifing or overturning  
First point of impact Did not impact Age of Driver  
Vehicle direction SE to NW  
FRV Not foreign registered vehicle Journey 6  
Casualty Reference: 1 Age: 65 Female Pedestrian Severity: Slight  
9

171700471 19/01/2017 Thursday Time 1914 Vehicles 2 Casualties 1 Slight  
Fine without high winds Road surface Dry Daylight: street lights present  
Special Conditions None Road Type Unknown  
V1, TRAVELLING NORTH EAST, STOPPED AT THE ZEBRA CROSSING TO LET A PED CROSS. WHEN ALL CLEAR  
V1 BEGAN TO PULL AWAY. V2 SHOT ACROSS THE CROSSING NORTH WEST. V1 COLLIDED WITH V2..  
Occurred on A39 BATH ROAD, CROSS RIFLES RAB, BRIDGWATER

Vehicle Reference 1 Car Waiting to go ahead but held up  
Not in restricted lane No skidding, jack-knifing or overturning  
First point of impact Did not impact Age of Driver 33  
Vehicle direction SW to NE  
FRV Not foreign registered vehicle Journey 6  
Vehicle Reference 2 Pedal cycle Going ahead  
Not in restricted lane No skidding, jack-knifing or overturning  
First point of impact Did not impact Age of Driver 26  
Vehicle direction SE to NW  
FRV Journey 6  
Casualty Reference: 1 Age: 26 Male Driver/rider Severity: Slight

Collisions between dates 01/01/2016 and 31/12/2020 (60) months

Selection:

Selected using Manual Selection

Notes:

Bridgwater

171700727 20/01/2017 Friday Time 0940 Vehicles 1 Casualties 1 Slight  
Other Road surface Frost/Ice Daylight: street lights present  
Special Conditions None Road Type Single carriageway  
V1 TRAVELLING NORTH EAST. THE FRONT WHEEL SLIPPED ON ICE  
CAUSING RIDER TO FALL FROM MACHINE.  
Occurred on A39 BATH ROAD, BRIDGWATER

Vehicle Reference 1 Motorcycle 50cc and under Going ahead  
Not in restricted lane Skidded  
First point of impact Did not impact Age of Driver 21  
Vehicle direction SW to NE  
FRV Not foreign registered vehicle Journey 6  
Casualty Reference: 1 Age: 21 Male Driver/rider Severity: Slight

171701125 02/02/2017 Thursday Time 1538 Vehicles 2 Casualties 2 Slight  
Raining without high winds Road surface Wet/Damp Daylight: street lights present  
Special Conditions None Road Type Roundabout  
V2 WAS AT A GIVE WAY AT A RAB WAITING TO PULL OUT V1 HAS THEN COME UP BEHIND V2 AND MOVED  
FORWARD THINKING THAT V1 WOULD TOO AND THEY COLLIDED  
Occurred on A39 JCT M5 SLIP ROAD, PURITON.

Vehicle Reference 1 Goods >= 7.5 tonnes mgw Moving off  
Not in restricted lane No skidding, jack-knifing or overturning  
First point of impact Front Age of Driver 31  
Vehicle direction W to E  
FRV Not foreign registered vehicle Journey Journey as part of work  
Vehicle Reference 2 Car Waiting to go ahead but held up  
Not in restricted lane No skidding, jack-knifing or overturning  
First point of impact Back Age of Driver 42  
Vehicle direction W to E  
FRV Not foreign registered vehicle Journey 6  
Casualty Reference: 1 Age: 42 Male Driver/rider Severity: Slight  
Casualty Reference: 2 Age: 32 Male Passenger Severity: Slight

## AccsMap - Collision Analysis System

Collisions between dates 01/01/2016 and 31/12/2020 (60) months

## Selection:

Selected using Manual Selection

## Notes:

Bridgwater

171701144 03/02/2017 Friday Time 2330 Vehicles 2 Casualties 1 Slight  
 Fine without high winds Road surface Wet/Damp Darkness: no street lighting  
 Special Conditions None Road Type Single carriageway  
 V1 TRAVELLING SOUTH WEST, V2 TRAVELLING NORTH WEST.  
 V2 PULLED OUT ONTO A39 NORTH EAST AND V1 DID NOT HAVE TIME TO BRAKE. V1 COLLIDED WITH V2.  
 Occurred on A39 BATH ROAD, AT JCT WITH CHEDZOY LANE, BRIDGWATER

Vehicle Reference 1 Car Going ahead  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Front Age of Driver 18  
 Vehicle direction NE to SW  
 FRV Not foreign registered vehicle Journey 6  
 Casualty Reference: 1 Age: 18 Male Driver/rider Severity: Slight

Vehicle Reference 2 Car Turning right  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Front Age of Driver 18  
 Vehicle direction SE to NE  
 FRV Not foreign registered vehicle Journey 6

171701404 07/02/2017 Tuesday Time 1820 Vehicles 2 Casualties 1 Slight  
 Fine without high winds Road surface Dry Darkness: street lights present and lit  
 Special Conditions None Road Type Single carriageway  
 V1 TRAVELLING NORTH WEST, V2 TRAVELLING SOUTH WEST.  
 V1 PULLED UP AT THE JCT LOOKING TO TURN RIGHT NORTH EAST INTO BATH ROAD.  
 V1 WAS FLASHED OUT ACROSS THE PRIORITY OF V2. V2 TRIED TO SWERVE BUT COLLIDED WITH V1.  
 Occurred on A39 BATH ROAD, AT JCT WITH PARKWAY, BRIDGWATER

Vehicle Reference 1 Car Turning right  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Offside Age of Driver 20  
 Vehicle direction SE to NE  
 FRV Not foreign registered vehicle Journey 6  
 Vehicle Reference 2 Motorcycle over 50cc and up to 125cc Going ahead  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Front Age of Driver 17  
 Vehicle direction NE to SW  
 FRV Not foreign registered vehicle Journey 6  
 Casualty Reference: 1 Age: 17 Male Driver/rider Severity: Slight



**Collisions between dates**      **01/01/2016 and 31/12/2020**    (60) months

**Selection:**

Selected using Manual Selection

**Notes:**

Bridgwater

171701730      17/02/2017      Friday      Time 1926    Vehicles    2    Casualties    2    Slight  
 Fine without high winds      Road surface    Dry      Darkness: street lights present and lit  
 Special Conditions    ATS out      Road Type    Single carriageway  
 V1 TRAVELLING EAST, V2 TRAVELLING OPPOSITE DIRECTION. V1 LOST CONTROL OF AND COLLIDED WITH V2.  
 Occurred on    A372 WESTONZOYLAND ROAD, BRIDGWATER

Vehicle Reference    1      Car      Going ahead  
 Not in restricted lane      No skidding, jack-knifing or overturning  
 First point of impact    Front      Age of Driver    37  
 Vehicle direction    W    to    E  
 FRV    Not foreign registered vehicle      Journey    6  
 Casualty Reference:    1      Age:    37      Male      Driver/rider      Severity:    Slight

Vehicle Reference    2      Car      Going ahead  
 Not in restricted lane      No skidding, jack-knifing or overturning  
 First point of impact    Front      Age of Driver    28  
 Vehicle direction    E    to    W  
 FRV    Not foreign registered vehicle      Journey    6  
 Casualty Reference:    2      Age:    28      Male      Driver/rider      Severity:    Slight

171703833      21/02/2017      Tuesday      Time 1600    Vehicles    1    Casualties    1    Slight  
 Fine without high winds      Road surface    Dry      Daylight: street lights present  
 Special Conditions    None      Road Type    Single carriageway  
 V1, TRAVELLING NORTH EAST, DROVE THROUGH A RED LIGHT AND WAS STOPPED BY PED.  
 V1 COLLIDED WITH PED.  
 Occurred on    A39 THE DROVE, AT JCT WITH EAST QUAY, BRIDGWATER.

Vehicle Reference    1      Car      Going ahead  
 Not in restricted lane      No skidding, jack-knifing or overturning  
 First point of impact    Front      Age of Driver    59  
 Vehicle direction    SW    to    NE  
 FRV    Not foreign registered vehicle      Journey    6  
 Casualty Reference:    1      Age:    29      Male      Pedestrian      Severity:    Slight  
 Pedestrian Direction: SE

Collisions between dates 01/01/2016 and 31/12/2020 (60) months

**Selection:**

Selected using Manual Selection

**Notes:**

Bridgwater

171701672 26/02/2017 Sunday Time 1828 Vehicles 1 Casualties 1 Slight  
Raining without high winds Road surface Wet/Damp Darkness: street lights present and lit  
Special Conditions None Road Type Single carriageway  
V1 TRAVELLING NORTH EAST. PED WAS CROSSING THE ROAD SOUTH EAST. V1 COLLIDED WITH PED.  
Occurred on A39 BATH ROAD, OUTSIDE NO.73, BRIDGWATER

Vehicle Reference 1 Car Going ahead  
Not in restricted lane No skidding, jack-knifing or overturning  
First point of impact Nearside Age of Driver 76  
Vehicle direction SW to NE  
FRV Not foreign registered vehicle Journey 6  
Casualty Reference: 1 Age: 58 Male Pedestrian Severity: Slight  
Pedestrian Direction: SE

171705667 07/03/2017 Tuesday Time 2020 Vehicles 2 Casualties 1 Serious  
Fine without high winds Road surface Wet/Damp Darkness: no street lighting  
Special Conditions None Road Type Single carriageway  
V1 & V2 TRAVELLING NORTH EAST. V2 FAILED TO NOTICE V1 AND CLIPPED RIDER  
WITH NEARSIDE WING MIRROR CAUSING RIDER OF V1 TO FALL FROM MACHINE.  
Occurred on A39 BATH ROAD, 100 METRES EAST OF CHEDZOY LANE, BRIDGWATER.

Vehicle Reference 1 Pedal cycle Going ahead  
Not in restricted lane No skidding, jack-knifing or overturning  
First point of impact Back Age of Driver 51  
Vehicle direction SW to NE  
FRV Not foreign registered vehicle Journey 6  
Casualty Reference: 1 Age: 51 Male Driver/rider Severity: Serious

Vehicle Reference 2 Car Going ahead  
Not in restricted lane No skidding, jack-knifing or overturning  
First point of impact Nearside Age of Driver 21  
Vehicle direction SW to NE  
FRV Not foreign registered vehicle Journey 6

**Collisions between dates**      **01/01/2016 and 31/12/2020**    (60) months

**Selection:**

Selected using Manual Selection

**Notes:**

Bridgwater

171701965      19/03/2017      Sunday    Time 1745    Vehicles    1    Casualties    1    Slight  
 Fine without high winds      Road surface    Dry      Daylight: street lights present  
 Special Conditions    None      Road Type    Dual carriageway  
 V1 TRAVELLING SOUTH WEST. PED WAS ON CENTRAL RESERVATION HAVING CROSSED  
 ON A ZEBRA CROSSING SOUTH EAST ON OPPOSITE SIDE OF ROAD.  
 V1 STARTED TO MOVE FORWARD AND COLLIDED WITH PEDESTRIAN.  
 Occurred on    A38 MONMOUTH ST, BRIDGWATER.

Vehicle Reference    1      Goods <= 3.5 tonnes mgw      Moving off  
 Not in restricted lane      No skidding, jack-knifing or overturning  
 First point of impact    Front      Age of Driver  
 Vehicle direction    NE to SW  
 FRV    Not foreign registered vehicle      Journey    6  
 Casualty Reference:    1      Age:    54      Female      Pedestrian      Severity:    Slight  
 Pedestrian Direction: SE

171702482      22/03/2017      Wednesday    Time 2227    Vehicles    2    Casualties    1    Slight  
 Fine without high winds      Road surface    Dry      Daylight: street lights present  
 Special Conditions    None      Road Type    Single carriageway  
 V1 & V2 (GRITTING LORRY) TRAVELLING NORTH. V2 SLOWED AND PERFORMED  
 A U-TURN IN THE ROAD. V1 COLLIDED WITH V2 WHILST PERFORMING THE MANOEUVRE.  
 Occurred on    A38 BRISTOL ROAD, OUTSIDE NO.384, BRIDGWATER.

Vehicle Reference    1      Car      Going ahead  
 Not in restricted lane      No skidding, jack-knifing or overturning  
 First point of impact    Nearside      Age of Driver    49  
 Vehicle direction    S to N  
 FRV    Not foreign registered vehicle      Journey    6  
 Casualty Reference:    1      Age:    49      Male      Driver/rider      Severity:    Slight

Vehicle Reference    2      Other Vehicle      U turn  
 Not in restricted lane      No skidding, jack-knifing or overturning  
 First point of impact    Nearside      Age of Driver    29  
 Vehicle direction    S to S  
 FRV    Not foreign registered vehicle      Journey    6



Collisions between dates 01/01/2016 and 31/12/2020 (60) months

**Selection:**

Selected using Manual Selection

**Notes:**

Bridgwater

171702175 26/03/2017 Sunday Time 1505 Vehicles 2 Casualties 1 Slight  
Fine without high winds Road surface Dry Daylight: street lights present  
Special Conditions None Road Type Single carriageway  
V1 & V2, TRAVELLING NORTH EAST, WERE APPROACHING SLOWING TRAFFIC DUE TO A VEH  
TURNING RIGHT AHEAD. V2 SLOWING AND WAS STRUCK BY V1 WHICH WAS UNABLE TO STOP IN TIME.  
Occurred on A38 BRISTOL ROAD, OUTSIDE NO 338, BRIDGWATER

Vehicle Reference	1	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front		Age of Driver 19
Vehicle direction	SW to NE		
FRV	Not foreign registered vehicle		Journey 6
Vehicle Reference	2	Motorcycle over 500cc	Slowing or Stopping
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Back		Age of Driver 72
Vehicle direction	SW to NE		
FRV	Not foreign registered vehicle		Journey 6
Casualty Reference:	1	Age: 72	Male Driver/rider Severity: Slight

171702102 27/03/2017 Monday Time 1107 Vehicles 3 Casualties 2 Slight  
Fine without high winds Road surface Dry Darkness: street lighting unknown  
Special Conditions None Road Type Single carriageway  
V1, V2 & V3 TRAVELLING NORTH EAST. V1 WAS MOVING SLOWLY FOLLOWING THE FLOW OF TRAFFIC.  
V2 FAILED TO REALISE THIS AND DROVE INTO THE REAR OF V1. V3 COLLIDED WITH REAR OF V2.  
Occurred on A39 BATH ROAD, BRIDGWATER.

Vehicle Reference	1	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Back		Age of Driver 37
Vehicle direction	SW to NE		
FRV	Not foreign registered vehicle		Journey Journey as part of work
Casualty Reference:	1	Age: 42	Female Passenger Severity: Slight
Casualty Reference:	2	Age: 37	Male Driver/rider Severity: Slight

Vehicle Reference	2	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front		Age of Driver 25
Vehicle direction	SW to NE		
FRV	Not foreign registered vehicle		Journey 6
Vehicle Reference	3	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front		Age of Driver 45
Vehicle direction	SW to NE		
FRV	Not foreign registered vehicle		Journey 6

Collisions between dates 01/01/2016 and 31/12/2020 (60) months

**Selection:**

Selected using Manual Selection

**Notes:**

Bridgwater

171702895 28/03/2017 Tuesday Time 2155 Vehicles 2 Casualties 1 Slight  
Raining without high winds Road surface Wet/Damp Darkness: street lights present and lit  
Special Conditions None Road Type Single carriageway  
V1 PARKED FACING NORTH, V2 TRAVELLING SAME DIRECTION. V1 WAS DROPPING OFF PASSENGER AND  
WAS DISPLAYING HAZARD LIGHTS. V2 WAS BEING RIDDEN ON THE PAVEMENT NOT DISPLAYING LIGHTS.  
PASSENGER IN V1 OPENED CAR DOOR OF CAR. V1 COLLIDED WITH V2.  
Occurred on A38 BRISTOL ROAD, OUTSIDE NO.212, BRIDGWATER

Vehicle Reference	1	Car	Parked
Footway (pavement)			No skidding, jack-knifing or overturning
First point of impact	Nearside	Age of Driver	47
Vehicle direction	Park to Park		
FRV	Not foreign registered vehicle	Journey	6
Vehicle Reference	2	Pedal cycle	Going ahead
Footway (pavement)			No skidding, jack-knifing or overturning
First point of impact	Front	Age of Driver	33
Vehicle direction	S to N		
FRV	Not foreign registered vehicle	Journey	6
Casualty Reference:	1	Age:	33
		Female	Driver/rider
			Severity: Slight

171702662 29/03/2017 Wednesday Time 1515 Vehicles 2 Casualties 1 Slight  
Fine without high winds Road surface Dry Daylight: street lights present  
Special Conditions None Road Type Single carriageway  
V1 TRAVELLING NORTH WEST, V2 PARKED AND UNATTENDED. DRIVER OF V1 LOST CONTROL ON RIGHT HAND BEND.  
V1 OVERTURNED ONTO ITS NEAR SIDE AND COLLIDED WITH V2, THEN WITH A HOUSE, STREET LAMP AND BT POLE.  
Occurred on A39 BATH ROAD, OUTSIDE NO. 104, BAWDRIP.

Vehicle Reference	1	Goods between 3.5 and 7.5 tonnes	Going ahead right hand bend
Not in restricted lane			Overtaken
First point of impact	Front	Age of Driver	56
Vehicle direction	SE to NW		
FRV	Not foreign registered vehicle	Journey	6
Casualty Reference:	1	Age:	56
		Male	Driver/rider
			Severity: Slight

Vehicle Reference	2	Car	Parked
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Nearside	Age of Driver	
Vehicle direction	Park to Park		
FRV	Not foreign registered vehicle	Journey	6

Collisions between dates 01/01/2016 and 31/12/2020 (60) months

**Selection:**

Selected using Manual Selection

**Notes:**

Bridgwater

171702220 31/03/2017 Friday Time 1406 Vehicles 2 Casualties 1 Slight  
Fine without high winds Road surface Dry Daylight: street lights present  
Special Conditions None Road Type Dual carriageway  
V1 TRAVELLING SOUTH, V2 TRAVELLING EAST. V1 TURNED RIGHT WESTBOUND AND COLLIDED WITH V2.  
Occurred on A39, AT JCT WITH B3141, BAWDRIP.

Vehicle Reference	1	Car	Turning right
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front	Age of Driver	33
Vehicle direction	N to W		
FRV	Not foreign registered vehicle	Journey	6
Vehicle Reference	2	Motorcycle over 500cc	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Nearside	Age of Driver	30
Vehicle direction	W to E		
FRV	Not foreign registered vehicle	Journey	6
Casualty Reference:	1	Age: 30	Male Driver/rider Severity: Slight

171702395 02/04/2017 Sunday Time 1315 Vehicles 2 Casualties 2 Slight  
Fine without high winds Road surface Dry Daylight: street lights present  
Special Conditions None Road Type Single carriageway  
V1 & V2 TRAVELLING NORTH WEST. V2 SLOWED SUDDENLY AND WAS HIT FROM BEHIND BY V1.  
Occurred on A39, PURITON HILL, AT JCT WITH RIVERTON ROAD, PURITON.

Vehicle Reference	1	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front	Age of Driver	20
Vehicle direction	SE to NW		
FRV	Not foreign registered vehicle	Journey	6
Casualty Reference:	1	Age: 20	Male Driver/rider Severity: Slight

Vehicle Reference	2	Car	Slowing or Stopping
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Back	Age of Driver	38
Vehicle direction	SE to NW		
FRV	Not foreign registered vehicle	Journey	6
Casualty Reference:	2	Age: 38	Male Driver/rider Severity: Slight



Collisions between dates 01/01/2016 and 31/12/2020 (60) months

**Selection:**

Selected using Manual Selection

**Notes:**

Bridgwater

171702584 16/04/2017 Sunday Time 1940 Vehicles 1 Casualties 1 Slight  
Fine without high winds Road surface Dry Daylight: street lights present  
Special Conditions None Road Type Single carriageway  
V1 TRAVELLING NORTH EAST AND TURNED LEFT NORTH WEST. THE REAR WHEEL SLIPPED AND CAUSED  
V1 TO HIT THE PED CROSSING STRUCTURE. THE BUTTON MECHANISM HAS FALLEN OFF THE CROSSING POLE.  
Occurred on A39 BATH ROAD, AT JCT WITH KING'S DRIVE, BRIDGWATER

Vehicle Reference 1 Motorcycle over 50cc and up to 125cc Turning left  
Not in restricted lane Skidded  
First point of impact Front Age of Driver 19  
Vehicle direction SW to NW  
FRV Not foreign registered vehicle Journey 6

Casualty Reference: 1 Age: 19 Male Driver/rider Severity: Slight

171703403 17/04/2017 Monday Time 1713 Vehicles 2 Casualties 1 Slight  
Fine without high winds Road surface Dry Daylight: street lights present  
Special Conditions None Road Type Single carriageway  
V1 & V2 TRAVELLING SOUTH. V2 OVERTOOK V1 FORCING RIDER OF V1 TO FALL FROM MACHINE.  
Occurred on KINGS DRIVE, BRIDGWATER.

Vehicle Reference 1 Motorcycle 50cc and under Going ahead right hand bend  
Not in restricted lane No skidding, jack-knifing or overturning  
First point of impact Nearside Age of Driver 16  
Vehicle direction N to S  
FRV Not foreign registered vehicle Journey Journey as part of work

Casualty Reference: 1 Age: 16 Male Driver/rider Severity: Slight

Vehicle Reference 2 Car Going ahead right hand bend  
Not in restricted lane No skidding, jack-knifing or overturning  
First point of impact Did not impact Age of Driver  
Vehicle direction N to S  
FRV Not foreign registered vehicle Journey 6

Collisions between dates 01/01/2016 and 31/12/2020 (60) months

Selection:

Selected using Manual Selection

Notes:

Bridgwater

171703344 22/04/2017 Saturday Time 0335 Vehicles 1 Casualties 1 Serious  
Fine without high winds Road surface Dry Darkness: no street lighting  
Special Conditions None Road Type Single carriageway  
V1, TRAVELLING SOUTH EAST, CAME OVER BROW OF HILL  
AND HIT PED WHO WAS STOOD IN THE ROAD IN DARK CLOTHING.  
Occurred on A39 PURITON HILL OUTSIDE ROCKFIELD HOUSE, PURITON.

Vehicle Reference 1 Car Going ahead  
Not in restricted lane No skidding, jack-knifing or overturning  
First point of impact Front Age of Driver 56  
Vehicle direction NW to SE  
FRV Not foreign registered vehicle Journey 6  
Casualty Reference: 1 Age: 35 Male Pedestrian Severity: Serious  
Pedestrian Direction: 0

171702881 02/05/2017 Tuesday Time 1435 Vehicles 2 Casualties 2 Slight  
Fine without high winds Road surface Dry Daylight: street lights present  
Special Conditions None Road Type Unknown  
V1 & V2 TRAVELLING SOUTH. V1 APPROACHED FROM BEHIND AT EXCESSIVE SPEED, MISJUDGED OVERTAKE AND  
STRUCK REAR OF V2. DRIVER OF V1 INITIALLY STOPPED BUT THEN DROVE OFF WITHOUT EXCHANGING DETAILS.  
Occurred on A38 BRISTOL ROAD, PURITON.

Vehicle Reference 1 Car Going ahead  
Not in restricted lane No skidding, jack-knifing or overturning  
First point of impact Front Age of Driver 27  
Vehicle direction N to S  
FRV Not foreign registered vehicle Journey 6  
Vehicle Reference 2 Car Going ahead  
Not in restricted lane No skidding, jack-knifing or overturning  
First point of impact Back Age of Driver 40  
Vehicle direction N to S  
FRV Not foreign registered vehicle Journey 6  
Casualty Reference: 1 Age: 33 Female Passenger Severity: Slight  
Casualty Reference: 2 Age: 9 Male Passenger Severity: Slight

**Collisions between dates**      **01/01/2016 and 31/12/2020**    (60) months

**Selection:**

Selected using Manual Selection

**Notes:**

Bridgwater

171702964      02/05/2017      Tuesday    Time 1001    Vehicles    2    Casualties    1    Slight  
 Fine without high winds                      Road surface    Dry                      Daylight: street lights present  
 Special Conditions    None    Road Type    Single carriageway  
 V1 & V2 TRAVELLING SOUTH WEST. V1 TRIED TO PASS V2 AS IT HAD STOPPED ON DOUBLE YELLOW LINES  
 WITH ITS NEARSIDE TO THE PAVEMENT. DRIVER OF V2 GOT OUT AND WAS HIT BY V1 AS IT PASSED.  
 Occurred on      A39 BATH ROAD, OUTSIDE NO 130, BRIDGWATER

Vehicle Reference    1	Car	Going ahead
Not in restricted lane		No skidding, jack-knifing or overturning
First point of impact    Front		Age of Driver    71
Vehicle direction    NE to SW		
FRV    Not foreign registered vehicle		Journey    6
Vehicle Reference    2	Car	Going ahead
Not in restricted lane		No skidding, jack-knifing or overturning
First point of impact    Back		Age of Driver    75
Vehicle direction    NE to SW		
FRV    Not foreign registered vehicle		Journey    6
Casualty Reference:    1	Age:    75	Male      Pedestrian      Severity:    Slight
Pedestrian Direction: SW		

171705033      01/06/2017      Thursday    Time 1241    Vehicles    1    Casualties    1    Slight  
 Fine without high winds                      Road surface    Dry                      Daylight: street lights present  
 Special Conditions    None    Road Type    Roundabout  
 V1, TRAVELLING WEST, OVERSHOT THE JCT AND COLLIDED WITH A FENCE FINISHING UP IN A FIELD.  
 Occurred on      A39, AT JCT WITH M5 J23 RAB, PURITON.

Vehicle Reference    1	Car	Going ahead
Not in restricted lane		No skidding, jack-knifing or overturning
First point of impact    Front		Age of Driver    85
Vehicle direction    E to W		
FRV    Not foreign registered vehicle		Journey    6
Casualty Reference:    1	Age:    85	Male      Driver/rider      Severity:    Slight



Collisions between dates 01/01/2016 and 31/12/2020 (60) months

Selection:

Selected using Manual Selection

Notes:

Bridgwater

171703582 02/06/2017 Friday Time 0705 Vehicles 2 Casualties 1 Slight  
Fine without high winds Road surface Dry Daylight: street lights present  
Special Conditions None Road Type Single carriageway  
V1 & V2 TRAVELLING NORTH. V1 WAS WAITING AT THE JCT TO TURN RIGHT ON TO WESTONZOYLAND ROAD.  
DRIVER OF V1 EDGED FORWARDS TO THE WHITE LINE TO SEE WHETHER THE ROAD WAS CLEAR TO PULL OUT ON.  
V2 COLLIDED WITH V1 WHICH WAS SHUNTED OUT IN TO THE ROAD  
Occurred on ALL SAINTS TERRACE, WESTONZOYLAND ROAD BRIDGWATER.

Vehicle Reference 1 Car Waiting to turn right  
Not in restricted lane No skidding, jack-knifing or overturning  
First point of impact Front Age of Driver 35  
Vehicle direction S to SE  
FRV Not foreign registered vehicle Journey Journey as part of work  
Casualty Reference: 1 Age: 35 Female Driver/rider Severity: Slight

Vehicle Reference 2 Car Going ahead  
Not in restricted lane No skidding, jack-knifing or overturning  
First point of impact Back Age of Driver 35  
Vehicle direction S to N  
FRV Not foreign registered vehicle Journey 6

171705395 08/06/2017 Thursday Time 2000 Vehicles 2 Casualties 1 Slight  
Fine without high winds Road surface Dry Daylight: street lights present  
Special Conditions None Road Type Dual carriageway  
V1 & V2 TRAVELLING SOUTH WEST. V1 WAS STOPPED AT CROSSING,  
V2 FAILED TO STOP IN TIME AND COLLIDED WITH REAR OF V1.  
Occurred on A38 MOMMOUTH ST, BRIDGWATER

Vehicle Reference 1 Car Waiting to go ahead but held up  
Not in restricted lane No skidding, jack-knifing or overturning  
First point of impact Back Age of Driver 70  
Vehicle direction NE to SW  
FRV Not foreign registered vehicle Journey Journey as part of work  
Casualty Reference: 1 Age: 70 Female Driver/rider Severity: Slight

Vehicle Reference 2 Car Slowing or Stopping  
Not in restricted lane No skidding, jack-knifing or overturning  
First point of impact Front Age of Driver 32  
Vehicle direction NE to SW  
FRV Not foreign registered vehicle Journey Journey as part of work

## AccsMap - Collision Analysis System

Collisions between dates 01/01/2016 and 31/12/2020 (60) months

## Selection:

Selected using Manual Selection

## Notes:

Bridgwater

171703967 16/06/2017 Friday Time 1310 Vehicles 1 Casualties 1 Slight  
 Fine without high winds Road surface Dry Daylight: street lights present  
 Special Conditions None Road Type Single carriageway  
 V1 TRAVELLING SOUTH WEST. PED WALKED OUT INTO PATH OF V1. V1 COLLIDED WITH PED.  
 Occurred on A39 BATH ROAD, AT JCT WITH COLLEGE WAY, BRIDGWATER

Vehicle Reference 1 Car Going ahead  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Offside Age of Driver  
 Vehicle direction NE to SW  
 FRV Not foreign registered vehicle Journey 6  
 Casualty Reference: 1 Age: 17 Female Pedestrian Severity: Slight  
 9

171705649 16/06/2017 Friday Time 0840 Vehicles 2 Casualties 1 Slight  
 Fine without high winds Road surface Dry Daylight: street lights present  
 Special Conditions None Road Type Roundabout  
 V1 & V2 TRAVELLING WEST. V1 WAS STATIONARY, INDICATING LEFT TO TURN ON TO RAB.  
 V2 COLLIDED WITH REAR OF V1.  
 Occurred on A39 DUNBALL RAB AT M5 J23, BRIDGWATER

Vehicle Reference 1 Car Waiting to turn left  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Back Age of Driver 24  
 Vehicle direction E to W  
 FRV Not foreign registered vehicle Journey Journey as part of work  
 Casualty Reference: 1 Age: 19 Male Passenger Severity: Slight

Vehicle Reference 2 Car Slowing or Stopping  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Front Age of Driver 36  
 Vehicle direction E to W  
 FRV Not foreign registered vehicle Journey Journey as part of work

## AccsMap - Collision Analysis System

Collisions between dates 01/01/2016 and 31/12/2020 (60) months

## Selection:

Selected using Manual Selection

## Notes:

Bridgwater

171705868 12/07/2017 Wednesday Time 0625 Vehicles 2 Casualties 1 Slight  
Fine without high winds Road surface Wet/Damp Daylight: street lights present  
Special Conditions None Road Type Single carriageway  
V1 TRAVELLING NORTH WEST, V2 TRAVELLING SOUTH WEST. V1 OVERTOOK A LORRY  
AND PULLED BACK INTO LANE. V2 PULLED OUT FROM THE JCT SOUTH EAST AND V1 COLLIDED WITH V2.  
Occurred on A39 PURITON HILL, AT JCT WITH HILLSIDE, PURITON.

Vehicle Reference 1 Car

Not in restricted lane

First point of impact Offside

Vehicle direction SE to NW

FRV Not foreign registered vehicle

Going ahead

No skidding, jack-knifing or overturning

Age of Driver 53

Journey 6

Vehicle Reference 2 Car

Not in restricted lane

First point of impact Front

Vehicle direction NE to SE

FRV Not foreign registered vehicle

Turning left

No skidding, jack-knifing or overturning

Age of Driver 36

Journey 6

Casualty Reference: 1 Age: 36 Male Driver/rider Severity: Slight



Collisions between dates 01/01/2016 and 31/12/2020 (60) months

**Selection:**

Selected using Manual Selection

**Notes:**

Bridgwater

171706128 19/07/2017 Wednesday Time 0900 Vehicles 3 Casualties 3 Slight  
Unknown Road surface Dry Daylight: street lights present  
Special Conditions None Road Type Dual carriageway  
V1, V2 & V3 TRAVELLING SOUTH IN SLOW HEAVY TRAFFIC TOWARDS THE RAB JCT OF KINGS DRIVE.  
V3 LOOKED TO CHANGE LANES, CHECKED MIRRORS, WENT TO MOVE BUT LOOKED UP TO SEE TRAFFIC IN FRONT,  
V1& V2 WERE STATIONARY. V3 COLLIDED WITH REAR OF V2 WHICH COLLIDED WITH V1.  
Occurred on A38 BRISTOL ROAD, OUTSIDE ASPEN BUSINESS CENTRE, AT JCT WITH KINGS DRIVE, BRIDGWATER.

Vehicle Reference	1	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Back	Age of Driver	53
Vehicle direction	N to S		
FRV	Not foreign registered vehicle	Journey	6
Vehicle Reference	2	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Back	Age of Driver	56
Vehicle direction	N to S		
FRV	Not foreign registered vehicle	Journey	6
Casualty Reference:	1	Age: 56	Female Driver/rider Severity: Slight
Casualty Reference:	3	Age: 13	Female Passenger Severity: Slight
Vehicle Reference	3	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front	Age of Driver	29
Vehicle direction	N to S		
FRV	Not foreign registered vehicle	Journey	Journey as part of work
Casualty Reference:	2	Age: 29	Male Driver/rider Severity: Slight

## AccsMap - Collision Analysis System

Collisions between dates 01/01/2016 and 31/12/2020 (60) months

## Selection:

Selected using Manual Selection

## Notes:

Bridgwater

171705065 31/07/2017 Monday Time 1320 Vehicles 2 Casualties 1 Slight  
 Unknown Road surface Dry Daylight: street lights present  
 Special Conditions None Road Type Dual carriageway  
 V1 & V2 TRAVELLING SOUTH EAST. V1 WAS INTENDING TO TURN LEFT NORTH EAST,  
 V2 FAILED TO STOP IN TIME AND COLLIDED WITH REAR OF V1.  
 Occurred on WYLDs ROAD, AT JCT WITH A38 BRISTOL ROAD, BRIDGWATER.

Vehicle Reference 1 Motorcycle over 500cc Waiting to turn left  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Offside Age of Driver 56  
 Vehicle direction NW to NE  
 FRV Not foreign registered vehicle Journey 6  
 Casualty Reference: 1 Age: 56 Female Driver/rider Severity: Slight

Vehicle Reference 2 Car Going ahead  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Front Age of Driver 55  
 Vehicle direction NW to SE  
 FRV Not foreign registered vehicle Journey 6

171707097 04/08/2017 Friday Time 1420 Vehicles 3 Casualties 1 Slight  
 Fine without high winds Road surface Dry Daylight: street lights present  
 Special Conditions None Road Type Single carriageway  
 V1 & V2 TRAVELLING NORTH WEST, V3 TRAVELLING SOUTH WEST. V1 WAS WAITING  
 TO PULL OUT OF THE SIDE ROAD, SAW V3 BEING RIDDEN ALONG THE PAVEMENT  
 SO WENT TO REVERSE TO ALLOW THE SCOOTER TO PASS. V2 COLLIDED WITH REAR OF V1.  
 Occurred on A39 BATH ROAD, AT JCT WITH COLLEGE WAY, BRIDGWATER.

Vehicle Reference 1 Car Going ahead  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Back Age of Driver 57  
 Vehicle direction SE to NW  
 FRV Not foreign registered vehicle Journey 6

Vehicle Reference 2 Pedal cycle Going ahead  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Front Age of Driver 61  
 Vehicle direction SE to NW  
 FRV Not foreign registered vehicle Journey 6

Casualty Reference: 1 Age: 61 Female Driver/rider Severity: Slight

Vehicle Reference 3 Mobility Scooter Going ahead  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Did not impact Age of Driver 88  
 Vehicle direction NE to SW  
 FRV Not foreign registered vehicle Journey 6

Collisions between dates 01/01/2016 and 31/12/2020 (60) months

**Selection:**

Selected using Manual Selection

**Notes:**

Bridgwater

171707583 23/08/2017 Wednesday Time 0616 Vehicles 2 Casualties 1 Slight  
Unknown Road surface Dry Daylight: street lights present  
Special Conditions None Road Type Slip road  
V1 & V2 TRAVELLING SOUTH EAST. V1 COLLIDED WITH V2 CAUSING RIDER OF V2 TO FALL FROM MACHINE.  
Occurred on A38 THE DROVE, BRIDGWATER

Vehicle Reference	1	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front	Age of Driver	63
Vehicle direction	NW to SE		
FRV	Not foreign registered vehicle	Journey	6
Vehicle Reference	2	Pedal cycle	Going ahead
Footway (pavement)			No skidding, jack-knifing or overturning
First point of impact	Back	Age of Driver	14
Vehicle direction	NW to SE		
FRV	Not foreign registered vehicle	Journey	6
Casualty Reference:	1	Age:	14
		Male	Driver/rider
			Severity: Slight

171707090 28/08/2017 Monday Time 1310 Vehicles 2 Casualties 1 Slight  
Fine without high winds Road surface Dry Daylight: street lights present  
Special Conditions None Road Type Single carriageway  
V1 & V2 TRAVELLING NORTH EAST, V1 WAS ON PAVEMENT APPROACHING JCT.  
V1 RODE OFF THE PAVEMENT ONTO THE ROAD AND COLLIDED WITH V2.  
Occurred on A39 BATH ROAD, AT JCT WITH DOWNEND ROAD, PURITON.

Vehicle Reference	1	Pedal cycle	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Offside	Age of Driver	16
Vehicle direction	SW to NE		
FRV	Not foreign registered vehicle	Journey	6
Casualty Reference:	1	Age:	16
		Male	Driver/rider
			Severity: Slight

Vehicle Reference	2	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front	Age of Driver	68
Vehicle direction	SW to NE		
FRV	Not foreign registered vehicle	Journey	6



Bridgwater

Vehicle Reference	1	Car	Going ahead			
Not in restricted lane			No skidding, jack-knifing or overturning			
First point of impact	Front	Age of Driver	22			
Vehicle direction	W to E					
FRV	Not foreign registered vehicle	Journey	6			
Casualty Reference:	1	Age:	22	Male	Driver/rider	Severity: Slight

Vehicle Reference	1	Motorcycle over 125cc and up to	Going ahead
Not in restricted lane		No skidding, jack-knifing or overturning	
First point of impact	Front	Age of Driver	18
Vehicle direction	NE to W		
FRV	Not foreign registered vehicle	Journey	6
Casualty Reference:	1	Age:	18
		Male	Driver/rider
		Severity:	Slight

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## AccsMap - Collision Analysis System

Collisions between dates 01/01/2016 and 31/12/2020 (60) months

## Selection:

Selected using Manual Selection

## Notes:

Bridgwater

171707130 12/09/2017 Tuesday Time 1334 Vehicles 2 Casualties 1 Slight  
 Unknown Road surface Dry Daylight: street lights present  
 Special Conditions None Road Type Dual carriageway  
 V1 TRAVELLING SOUTH WEST, V2 (POLICE VEH ON EMERGENCY CALL) TRAVELLING NORTH WEST.  
 V2 APPROACHED THE JCT INITIALLY ON THE OFFSIDE, REGAINED THE NEARSIDE  
 UPON ENTERING THE JCT AND STOPPED. V1 ENTERED JCT AND COLLIDED WITH V2.  
 Occurred on A38 MONMOUTH ST, AT JCT WITH A372 ST JOHN ST, BRIDGWATER.

Vehicle Reference 1 Motorcycle over 500cc Going ahead  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Front Age of Driver 42  
 Vehicle direction NE to SW  
 FRV Not foreign registered vehicle Journey 6  
 Casualty Reference: 1 Age: 42 Female Driver/rider Severity: Slight

Vehicle Reference 2 Car Going ahead  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Offside Age of Driver 42  
 Vehicle direction SE to NW  
 FRV Not foreign registered vehicle Journey 6

171708388 24/09/2017 Sunday Time 1630 Vehicles 2 Casualties 1 Slight  
 Raining without high winds Road surface Wet/Damp Daylight: street lights present  
 Special Conditions None Road Type Single carriageway  
 V1 & V2 TRVALLING NORTH WEST, V1 MOVED TO TURN RIGHT NORTH.  
 V2 FAILED TO NOTICE V1 STATIONARY AND COLLIDED WITH REAR OF V1.  
 Occurred on A39 THE DROVE, NEAR JCTI WITH BOARDS ROAD, BRIDGWATER.

Vehicle Reference 1 Car Turning right  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Back Age of Driver 81  
 Vehicle direction SE to N  
 FRV Not foreign registered vehicle Journey 6

Vehicle Reference 2 Car Going ahead  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Front Age of Driver 17  
 Vehicle direction SE to NW  
 FRV Not foreign registered vehicle Journey 6  
 Casualty Reference: 1 Age: 17 Female Driver/rider Severity: Slight

## AccsMap - Collision Analysis System

Collisions between dates 01/01/2016 and 31/12/2020 (60) months

## Selection:

Selected using Manual Selection

## Notes:

Bridgwater

171706819 09/10/2017 Monday Time 1830 Vehicles 3 Casualties 1 Slight  
 Fine without high winds Road surface Dry Darkness: street lights present and lit  
 Special Conditions None Road Type Single carriageway  
 V1 & V2 TRAVELLING SOUTH WEST, V3 TRAVELLING OPPOSITE DIRECTION. V3 COLLIDED WITH V1 & V2.  
 Occurred on A39 BATH ROAD, BRIDGWATER

Vehicle Reference	1	Pedal cycle	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front	Age of Driver	17
Vehicle direction	NE to SW		
FRV	Not foreign registered vehicle	Journey	6
Vehicle Reference	2	Pedal cycle	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front	Age of Driver	16
Vehicle direction	NE to SW		
FRV	Not foreign registered vehicle	Journey	6
Casualty Reference:	1	Age:	16
		Female	Driver/rider
		Severity:	Slight

Vehicle Reference	3	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front	Age of Driver	
Vehicle direction	SW to NE		
FRV	Not foreign registered vehicle	Journey	6



## AccsMap - Collision Analysis System

Collisions between dates 01/01/2016 and 31/12/2020 (60) months

## Selection:

Selected using Manual Selection

## Notes:

Bridgwater

171706829 09/10/2017 Monday Time 1710 Vehicles 3 Casualties 1 Slight  
 Fine without high winds Road surface Dry Daylight: street lights present  
 Special Conditions None Road Type Single carriageway  
 V1, V2 & V3 TRAVELLING NORTH EAST. V1 & V2 STOPPED.  
 V3 COLLIDED WITH REAR OF V1 AND V1 COLLIDED WITH REAR OF V2.  
 Occurred on A39 BATH ROAD, BRIDGWATER

Vehicle Reference 1 Car Slowing or Stopping  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Back Age of Driver 83  
 Vehicle direction SW to NE  
 FRV Not foreign registered vehicle Journey 6  
 Casualty Reference: 1 Age: 78 Female Passenger Severity: Slight

Vehicle Reference 2 Car Slowing or Stopping  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Back Age of Driver 25  
 Vehicle direction SW to NE  
 FRV Not foreign registered vehicle Journey 6

Vehicle Reference 3 Goods <= 3.5 tonnes mgw Slowing or Stopping  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Front Age of Driver 35  
 Vehicle direction SW to NE  
 FRV Not foreign registered vehicle Journey 6

**Collisions between dates**      **01/01/2016 and 31/12/2020**    (60) months

**Selection:**

Selected using Manual Selection

**Notes:**

Bridgwater

171800215      20/10/2017      Friday      Time 1400    Vehicles    3    Casualties    2    Slight  
 Fine without high winds      Road surface    Dry      Daylight: street lights present  
 Special Conditions    None      Road Type    Dual carriageway  
 V1, V2 & V3 TRAVELLING NORTH EAST. V3 SLOWED DUE TO VEH TURNING RIGHT, V2 STOPPED BEHIND V3.  
 V1 FAILED TO STOP IN TIME AND COLLIDED WITH REAR OF V2, PUSHING V2 INTO V3.  
 Occurred on    A39 BATH ROAD, BRIDGWATER

Vehicle Reference	1	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front		Age of Driver    87
Vehicle direction	SW to NE		
FRV	Not foreign registered vehicle		Journey    Journey as part of work
Vehicle Reference	2	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Back		Age of Driver    65
Vehicle direction	SW to NE		
FRV	Not foreign registered vehicle		Journey    Journey as part of work
Casualty Reference:	1	Age: 65	Female    Driver/rider    Severity:    Slight

Vehicle Reference	3	Car	Slowing or Stopping
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Back		Age of Driver    46
Vehicle direction	SW to NE		
FRV	Not foreign registered vehicle		Journey    Journey as part of work
Casualty Reference:	2	Age: 46	Male    Driver/rider    Severity:    Slight

171707345      01/11/2017      Wednesday    Time 1705    Vehicles    2    Casualties    1    Slight  
 Fine without high winds      Road surface    Dry      Darkness: street lights present and lit  
 Special Conditions    None      Road Type    Roundabout  
 V1 & V2 TRAVELLING NORTH. ON ENTERING RAB, V1 UNDERTOOK V2. V1 COLLIDED WITH V2.  
 Occurred on    A38 BRISTOL ROAD, AT JCT WITH KINGS DRIVE, BRIDGWATER.

Vehicle Reference	1	Pedal cycle	Overtaking on nearside
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Back		Age of Driver    46
Vehicle direction	S to N		
FRV	Not foreign registered vehicle		Journey    6
Casualty Reference:	1	Age: 46	Male    Driver/rider    Severity:    Slight

Vehicle Reference	2	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front		Age of Driver    63
Vehicle direction	S to N		
FRV	Not foreign registered vehicle		Journey    6

**Collisions between dates**      **01/01/2016 and 31/12/2020**    (60) months

**Selection:**

Selected using Manual Selection

**Notes:**

Bridgwater

171707473      02/11/2017      Thursday      Time 2014      Vehicles 1      Casualties 1      Slight  
 Fog or mist      Road surface Dry      Darkness: street lights present and lit  
 Special Conditions None      Road Type Roundabout  
 V1 TRAVELLING SOUTH WEST, PED WALKING NORTH WEST ON CROSSING.  
 V1 FAILED TO STOP IN TIME AND COLLIDED WITH PED.  
 Occurred on A39, BATH ROAD, APPROACHING CROSS RIFLES RAB, BRIDGWATER.

Vehicle Reference 1      Car      Going ahead  
 Not in restricted lane      Skidded  
 First point of impact Front      Age of Driver 57  
 Vehicle direction NE to SW  
 FRV Not foreign registered vehicle      Journey Journey as part of work  
 Casualty Reference: 1      Age: 10      Male      Pedestrian      Severity: Slight  
 Pedestrian Direction:

171800375      02/11/2017      Thursday      Time 1802      Vehicles 2      Casualties 1      Slight  
 Fine without high winds      Road surface Wet/Damp      Darkness: no street lighting  
 Special Conditions None      Road Type Roundabout  
 V1 & V2 TRAVELLING NORTH EAST. TRAFFIC WAS HEAVY DUE TO THE TIME OF DAY. V2 MOVED FORWARD IN A  
 QUEUE OF TRAFFIC THEN STOPPED. V1 MOVED FORWARD, FAILED TO STOP IN TIME AND COLLIDED WITH REAR OF V2.  
 Occurred on A39, ON APPROACH TO M5 J23, PURITON.

Vehicle Reference 1      Car      Moving off  
 Not in restricted lane      No skidding, jack-knifing or overturning  
 First point of impact Front      Age of Driver 33  
 Vehicle direction SW to NE  
 FRV Not foreign registered vehicle      Journey 6  
 Casualty Reference: 1      Age: 33      Female      Driver/rider      Severity: Slight

Vehicle Reference 2      Bus or coach      Slowing or Stopping  
 Not in restricted lane      No skidding, jack-knifing or overturning  
 First point of impact Back      Age of Driver 40  
 Vehicle direction SW to NE  
 FRV Not foreign registered vehicle      Journey 6



## AccsMap - Collision Analysis System

Collisions between dates 01/01/2016 and 31/12/2020 (60) months

## Selection:

Selected using Manual Selection

## Notes:

Bridgwater

171707401 03/11/2017 Friday Time 2030 Vehicles 1 Casualties 1 Slight  
 Fog or mist Road surface Wet/Damp Darkness: street lights present and lit  
 Special Conditions None Road Type Single carriageway  
 V1 TRAVELLING NORTH EAST. PED WAS USING THE ZEBRA CROSSING.  
 V1 APPROACHED AND COLLIDED WITH PED.  
 Occurred on A39 BATH ROAD, BRIDGWATER

Vehicle Reference 1 Car Slowing or Stopping  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Front Age of Driver 30  
 Vehicle direction SW to NE  
 FRV Not foreign registered vehicle Journey Journey as part of work  
 Casualty Reference: 1 Age: 14 Male Pedestrian Severity: Slight  
 9

171707511 08/11/2017 Wednesday Time 2020 Vehicles 2 Casualties 1 Slight  
 Unknown Road surface Dry Darkness: street lights present and lit  
 Special Conditions None Road Type Unknown  
 V1 TRAVELLING EAST, V2 TRAVELLING SOUTH. V2 COLLIDED WITH REAR NEARSIDE OF V1,  
 CAUSING V1 TO SPIN. V2 FAILED TO STOP.  
 Occurred on A38, CROSS RIFLES RAB, BRIDGWATER.

Vehicle Reference 1 Car Going ahead  
 Not in restricted lane Skidded  
 First point of impact Nearside Age of Driver 27  
 Vehicle direction W to E  
 FRV Not foreign registered vehicle Journey 6  
 Casualty Reference: 1 Age: 27 Male Driver/rider Severity: Slight

Vehicle Reference 2 Car Going ahead  
 Tram/light rail track No skidding, jack-knifing or overturning  
 First point of impact Front Age of Driver  
 Vehicle direction N to S  
 FRV Not foreign registered vehicle Journey 6

## AccsMap - Collision Analysis System

Collisions between dates 01/01/2016 and 31/12/2020 (60) months

## Selection:

Selected using Manual Selection

## Notes:

Bridgwater

171707845 21/11/2017 Tuesday Time 1610 Vehicles 2 Casualties 1 Slight  
 Fine without high winds Road surface Dry Darkness: no street lighting  
 Special Conditions None Road Type Single carriageway  
 V1 CAME TO A STOP DUE TO TRAFFIC. V2 FAILED TO STOP IN TIME AND COLLIDED WITH REAR OF V1.  
 Occurred on A38 BRISTOL ROAD, BRIDGWATER

Vehicle Reference 1 Car Waiting to go ahead but held up  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Back Age of Driver 17  
 Vehicle direction NE to SW  
 FRV Not foreign registered vehicle Journey 6  
 Casualty Reference: 1 Age: 17 Male Driver/rider Severity: Slight

Vehicle Reference 2 Car Going ahead  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Front Age of Driver  
 Vehicle direction NE to SW  
 FRV Not foreign registered vehicle Journey 6

171800971 11/12/2017 Monday Time 1450 Vehicles 2 Casualties 1 Slight  
 Fine without high winds Road surface Dry Daylight: street lights present  
 Special Conditions None Road Type Unknown  
 V1 TRAVELLING SOUTH WEST, V2 TRAVELLING NORTH WEST.  
 V2 EMERGED FROM A SIDE ROAD AND COLLIDED WITH V1.  
 Occurred on A39 BATH ROAD, AT JCT WITH FREDERICK ROAD, BRIDGWATER.

Vehicle Reference 1 Car Going ahead  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Front Age of Driver 37  
 Vehicle direction NE to SW  
 FRV Not foreign registered vehicle Journey 6

Vehicle Reference 2 Pedal cycle Going ahead  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Front Age of Driver 24  
 Vehicle direction SE to NW  
 FRV Not foreign registered vehicle Journey 6  
 Casualty Reference: 1 Age: 24 Male Driver/rider Severity: Slight

**Collisions between dates**      **01/01/2016 and 31/12/2020**    (60) months

**Selection:**

Selected using Manual Selection

**Notes:**

Bridgwater

171800977      12/12/2017      Tuesday    Time 1650    Vehicles 2    Casualties 2    Slight  
 Fine without high winds      Road surface Wet/Damp      Darkness: street lights present and lit  
 Special Conditions None      Road Type Single carriageway  
 V1 & V2 TRAVELLING SOUTH EAST. V1 FAILED TO BRAKE IN TIME AND COLLIDED WITH V2  
 WHICH WAS STATIONARY IN TRAFFIC.  
 Occurred on A39 BATH ROAD, BAWDRIP.

Vehicle Reference	1	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Back	Age of Driver	18
Vehicle direction	NW to SE		
FRV	Not foreign registered vehicle	Journey	6
Vehicle Reference	2	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front	Age of Driver	35
Vehicle direction	NW to SE		
FRV	Not foreign registered vehicle	Journey	6
Casualty Reference:	1	Age: 11	Male      Passenger      Severity: Slight
Casualty Reference:	2	Age: 13	Female      Passenger      Severity: Slight

171800717      19/12/2017      Tuesday    Time 2318    Vehicles 2    Casualties 1    Slight  
 Raining without high winds      Road surface Wet/Damp      Darkness: street lights present but unlit  
 Special Conditions None      Road Type Single carriageway  
 V1 & V2 (POLICE VEH) TRAVELLING SOUTH WEST. DURING A POLICE PURSUIT V1 REVERSED RAMMED V2.  
 Occurred on A39, BATH ROAD, AT JCT WITH BRADNEY LANE, BAWDRIP.

Vehicle Reference	1	Car	Reversing
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Back	Age of Driver	
Vehicle direction	NE to SW		
FRV	Not foreign registered vehicle	Journey	6
Vehicle Reference	2	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front	Age of Driver	40
Vehicle direction	NE to SW		
FRV	Not foreign registered vehicle	Journey	Journey as part of work
Casualty Reference:	1	Age: 40	Male      Driver/rider      Severity: Slight



## AccsMap - Collision Analysis System

Collisions between dates 01/01/2016 and 31/12/2020 (60) months

## Selection:

Selected using Manual Selection

## Notes:

Bridgwater

171801168 24/12/2017 Sunday Time 0430 Vehicles 2 Casualties 1 Slight  
 Fine without high winds Road surface Dry Darkness: street lights present and lit  
 Special Conditions None Road Type Single carriageway  
 V1 PARKED FACING SOUTH, V2 TRAVELLING SAME DIRECTION. V2 COLLIDED WITH REAR OF TRAILER OF V1.  
 Occurred on KINGS ROAD, BRIDGWATER,

Vehicle Reference	1	Goods >= 7.5 tonnes mgw	Parked
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Back	Age of Driver	45
Vehicle direction	Park to		
FRV	Not foreign registered vehicle		Journey 6
Vehicle Reference	2	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front	Age of Driver	27
Vehicle direction	N to S		
FRV	Not foreign registered vehicle		Journey 6
Casualty Reference:	1	Age: 26	Male Passenger Severity: Slight

181800995 02/01/2018 Tuesday Time 1734 Vehicles 1 Casualties 1 Slight  
 Raining without high winds Road surface Wet/Damp Darkness: street lights present and lit  
 Special Conditions None Road Type Single carriageway  
 V1 TRAVELLING NORTH EAST, PED WALKING NORTH WEST. V1 COLLIDED WITH PED.  
 Occurred on A39 BATH ROAD, BRIDGWATER.

Vehicle Reference	1	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front	Age of Driver	40
Vehicle direction	SW to NE		
FRV	Not foreign registered vehicle		Journey 6
Casualty Reference:	1	Age: 74	Male Pedestrian Severity: Slight
Pedestrian Direction:			

**Collisions between dates**      **01/01/2016 and 31/12/2020**    (60) months

**Selection:**

Selected using Manual Selection

**Notes:**

Bridgwater

181801492      29/01/2018      Monday    Time 0636    Vehicles    2    Casualties    1    Serious  
 Fine without high winds                      Road surface    Dry                      Daylight: street lights present  
 Special Conditions    None                      Road Type      Single carriageway  
 V1 TRAVELLING NORTH, V2 TRAVELLING OPPOSITE DIRECTION.  
 V1 LOST CONTROL AND COLLIDED HEAD ON WITH V2.  
 Occurred on      A38 BRISTOL ROAD, OUTSIDE NO 6, BRIDGWATER

Vehicle Reference    1	Car	Going ahead
Not in restricted lane		No skidding, jack-knifing or overturning
First point of impact    Front		Age of Driver    49
Vehicle direction    S    to    N		
FRV    Not foreign registered vehicle		Journey    6
Vehicle Reference    2	Motorcycle over 50cc and up to 125cc	Going ahead
Not in restricted lane		No skidding, jack-knifing or overturning
First point of impact    Front		Age of Driver    31
Vehicle direction    N    to    S		
FRV    Not foreign registered vehicle		Journey    6
Casualty Reference:    1	Age:    31	Male                      Driver/rider                      Severity:    Serious

181801642      03/02/2018      Saturday    Time 1914    Vehicles    2    Casualties    1    Slight  
 Fine without high winds                      Road surface    Dry                      Darkness: street lights present and lit  
 Special Conditions    None                      Road Type      Single carriageway  
 V1 & V2 TRAVELLING NORTH. V1 WAS LOST SO ATTEMPTED TO TURN IN THE ROAD.  
 DRIVER FAILED TO LOOK PROPERLY AND COLLIDED WITH V2.  
 Occurred on      KINGS ROAD, BRIDGWATER.

Vehicle Reference    1	Car	Going ahead
Not in restricted lane		No skidding, jack-knifing or overturning
First point of impact    Front		Age of Driver    41
Vehicle direction    S    to    N		
FRV    Not foreign registered vehicle		Journey    6
Vehicle Reference    2	Motorcycle over 500cc	Going ahead
Not in restricted lane		No skidding, jack-knifing or overturning
First point of impact    Front		Age of Driver    43
Vehicle direction    S    to    N		
FRV    Not foreign registered vehicle		Journey    6
Casualty Reference:    1	Age:    43	Male                      Driver/rider                      Severity:    Slight

**Collisions between dates**      **01/01/2016 and 31/12/2020**    (60) months

**Selection:**

Selected using Manual Selection

**Notes:**

Bridgwater

181801686      10/02/2018      Saturday      Time 0600    Vehicles    1    Casualties    1    Slight  
 Snowing with high winds      Road surface    Dry      Darkness: no street lighting  
 Special Conditions    None      Road Type    Single carriageway  
 V1 TRAVELLING SOUTH EAST. DRIVER FAILED TO JUDGE THE SPEED AND PATH.  
 DRIVING OVER THE CENTRAL ISLAND AND COLLIDING WITH A TREE.  
 Occurred on    A38 BRISTOL ROAD, AT JCT WITH A39 RAB, PURITON.

Vehicle Reference    1      Car      Going ahead  
 Not in restricted lane      No skidding, jack-knifing or overturning  
 First point of impact    Front      Age of Driver    42  
 Vehicle direction    NW to SE  
 FRV    Not foreign registered vehicle      Journey    6  
 Casualty Reference:    1      Age:    56      Male      Passenger      Severity:    Slight

181801915      13/02/2018      Tuesday      Time 0759    Vehicles    3    Casualties    1    Slight  
 Raining without high winds      Road surface    Wet/Damp      Daylight: street lights present  
 Special Conditions    None      Road Type    Dual carriageway  
 V1 & V2 TRAVELLING SOUTH, V3 TRAVELLING OPPOSITE DIRECTION. V1 COLLIDED WITH V2  
 BEFORE CROSSING THE CENTRAL RESERVATION AND COLLIDING HEAD ON WITH V3.  
 Occurred on    A38 BRISTOL ROAD, BRIDGWATER

Vehicle Reference    1      Car      Going ahead  
 Not in restricted lane      No skidding, jack-knifing or overturning  
 First point of impact    Front      Age of Driver    46  
 Vehicle direction    N to S  
 FRV    Not foreign registered vehicle      Journey    6  
 Casualty Reference:    1      Age:    46      Female      Driver/rider      Severity:    Slight

Vehicle Reference    2      Car      Going ahead  
 Not in restricted lane      No skidding, jack-knifing or overturning  
 First point of impact    Offside      Age of Driver    40  
 Vehicle direction    N to S  
 FRV    Not foreign registered vehicle      Journey    6  
 Vehicle Reference    3      Car      Going ahead  
 Not in restricted lane      No skidding, jack-knifing or overturning  
 First point of impact    Front      Age of Driver    53  
 Vehicle direction    S to N  
 FRV    Not foreign registered vehicle      Journey    6



## AccsMap - Collision Analysis System

Collisions between dates 01/01/2016 and 31/12/2020 (60) months

## Selection:

Selected using Manual Selection

## Notes:

Bridgwater

181802542 04/03/2018 Sunday Time 1128 Vehicles 3 Casualties 1 Slight  
 Fine without high winds Road surface Wet/Damp Daylight: street lights present  
 Special Conditions None Road Type Single carriageway  
 V1, V2 & V3 TRAVELLING WEST, V1 & V2 STOPPED DUE TO TRAFFIC AHEAD.  
 V3 FAILED TO STOP IN TIME AND COLLIDED WITH REAR OF V2 WHICH WAS SHUNTED INTO V1.  
 Occurred on A39, OUTSIDE SERVICE STATION, BAWDRIP.

Vehicle Reference 1 Car Waiting to go ahead but held up  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Back Age of Driver 55  
 Vehicle direction E to W  
 FRV Not foreign registered vehicle Journey 6

Vehicle Reference 2 Car Waiting to go ahead but held up  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Front Age of Driver 31  
 Vehicle direction E to W  
 FRV Not foreign registered vehicle Journey 6

Casualty Reference: 1 Age: 24 Female Passenger Severity: Slight

Vehicle Reference 3 Car Going ahead  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Front Age of Driver 41  
 Vehicle direction E to W  
 FRV Not foreign registered vehicle Journey 6

181802628 07/03/2018 Wednesday Time 1640 Vehicles 2 Casualties 1 Slight  
 Unknown Road surface Dry Daylight: street lights present  
 Special Conditions None Road Type Single carriageway  
 V1 TRAVELLING SOUTH WEST, V2 (P/CYCLE) TRAVELLING OPPOSITE DIRECTION.  
 V2 TURNED RIGHT SOUTH EAST AND COLLIDED WITH V1.  
 Occurred on A39 BATH ROAD, AT JCT WITH BRANKSOME AVENUE, BRIDGWATER.

Vehicle Reference 1 Motorcycle over 500cc Overtaking stationary vehicle on its offside  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Nearside Age of Driver 34  
 Vehicle direction NE to SW  
 FRV Not foreign registered vehicle Journey 6

Vehicle Reference 2 Pedal cycle Turning right  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Front Age of Driver 28  
 Vehicle direction SW to SE  
 FRV Not foreign registered vehicle Journey 6

Casualty Reference: 1 Age: 28 Male Driver/rider Severity: Slight

## AccsMap - Collision Analysis System

Collisions between dates 01/01/2016 and 31/12/2020 (60) months

## Selection:

Selected using Manual Selection

## Notes:

Bridgwater

181802634 08/03/2018 Thursday Time 0848 Vehicles 3 Casualties 1 Slight  
 Fine without high winds Road surface Wet/Damp Daylight: street lights present  
 Special Conditions None Road Type Single carriageway  
 V1, V2 & V3 TRAVELLING NORTH WEST, V1 & V2 STOPPED DUE TO TRAFFIC AHEAD.  
 V3 FAILED TO STOP IN TIME AND COLLIDED WITH REAR OF V2 WHICH CAUSED V2 TO COLLIDE WITH REAR OF V1.  
 Occurred on A39 PURITON HILL, BAWDRIP.

Vehicle Reference	1	Car	Waiting to go ahead but held up
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Back	Age of Driver	47
Vehicle direction	SE to NW		
FRV	Not foreign registered vehicle	Journey	6
Vehicle Reference	2	Car	Waiting to go ahead but held up
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Back	Age of Driver	26
Vehicle direction	SE to NW		
FRV	Not foreign registered vehicle	Journey	6
Vehicle Reference	3	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front	Age of Driver	18
Vehicle direction	SE to NW		
FRV	Not foreign registered vehicle	Journey	6
Casualty Reference:	1	Age:	18
		Female	Driver/rider
			Severity: Slight

181802645 09/03/2018 Friday Time 0915 Vehicles 2 Casualties 1 Slight  
 Fine without high winds Road surface Dry Daylight: street lights present  
 Special Conditions None Road Type Single carriageway  
 V1 TRAVELLING SOUTH EAST, V2 TRAVELLING OPPOSITE DIRECTION.  
 V1 TURNED RIGHT SOUTH WEST AND V2 TURNED LEFT SAME DIRECTION. V1 COLLIDED WITH V2.  
 Occurred on A39 BATH ROAD, AT JCT WITH PURITON HILL, PURITON.

Vehicle Reference	1	Car	Turning right
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Offside	Age of Driver	30
Vehicle direction	NW to SW		
FRV	Not foreign registered vehicle	Journey	6
Vehicle Reference	2	Minibus	Turning left
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Offside	Age of Driver	40
Vehicle direction	SE to SW		
FRV	Not foreign registered vehicle	Journey	6
Casualty Reference:	1	Age:	40
		Male	Driver/rider
			Severity: Slight

**Collisions between dates**      **01/01/2016 and 31/12/2020**    (60) months

**Selection:**

Selected using Manual Selection

**Notes:**

Bridgwater

181803024      16/03/2018      Friday      Time 0350    Vehicles    2    Casualties    1    Slight  
 Fine without high winds      Road surface    Wet/Damp      Darkness: street lights present and lit  
 Special Conditions    None      Road Type    Single carriageway  
 V1 TRAVELLING NORTH WEST. V2 TRAVELLING SOUTH WEST.  
 V1 FAILED TO STOP AT THE TRAFFIC LIGHTS AND COLLIDED WITH V2.  
 Occurred on    A38 MONMOUTH ST, AT JCT WITH A372 ST JOHN ST, BRIDGWATER.

Vehicle Reference    1      Taxi      Moving off  
 Not in restricted lane      No skidding, jack-knifing or overturning  
 First point of impact    Offside      Age of Driver    52  
 Vehicle direction    SE to NW  
 FRV    Not foreign registered vehicle      Journey    Journey as part of work  
 Casualty Reference:    1      Age:    26      Male      Passenger      Severity:    Slight

Vehicle Reference    2      Goods <= 3.5 tonnes mgw      Going ahead  
 Not in restricted lane      No skidding, jack-knifing or overturning  
 First point of impact    Front      Age of Driver    44  
 Vehicle direction    NE to SW  
 FRV    Not foreign registered vehicle      Journey    6

181802008      19/03/2018      Monday      Time 1500    Vehicles    2    Casualties    1    Slight  
 Fine without high winds      Road surface    Dry      Daylight: street lights present  
 Special Conditions    None      Road Type    Roundabout  
 V1 & V2 TRAVELLING SOUTH. V2 BRAKED SUDDENLY,  
 CAUSING V1 TO COLLIDE WITH REAR OF V2. V2 FAILED TO STOP.  
 Occurred on    A38 BRISTOL ROAD RAB, BRIDGWATER.

Vehicle Reference    1      Car      Going ahead  
 Not in restricted lane      No skidding, jack-knifing or overturning  
 First point of impact    Front      Age of Driver    42  
 Vehicle direction    N to S  
 FRV    Not foreign registered vehicle      Journey    6  
 Casualty Reference:    1      Age:    48      Female      Passenger      Severity:    Slight

Vehicle Reference    2      Car      Going ahead  
 Not in restricted lane      No skidding, jack-knifing or overturning  
 First point of impact    Back      Age of Driver  
 Vehicle direction    N to S  
 FRV    Not foreign registered vehicle      Journey    6



## AccsMap - Collision Analysis System

Collisions between dates 01/01/2016 and 31/12/2020 (60) months

## Selection:

Selected using Manual Selection

## Notes:

Bridgwater

181803211 23/03/2018 Friday Time 1440 Vehicles 1 Casualties 1 Slight  
 Fine without high winds Road surface Dry Daylight: street lights present  
 Special Conditions None Road Type Single carriageway  
 V1 TRAVELLING NORTH EAST, PED RIDING A TRICYCLE BEGAN TO CROSS THE ROAD SOUTH EAST.  
 V1 COLLIDED WITH PED.  
 Occurred on A39 BATH ROAD, BRIDGWATER

Vehicle Reference 1 Car Going ahead  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Front Age of Driver 23  
 Vehicle direction SW to NE  
 FRV Not foreign registered vehicle Journey 6  
 Casualty Reference: 1 Age: 11 Male Pedestrian Severity: Slight  
 Pedestrian Direction: SE

181803840 15/04/2018 Sunday Time 0935 Vehicles 1 Casualties 1 Slight  
 Fine without high winds Road surface Dry Daylight: street lights present  
 Special Conditions None Road Type Single carriageway  
 V1 TRAVELLING SOUTH. DRIVER MOMENTARILY BLACKED OUT, LOSING CONTROL OF V1  
 WHICH MOUNTED THE GRASS VERGE AND COLLIDED WITH A LAMP POST.  
 Occurred on A38 BRISTOL ROAD, NEAR EXPRESS PARK RAB, BRIDGWATER

Vehicle Reference 1 Car Going ahead  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Front Age of Driver 72  
 Vehicle direction N to S  
 FRV Not foreign registered vehicle Journey 6  
 Casualty Reference: 1 Age: 72 Male Driver/rider Severity: Slight

## AccsMap - Collision Analysis System

Collisions between dates 01/01/2016 and 31/12/2020 (60) months

## Selection:

Selected using Manual Selection

## Notes:

Bridgwater

181803847 18/04/2018 Wednesday Time 1210 Vehicles 2 Casualties 1 Slight  
 Fine without high winds Road surface Dry Daylight: street lights present  
 Special Conditions None Road Type Single carriageway  
 V1 TRAVELLING EAST, V2 TRAVELLING SOUTH. V1 WAS TURNING LEFT NORTH.  
 V2 WAS RIDING ON THE PAVEMENT AND WAS HIT BY V1.  
 Occurred on A38 BRISTOL ROAD, AT JCT WITH VOLKSWAGEN GARAGE, BRIDGWATER.

Vehicle Reference	1	Car	Turning left
Footway (pavement)			No skidding, jack-knifing or overturning
First point of impact	Front	Age of Driver	52
Vehicle direction	W to N		
FRV	Not foreign registered vehicle	Journey	6
Vehicle Reference	2	Pedal cycle	Going ahead
Footway (pavement)			No skidding, jack-knifing or overturning
First point of impact	Front	Age of Driver	69
Vehicle direction	N to S		
FRV	Not foreign registered vehicle	Journey	6
Casualty Reference:	1	Age: 69	Female Driver/rider Severity: Slight

181803964 02/05/2018 Wednesday Time 1920 Vehicles 2 Casualties 1 Slight  
 Fine without high winds Road surface Dry Daylight: street lights present  
 Special Conditions None Road Type Single carriageway  
 V1 TRAVELLING SOUTH WEST, V2 TRAVELLING SOUTH EAST.  
 V2 EMERGED FROM SIDE ROAD AND COLLIDED WITH V1.  
 Occurred on A39 BATH ROAD, AT JCT WITH UNION ST, BRIDGWATER.

Vehicle Reference	1	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front	Age of Driver	24
Vehicle direction	NE to SW		
FRV	Not foreign registered vehicle	Journey	6
Vehicle Reference	2	Pedal cycle	Moving off
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front	Age of Driver	48
Vehicle direction	NW to SE		
FRV	Not foreign registered vehicle	Journey	6
Casualty Reference:	1	Age: 48	Female Driver/rider Severity: Slight

## AccsMap - Collision Analysis System

Collisions between dates 01/01/2016 and 31/12/2020 (60) months

## Selection:

Selected using Manual Selection

## Notes:

Bridgwater

181804010 03/05/2018 Thursday Time 1228 Vehicles 4 Casualties 1 Slight  
 Fine without high winds Road surface Dry Daylight: street lights present  
 Special Conditions None Road Type Single carriageway  
 V1, V2, V3 & V4 TRAVELLING EAST. V1, V2 & V3 STOPPED DUE TO TRAFFIC AHEAD. V4 FAILED TO STOP IN TIME AND  
 COLLIDED WITH REAR OF V3 WHICH WENT INTO REAR OF V2 WHICH IN TURN COLLIDED WITH REAR OF V1.  
 Occurred on A39 BATH ROAD, OUTSIDE BAWDRIP FILLING STATION, AT JCT WITH WOOLAVINGTON ROAD.

Vehicle Reference	1	Car	Slowing or Stopping
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Nearside	Age of Driver	35
Vehicle direction	W to E		
FRV	Not foreign registered vehicle	Journey	6
Vehicle Reference	2	Motorcycle over 125cc and up to	Waiting to go ahead but held up
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Back	Age of Driver	21
Vehicle direction	W to E		
FRV	Not foreign registered vehicle	Journey	6
Vehicle Reference	3	Goods <= 3.5 tonnes mgw	Waiting to go ahead but held up
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Back	Age of Driver	77
Vehicle direction	W to E		
FRV	Not foreign registered vehicle	Journey	6
Vehicle Reference	4	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front	Age of Driver	72
Vehicle direction	W to E		
FRV	Not foreign registered vehicle	Journey	6
Casualty Reference:	1	Age: 72	Female Driver/rider Severity: Slight



**Collisions between dates**      **01/01/2016 and 31/12/2020**    (60) months

**Selection:**

Selected using Manual Selection

**Notes:**

Bridgwater

181804370      08/05/2018      Tuesday      Time 1851    Vehicles    3    Casualties    3    Slight  
 Fine without high winds      Road surface    Dry      Daylight: street lights present  
 Special Conditions    None      Road Type    Single carriageway  
 V1, V2 & V3 TRAVELLING SOUTH WEST. V1 STOPPED AT ZEBRA CROSSING TO LET PEDS CROSS.  
 V2 ALSO STOPPED BUT V3 FAILED TO STOP IN TIME AND COLLIDED WITH REAR OF V2  
 WHICH IN TURN COLLIDED WITH REAR OF V1.  
 Occurred on    A38 BRISTOL ROAD, BRIDGWATER.

Vehicle Reference    1	Car	Slowing or Stopping
Not in restricted lane		No skidding, jack-knifing or overturning
First point of impact    Back		Age of Driver    44
Vehicle direction    NE to SW		
FRV    Not foreign registered vehicle		Journey    6
Casualty Reference:    2	Age:    11	Female    Passenger    Severity:    Slight
Casualty Reference:    3	Age:    10	Female    Passenger    Severity:    Slight

Vehicle Reference    2	Car	Slowing or Stopping
Not in restricted lane		No skidding, jack-knifing or overturning
First point of impact    Back		Age of Driver    51
Vehicle direction    NE to SW		
FRV    Not foreign registered vehicle		Journey    6
Casualty Reference:    1	Age:    51	Male    Driver/rider    Severity:    Slight

Vehicle Reference    3	Car	Slowing or Stopping
Not in restricted lane		No skidding, jack-knifing or overturning
First point of impact    Front		Age of Driver    48
Vehicle direction    NE to SW		
FRV    Not foreign registered vehicle		Journey    6

## AccsMap - Collision Analysis System

Collisions between dates 01/01/2016 and 31/12/2020 (60) months

## Selection:

Selected using Manual Selection

## Notes:

Bridgwater

181804431 11/05/2018 Friday Time 1925 Vehicles 2 Casualties 3 Slight  
 Raining without high winds Road surface Wet/Damp Daylight: street lights present  
 Special Conditions None Road Type Roundabout  
 V1 TRAVELLING NORTH WEST, V2 TRAVELLING OPPOSITE DIRECTION.  
 V2 EMERGED ONTO RAB AND COLLIDED WITH V1.  
 Occurred on A372 WESTONZOYLAND ROAD, AT JCT WITH ST JOHN ST, BRIDGWATER.

Vehicle Reference 1 Car Going ahead  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Offside Age of Driver 61  
 Vehicle direction SE to NW  
 FRV Not foreign registered vehicle Journey 6

Casualty Reference: 1 Age: 61 Male Driver/rider Severity: Slight

Casualty Reference: 2 Age: 30 Female Passenger Severity: Slight

Casualty Reference: 3 Age: 3 Female Passenger Severity: Slight

Vehicle Reference 2 Car Going ahead  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Front Age of Driver 31  
 Vehicle direction NW to SE  
 FRV Not foreign registered vehicle Journey 6

Collisions between dates 01/01/2016 and 31/12/2020 (60) months

**Selection:**

Selected using Manual Selection

**Notes:**

Bridgwater

181804222 18/05/2018 Friday Time 2135 Vehicles 3 Casualties 2 Serious  
Fine without high winds Road surface Dry Darkness: street lights present and lit  
Special Conditions None Road Type Single carriageway  
V1 TRAVELLING SOUTH EAST, V3 TRAVELLING OPPOSITE DIRECTION, V2 TRAVELLING NORTH EAST. V1 WAS WAITING  
TO TURN ONTO A38. V2 WENT THROUGH A RED LIGHT AND COLLIDED WITH V3, WHICH COLLIDED WITH V1.  
Occurred on A38 BROADWAY, AT JCT WITH EASTOVER, BRIDGWATER,

Vehicle Reference	1	Car	Turning right
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front		Age of Driver 20
Vehicle direction	NW to SW		
FRV	Not foreign registered vehicle		Journey 6
Vehicle Reference	2	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front		Age of Driver 32
Vehicle direction	SW to NE		
FRV	Not foreign registered vehicle		Journey 6
Vehicle Reference	3	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front		Age of Driver 19
Vehicle direction	SE to NW		
FRV	Not foreign registered vehicle		Journey 6
Casualty Reference:	1	Age: 19	Male Driver/rider Severity: Serious
Casualty Reference:	2	Age: 19	Male Passenger Severity: Slight

181803863 04/06/2018 Monday Time 1615 Vehicles 2 Casualties 1 Slight  
Fine without high winds Road surface Dry Daylight: street lights present  
Special Conditions None Road Type Single carriageway  
REPORTED ONLINE V2 & V2 TRAVELLING SOUTH EAST. V1 WAS STATIONARY AT LIGHTS,  
V2 COLLIDED WITH OFFSIDE REAR OF V1. PILLION PASSENGER ON V2 FELL FROM MACHINE.  
Occurred on A372 ST JOHN ST, BRIDGWATER.

Vehicle Reference	1	Car	Moving off
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Back		Age of Driver 45
Vehicle direction	NW to SE		
FRV	Not foreign registered vehicle		Journey 6
Vehicle Reference	2	Motorcycle 50cc and under	Moving off
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front		Age of Driver 20
Vehicle direction	NW to SE		
FRV	Not foreign registered vehicle		Journey 6
Casualty Reference:	1	Age: 20	Male Passenger Severity: Slight



Collisions between dates 01/01/2016 and 31/12/2020 (60) months

**Selection:**

Selected using Manual Selection

**Notes:**

Bridgwater

181804036 08/06/2018 Friday Time 0910 Vehicles 2 Casualties 1 Slight  
Fine without high winds Road surface Dry Daylight: street lights present  
Special Conditions None Road Type Unknown  
REPORTED ONLINE V1 & V2 TRAVELLING SOUTH WEST.  
V2 WAS PASSING A VEH PARKED ON THE KERB. V1 ALSO OVERTOOK AND COLLIDED WITH V2.  
Occurred on A38 BRISTOL ROAD, OUTSIDE NO 103, BRIDGWATER.

Vehicle Reference	1	Car	Overtaking moving vehicle on its offside
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Back	Age of Driver	
Vehicle direction	NE to SW		
FRV	Not foreign registered vehicle	Journey	6
Vehicle Reference	2	Pedal cycle	Overtaking stationary vehicle on its offside
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Back	Age of Driver	39
Vehicle direction	NE to SW		
FRV	Not foreign registered vehicle	Journey	6
Casualty Reference:	1	Age: 39	Male Driver/rider Severity: Slight

181804039 12/06/2018 Tuesday Time 1220 Vehicles 1 Casualties 1 Slight  
Fine without high winds Road surface Dry Daylight: street lights present  
Special Conditions None Road Type Single carriageway  
V1 TRAVELLING NORTH WEST, PED WALKING SAME DIRECTION.  
V1 COLLIDED WITH PED AND FAILED TO STOP.  
Occurred on A372 ST JOHN ST, OUTSIDE NO.18, BRIDGWATER.

Vehicle Reference	1	Goods >= 7.5 tonnes mgw	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Nearside	Age of Driver	
Vehicle direction	SE to NW		
FRV	Not foreign registered vehicle	Journey	6
Casualty Reference:	1	Age: 29	Female Pedestrian Severity: Slight
Pedestrian Direction:			

Collisions between dates 01/01/2016 and 31/12/2020 (60) months

**Selection:**

Selected using Manual Selection

**Notes:**

Bridgwater

181805285 18/06/2018 Monday Time 2251 Vehicles 2 Casualties 1 Slight  
Fine without high winds Road surface Wet/Damp Darkness: street lights present and lit  
Special Conditions None Road Type Single carriageway  
V1 TRAVELLING NORTH EAST, V2 TRAVELLING OPPOSITE DIRECTION.  
V1 TURNED RIGHT SOUTH EAST AND COLLIDED WITH V2. RIDER OF V2 FELL FROM MACHINE.  
Occurred on A39 BATH ROAD, AT JCT WITH TREVOR ROAD, BRIDGWATER.

Vehicle Reference	1	Car	Turning right
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Nearside	Age of Driver	18
Vehicle direction	SW to SE		
FRV	Not foreign registered vehicle	Journey	6
Vehicle Reference	2	Pedal cycle	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front	Age of Driver	61
Vehicle direction	NE to SW		
FRV	Not foreign registered vehicle	Journey	6
Casualty Reference:	1	Age:	61
		Male	Driver/rider
			Severity: Slight

181805007 29/06/2018 Friday Time 1111 Vehicles 2 Casualties 2 Slight  
Fine without high winds Road surface Dry Daylight: street lights present  
Special Conditions None Road Type Single carriageway  
V1 TRAVELLING SOUTH EAST, V2 TRAVELLING SOUTH WEST.  
V1 FAILED TO STOP AT A RED LIGHT AT THE CROSSROADS AND COLLIDED WITH V2.  
Occurred on A372 ST JOHN ST, AT JCT WITH POLDEN ST, BRIDGWATER.

Vehicle Reference	1	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front	Age of Driver	87
Vehicle direction	NW to SE		
FRV	Not foreign registered vehicle	Journey	6
Casualty Reference:	1	Age:	87
		Male	Driver/rider
			Severity: Slight

Vehicle Reference	2	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front	Age of Driver	72
Vehicle direction	NE to SW		
FRV	Not foreign registered vehicle	Journey	6
Casualty Reference:	2	Age:	72
		Male	Driver/rider
			Severity: Slight

**Collisions between dates**      **01/01/2016 and 31/12/2020**    (60) months

**Selection:**

Selected using Manual Selection

**Notes:**

Bridgwater

181804797      11/07/2018    Wednesday    Time 0840    Vehicles    1    Casualties    1    Slight  
 Fine without high winds      Road surface    Dry      Daylight: street lights present  
 Special Conditions    ATS out      Road Type    Single carriageway  
 V1 TRAVELLING SOUTH EAST, PED WALKING SOUTH WEST.  
 PED WALKED OUT INTO PATH OF V1 AND A COLLISION OCCURRED.  
 Occurred on    A372 ST JOHN ST, BRIDGWATER.

Vehicle Reference    1      Car      Slowing or Stopping  
 Not in restricted lane      No skidding, jack-knifing or overturning  
 First point of impact    Front      Age of Driver    75  
 Vehicle direction    NW to SE  
 FRV    Not foreign registered vehicle      Journey    6  
 Casualty Reference:    1      Age:    8      Male      Pedestrian      Severity:    Slight  
 Pedestrian Direction: SW

181804840      12/07/2018      Thursday    Time 1620    Vehicles    2    Casualties    1    Slight  
 Fine without high winds      Road surface    Dry      Daylight: street lights present  
 Special Conditions    None      Road Type    Unknown  
 V1 & V2 TRAVELLING SOUTH EAST, V1 STOPPED FOR TRAFFIC LEADING UP TO THE RAB,  
 V2 FAILED TO STOP IN TIME AND COLLIDED WITH REAR OF V1. V2 FAILED TO STOP.  
 Occurred on    A372 ST JOHN ST, BRIDGWATER.

Vehicle Reference    1      Car      Waiting to go ahead but held up  
 Not in restricted lane      No skidding, jack-knifing or overturning  
 First point of impact    Did not impact      Age of Driver    30  
 Vehicle direction    NW to SE  
 FRV    Not foreign registered vehicle      Journey    6  
 Casualty Reference:    1      Age:    30      Female      Driver/rider      Severity:    Slight

Vehicle Reference    2      Car      Going ahead  
 Not in restricted lane      No skidding, jack-knifing or overturning  
 First point of impact    Front      Age of Driver    30  
 Vehicle direction    NW to SE  
 FRV    Not foreign registered vehicle      Journey    6



**Collisions between dates**      **01/01/2016 and 31/12/2020**    (60) months

**Selection:**

Selected using Manual Selection

**Notes:**

Bridgwater

181806060      17/08/2018      Friday      Time 2154    Vehicles    1 Casualties    4 Serious  
 Fine without high winds      Road surface    Dry      Darkness: street lights present and lit  
 Special Conditions    None      Road Type    Single carriageway  
 V1, TRAVELLING SOUTH EAST, FAILED TO NEGOTIATE THE RAB AND STRUCK THE CENTRAL KERB.  
 V1 THEN HIT THE KERB AND THEN COLLIDED WITH A TREE IN THE CENTRE OF THE RAT.  
 Occurred on    A38 BRISTOL ROAD, AT JCT WITH A39 DUNBALL RAB, PURITON.

Vehicle Reference	1	Car	Going ahead			
Not in restricted lane			No skidding, jack-knifing or overturning			
First point of impact	Front		Age of Driver	49		
Vehicle direction	NW to SE					
FRV	Not foreign registered vehicle				Journey	6

Casualty Reference:	1	Age:	49	Male	Driver/rider	Severity:	Serious
Casualty Reference:	2	Age:	22	Female	Passenger	Severity:	Slight
Casualty Reference:	3	Age:	17	Female	Passenger	Severity:	Slight
Casualty Reference:	4	Age:	28	Female	Passenger	Severity:	Slight

181806040      05/09/2018      Wednesday      Time 0645    Vehicles    2 Casualties    1 Slight  
 Fine without high winds      Road surface    Dry      Daylight: street lights present  
 Special Conditions    None      Road Type    Dual carriageway  
 V2 TRAVELLING SOUTH, V1 PARKED FACING SAME DIRECTION.  
 V2 FAILED TO STOP IN TIME AND COLLIDED WITH REAR OF V1.  
 Occurred on    A38 BRISTOL ROAD, PURITON.

Vehicle Reference	1	Car	Parked			
Not in restricted lane			No skidding, jack-knifing or overturning			
First point of impact	Back		Age of Driver	43		
Vehicle direction	Park to Park					
FRV	Not foreign registered vehicle				Journey	6

Casualty Reference:	1	Age:	43	Female	Driver/rider	Severity:	Slight
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Vehicle Reference	2	Car	Going ahead			
Not in restricted lane			No skidding, jack-knifing or overturning			
First point of impact	Front		Age of Driver			
Vehicle direction	N to S					
FRV	Not foreign registered vehicle				Journey	6

**Collisions between dates**      **01/01/2016 and 31/12/2020**    (60) months

**Selection:**

Selected using Manual Selection

**Notes:**

Bridgwater

181901241      18/09/2018      Tuesday    Time 1605    Vehicles    2    Casualties    1    Slight  
 Fine without high winds                      Road surface    Dry                      Daylight: street lights present  
 Special Conditions    None                      Road Type    Unknown  
 V1 TRAVELLING NORTH WEST, V2 TRAVELLING SOUTH WEST.  
 V1 WAS WAITING TO TURN RIGHT NORTH EAST. V1 COMMENCED TRUN AND COLLIDED WITH V2.  
 Occurred on    A39 BATH ROAD, AT JCTWITH PARKWAY, BRIDGWATER.

Vehicle Reference    1	Car	Turning right
Not in restricted lane		No skidding, jack-knifing or overturning
First point of impact    Front		Age of Driver    29
Vehicle direction    SE to NE		
FRV    Not foreign registered vehicle		Journey    6
Vehicle Reference    2	Car	Going ahead
Not in restricted lane		No skidding, jack-knifing or overturning
First point of impact    Front		Age of Driver    30
Vehicle direction    NE to SW		
FRV    Not foreign registered vehicle		Journey    6
Casualty Reference:    1	Age:    30	Female    Driver/rider    Severity:    Slight

181807109      20/10/2018      Saturday    Time 1545    Vehicles    2    Casualties    1    Slight  
 Unknown                      Road surface    Dry                      Daylight: street lights present  
 Special Conditions    None                      Road Type    Single carriageway  
 V1 TRAVELLING NORTH WEST, V2 TRAVELLING SOUTH WEST.  
 V1 WAS USING THE ZEBRA CROSSING. V2 FAILED TO STOP IN TIME AND COLLIDED WITH V1.  
 Occurred on    A39 BATH ROAD, AT ZEBRA CROSSING NEAR JCT WITH ROSEBERY AVENUE, BRIDGWATER.

Vehicle Reference    1	Pedal cycle	Going ahead
Not in restricted lane		No skidding, jack-knifing or overturning
First point of impact    Front		Age of Driver    27
Vehicle direction    SE to NW		
FRV    Not foreign registered vehicle		Journey    6
Casualty Reference:    1	Age:    27	Female    Driver/rider    Severity:    Slight
Vehicle Reference    2	Car	Going ahead
Not in restricted lane		No skidding, jack-knifing or overturning
First point of impact    Front		Age of Driver
Vehicle direction    NE to SW		
FRV    Not foreign registered vehicle		Journey    6

Bridgwater

Vehicle Reference	1	Car	Going ahead				
Not in restricted lane			No skidding, jack-knifing or overturning				
First point of impact	Front	Age of Driver	27				
Vehicle direction	SW to NE						
FRV	Not foreign registered vehicle		Journey	6			
Casualty Reference:	1	Age:	27	Male	Driver/rider	Severity:	Serious

Vehicle Reference	1	Car				Waiting to turn right
Not in restricted lane					No skidding, jack-knifing or overturning	
First point of impact	Back		Age of Driver	59		
Vehicle direction	SE to NW					
FRV	Not foreign registered vehicle			Journey	6	
Casualty Reference:	1	Age:	59	Male	Driver/rider	Severity: Slight

Vehicle Reference	2	Car	Going ahead
Not in restricted lane		No skidding, jack-knifing or overturning	
First point of impact	Front	Age of Driver	
Vehicle direction	SE to NW		
FRV	Not foreign registered vehicle	Journey	6



## AccsMap - Collision Analysis System

Collisions between dates 01/01/2016 and 31/12/2020 (60) months

## Selection:

Selected using Manual Selection

## Notes:

Bridgwater

181901083 29/11/2018 Thursday Time 2035 Vehicles 2 Casualties 1 Slight  
 Fine without high winds Road surface Wet/Damp Darkness: street lights present and lit  
 Special Conditions None Road Type Single carriageway  
 V1 TRAVELLING SOUTH WEST, V2 TRAVELLING NORTH WEST. V1 COLLIDED WITH V2.  
 Occurred on A38 MONMOUTH ST, AT JCT WITH A372 ST JOHN ST, BRIDGWATER.

Vehicle Reference 1 Car Going ahead  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Front Age of Driver 34  
 Vehicle direction NE to SW  
 FRV Not foreign registered vehicle Journey 6  
 Casualty Reference: 1 Age: 34 Female Driver/rider Severity: Slight

Vehicle Reference 2 Car Going ahead  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Back Age of Driver 27  
 Vehicle direction SE to NW  
 FRV Not foreign registered vehicle Journey 6

181900162 07/12/2018 Friday Time 1458 Vehicles 2 Casualties 3 Slight  
 Raining without high winds Road surface Wet/Damp Daylight: street lights present  
 Special Conditions None Road Type Single carriageway  
 V1 & V2 TRAVELLING NORTH WEST. V2 LOST CONTROL AND COLLIDED WITH V1.  
 Occurred on A38 BRISTOL ROAD, BRIDGWATER.

Vehicle Reference 1 Car Going ahead  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Front Age of Driver 52  
 Vehicle direction SE to NW  
 FRV Not foreign registered vehicle Journey 6  
 Casualty Reference: 1 Age: 52 Female Driver/rider Severity: Slight

Casualty Reference: 3 Age: 15 Male Passenger Severity: Slight  
 School pupil to or from school

Vehicle Reference 2 Car Going ahead  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Front Age of Driver 59  
 Vehicle direction SE to NW  
 FRV Not foreign registered vehicle Journey 6  
 Casualty Reference: 2 Age: 59 Male Driver/rider Severity: Slight

## AccsMap - Collision Analysis System

Collisions between dates 01/01/2016 and 31/12/2020 (60) months

## Selection:

Selected using Manual Selection

## Notes:

Bridgwater

181900802 12/12/2018 Wednesday Time 0732 Vehicles 2 Casualties 1 Slight  
 Fine without high winds Road surface Wet/Damp Daylight: street lights present  
 Special Conditions None Road Type Single carriageway  
 V1 TRAVELLING EAST, V2 TRAVELLING OPPOSITE DIRECTION.  
 V2 VEERED ONTO THE WRONG SIDE OF THE ROAD. V2 SWERVED BUT COLLIDED WITH V1.  
 Occurred on A39 BATH ROAD, BAWDRIP.

Vehicle Reference 1 Car Going ahead  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Front Age of Driver 45  
 Vehicle direction W to E  
 FRV Not foreign registered vehicle Journey 6  
 Casualty Reference: 1 Age: 45 Female Driver/rider Severity: Slight

Vehicle Reference 2 Car Going ahead  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Front Age of Driver 25  
 Vehicle direction E to W  
 FRV Not foreign registered vehicle Journey 6

181902587 18/12/2018 Tuesday Time 0758 Vehicles 2 Casualties 1 Serious  
 Fine without high winds Road surface Wet/Damp Daylight: street lights present  
 Special Conditions None Road Type Unknown  
 V1 (SCHOOL BUS) & V2 TRAVELLING SOUTH WEST, BOTH LOOKING TO TURN RIGHT NORTH WEST.  
 V2 WENT TO OFFSIDE OF V1 JUST AS V1 PULLED AWAY. V1 COLLIDED WITH V2.  
 Occurred on A39 PURITON HILL, AT JCT WITH HALL ROAD, PURITON.

Vehicle Reference 1 Bus or coach Turning right  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Offside Age of Driver 75  
 Vehicle direction NE to NW  
 FRV Not foreign registered vehicle Journey 6

Vehicle Reference 2 Motorcycle over 125cc and up to Turning right  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Nearside Age of Driver 20  
 Vehicle direction NE to W  
 FRV Not foreign registered vehicle Journey 6  
 Casualty Reference: 1 Age: 20 Male Driver/rider Severity: Serious

**Collisions between dates**      **01/01/2016 and 31/12/2020**    (60) months

**Selection:**

Selected using Manual Selection

**Notes:**

Bridgwater

181902581      19/12/2018    Wednesday    Time 1320    Vehicles 2    Casualties 2    Slight  
 Fine without high winds      Road surface    Wet/Damp      Daylight: street lights present  
 Special Conditions    None      Road Type    Roundabout  
 V1 & V2 TRAVELLING EAST. V1 COLLIDED WITH REAR OF V2.  
 Occurred on    A38 BRISTOL ROAD, AT JCT WITH A39 BATH ROAD, BRIDGWATER.

Vehicle Reference	1	Car		Moving off
Not in restricted lane				No skidding, jack-knifing or overturning
First point of impact	Front		Age of Driver	41
Vehicle direction	NW to NE			
FRV	Not foreign registered vehicle		Journey	6
Casualty Reference:	1	Age: 41	Female	Driver/rider      Severity: Slight

Vehicle Reference	2	Car		Slowing or Stopping
Not in restricted lane				No skidding, jack-knifing or overturning
First point of impact	Back		Age of Driver	56
Vehicle direction	NW to NE			
FRV	Not foreign registered vehicle		Journey	6
Casualty Reference:	2	Age: 56	Female	Driver/rider      Severity: Slight

191902758      07/01/2019      Monday      Time 0748    Vehicles 2    Casualties 1    Slight  
 Fine without high winds      Road surface    Wet/Damp      Daylight: street lights present  
 Special Conditions    None      Road Type    Single carriageway  
 V1 TRAVELLING NORTH WEST, V2 TRAVELLING OPPOSITE DIRECTION.  
 V2 DRIFTED INTO OPPOSITE CARRIAGEWAY AND COLLIDED WITH V1.  
 Occurred on    A38 BRISTOL ROAD, PURITON.

Vehicle Reference	1	Car		Going ahead
Not in restricted lane				No skidding, jack-knifing or overturning
First point of impact	Front		Age of Driver	22
Vehicle direction	SE to NW			
FRV	Not foreign registered vehicle		Journey	6
Vehicle Reference	2	Pedal cycle		Going ahead
Not in restricted lane				No skidding, jack-knifing or overturning
First point of impact	Nearside		Age of Driver	49
Vehicle direction	NW to SE			
FRV	Not foreign registered vehicle		Journey	Commuting to/from work
Casualty Reference:	1	Age: 49	Male	Driver/rider      Severity: Slight



**Collisions between dates**      **01/01/2016 and 31/12/2020**    (60) months

**Selection:**

Selected using Manual Selection

**Notes:**

Bridgwater

191903150      09/02/2019      Saturday    Time 2015    Vehicles 2    Casualties 1    Slight  
 Fine without high winds      Road surface    Wet/Damp      Darkness: street lights present and lit  
 Special Conditions    None      Road Type    Unknown  
 V1 TRAVELLING NORTH EAST, V2 TRAVELLING NORTH WEST. V1 COLLIDED WITH V2.  
 Occurred on      FAIRFAX ROAD, AT JCT WITH KNOWLE ROAD, BRIDGWATER.

Vehicle Reference	1	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front	Age of Driver	22
Vehicle direction	SW to NE		
FRV	Not foreign registered vehicle	Journey	6
Vehicle Reference	2	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Offside	Age of Driver	53
Vehicle direction	SE to NW		
FRV	Not foreign registered vehicle	Journey	6
Casualty Reference:	1	Age: 53	Female      Driver/rider      Severity: Slight

191901996      27/02/2019      Wednesday    Time 1224    Vehicles 3    Casualties 1    Slight  
 Fine without high winds      Road surface    Dry      Daylight: street lights present  
 Special Conditions    None      Road Type    Single carriageway  
 V1 TRAVELLING SOUTH WEST, V2 TRAVELLING OPPOSITE DIRECTION, V3 TRAVELLING NORTH WEST,  
 WAITING TO TURN LEFT SOUTH WEST. V2 TURNED RIGHT SOUTH EAST.  
 V1 SWERVED TO AVOID V2 AND COLLIDED WITH V3.  
 Occurred on      WYLDs ROAD, BRIDGWATER.

Vehicle Reference	1	Motorcycle over 500cc	Going ahead
Not in restricted lane			Skidded
First point of impact	Front	Age of Driver	76
Vehicle direction	NE to SW		
FRV	Not foreign registered vehicle	Journey	6
Casualty Reference:	1	Age: 76	Male      Driver/rider      Severity: Slight

Vehicle Reference	2	Car	Turning right
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Did not impact	Age of Driver	53
Vehicle direction	SW to NE		
FRV	Not foreign registered vehicle	Journey	6
Vehicle Reference	3	Car	Waiting to turn left
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front	Age of Driver	22
Vehicle direction	SE to SW		
FRV	Not foreign registered vehicle	Journey	6

Collisions between dates 01/01/2016 and 31/12/2020 (60) months

**Selection:**

Selected using Manual Selection

**Notes:**

Bridgwater

191904045 11/03/2019 Monday Time 0827 Vehicles 1 Casualties 1 Slight  
Fine without high winds Road surface Dry Daylight: street lights present  
Special Conditions None Road Type Unknown  
V1 TRAVELLING NORTH EAST, PED WALKING SAME DIRECTION.  
V1 TURNED LEFT NORTH WEST AND COLLIDED WITH PED.  
Occurred on A39, AT JCT WITH KINGS DRIVE, BRIDGWATER.

Vehicle Reference 1 Car Turning left  
Not in restricted lane No skidding, jack-knifing or overturning  
First point of impact Front Age of Driver 24  
Vehicle direction SW to NW  
FRV Not foreign registered vehicle Journey 6  
Casualty Reference: 1 Age: 15 Female Pedestrian Severity: Slight  
Pedestrian Direction: NE

191902121 16/03/2019 Saturday Time 1950 Vehicles 1 Casualties 1 Slight  
Fine without high winds Road surface Dry Darkness: street lights present and lit  
Special Conditions None Road Type Dual carriageway  
V1 TRAVELLING NORTH EAST, PED WALKING ON ZEBRA CROSSING. V1 COLLIDED WITH V2.  
Occurred on A38 MONMOUTH ST, AT JCT WITH BLAKE PLACE, BRIDGWATER.

Vehicle Reference 1 Car Going ahead  
Not in restricted lane No skidding, jack-knifing or overturning  
First point of impact Front Age of Driver 19  
Vehicle direction SW to NE  
FRV Not foreign registered vehicle Journey 6  
Casualty Reference: 1 Age: 22 Female Pedestrian Severity: Slight  
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## AccsMap - Collision Analysis System

Collisions between dates 01/01/2016 and 31/12/2020 (60) months

## Selection:

Selected using Manual Selection

## Notes:

Bridgwater

191906630 23/03/2019 Saturday Time 1101 Vehicles 2 Casualties 2 Slight  
 Fine without high winds Road surface Dry Daylight: street lights present  
 Special Conditions None Road Type Single carriageway  
 V1 & V2 TRAVELLING SOUTH WEST. V1 STOPPED DUE TO TRAFFIC AHEAD,  
 V2 FAILED TO STOP IN TIME AND COLLIDED WITH REAR OF V1.  
 Occurred on A38 BRISTOL ROAD, BRIDGWATER.

Vehicle Reference 1 Car Going ahead  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Back Age of Driver 51  
 Vehicle direction NE to SW  
 FRV Not foreign registered vehicle Journey 6  
 Casualty Reference: 2 Age: 59 Male Passenger Severity: Slight

Vehicle Reference 2 Car Going ahead  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Front Age of Driver 60  
 Vehicle direction NE to SW  
 FRV Not foreign registered vehicle Journey 6  
 Casualty Reference: 1 Age: 60 Female Driver/rider Severity: Slight



## AccsMap - Collision Analysis System

Collisions between dates 01/01/2016 and 31/12/2020 (60) months

## Selection:

Selected using Manual Selection

## Notes:

Bridgwater

191902278 28/03/2019 Thursday Time 0610 Vehicles 4 Casualties 1 Slight  
 Fine without high winds Road surface Dry Darkness: street lights present and lit  
 Special Conditions None Road Type Single carriageway  
 V1 TRAVELLING NORTH EAST, V2 TRAVELLING NORTH WEST., V3 & V4 PARKED. V1 FAILED TO STOP AT JCT  
 AND COLLIDED WITH V2 AND V3 WHICH HAS THEN COLLIDED WITH V4. V1 FAILED TO STOP.  
 Occurred on WELLINGTON ROAD, AT JCT WITH DEVONSHIRE ST, BRIDGWATER.

Vehicle Reference	1	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front		Age of Driver 30
Vehicle direction	SW to NE		
FRV	Not foreign registered vehicle		Journey 6
Vehicle Reference	2	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Offside		Age of Driver 18
Vehicle direction	SE to NW		
FRV	Not foreign registered vehicle		Journey 6
Casualty Reference:	1	Age: 18	Female Driver/rider Severity: Slight

Vehicle Reference	3	Car	Parked
Footway (pavement)			No skidding, jack-knifing or overturning
First point of impact	Front		Age of Driver
Vehicle direction	Park to Parked		
FRV	Not foreign registered vehicle		Journey 6
Vehicle Reference	4	Car	Parked
Footway (pavement)			No skidding, jack-knifing or overturning
First point of impact	Front		Age of Driver
Vehicle direction	Park to Parked		
FRV	Not foreign registered vehicle		Journey 6

192000291 03/04/2019 Wednesday Time 1326 Vehicles 1 Casualties 1 Slight  
 Fine without high winds Road surface Dry Daylight: no street lighting  
 Special Conditions None Road Type Dual carriageway  
 V1 TRAVELLING SOUTH WEST, PED WALKING NORTH WEST.  
 PED WALKED INTO THE ROAD AND WAS HIT BY V1.  
 Occurred on A38 MONMOUTH ST, OUTSIDE NO. 56, BRIDGWATER

Vehicle Reference	1	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front		Age of Driver 21
Vehicle direction	NE to SW		
FRV	Not foreign registered vehicle		Journey 6
Casualty Reference:	1	Age: 41	Male Pedestrian Severity: Slight
Pedestrian Direction:			

## AccsMap - Collision Analysis System

Collisions between dates 01/01/2016 and 31/12/2020 (60) months

## Selection:

Selected using Manual Selection

## Notes:

Bridgwater

191905277 09/04/2019 Tuesday Time 1715 Vehicles 2 Casualties 1 Slight  
 Raining without high winds Road surface Wet/Damp Daylight: street lights present  
 Special Conditions None Road Type Single carriageway  
 V1 & V2 TRAVELLING SOUTH EAST. V1 WAS STATIONARY BEHIND A VEH WAITING TO TURN RIGHT.  
 V2 FAILED TO NOTICE THAT V1 HAD STOPPED AND V2 COLLIDED WITH REAR OF V1.  
 Occurred on A38 BRISTOL ROAD, OUTSIDE WALPOLE HOUSE, PAWLETT.

Vehicle Reference 1 Car Waiting to go ahead but held up  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Back Age of Driver 61  
 Vehicle direction NW to SE  
 FRV Not foreign registered vehicle Journey 6  
 Casualty Reference: 1 Age: 61 Female Driver/rider Severity: Slight

Vehicle Reference 2 Car Going ahead  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Front Age of Driver 32  
 Vehicle direction NW to SE  
 FRV Not foreign registered vehicle Journey 6

191905574 29/04/2019 Monday Time 1649 Vehicles 2 Casualties 1 Serious  
 Fine without high winds Road surface Dry Daylight: street lights present  
 Special Conditions None Road Type Single carriageway  
 V1 & V2 TRAVELLING SOUTH WEST. RIDER OF V2 FELL FROM MACHINE  
 WHILE TRYING TO REMOUNT AND COLLIDED WITH V1.  
 Occurred on A38 BRISTOL ROAD, NEAR JCT WITH KIMBERLEY TERRACE, BRIDGWATER.

Vehicle Reference 1 Goods >= 7.5 tonnes mgw Going ahead  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Front Age of Driver 45  
 Vehicle direction NE to SW  
 FRV Not foreign registered vehicle Journey 6

Vehicle Reference 2 Pedal cycle Going ahead  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Offside Age of Driver 44  
 Vehicle direction NE to SW  
 FRV Journey 6

Casualty Reference: 1 Age: 44 Male Driver/rider Severity: Serious

Collisions between dates 01/01/2016 and 31/12/2020 (60) months

**Selection:**

Selected using Manual Selection

**Notes:**

Bridgwater

191902962 03/05/2019 Friday Time 2045 Vehicles 2 Casualties 1 Slight  
Fine without high winds Road surface Dry Darkness: street lighting unknown  
Special Conditions None Road Type Unknown  
V1 & V2 TRAVELLING NORTH WEST, BOTH WAITING AT THE TRAFFIC LIGHTS FOR THE RIGHT TURN  
ARROW. V2 SOUNDED ITS HORN. RIDER OF V1 POINTED TO THE LIGHTS TO POINT OUT  
THAT THE RIGHT TURN WAS NOT GREEN. V2 RAMMED V1 BUT V2 FAILED TO STOP.  
Occurred on A372 ST JOHN ST, AT JCT WITH A38 BROADWAY/MONMOUTH ST, BRIDGWATER.

Vehicle Reference 1 Pedal cycle Waiting to go ahead but held up  
Not in restricted lane No skidding, jack-knifing or overturning  
First point of impact Back Age of Driver 32  
Vehicle direction SE to NW  
FRV Not foreign registered vehicle Journey 6  
Casualty Reference: 1 Age: 32 Male Driver/rider Severity: Slight

Vehicle Reference 2 Car Turning right  
Not in restricted lane No skidding, jack-knifing or overturning  
First point of impact Front Age of Driver  
Vehicle direction SE to NE  
FRV Not foreign registered vehicle Journey 6

191904775 09/05/2019 Thursday Time 1450 Vehicles 1 Casualties 1 Serious  
Fine without high winds Road surface Dry Daylight: street lights present  
Special Conditions None Road Type Dual carriageway  
V1 TRAVELLING NORTH EAST, PED WALKING SOUTH EAST ACROSS ZEBRA CROSSING.  
V1 FAILED TO STOP FOR ZEBRA CROSSING AND COLLIDED WITH PED.  
Occurred on A38 MONMOUTH ST, AT JCT WITH BLAKE PLACE, BRIDGWATER.

Vehicle Reference 1 Car Going ahead  
Not in restricted lane No skidding, jack-knifing or overturning  
First point of impact Front Age of Driver 85  
Vehicle direction SW to NE  
FRV Not foreign registered vehicle Journey 6  
Casualty Reference: 1 Age: 71 Female Pedestrian Severity: Serious  
Pedestrian Direction: SE



## AccsMap - Collision Analysis System

Collisions between dates 01/01/2016 and 31/12/2020 (60) months

## Selection:

Selected using Manual Selection

## Notes:

Bridgwater

191905738 15/05/2019 Wednesday Time 1335 Vehicles 2 Casualties 1 Slight  
 Fine without high winds Road surface Dry Daylight: street lights present  
 Special Conditions None Road Type Single carriageway  
 V1 & V2 TRAVELLING NORTH EAST. V2 OVERTOOK V1, AFTER CAB HAD PASSED  
 V2 STARTED TO MOVE BACK TOWARDS V1 AND A COLLISION OCCURRED.  
 Occurred on A38 BRISTOL ROAD, BRIDGWATER

Vehicle Reference 1 Car Going ahead  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Offside Age of Driver 40  
 Vehicle direction SW to NE  
 FRV Not foreign registered vehicle Journey 6  
 Casualty Reference: 1 Age: 40 Male Driver/rider Severity: Slight

Vehicle Reference 2 Goods >= 7.5 tonnes mgw Going ahead  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Nearside Age of Driver 33  
 Vehicle direction SW to NE  
 FRV Not foreign registered vehicle Journey 6

191903667 24/05/2019 Friday Time 1100 Vehicles 2 Casualties 1 Slight  
 Fine without high winds Road surface Dry Daylight: street lights present  
 Special Conditions None Road Type Single carriageway  
 V1 TRAVELLING SOUTH WEST, V2 TRAVELLING NORTH WEST ON A PEDN CROSSING.  
 V1 FAILED TO STOP IN TIME AND COLLIDED WITH V2.  
 Occurred on A39 BATH ROAD, BY THE CROSS RIFLES, BRIDGWATER.

Vehicle Reference 1 Car Going ahead  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Front Age of Driver 66  
 Vehicle direction NE to SW  
 FRV Not foreign registered vehicle Journey 6  
 Vehicle Reference 2 Pedal cycle Going ahead  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Front Age of Driver 29  
 Vehicle direction SE to NW  
 FRV Not foreign registered vehicle Journey 6  
 Casualty Reference: 1 Age: 29 Female Driver/rider Severity: Slight

**Collisions between dates**      **01/01/2016 and 31/12/2020**    (60) months

**Selection:**

Selected using Manual Selection

**Notes:**

Bridgwater

191903982      16/06/2019      Sunday    Time 0345    Vehicles 2    Casualties 2    Slight  
 Fine without high winds      Road surface Wet/Damp      Darkness: street lights present and lit  
 Special Conditions    None      Road Type    Single carriageway  
 V1 (TAXI) TRAVELLING NORTH WEST, V2 TRAVELLING NORTH EAST.  
 V1 FAILED TO STOP AT RED TRAFFIC LIGHT AND COLLIDED WITH V2.  
 Occurred on    A38 BROADWAY, AT JCT WITH A372 EASTOVER, BRIDGWATER.

Vehicle Reference	1	Taxi	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Nearside	Age of Driver	23
Vehicle direction	SE to NW		
FRV	Not foreign registered vehicle	Journey	Journey as part of work
Vehicle Reference	2	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front	Age of Driver	51
Vehicle direction	SW to NE		
FRV	Not foreign registered vehicle	Journey	6
Casualty Reference:	1	Age: 19	Male    Passenger    Severity: Slight
Casualty Reference:	2	Age: 22	Male    Passenger    Severity: Slight

191906320      15/07/2019      Monday    Time 1214    Vehicles 2    Casualties 1    Slight  
 Fine without high winds      Road surface Dry      Daylight: street lights present  
 Special Conditions    None      Road Type    Single carriageway  
 V1 TRAVELLING EAST, V2 TRAVELLING OPPOSITE DIRECTION.  
 V1 DRIFTED TO OPPOSITE CARRIAGEWAY AND COLLIDED WITH V2.  
 Occurred on    A372 WESTONZOYLAND ROAD, BRIDGWATER.

Vehicle Reference	1	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Offside	Age of Driver	86
Vehicle direction	W to E		
FRV	Not foreign registered vehicle	Journey	6
Casualty Reference:	1	Age: 86	Male    Driver/rider    Severity: Slight
Vehicle Reference	2	Goods <= 3.5 tonnes mgw	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Offside	Age of Driver	26
Vehicle direction	E to W		
FRV	Not foreign registered vehicle	Journey	6

## AccsMap - Collision Analysis System

Collisions between dates 01/01/2016 and 31/12/2020 (60) months

## Selection:

Selected using Manual Selection

## Notes:

Bridgwater

191904712 31/07/2019 Wednesday Time 1310 Vehicles 2 Casualties 1 Slight  
 Fine without high winds Road surface Dry Daylight: street lights present  
 Special Conditions None Road Type Single carriageway  
 V1 TRAVELLING NORTH WEST, V2 TRAVELLING SOUTH WEST.  
 V1 EMERGED FROM ST JOHN ST AND COLLIDED WITH V2.  
 Occurred on A38 BROADWAY, AT JCT WITH A372 ST JOHN ST, BRIDGWATER.

Vehicle Reference	1	Goods >= 7.5 tonnes mgw	Moving off
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Nearside	Age of Driver	68
Vehicle direction	SE to NW		
FRV	Not foreign registered vehicle	Journey	Journey as part of work
Vehicle Reference	2	Pedal cycle	Going ahead
Footway (pavement)			No skidding, jack-knifing or overturning
First point of impact	Front	Age of Driver	28
Vehicle direction	NE to SW		
FRV	Not foreign registered vehicle	Journey	6
Casualty Reference:	1	Age:	28
		Female	Driver/rider
			Severity:
			Slight

191905078 23/08/2019 Friday Time 1245 Vehicles 1 Casualties 1 Slight  
 Fine without high winds Road surface Dry Daylight: street lights present  
 Special Conditions None Road Type Dual carriageway  
 V1 TRAVELLING NORTH EAST, PED WALKING SOUTH EAST.  
 V1 WAS APPROACHING THE PED CROSSING IN THE OUTSIDE LANE.  
 THREE PEDS WERE CROSSING THE ROAD AND V1 COLLIDED WITH ONE OF THEM.  
 Occurred on A38 MONMOUTH ST, AT JCT WITH BLAKE PLACE, BRIDGWATER.

Vehicle Reference	1	Car	Slowing or Stopping
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Did not impact	Age of Driver	58
Vehicle direction	SW to NE		
FRV	Not foreign registered vehicle	Journey	6
Casualty Reference:	1	Age:	7
		Female	Pedestrian
			Severity:
			Slight
			Pedestrian Direction: SE



Collisions between dates 01/01/2016 and 31/12/2020 (60) months

**Selection:**

Selected using Manual Selection

**Notes:**

Bridgwater

192000810 20/09/2019 Friday Time 1420 Vehicles 2 Casualties 1 Slight  
Fine without high winds Road surface Dry Daylight: no street lighting  
Special Conditions None Road Type Single carriageway  
V1 TRAVELLING WEST, V2 (TOWING A CARAVAN) TRAVELLING OPPOSITE DIRECTION.  
V1 SUFFERED A BLOW OUT AND COLLIDED WITH CARAVAN OF V2.  
Occurred on A39 BATH ROAD, BAWDRIP.

Vehicle Reference 1 Car Going ahead  
Not in restricted lane Skidded  
First point of impact Front Age of Driver 35  
Vehicle direction E to W  
FRV Not foreign registered vehicle Journey 6  
Casualty Reference: 1 Age: 35 Male Driver/rider Severity: Slight

Vehicle Reference 2 Car Going ahead  
Not in restricted lane No skidding, jack-knifing or overturning  
First point of impact Offside Age of Driver 62  
Vehicle direction W to E  
FRV Not foreign registered vehicle Journey 6

192000881 01/10/2019 Tuesday Time 1545 Vehicles 2 Casualties 1 Slight  
Fine without high winds Road surface Dry Daylight: street lights present  
Special Conditions None Road Type Single carriageway  
V1 & V2 TRAVELLING NORTH EAST. V2 COLLIDED WITH REAR OF V1  
AND RIDER OF V2 FELL FROM MACHINE.  
Occurred on A39 BATH ROAD, AT JCT WITH ROSEBERY AVENUE, BRIDGWATER

Vehicle Reference 1 Car Going ahead  
Not in restricted lane No skidding, jack-knifing or overturning  
First point of impact Front Age of Driver 18  
Vehicle direction SW to NE  
FRV Not foreign registered vehicle Journey 6

Vehicle Reference 2 Motorcycle over 50cc and up to 125cc Going ahead  
Not in restricted lane No skidding, jack-knifing or overturning  
First point of impact Back Age of Driver 20  
Vehicle direction SW to NE  
FRV Not foreign registered vehicle Journey 6  
Casualty Reference: 1 Age: 20 Male Driver/rider Severity: Slight

## AccsMap - Collision Analysis System

Collisions between dates 01/01/2016 and 31/12/2020 (60) months

## Selection:

Selected using Manual Selection

## Notes:

Bridgwater

192000946 08/10/2019 Tuesday Time 1546 Vehicles 4 Casualties 2 Slight  
 Fine without high winds Road surface Wet/Damp Daylight: no street lighting  
 Special Conditions None Road Type Single carriageway  
 V1, V2, V3 & V4 TRAVELLING NORTH WEST. A VEH SLOWED DOWN AND STOPPED TO TURN RIGHT NORTH EAST.  
 V1 STOPPED BUT OTHER VEHICLES FAILED TO DO SO AND A COLLISION OCCURRED.  
 Occurred on A39 PURITON HILL, AT JCT WITH HALL ROAD, PURITON.

Vehicle Reference	1	Car	Slowing or Stopping
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Back	Age of Driver	44
Vehicle direction	SE to NW		
FRV	Not foreign registered vehicle	Journey	6
Vehicle Reference	2	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Back	Age of Driver	30
Vehicle direction	SE to NW		
FRV	Not foreign registered vehicle	Journey	6
Casualty Reference:	1	Age: 30	Male Driver/rider Severity: Slight
Casualty Reference:	2	Age: 30	Female Passenger Severity: Slight
Vehicle Reference	3	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front	Age of Driver	81
Vehicle direction	SE to NW		
FRV	Not foreign registered vehicle	Journey	6
Vehicle Reference	4	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front	Age of Driver	28
Vehicle direction	SE to NW		
FRV	Not foreign registered vehicle	Journey	6

**Collisions between dates**      **01/01/2016 and 31/12/2020**    (60) months

**Selection:**

Selected using Manual Selection

**Notes:**

Bridgwater

192000655      08/11/2019      Friday      Time 1740    Vehicles    2    Casualties    1    Slight  
 Fine without high winds      Road surface    Dry      Darkness: street lights present and lit  
 Special Conditions    None      Road Type    Unknown  
 V1 & V2 TRAVELLING NORTH. V2 ENTERED CARRIAGEWAY  
 FROM THE SIDE OF ROAD AND COLLIDED WITH V1.  
 Occurred on    A38 BRISTOL ROAD, BRIDGWATER.

Vehicle Reference	1	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front		Age of Driver
Vehicle direction	S to N		61
FRV	Not foreign registered vehicle		Journey
			6
Vehicle Reference	2	Pedal cycle	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Nearside		Age of Driver
Vehicle direction	S to N		46
FRV	Not foreign registered vehicle		Journey
			6
Casualty Reference:	1	Age: 46	Male      Driver/rider      Severity: Slight

192001219      14/11/2019      Thursday      Time 1206    Vehicles    2    Casualties    3    Slight  
 Raining without high winds      Road surface    Wet/Damp      Daylight: no street lighting  
 Special Conditions    None      Road Type    Dual carriageway  
 V1 & V2 TRAVELLING NORTH WEST. V2 WAS WAITING TO TURN RIGHT NORTH EAST.  
 V1 FAILED TO STOP IN TIME AND COLLIDED WITH REAR OF V2.  
 Occurred on    A39 PURITON HILL, BAWDRIP.

Vehicle Reference	1	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front		Age of Driver
Vehicle direction	SE to SW		34
FRV	Not foreign registered vehicle		Journey
			6
Casualty Reference:	1	Age: 34	Male      Driver/rider      Severity: Slight
Vehicle Reference	2	Car	Turning right
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Back		Age of Driver
Vehicle direction	SE to NE		71
FRV	Not foreign registered vehicle		Journey
			6
Casualty Reference:	2	Age: 71	Female      Driver/rider      Severity: Slight
Casualty Reference:	3	Age: 66	Female      Passenger      Severity: Slight



## AccsMap - Collision Analysis System

Collisions between dates 01/01/2016 and 31/12/2020 (60) months

## Selection:

Selected using Manual Selection

## Notes:

Bridgwater

192001246 21/11/2019 Thursday Time 1653 Vehicles 2 Casualties 1 Slight  
 Raining without high winds Road surface Wet/Damp Darkness: street lights present and lit  
 Special Conditions None Road Type Single carriageway  
 V1 TRAVELLING NORTH EAST, V2 TRAVELLING OPPOSITE DIRECTION.  
 V1 TURNED RIGHT SOUTH EAST AND COLLIDED WITH V2.  
 Occurred on A39 WESTERN WAY, AT JCT WITH WYLDs ROAD, BRIDGWATER.

Vehicle Reference	1	Car	Turning right
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front	Age of Driver	48
Vehicle direction	SW to SE		
FRV	Not foreign registered vehicle	Journey	6
Vehicle Reference	2	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front	Age of Driver	47
Vehicle direction	NE to SW		
FRV	Not foreign registered vehicle	Journey	Journey as part of work
Casualty Reference:	1	Age:	47
		Female	Driver/rider
			Severity: Slight

192001690 03/12/2019 Tuesday Time 1325 Vehicles 1 Casualties 1 Slight  
 Fine without high winds Road surface Dry Daylight: street lights present  
 Special Conditions None Road Type Single carriageway  
 V1 TRAVELLING SOUTH WEST, PED WALKING ALONG PAVEMENT. PED BEGAN TO CROSS ROAD.  
 V1BRAKED BUT WAS UNABLE AVOIDING A COLLISION WITH PED.  
 Occurred on A38 MONMOUTH ST, BRIDGWATER.

Vehicle Reference	1	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front	Age of Driver	22
Vehicle direction	NE to SW		
FRV	Not foreign registered vehicle	Journey	6
Casualty Reference:	1	Age:	42
		Male	Pedestrian
			Severity: Slight

Collisions between dates 01/01/2016 and 31/12/2020 (60) months

**Selection:**

Selected using Manual Selection

**Notes:**

Bridgwater

202000454 10/01/2020 Friday Time 1315 Vehicles 3 Casualties 5 Serious  
Fine without high winds Road surface Dry Daylight: no street lighting  
Special Conditions None Road Type Single carriageway  
V1, V2 & V3 TRAVELLING NORTH EAST. V3 WAS WAITING TO TURN RIGHT SOUTH EAST.  
V1 WAS DISTRACTED AND COLLIDED WITH REAR OF V2, WHICH COLLIDED WITH REAR OF V3.  
Occurred on A38 BRISTOL ROAD, BRIDGWATER.

Vehicle Reference	1	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front		Age of Driver 19
Vehicle direction	SW to NE		
FRV	Not foreign registered vehicle		Journey 6
Casualty Reference:	1	Age: 19	Female Driver/rider Severity: Slight
Casualty Reference:	4	Age: 17	Female Passenger Severity: Slight
Casualty Reference:	5	Age: 17	Female Passenger Severity: Slight

Vehicle Reference	2	Goods <= 3.5 tonnes mgw	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Back		Age of Driver 48
Vehicle direction	SW to NE		
FRV	Not foreign registered vehicle		Journey 6
Casualty Reference:	2	Age: 48	Male Driver/rider Severity: Slight

Vehicle Reference	3	Car	Waiting to turn right
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Back		Age of Driver 46
Vehicle direction	SW to SE		
FRV	Not foreign registered vehicle		Journey 6
Casualty Reference:	3	Age: 46	Male Driver/rider Severity: Serious

Bridgwater

Casualty Reference: 1      Age: 30      Male      Driver/rider      Severity: Slight

Casualty Reference: 2      Age: 33      Male      Passenger      Severity: Serious



Collisions between dates 01/01/2016 and 31/12/2020 (60) months

**Selection:**

Selected using Manual Selection

**Notes:**

Bridgwater

202002095 04/02/2020 Tuesday Time 1945 Vehicles 2 Casualties 4 Slight  
Fine without high winds Road surface Dry Darkness: street lights present and lit  
Special Conditions None Road Type Single carriageway  
V1 TRAVELLING NORTH WEST, V2 TRAVELLING NORTH EAST.  
V1 TURNED RIGHT NORTH EAST AND COLLIDED WITH V2.  
Occurred on A39 WESTERN WAY, AT JCT WITH WYLDs ROAD, BRIDGWATER.

Vehicle Reference	1	Car	Turning right
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front		Age of Driver 19
Vehicle direction	SE to NE		
FRV	Not foreign registered vehicle		Journey 6
Casualty Reference:	1	Age: 19	Female Driver/rider Severity: Slight
Casualty Reference:	3	Age: 38	Female Passenger Severity: Slight

Vehicle Reference	2	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front		Age of Driver 21
Vehicle direction	SW to NE		
FRV	Not foreign registered vehicle		Journey 6
Casualty Reference:	2	Age: 21	Male Driver/rider Severity: Slight
Casualty Reference:	4	Age: 24	Female Passenger Severity: Slight

202001172 09/02/2020 Sunday Time 1600 Vehicles 1 Casualties 1 Slight  
Raining with high winds Road surface Wet/Damp Daylight: street lights present  
Special Conditions None Road Type Single carriageway  
V1 TRAVELLING SOUTH EAST, PED CROSSING ROAD.  
V1 FAILED TO STOP AT RED LIGHT AND COLLIDED WITH PED  
Occurred on A372 ST JOHN ST, AT JCT WITH CRANLEIGH GARDENS, BRIDGWATER.

Vehicle Reference	1	Goods <= 3.5 tonnes mgw	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front		Age of Driver 43
Vehicle direction	NW to SE		
FRV	Not foreign registered vehicle		Journey 6
Casualty Reference:	1	Age: 15	Female Pedestrian Severity: Slight

## AccsMap - Collision Analysis System

Collisions between dates 01/01/2016 and 31/12/2020 (60) months

## Selection:

Selected using Manual Selection

## Notes:

Bridgwater

202001596 14/02/2020 Friday Time 1745 Vehicles 2 Casualties 1 Slight  
 Raining without high winds Road surface Wet/Damp Darkness: street lights present and lit  
 Special Conditions None Road Type Single carriageway  
 V1 TRAVELLING SOUTH EAST, V2 TRAVELLING OPPOSITE DIRECTION.  
 V1 TURNED RIGHT SOUTH WEST, V2 FAILED TO STOP AT RAB AND COLLIDED WITH V1.  
 Occurred on A372 ST JOHN ST, AT JCT WITH WESTONZOYLAND ROAD, BRIDGWATER.

Vehicle Reference 1 Motorcycle over 50cc and up to 125cc Turning right  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Front Age of Driver 20  
 Vehicle direction NW to SW  
 FRV Not foreign registered vehicle Journey 6  
 Casualty Reference: 1 Age: 20 Male Driver/rider Severity: Slight

Vehicle Reference 2 Car Going ahead  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Front Age of Driver 25  
 Vehicle direction SE to NW  
 FRV Not foreign registered vehicle Journey 6

202003711 27/02/2020 Thursday Time 1525 Vehicles 1 Casualties 1 Slight  
 Fine without high winds Road surface Dry Daylight: street lights present  
 Special Conditions None Road Type Single carriageway  
 V1 TRAVELLING SOUTH WEST. TWO PEDS WERE CROSSING THE ROAD.  
 V1 COLLIDED WITH PEDS, ONLY ONE WAS INJURED.  
 Occurred on A38 MONMOUTH ST, AT JCT WITH CROSS RIFLES RAB, BRIDGWATER.

Vehicle Reference 1 Car Going ahead  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Front Age of Driver 62  
 Vehicle direction NE to SW  
 FRV Not foreign registered vehicle Journey 6  
 Casualty Reference: 1 Age: 58 Female Pedestrian Severity: Slight  
 9

**Collisions between dates**      **01/01/2016 and 31/12/2020**    (60) months

**Selection:**

Selected using Manual Selection

**Notes:**

Bridgwater

202001733      29/02/2020      Saturday    Time 2245    Vehicles    3    Casualties    1    Serious  
 Fine without high winds                      Road surface    Dry                      Darkness: street lights present and lit  
 Special Conditions    None                      Road Type    Single carriageway  
 V1 TRAVELLING SOUTH WEST, V2 & V3 PARKED. V1 COLLIDED WITH V2 & V3.  
 Occurred on      POLDEN ST, BRIDGWATER.

Vehicle Reference	1	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front		Age of Driver
Vehicle direction	NE to SW		28
FRV	Not foreign registered vehicle		Journey
			6
Casualty Reference:	1	Age: 28	Male
			Driver/rider
			Severity: Serious

Vehicle Reference	2	Car	Parked
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Back		Age of Driver
Vehicle direction	Park to Parked		35
FRV	Not foreign registered vehicle		Journey
			6

Vehicle Reference	3	Car	Parked
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Back		Age of Driver
Vehicle direction	Park to Parked		33
FRV	Not foreign registered vehicle		Journey
			6

202004473      11/03/2020      Wednesday    Time 1554    Vehicles    2    Casualties    1    Slight  
 Fine without high winds                      Road surface    Dry                      Daylight: street lights present  
 Special Conditions    None                      Road Type    Single carriageway  
 V1 TRAVELLING SOUTH EAST, V2 TRAVELLING NORTH EAST.  
 V1 EMERGED FROM JCT TO TURN RIGHT SOUTH WEST AND COLLIDED WITH V2.  
 Occurred on      A39 BATH ROAD, AT JCT WITH UNION ST AND LOWER BATH ROAD, BRIDGWATER.

Vehicle Reference	1	Car	Turning right
Footway (pavement)			No skidding, jack-knifing or overturning
First point of impact	Front		Age of Driver
Vehicle direction	NW to SW		33
FRV	Not foreign registered vehicle		Journey
			6
Vehicle Reference	2	Pedal cycle	Going ahead
Footway (pavement)			No skidding, jack-knifing or overturning
First point of impact	Front		Age of Driver
Vehicle direction	SW to NE		39
FRV	Not foreign registered vehicle		Journey
			6
Casualty Reference:	1	Age: 39	Male
			Driver/rider
			Severity: Slight



## AccsMap - Collision Analysis System

Collisions between dates 01/01/2016 and 31/12/2020 (60) months

## Selection:

Selected using Manual Selection

## Notes:

Bridgwater

202004905 29/04/2020 Wednesday Time 0856 Vehicles 2 Casualties 1 Slight  
 Raining without high winds Road surface Wet/Damp Daylight: no street lighting  
 Special Conditions None Road Type Single carriageway  
 V1 TRAVELLING SOUTH WEST, V2 TRAVELLING SOUTH EAST. V1 TURNED RIGHT NORTH WEST  
 AND V2 TURNED LEFT NORTH EAST. V1 COLLIDED WITH V2.  
 Occurred on A39 THE DROVE, AT JCT WITH WYLDs ROAD, BRIDGWATER.

Vehicle Reference	1	Goods between 3.5 and 7.5 tonnes	Turning right
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Nearside	Age of Driver	24
Vehicle direction	NE to NW		
FRV	Not foreign registered vehicle	Journey	6
Vehicle Reference	2	Car	Turning left
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Offside	Age of Driver	42
Vehicle direction	NW to NE		
FRV	Not foreign registered vehicle	Journey	6
Casualty Reference:	1	Age:	42
		Male	Driver/rider
			Severity: Slight

202100040 07/06/2020 Sunday Time 1411 Vehicles 1 Casualties 1 Slight  
 Fine without high winds Road surface Dry Darkness: street lights present but unlit  
 Special Conditions None Road Type Single carriageway  
 V1 TRAVELLING NORTH EAST, PED WALKING OPPOSITE DIRECTION. V1 COLLIDED WITH PED.  
 Occurred on A38 MONMOUTH ST, BRIDGWATER.

Vehicle Reference	1	Car	Slowing or Stopping
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Did not impact	Age of Driver	41
Vehicle direction	SW to NE		
FRV	Not foreign registered vehicle	Journey	6
Casualty Reference:	1	Age:	25
		Male	Pedestrian
			Severity: Slight
			Pedestrian Direction: SW

Collisions between dates 01/01/2016 and 31/12/2020 (60) months

**Selection:**

Selected using Manual Selection

**Notes:**

Bridgwater

202100325 16/07/2020 Thursday Time 1710 Vehicles 2 Casualties 1 Slight  
Fine without high winds Road surface Dry Daylight: no street lighting  
Special Conditions None Road Type Single carriageway  
V1 & V2 TRAVELLING SOUTH WEST. V1 STOPPED TO ALLOW AN AMBULANCE TO PASS.  
V2 FAILED TO NOTICE THIS AND COLLIDED WITH REAR OF V1.  
Occurred on A39 BATH ROAD, BANDRIP.

Vehicle Reference 1 Car Slowing or Stopping  
Not in restricted lane No skidding, jack-knifing or overturning  
First point of impact Back Age of Driver 61  
Vehicle direction NE to SW  
FRV Not foreign registered vehicle Journey 6  
Casualty Reference: 1 Age: 61 Female Driver/rider Severity: Slight

Vehicle Reference 2 Car Going ahead  
Not in restricted lane No skidding, jack-knifing or overturning  
First point of impact Front Age of Driver 26  
Vehicle direction NE to SW  
FRV Not foreign registered vehicle Journey 6

202100758 24/08/2020 Monday Time 1821 Vehicles 2 Casualties 3 Slight  
Other Road surface Wet/Damp Daylight: no street lighting  
Special Conditions None Road Type Single carriageway  
V1 & V2 TRAVELLING SOUTH EAST. V2 BRAKED AFTER HEARING AN EMERGENCY VEH.  
V1 FAILED TO STOP IN TIME AND COLLIDED WITH REAR OF V2.  
Occurred on A39 PURITON HILL, AT JCT WITH BATH ROAD, BAWDRIP.

Vehicle Reference 1 Car Going ahead  
Not in restricted lane No skidding, jack-knifing or overturning  
First point of impact Front Age of Driver 49  
Vehicle direction NW to SE  
FRV Not foreign registered vehicle Journey 6

Vehicle Reference 2 Car Slowing or Stopping  
Not in restricted lane No skidding, jack-knifing or overturning  
First point of impact Back Age of Driver 35  
Vehicle direction NW to SE  
FRV Not foreign registered vehicle Journey 6

Casualty Reference: 1 Age: 35 Male Driver/rider Severity: Slight

Casualty Reference: 2 Age: 31 Male Passenger Severity: Slight

Casualty Reference: 3 Age: 29 Female Passenger Severity: Slight

**Collisions between dates** 01/01/2016 and 31/12/2020 (60) months

**Selection:**

Selected using Manual Selection

**Notes:**

Bridgwater

202003325 25/08/2020 Tuesday Time 1850 Vehicles 1 Casualties 1 Slight  
Fine with high winds Road surface Dry Daylight: street lighting unknown  
Special Conditions None Road Type Unknown  
V1 TRAVELLING WEST, PED WALKING NORTHBOUND.  
V1 WAS TURNING LEFT SOUTH AND COLLIDED WITH PED. V1 FAILED TO STOP.  
Occurred on A38 BRITOL ROAD, AT JCT WITH UNION ST, BRIDGWATER.

Vehicle Reference 1 Car Turning left  
Not in restricted lane No skidding, jack-knifing or overturning  
First point of impact Front Age of Driver  
Vehicle direction E to S  
FRV Not foreign registered vehicle Journey 6  
Casualty Reference: 1 Age: 29 Male Pedestrian Severity: Slight  
Pedestrian Direction: N

202003881 01/10/2020 Thursday Time 1603 Vehicles 2 Casualties 1 Slight  
Unknown Road surface Wet/Damp Daylight: street lighting unknown  
Special Conditions None Road Type Single carriageway  
V1 & V2 TRAVELLING SOUTH EAST. A LARGE BRICK OR ROCK FELL FROM V2 HITTING V1. V2 FAILED TO STOP.  
Occurred on A38 BRISTOL ROAD, AT JCT WITH PURITON ROAD, PAWLETT.

Vehicle Reference 1 Car Going ahead  
Not in restricted lane No skidding, jack-knifing or overturning  
First point of impact Did not impact Age of Driver 34  
Vehicle direction NW to SE  
FRV Not foreign registered vehicle Journey 6  
Casualty Reference: 1 Age: 34 Male Driver/rider Severity: Slight

Vehicle Reference 2 Goods >= 7.5 tonnes mgw Going ahead  
Not in restricted lane No skidding, jack-knifing or overturning  
First point of impact Did not impact Age of Driver  
Vehicle direction NW to SE  
FRV Not foreign registered vehicle Journey 6



## AccsMap - Collision Analysis System

Collisions between dates 01/01/2016 and 31/12/2020 (60) months

## Selection:

Selected using Manual Selection

## Notes:

Bridgwater

202100116 01/10/2020 Thursday Time 1820 Vehicles 4 Casualties 3 Slight  
 Raining with high winds Road surface Wet/Damp Darkness: street lights present and lit  
 Special Conditions ATS out Road Type Single carriageway  
 V1 TRAVELLING SOUTH EAST, V2, V3 & V4 TRAVELLING OPPOSITE DIRECTION.  
 V1 DROVE THROUGH TRAFFIC LIGHTS AND COLLIDED WITH V2, V3 & V4.  
 Occurred on A39 BATH ROAD, AT JCT WITH A39 PURITON HILL, PURITON.

Vehicle Reference 1 Car Going ahead  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Front Age of Driver 25  
 Vehicle direction NW to E  
 FRV Not foreign registered vehicle Journey 6  
 Casualty Reference: 1 Age: 25 Male Driver/rider Severity: Slight

Casualty Reference: 3 Age: 28 Male Passenger Severity: Slight

Vehicle Reference 2 Car Waiting to go ahead but held up  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Front Age of Driver 49  
 Vehicle direction E to W  
 FRV Not foreign registered vehicle Journey 6  
 Vehicle Reference 3 Car Waiting to go ahead but held up  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Front Age of Driver 33  
 Vehicle direction E to W  
 FRV Not foreign registered vehicle Journey 6  
 Casualty Reference: 2 Age: 33 Female Driver/rider Severity: Slight

Vehicle Reference 4 Car Waiting to go ahead but held up  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Front Age of Driver 38  
 Vehicle direction E to W  
 FRV Not foreign registered vehicle Journey 6

**Collisions between dates**      **01/01/2016 and 31/12/2020**    (60) months

**Selection:**

Selected using Manual Selection

**Notes:**

Bridgwater

202004514      23/10/2020      Friday      Time 1240    Vehicles    1   Casualties    2   Slight  
 Fine without high winds                      Road surface    Dry                      Daylight: street lights present  
 Special Conditions    None                                      Road Type    Single carriageway  
 V1 TRAVELLING NORTH WEST. DRIVER FAILED TO NEGOTIATE BEND AND V1 COLLIDED WITH A LAMP POST.  
 Occurred on      KINGS DRIVE, BRIDGWATER.

Vehicle Reference	1	Car		Going ahead	
Not in restricted lane				No skidding, jack-knifing or overturning	
First point of impact	Front		Age of Driver	29	
Vehicle direction	SE to NW				
FRV	Not foreign registered vehicle			Journey	6
Casualty Reference:	1	Age: 8	Female	Passenger	Severity: Slight
Casualty Reference:	2	Age: 9	Female	Passenger	Severity: Slight

202101059      03/11/2020      Tuesday      Time 0740    Vehicles    2   Casualties    1   Slight  
 Raining without high winds                      Road surface    Wet/Damp                      Daylight: street lights present  
 Special Conditions    None                                      Road Type    Single carriageway  
 V1 TRAVELLING NORTH EAST, V2 TRAVELLING SOUTH EAST.  
 V2 FAILED TO STOP AT JCT AND COLLIDED WITH V1.  
 Occurred on      A39 BATH ROAD, AT JCT WITH KINGS DRIVE, BRIDGWATER

Vehicle Reference	1	Car		Going ahead	
Not in restricted lane				No skidding, jack-knifing or overturning	
First point of impact	Front		Age of Driver	20	
Vehicle direction	SW to NE				
FRV	Not foreign registered vehicle			Journey	6
Vehicle Reference	2	Pedal cycle		Going ahead	
Not in restricted lane				No skidding, jack-knifing or overturning	
First point of impact	Front		Age of Driver	16	
Vehicle direction	NW to SE				
FRV	Not foreign registered vehicle			Journey	6
Casualty Reference:	1	Age: 16	Male	Driver/rider	Severity: Slight

**Collisions between dates**      **01/01/2016 and 31/12/2020**      (60) months

**Selection:**

Selected using Manual Selection

**Notes:**

Bridgwater

202101153      19/11/2020      Thursday      Time 1724      Vehicles 3      Casualties 1      Slight  
 Fine without high winds      Road surface Dry      Darkness: street lights present and lit  
 Special Conditions None      Road Type Single carriageway  
 V1 TRAVELLING NORTH EAST, V2 & V3 TRAVELLING OPPOSITE DIRECTION, PED WALKING NORTH WEST.  
 V1 COLLIDED WITH V2. V3 THEN TRIED TO OVERTAKE V1 & V2 AND COLLIDED WITH PED.  
 Occurred on A38 BRISTOL ROAD, BRIDGWATER.

Vehicle Reference	1	Goods between 3.5 and 7.5 tonnes	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Offside	Age of Driver	52
Vehicle direction	SW to NE		
FRV	Foreign registered vehicle - left hand drive	Journey	6
Vehicle Reference	2	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Offside	Age of Driver	39
Vehicle direction	NE to SW		
FRV	Not foreign registered vehicle	Journey	6
Vehicle Reference	3	Car	Overtaking stationary vehicle on its offside
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Did not impact	Age of Driver	62
Vehicle direction	NE to SW		
FRV	Not foreign registered vehicle	Journey	6
Casualty Reference:	1	Age: 51	Female      Pedestrian      Severity: Slight
Pedestrian Direction:			

202100156      18/12/2020      Friday      Time 1345      Vehicles 2      Casualties 1      Slight  
 Raining without high winds      Road surface Wet/Damp      Daylight: street lights present  
 Special Conditions None      Road Type Single carriageway  
 V1 TRAVELLING NORTH EAST, V2 TRAVELLING WEST. V2 TURNED RIGHT NORTH EAST.  
 V1 SKIDDED AND A COLLISION OCCURRED.  
 Occurred on A38 BRISTOL ROAD, AT JCT WITH UNION ST, BRIDGWATER.

Vehicle Reference	1	Car	Going ahead
Not in restricted lane			Skidded
First point of impact	Nearside	Age of Driver	37
Vehicle direction	SW to NE		
FRV	Not foreign registered vehicle	Journey	6
Casualty Reference:	1	Age: 37	Female      Driver/rider      Severity: Slight

Vehicle Reference	2	Goods <= 3.5 tonnes mgw	Turning right
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Offside	Age of Driver	27
Vehicle direction	E to NE		
FRV	Not foreign registered vehicle	Journey	6



Bridgwater

Collisions between dates 01/01/2016 and 31/12/2020 (60) months

**Selection:**

Selected using Manual Selection  
Young Drivers 17 to 24  
Older Drivers >= 60

**Notes:**

Bridgwater

**DEFAULT VEHICLE GROUPS**

Collisions involving:	Fatal	Serious	Slight	Total	Casualties:	Fatal	Serious	Slight	Total
Motor Vehicles Only	0	9	106	115	Vehicle Driver	0	5	81	86
2-wheeled motor vehicles	0	4	20	24	Vehicle	0	2	46	48
Pedal Cycles	0	4	28	32	Motorcycle rider	0	3	18	21
Horses and Other	0	0	1	1	Cyclist	0	4	27	31
					Pedestrians	0	4	26	30
Total Collisions	0	17	153	170	Other	0	0	0	0
					Total	0	18	198	216

**BVPI CATEGORIES**

\* Figures include Passengers/Pillions where applicable

Casualties:	Fatal	Serious	Slight	Total
Pedestrians	0	4	26	30
Pedal cyclists	0	4	27	31
Motorcyclists	0	3	19	22
Car users	0	7	122	129
Other vehicle	0	0	4	4
Total	0	18	198	216

**YOUNG DRIVERS**

Collisions involving:	Fatal	Serious	Slight	Total	Casualties:	Fatal	Serious	Slight	Total
Car drivers	0	3	30	33	Car drivers	0	1	14	15
Cycle riders	0	1	4	5	Cycle riders	0	1	3	4
Motorcycle riders	0	2	9	11	Motorcycle	0	1	8	9
Other motor vehs	0	0	3	3	Other motor	0	0	0	0
					Passengers of YD	0	0	8	8
					Pedestrians by YD	0	1	5	6
					Total	0	4	38	42

Collisions between dates 01/01/2016 and 31/12/2020 (60) months

**Selection:**

Selected using Manual Selection  
Young Drivers 17 to 24  
Older Drivers >= 60

**Notes:**

Bridgwater

**CHILD CASUALTIES**

Collisions involving:	Fatal	Serious	Slight	Total	Casualties:	Fatal	Serious	Slight	Total
Car drivers	0	0	18	18	Car drivers	0	0	0	0
Cycle riders	0	0	2	2	Cycle riders	0	0	2	2
Motorcycle riders	0	0	0	0	Motorcycle	0	0	0	0
Other motor vehs	0	0	2	2	Other motor	0	0	0	0
					Passengers	0	0	14	14
					Pedestrians	0	0	8	8
					Total	0	0	24	24

**OLDER DRIVERS**

Collisions involving:	Fatal	Serious	Slight	Total	Casualties:	Fatal	Serious	Slight	Total
Car drivers	0	1	36	37	Car drivers	0	0	16	16
Cycle riders	0	0	3	3	Cycle riders	0	0	3	3
Motorcycle riders	0	0	2	2	Motorcycle	0	0	2	2
Other motor vehs	0	1	3	4	Other motor	0	0	0	0
					Passengers of OD	0	0	6	6
					Pedestrians by OD	0	1	5	6
					Total	0	1	32	33

**URBAN/RURAL**

Collisions:	Fatal	Serious	Slight	Total	Casualties:	Fatal	Serious	Slight	Total
Urban (Spd lim <41)	0	13	128	141	Urban (Spd lim <41)	0	14	163	177
Rural (Spd lim >40)	0	4	25	29	Rural (Spd lim >40)	0	4	35	39
					Total	0	18	198	216

**Collisions between dates**      **01/01/2016 and 31/12/2020**      (60) months

**Selection:**

Selected using Manual Selection

**Notes:**

Bridgwater

Table 1 - Collisions by Month

	2016	2017	2018	2019	2020	Total
January	3	4	2	1	3	13
February	3	6	3	2	5	19
March	-	8	7	4	1	20
April	4	4	2	3	1	14
May	7	2	5	4	-	18
June	1	5	5	1	1	13
July	2	3	2	2	1	10
August	3	4	1	1	2	11
September	6	3	2	1	-	12
October	5	3	2	2	3	15
November	-	6	2	3	2	13
December	1	4	4	1	2	12
<b>TOTAL</b>	<b>35</b>	<b>52</b>	<b>37</b>	<b>25</b>	<b>21</b>	<b>170</b>

Table 2 - Casualties by Month

	2016	2017	2018	2019	2020	Total
January	3	6	2	1	8	20
February	3	8	3	2	8	24
March	-	9	7	5	1	22
April	5	5	2	3	1	16
May	8	3	10	4	-	25
June	1	5	6	2	1	15
July	2	5	2	2	1	12
August	3	4	4	1	4	16
September	8	3	2	1	-	14
October	5	4	2	3	6	20
November	-	6	2	5	2	15
December	1	5	7	1	3	17
<b>TOTAL</b>	<b>39</b>	<b>63</b>	<b>49</b>	<b>30</b>	<b>35</b>	<b>216</b>

Table 3 - All Collisions by Severity

	2016	2017	2018	2019	2020	Total
Fatal	0	0	0	0	0	0
Serious	5	2	5	2	3	17
Slight	30	50	32	23	18	153
<b>TOTAL</b>	<b>35</b>	<b>52</b>	<b>37</b>	<b>25</b>	<b>21</b>	<b>170</b>

Table 4 - Casualties by Severity

	2016	2017	2018	2019	2020	Total
Fatal	0	0	0	0	0	0
Serious	5	2	5	2	4	18
Slight	34	61	44	28	31	198
<b>TOTAL</b>	<b>39</b>	<b>63</b>	<b>49</b>	<b>30</b>	<b>35</b>	<b>216</b>



**Collisions between dates**      **01/01/2016 and 31/12/2020**      (60) months

**Selection:**

Selected using Manual Selection

**Notes:**

Bridgwater

Table 5 - Pedestrian Collisions by Severity

	2016	2017	2018	2019	2020	Total
Fatal	0	0	0	0	0	0
Serious	2	1	0	1	0	4
Slight	4	8	4	5	5	26
TOTAL	6	9	4	6	5	30

Table 6 - Cycle Collisions by Severity

	2016	2017	2018	2019	2020	Total
Fatal	0	0	0	0	0	0
Serious	2	1	0	1	0	4
Slight	6	8	6	5	3	28
TOTAL	8	9	6	6	3	32

Table 7 - Motor Vehicle Only Collisions by Severity

	2016	2017	2018	2019	2020	Total
Fatal	0	0	0	0	0	0
Serious	1	0	5	0	3	9
Slight	21	34	22	13	10	100
TOTAL	22	34	27	13	13	109

Table 8 - OAP Collisions by Severity

	2016	2017	2018	2019	2020	Total
Fatal	0	0	0	0	0	0
Serious	0	0	0	1	0	1
Slight	3	8	7	5	2	25
TOTAL	3	8	7	6	2	26

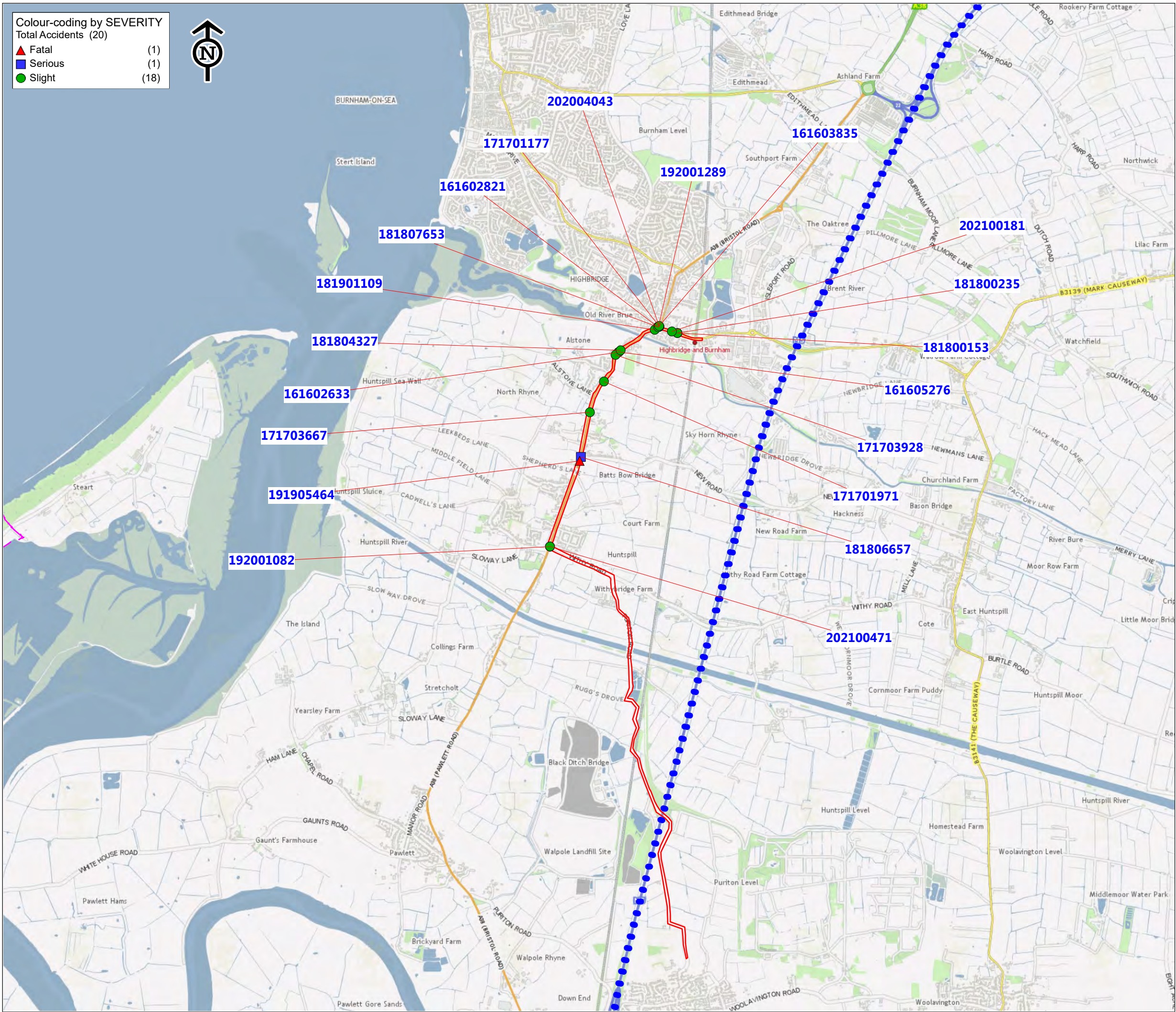
Table 9 - Child Collisions by Severity

	2016	2017	2018	2019	2020	Total
Fatal	0	0	0	0	0	0
Serious	0	0	0	0	0	0
Slight	4	7	5	2	2	20
TOTAL	4	7	5	2	2	20

Table 10 - P2W Collisions by Severity

	2016	2017	2018	2019	2020	Total
Fatal	0	0	0	0	0	0
Serious	1	0	2	0	0	3
Slight	3	7	1	1	0	12
TOTAL	4	7	3	1	0	15





# Highbridge

Collisions  
between  
01/01/2016  
and  
31/12/2020

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CORRECT AT TIME  
OF PRINTING



SCALE 1 : 30000

DATE 11/08/2021

DRAWING No. 0018/2021

DRAWN BY M.P.D

CHECKED BY D.H



Collisions between dates 01/01/2016 and 31/12/2020 (60) months

**Selection:**

Selected using Manual Selection

**Notes:**

Highbridge

161602633 20/03/2016 Sunday Time 1747 Vehicles 2 Casualties 1 Slight  
Fine without high winds Road surface Dry Daylight: street lights present  
Special Conditions None Road Type Single carriageway  
V1 & V2 TRAVELLING ALONG A38 HUNTSPILL ROAD, WHEN V2 BRAKED, V1 FAILED TO STOP AND COLLIDED WITH V2.  
Occurred on A38 HUNTSPILL ROAD, HIGHBRIDGE

Vehicle Reference	1	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front		Age of Driver 47
Vehicle direction	NE to SW		
FRV	Not foreign registered vehicle		Journey 6
Vehicle Reference	2	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Back		Age of Driver 55
Vehicle direction	SW to NE		
FRV	Not foreign registered vehicle		Journey 6
Casualty Reference:	1	Age: 21	Female Passenger Severity: Slight

161602821 15/04/2016 Friday Time 1915 Vehicles 2 Casualties 1 Slight  
Fine without high winds Road surface Dry Daylight: street lights present  
Special Conditions None Road Type Roundabout  
V1 TRAVELLING SOUTH, V2 TRAVELLING WEST. V1 WAS RIDING ACROSS THE RAB - RIDER SAW V2 APPROACHING  
BUT V2 FAILED TO STOP IN TIME AND COLLIDED WITH V1. RIDER OF V1 FELL FROM MACHINE.  
Occurred on A38 CHURCH ST, AT JCT WITH B3139 MARKET ST, HIGHBRIDGE.

Vehicle Reference	1	Pedal cycle	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Offside		Age of Driver 54
Vehicle direction	N to S		
FRV	Not foreign registered vehicle		Journey Commuting to/from work
Casualty Reference:	1	Age: 54	Male Driver/rider Severity: Slight

Vehicle Reference	2	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front		Age of Driver 59
Vehicle direction	E to W		
FRV	Not foreign registered vehicle		Journey 6

## AccsMap - Collision Analysis System

Collisions between dates 01/01/2016 and 31/12/2020 (60) months

## Selection:

Selected using Manual Selection

## Notes:

Highbridge

161603835 29/04/2016 Friday Time 1745 Vehicles 2 Casualties 1 Slight  
 Fine without high winds Road surface Dry Daylight: street lights present  
 Special Conditions None Road Type Roundabout  
 V1, RIDING EASTBOUND ACROSS THE RAB, V2 TRAVELLING SOUTH WEST. DRIVER OF V2  
 FAILED TO SEE V1 DUE TO BRIGHT SUN. V2 WAS MOVING SLOWLY ACROSS RAB  
 AND MADE CONTACT WITH V1 CAUSING RIDER OF V1 TO FALL FROM MACHINE.  
 Occurred on CHURCH ROAD, AT JCT WITH MARKET ST, HIGHBRIDGE.

Vehicle Reference 1 Pedal cycle Going ahead  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Offside Age of Driver 22  
 Vehicle direction NW to E  
 FRV Not foreign registered vehicle Journey 6  
 Casualty Reference: 1 Age: 22 Female Driver/rider Severity: Slight

Vehicle Reference 2 Car Moving off  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Nearside Age of Driver 74  
 Vehicle direction NE to SW  
 FRV Not foreign registered vehicle Journey 6

161605276 21/07/2016 Thursday Time 1650 Vehicles 2 Casualties 1 Slight  
 Raining without high winds Road surface Wet/Damp Daylight: street lights present  
 Special Conditions None Road Type Single carriageway  
 V1 PARKED OUTSIDE HOME ADDRESS. V2 HIT THE SIDE OF V1, THEN DROVE OFF WITHOUT STOPPING.  
 Occurred on HUNTSPILL ROAD, NEAR JCT WITH MEADOW VIEW, HIGHBRIDGE

Vehicle Reference 1 Car Parked  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Nearside Age of Driver 36  
 Vehicle direction Park to Parked  
 FRV Not foreign registered vehicle Journey 6  
 Casualty Reference: 1 Age: 36 Male Driver/rider Severity: Slight

Vehicle Reference 2 Goods between 3.5 and 7.5 tonnes Overtaking on nearside  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Nearside Age of Driver  
 Vehicle direction SW to NE  
 FRV Not foreign registered vehicle Journey 6



Collisions between dates 01/01/2016 and 31/12/2020 (60) months

**Selection:**

Selected using Manual Selection

**Notes:**

Highbridge

171701971 23/01/2017 Monday Time 2054 Vehicles 2 Casualties 1 Slight  
Fine without high winds Road surface Dry Darkness: street lights present and lit  
Special Conditions None Road Type Single carriageway  
V1, TRAVELLING SOUTH WEST, LOST CONTROL AND LEFT THE MAIN CARRIAGEWAY TO THE OFFSIDE.  
V1 HIT A LOW BRICK WALL AND THE DEBRIS FROM THE IMPACT HIT V2 WHICH WAS PARKED ON A DRIVEWAY.  
Occurred on A38 MAIN ROAD, WEST HUNTSPILL.

Vehicle Reference 1 Car Going ahead  
Not in restricted lane No skidding, jack-knifing or overturning  
First point of impact Offside Age of Driver 21  
Vehicle direction NE to SW  
FRV Not foreign registered vehicle Journey 6  
Casualty Reference: 1 Age: 21 Male Driver/rider Severity: Slight

Vehicle Reference 2 Car Parked  
Footway (pavement) No skidding, jack-knifing or overturning  
First point of impact Front Age of Driver  
Vehicle direction Park to Parked  
FRV Not foreign registered vehicle Journey 6

171701177 25/01/2017 Wednesday Time 1030 Vehicles 2 Casualties 1 Slight  
Fine without high winds Road surface Dry Daylight: street lights present  
Special Conditions None Road Type Roundabout  
V1 TRAVELLING NORTH, V2 TRAVELLING OPPOSITE DIRECTION. V1 WAS ABOUT TO EXIT RAB  
EAST ONTO MARKET ST. V2 ENTERED RAB WITHOUT GIVING WAY TO V1.  
Occurred on A38 HUNTSPILL ROAD/CHURCH ST, AT JCT WITH B3139, HIGHBRIDGE.

Vehicle Reference 1 Motorcycle over 50cc and up to 125cc Turning left  
Not in restricted lane No skidding, jack-knifing or overturning  
First point of impact Nearside Age of Driver 26  
Vehicle direction S to N  
FRV Not foreign registered vehicle Journey 6  
Casualty Reference: 1 Age: 26 Male Driver/rider Severity: Slight

Vehicle Reference 2 Car Moving off  
Not in restricted lane No skidding, jack-knifing or overturning  
First point of impact Front Age of Driver 50  
Vehicle direction N to S  
FRV Not foreign registered vehicle Journey 6

## AccsMap - Collision Analysis System

Collisions between dates 01/01/2016 and 31/12/2020 (60) months

## Selection:

Selected using Manual Selection

## Notes:

Highbridge

171703667 04/06/2017 Sunday Time 1820 Vehicles 2 Casualties 1 Slight  
 Fine without high winds Road surface Dry Daylight: street lights present  
 Special Conditions None Road Type Single carriageway  
 V1 & V2 TRAVELLING SOUTH WEST. V1 SLOWED TO TURN RIGHT INTO A DRIVEWAY. ANOTHER VEH WAS  
 TRAVELLING OPPOSITE DIRECTION SO V1 STOPPED. V2 FAILED TO NOTICE THIS AND COLLIDED WITH REAR OF V1.  
 Occurred on A38 MAIN ROAD, WEST HUNTSPILL.

Vehicle Reference 1 Car Waiting to turn right  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Back Age of Driver 55  
 Vehicle direction NE to SW  
 FRV Not foreign registered vehicle Journey 6  
 Casualty Reference: 1 Age: 55 Female Driver/rider Severity: Slight

Vehicle Reference 2 Car Going ahead  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Front Age of Driver 22  
 Vehicle direction NE to SW  
 FRV Not foreign registered vehicle Journey 6

171703928 14/06/2017 Wednesday Time 1530 Vehicles 1 Casualties 1 Slight  
 Fine without high winds Road surface Dry Daylight: street lights present  
 Special Conditions None Road Type Unknown  
 V1 TRAVELLING NORTH EAST, PED WAS RIDING AN ELECTRIC BIKE.  
 V1 TRIED TO OVERTAKE PED BUT V1 COLLIDED WITH PED.  
 Occurred on A38 HUNTSPILL ROAD, AT JCT WITH MEADOW VIEW, HIGHBRIDGE

Vehicle Reference 1 Car Going ahead  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Offside Age of Driver  
 Vehicle direction SW to NE  
 FRV Not foreign registered vehicle Journey 6  
 Casualty Reference: 1 Age: 78 Male Pedestrian Severity: Slight  
 9

**Collisions between dates**      **01/01/2016 and 31/12/2020**    (60) months

**Selection:**

Selected using Manual Selection

**Notes:**

Highbridge

181800153      09/01/2018      Tuesday      Time 0919    Vehicles    3    Casualties    1    Slight  
 Fine without high winds      Road surface    Dry      Daylight: street lights present  
 Special Conditions    None      Road Type    Dual carriageway  
 V1 TRAVELLING SOUTH WEST, V2 TRAVELLING NORTH WEST, V3 PARKED AND UNATTENDED.  
 V1 EXITED SIDE ROAD AND COLLIDED WITH V2.. V2 SPUN SIDEWAYS AND COLLIDED WITH V3.  
 Occurred on    B3139 MARKET ST, AT JCT WITH PHARMACY, HIGHBRIDGE.

Vehicle Reference    1	Car	Turning right
Not in restricted lane		No skidding, jack-knifing or overturning
First point of impact    Nearside		Age of Driver    76
Vehicle direction    NE to NW		
FRV    Not foreign registered vehicle		Journey    Journey as part of work
Vehicle Reference    2	Car	Going ahead
Not in restricted lane		No skidding, jack-knifing or overturning
First point of impact    Nearside		Age of Driver    29
Vehicle direction    SE to NW		
FRV    Not foreign registered vehicle		Journey    Journey as part of work
Casualty Reference:    1	Age:    29	Female    Driver/rider    Severity:    Slight

Vehicle Reference    3	Car	Parked
Not in restricted lane		No skidding, jack-knifing or overturning
First point of impact    Offside		Age of Driver    30
Vehicle direction    Park to Parked		
FRV    Not foreign registered vehicle		Journey    Journey as part of work

181800235      11/01/2018      Thursday      Time 1500    Vehicles    2    Casualties    1    Slight  
 Fine without high winds      Road surface    Wet/Damp      Daylight: street lights present  
 Special Conditions    None      Road Type    Single carriageway  
 V1 TRAVELLING SOUTH EAST, V2 TRAVELLING OPPOSITE DIRECTION.  
 V1 COLLIDED WITH V2, WHICH FAILED TO STOP.  
 Occurred on    B3139 MARKET ST, AT JCT WITH SOUTHWELL CRESCENT, HIGHBRIDGE.

Vehicle Reference    1	Motorcycle over 125cc and up to	Going ahead
Not in restricted lane	Skidded	
First point of impact    Offside		Age of Driver    76
Vehicle direction    NW to SE		
FRV    Not foreign registered vehicle		Journey    6
Casualty Reference:    1	Age:    76	Male    Driver/rider    Severity:    Slight

Vehicle Reference    2	Goods <= 3.5 tonnes mgw	Moving off
Not in restricted lane		No skidding, jack-knifing or overturning
First point of impact    Did not impact		Age of Driver
Vehicle direction    SE to NW		
FRV    Not foreign registered vehicle		Journey    6

## AccsMap - Collision Analysis System

Collisions between dates 01/01/2016 and 31/12/2020 (60) months

## Selection:

Selected using Manual Selection

## Notes:

Highbridge

181806657 21/05/2018 Monday Time 0650 Vehicles 3 Casualties 1 Serious  
 Fine without high winds Road surface Dry Daylight: street lights present  
 Special Conditions None Road Type Single carriageway  
 V1, V2 & V3 TRAVELLING SOUTH. V3 SLOWED AND STOPPED TO REVERSE INTO NEW ROAD.  
 V1 WAS BEHIND V3 AND WANTED TO TURN INTO NEW ROAD.  
 V2 COLLIDED WITH FRONT NEARSIDE OF V1 WHICH COLLIDED WITH V3.  
 Occurred on A38 MAIN ROAD, AT JCT WITH NEW ROAD, WEST HUNTSPILL.

Vehicle Reference 1 Car Going ahead  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Front Age of Driver 48  
 Vehicle direction N to S  
 FRV Not foreign registered vehicle Journey 6

Vehicle Reference 2 Motorcycle over 500cc Going ahead  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Front Age of Driver 34  
 Vehicle direction N to S  
 FRV Not foreign registered vehicle Journey 6

Casualty Reference: 1 Age: 34 Male Driver/rider Severity: Serious

Vehicle Reference 3 Car Going ahead  
 Not in restricted lane No skidding, jack-knifing or overturning  
 First point of impact Front Age of Driver 55  
 Vehicle direction N to S  
 FRV Not foreign registered vehicle Journey 6



**Collisions between dates**      **01/01/2016 and 31/12/2020**    (60) months

**Selection:**

Selected using Manual Selection

**Notes:**

Highbridge

181804327      24/06/2018      Sunday    Time 1900    Vehicles    2    Casualties    3    Slight  
 Fine without high winds      Road surface    Dry      Daylight: street lights present  
 Special Conditions    None      Road Type    Single carriageway  
 V1 & V2 TRAVELLING SOUTH WEST. V1 DID EMERGENCY STOP DUE TO VEH IN FRONT BRAKING SUDDENLY.  
 V2 FAILED TO STOP IN TIME AND COLLIDED WITH REAR OF V1.  
 Occurred on    A38 HUNTSPILL ROAD, HIGHBRIDGE

Vehicle Reference	1	Car	Slowing or Stopping			
Not in restricted lane			No skidding, jack-knifing or overturning			
First point of impact	Back		Age of Driver	19		
Vehicle direction	NE to SW					
FRV	Not foreign registered vehicle			Journey	6	
Casualty Reference:	1	Age: 19	Male	Driver/rider	Severity:	Slight
Casualty Reference:	2	Age: 20	Female	Passenger	Severity:	Slight
Casualty Reference:	3	Age: 20	Female	Passenger	Severity:	Slight

Vehicle Reference	2	Car	Slowing or Stopping			
Not in restricted lane			No skidding, jack-knifing or overturning			
First point of impact	Front		Age of Driver	40		
Vehicle direction	NE to SW					
FRV	Not foreign registered vehicle			Journey	6	

181901109      06/09/2018      Thursday    Time 1645    Vehicles    1    Casualties    3    Slight  
 Fine without high winds      Road surface    Wet/Damp      Daylight: street lights present  
 Special Conditions    None      Road Type    Single carriageway  
 V1, TRAVELLING SOUTH WEST, LOST CONTROL, MOUNTED THE NEARSIDE KERB AND COLLIDED WITH A PED.  
 V1 STRUCK A TELEPHONE POLE AND OVERTURNED.  
 Occurred on    A38 HUNTSPILL ROAD OUTSIDE NO1, HIGHBRIDGE.

Vehicle Reference	1	Car	Going ahead			
Not in restricted lane			No skidding, jack-knifing or overturning			
First point of impact	Front		Age of Driver	89		
Vehicle direction	NE to SW					
FRV	Not foreign registered vehicle			Journey	6	
Casualty Reference:	1	Age: 89	Male	Driver/rider	Severity:	Slight
Casualty Reference:	2	Age: 33	Female	Pedestrian	Severity:	Slight
9						
Casualty Reference:	3	Age: 88	Male	Passenger	Severity:	Slight

Collisions between dates 01/01/2016 and 31/12/2020 (60) months

**Selection:**

Selected using Manual Selection

**Notes:**

Highbridge

181807653 03/10/2018 Wednesday Time 1730 Vehicles 2 Casualties 1 Slight  
Fine without high winds Road surface Dry Daylight: street lights present  
Special Conditions None Road Type Single carriageway  
V1 TRAVELLING NORTH EAST, V2 TRAVELLING NORTH WEST. V2 WAS NEGOTIATING THE RAB,  
V1 ENTERED RAB AND COLLIDED WITH V2.  
Occurred on A38 CHURCH ST, AT JCT WITH B3139 MARKET ST, HIGHBRIDGE.

Vehicle Reference	1	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front	Age of Driver	26
Vehicle direction	SW to NE		
FRV	Not foreign registered vehicle	Journey	6
Vehicle Reference	2	Pedal cycle	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front	Age of Driver	45
Vehicle direction	SE to NW		
FRV	Not foreign registered vehicle	Journey	6
Casualty Reference:	1	Age: 45	Male Driver/rider Severity: Slight

191905464 11/09/2019 Wednesday Time 1200 Vehicles 1 Casualties 1 Fatal  
Fine without high winds Road surface Dry Daylight: street lights present  
Special Conditions None Road Type Single carriageway  
V1, TRAVELLING SOUTH WEST, CROSSED TO THE OPPOSITE SIDE OF THE ROAD, MOUNTED A PAVEMENT  
AND GRASS VERGE, THEN STRUCK A BRICK WALL AT THE DRIVEWAY TO A PROPERTY.  
Occurred on A38 MAIN ROAD, WEST HUNTSPILL.

Vehicle Reference	1	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front	Age of Driver	79
Vehicle direction	NE to SW		
FRV	Not foreign registered vehicle	Journey	6
Casualty Reference:	1	Age: 79	Female Driver/rider Severity: Fatal

Collisions between dates 01/01/2016 and 31/12/2020 (60) months

**Selection:**

Selected using Manual Selection

**Notes:**

Highbridge

192001082 28/10/2019 Monday Time 1938 Vehicles 2 Casualties 1 Slight  
Fine without high winds Road surface Dry Darkness: street lights present and lit  
Special Conditions None Road Type Single carriageway  
V1 TRAVELLING NORTH EAST, V2 TRAVELLING OPPOSITE DIRECTION. V1 TURNED RIGHT NORTH EAST  
BUT STOPPED TO AVOID A PED. V1 COLLIDED WITH V2.  
Occurred on A38 MAIN ROAD, AT JCT WITH WITBY ROAD, WEST HUNTSPILL.

Vehicle Reference	1	Car	Turning right
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Offside	Age of Driver	34
Vehicle direction	SW to SE		
FRV	Not foreign registered vehicle	Journey	6
Vehicle Reference	2	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Offside	Age of Driver	48
Vehicle direction	NE to SW		
FRV	Not foreign registered vehicle	Journey	6
Casualty Reference:	1	Age: 48	Male Driver/rider Severity: Slight

192001289 30/11/2019 Saturday Time 1204 Vehicles 2 Casualties 1 Slight  
Fine without high winds Road surface Dry Daylight: street lights present  
Special Conditions None Road Type Single carriageway  
V1 TRAVELLING NORTH WEST, V2 TRAVELLING SOUTH WEST.  
V1 EMERGED ONTO RAB AND COLLIDED WITH V2. RIDER OF V2 FELL FROM MACHINE.  
Occurred on A38 CHURCH ST, AT JCT WITH B3139 MARKET ST, HIGHBRIDGE.

Vehicle Reference	1	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front	Age of Driver	73
Vehicle direction	SE to NW		
FRV	Not foreign registered vehicle	Journey	6
Vehicle Reference	2	Motorcycle over 500cc	Waiting to go ahead but held up
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Offside	Age of Driver	21
Vehicle direction	NE to SW		
FRV	Not foreign registered vehicle	Journey	6
Casualty Reference:	1	Age: 21	Female Driver/rider Severity: Slight

**Collisions between dates**      **01/01/2016 and 31/12/202**    (60) months

**Selection:**

Selected using Manual Selection

**Notes:**

Highbridge

202100181      25/06/2020      Thursday      Time 1847      Vehicles 1      Casualties 1      Slight  
 Fine without high winds      Road surface Dry      Daylight: street lights present  
 Special Conditions None      Road Type Single carriageway  
 V1 TRAVELLING NORTH WEST, PED WALKING SOUTH WEST. PED RAN BETWEEN PARKED VEHS  
 AND COLLIDED WITH V1.  
 Occurred on B3139 MARKET ST, HIGHBRIDGE.

Vehicle Reference 1      Car      Going ahead  
 Not in restricted lane      No skidding, jack-knifing or overturning  
 First point of impact Front      Age of Driver 58  
 Vehicle direction SE to NW  
 FRV Not foreign registered vehicle      Journey 6  
 Casualty Reference: 1      Age: 4      Male      Pedestrian      Severity: Slight  
 Pedestrian Direction: SW

202100471      04/08/2020      Tuesday      Time 1723      Vehicles 2      Casualties 1      Slight  
 Fine without high winds      Road surface Dry      Daylight: street lights present  
 Special Conditions None      Road Type Single carriageway  
 V1 & V2 TRAVELLING NORTH EAST. V1 WAS OVERTAKING OTHER VEHS.  
 V2 TURNED RIGHT SOUTH EAST AND COLLIDED WITH V1. RIDER OF V1 FELL FROM MACHINE.  
 Occurred on A38 PAWLETT ROAD, AT JCT WITH WITBY ROAD, WEST HUNTSPILL.

Vehicle Reference 1      Motorcycle over 500cc      Going ahead  
 Not in restricted lane      No skidding, jack-knifing or overturning  
 First point of impact Nearside      Age of Driver 30  
 Vehicle direction SW to NE  
 FRV Not foreign registered vehicle      Journey 6  
 Casualty Reference: 1      Age: 30      Male      Driver/rider      Severity: Slight

Vehicle Reference 2      Car      Turning right  
 Not in restricted lane      No skidding, jack-knifing or overturning  
 First point of impact Front      Age of Driver 44  
 Vehicle direction SW to SE  
 FRV Not foreign registered vehicle      Journey 6



## Highbridge

Vehicle Reference	2	Car	Going ahead
Not in restricted lane		No skidding, jack-knifing or overturning	
First point of impact	Front	Age of Driver	52
Vehicle direction	NE to SW		
FRV	Not foreign registered vehicle	Journey	6

Casualties:

	Fatal	Serious	Slight	Total
Vehicle driver	1	0	7	8
Passenger	0	0	4	4
Motorcycle rider	0	1	4	5
Cyclist	0	0	4	4
Pedestrian	0	0	3	3
Other	0	0	0	0
Total	1	1	22	24

Collisions between dates 01/01/2016 and 31/12/2020 (60) months

**Selection:**

Selected using Manual Selection  
Young Drivers 17 to 24  
Older Drivers >= 60

**Notes:**

Highbridge

**DEFAULT VEHICLE GROUPS**

Collisions involving:	Fatal	Serious	Slight	Total	Casualties:	Fatal	Serious	Slight	Total
Motor Vehicles Only	1	0	10	11	Vehicle Driver	1	0	7	8
2-wheeled motor vehicles	0	1	4	5	Vehicle	0	0	4	4
Pedal Cycles	0	0	4	4	Motorcycle rider	0	1	4	5
Horses and Other	0	0	0	0	Cyclist	0	0	4	4
					Pedestrians	0	0	3	3
Total Collisions	1	1	18	20	Other	0	0	0	0
					Total	1	1	22	24

**BVPI CATEGORIES**

\* Figures include Passengers/Pillions where applicable

Casualties:	Fatal	Serious	Slight	Total
Pedestrians	0	0	3	3
Pedal cyclists	0	0	4	4
Motorcyclists	0	1	4	5
Car users	1	0	11	12
Other vehicle	0	0	0	0
Total	1	1	22	24

**YOUNG DRIVERS**

Collisions involving:	Fatal	Serious	Slight	Total	Casualties:	Fatal	Serious	Slight	Total
Car drivers	0	0	3	3	Car drivers	0	0	2	2
Cycle riders	0	0	2	2	Cycle riders	0	0	2	2
Motorcycle riders	0	0	1	1	Motorcycle	0	0	1	1
Other motor vehs	0	0	0	0	Other motor	0	0	0	0
					Passengers of YD	0	0	2	2
					Pedestrians by YD	0	0	0	0
					Total	0	0	7	7

Collisions between dates 01/01/2016 and 31/12/2020 (60) months

**Selection:**

Selected using Manual Selection  
Young Drivers 17 to 24  
Older Drivers >= 60

**Notes:**

Highbridge

**CHILD CASUALTIES**

Collisions involving:	Fatal	Serious	Slight	Total	Casualties:	Fatal	Serious	Slight	Total
Car drivers	0	0	1	1	Car drivers	0	0	0	0
Cycle riders	0	0	0	0	Cycle riders	0	0	0	0
Motorcycle riders	0	0	0	0	Motorcycle	0	0	0	0
Other motor vehs	0	0	0	0	Other motor	0	0	0	0
					Passengers	0	0	0	0
					Pedestrians	0	0	1	1
					Total	0	0	1	1

**OLDER DRIVERS**

Collisions involving:	Fatal	Serious	Slight	Total	Casualties:	Fatal	Serious	Slight	Total
Car drivers	1	0	4	5	Car drivers	1	0	1	2
Cycle riders	0	0	0	0	Cycle riders	0	0	0	0
Motorcycle riders	0	0	1	1	Motorcycle	0	0	1	1
Other motor vehs	0	0	0	0	Other motor	0	0	0	0
					Passengers of OD	0	0	1	1
					Pedestrians by OD	0	0	1	1
					Total	1	0	4	5

**URBAN/RURAL**

Collisions:	Fatal	Serious	Slight	Total	Casualties:	Fatal	Serious	Slight	Total
Urban (Spd lim <41)	1	1	18	20	Urban (Spd lim <41)	1	1	22	24
Rural (Spd lim >40)	0	0	0	0	Rural (Spd lim >40)	0	0	0	0
					Total	1	1	22	24

**Collisions between dates**      **01/01/2016 and 31/12/2020**      (60) months

**Selection:**      **Notes:**  
 Selected using Manual Selection      Highbridge

Table 1 - Collisions by Month

	2016	2017	2018	2019	2020	Total
January	-	2	2	-	-	4
February	-	-	-	-	-	0
March	1	-	-	-	-	1
April	2	-	-	-	-	2
May	-	-	1	-	-	1
June	-	2	1	-	1	4
July	1	-	-	-	-	1
August	-	-	-	-	1	1
September	-	-	1	1	-	2
October	-	-	1	1	1	3
November	-	-	-	1	-	1
December	-	-	-	-	-	0
<b>TOTAL</b>	<b>4</b>	<b>4</b>	<b>6</b>	<b>3</b>	<b>3</b>	<b>20</b>

Table 2 - Casualties by Month

	2016	2017	2018	2019	2020	Total
January	-	2	2	-	-	4
February	-	-	-	-	-	0
March	1	-	-	-	-	1
April	2	-	-	-	-	2
May	-	-	1	-	-	1
June	-	2	3	-	1	6
July	1	-	-	-	-	1
August	-	-	-	-	1	1
September	-	-	3	1	-	4
October	-	-	1	1	1	3
November	-	-	-	1	-	1
December	-	-	-	-	-	0
<b>TOTAL</b>	<b>4</b>	<b>4</b>	<b>10</b>	<b>3</b>	<b>3</b>	<b>24</b>

Table 3 - All Collisions by Severity

	2016	2017	2018	2019	2020	Total
Fatal	0	0	0	1	0	1
Serious	0	0	1	0	0	1
Slight	4	4	5	2	3	18
<b>TOTAL</b>	<b>4</b>	<b>4</b>	<b>6</b>	<b>3</b>	<b>3</b>	<b>20</b>

Table 4 - Casualties by Severity

	2016	2017	2018	2019	2020	Total
Fatal	0	0	0	1	0	1
Serious	0	0	1	0	0	1
Slight	4	4	9	2	3	22
<b>TOTAL</b>	<b>4</b>	<b>4</b>	<b>10</b>	<b>3</b>	<b>3</b>	<b>24</b>



**Collisions between dates**      **01/01/2016 and 31/12/2020**      (60) months

**Selection:**      **Notes:**  
 Selected using Manual Selection      Highbridge

Table 5 - Pedestrian Collisions by Severity

	2016	2017	2018	2019	2020	Total
Fatal	0	0	0	0	0	0
Serious	0	0	0	0	0	0
Slight	0	1	1	0	1	3
TOTAL	0	1	1	0	1	3

Table 6 - Cycle Collisions by Severity

	2016	2017	2018	2019	2020	Total
Fatal	0	0	0	0	0	0
Serious	0	0	0	0	0	0
Slight	2	0	1	0	1	4
TOTAL	2	0	1	0	1	4

Table 7 - Motor Vehicle Only Collisions by Severity

	2016	2017	2018	2019	2020	Total
Fatal	0	0	0	1	0	1
Serious	0	0	1	0	0	1
Slight	2	3	3	2	1	11
TOTAL	2	3	4	3	1	13

Table 8 - OAP Collisions by Severity

	2016	2017	2018	2019	2020	Total
Fatal	0	0	0	1	0	1
Serious	0	0	0	0	0	0
Slight	0	1	2	0	0	3
TOTAL	0	1	2	1	0	4

Table 9 - Child Collisions by Severity

	2016	2017	2018	2019	2020	Total
Fatal	0	0	0	0	0	0
Serious	0	0	0	0	0	0
Slight	0	0	0	0	1	1
TOTAL	0	0	0	0	1	1

Table 10 - P2W Collisions by Severity

	2016	2017	2018	2019	2020	Total
Fatal	0	0	0	0	0	0
Serious	0	0	0	0	0	0
Slight	0	0	1	1	0	2
TOTAL	0	0	1	1	0	2

Collisions between dates 01/07/2019 and 31/12/2020 (18) months

**Selection:**

Selected using Manual Selection

**Notes:**

Puriton and Woolavington

202000489 14/01/2020 Tuesday Time 1919 Vehicles 3 Casualties 1 Slight  
Fine without high winds Road surface Wet/Damp Darkness: street lights present and lit  
Special Conditions None Road Type Single carriageway  
V1 PARKED, V2 & V3 TRAVELLING SOUTH. V2 COLLIDED WITH REAR OF V1 AND V3 COLLIDED WITH REAR OF V2.  
Occurred on B3141 WOOLAVINGTON HILL, NEAR JCT WITH OLD MILL ROAD, WOOLAVINGTON.

Vehicle Reference	1	Car	Parked
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Back		Age of Driver
Vehicle direction	Park to	Parked	
FRV	Not foreign registered vehicle		Journey 6
Vehicle Reference	2	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front		Age of Driver 45
Vehicle direction	N to S		
FRV	Not foreign registered vehicle		Journey 6
Casualty Reference:	1	Age: 45	Male Driver/rider Severity: Slight

Vehicle Reference	3	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front		Age of Driver 30
Vehicle direction	N to S		
FRV	Not foreign registered vehicle		Journey 6

202002892 20/07/2020 Monday Time 1640 Vehicles 2 Casualties 1 Slight  
Fine without high winds Road surface Dry Daylight: no street lighting  
Special Conditions None Road Type Single carriageway  
V1 TRAVELLING NORTH, V2 TRAVELLING EAST. V2 PULLED OUT FROM JCT AND COLLIDED WITH V1.  
Occurred on B3141 WOOLAVINGTON HILL, AT JCT WITH LOWER ROAD, WOOLAVINGTON.

Vehicle Reference	1	Pedal cycle	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front		Age of Driver 44
Vehicle direction	S to N		
FRV	Not foreign registered vehicle		Journey 6
Casualty Reference:	1	Age: 44	Male Driver/rider Severity: Slight

Vehicle Reference	2	Car	Moving off
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front		Age of Driver
Vehicle direction	W to E		
FRV	Not foreign registered vehicle		Journey 6

Collisions between dates 01/07/2019 and 31/12/2020 (18) months

**Selection:**

Selected using Manual Selection

**Notes:**

Puriton and Woolavington

202100967 19/10/2020 Monday Time 0757 Vehicles 2 Casualties 1 Slight  
Fine without high winds Road surface Dry Daylight: no street lighting  
Special Conditions None Road Type Single carriageway  
V1 TRAVELLING EAST, V2 TRAVELLING NORTH. V1 TURNED RIGHT SOUTH AND COLLIDED WITH V2.  
Occurred on B3141 WOOLAVINGTON HILL, AT JCT WITH VICARAGE ROAD, WOOLAVINGTON.

Vehicle Reference	1	Car	Turning right
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Front	Age of Driver	59
Vehicle direction	W to S		
FRV	Not foreign registered vehicle	Journey	6
Vehicle Reference	2	Motorcycle over 500cc	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Nearside	Age of Driver	63
Vehicle direction	S to N		
FRV	Not foreign registered vehicle	Journey	6
Casualty Reference:	1	Age: 63	Male Driver/rider Severity: Slight

202005012 19/11/2020 Thursday Time 0745 Vehicles 2 Casualties 1 Slight  
Fine without high winds Road surface Dry Daylight: street lights present  
Special Conditions None Road Type Single carriageway  
V1 TRAVELLING NORTH EAST, V2 TRAVELLING OPPOSITE DIRECTION. V2 LOST CONTROL AND COLLIDED WITH V1.  
Occurred on CRANCOMBE LANE, WOOLAVINGTON.

Vehicle Reference	1	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Offside	Age of Driver	36
Vehicle direction	SW to NE		
FRV	Not foreign registered vehicle	Journey	6
Casualty Reference:	1	Age: 36	Female Driver/rider Severity: Slight

Vehicle Reference	2	Car	Going ahead
Not in restricted lane			No skidding, jack-knifing or overturning
First point of impact	Offside	Age of Driver	50
Vehicle direction	NE to SW		
FRV	Not foreign registered vehicle	Journey	6

Collisions between dates 01/07/2019 and 31/12/2020 (18) months

**Selection:**

Selected using Manual Selection

**Notes:**

Puriton and Woolavington

Collisions involving:

	Fatal	Serious	Slight	Total
Motor vehicles	0	0	2	2
2-wheeled motor vehicles	0	0	1	1
Pedal cycles	0	0	1	1
Horses and other	0	0	0	0
Total	0	0	4	4

Casualties:

	Fatal	Serious	Slight	Total
Vehicle driver	0	0	2	2
Passenger	0	0	0	0
Motorcycle rider	0	0	1	1
Cyclist	0	0	1	1
Pedestrian	0	0	0	0
Other	0	0	0	0
Total	0	0	4	4



Collisions between dates 01/07/2019 and 31/12/2020 (18) months

**Selection:**

Selected using Manual Selection  
Young Drivers 17 to 24  
Older Drivers >= 60

**Notes:**

Puriton and Woolavington

**DEFAULT VEHICLE GROUPS**

Collisions involving:	Fatal	Serious	Slight	Total	Casualties:	Fatal	Serious	Slight	Total
Motor Vehicles Only	0	0	2	2	Vehicle Driver	0	0	2	2
2-wheeled motor vehicles	0	0	1	1	Vehicle	0	0	0	0
Pedal Cycles	0	0	1	1	Motorcycle rider	0	0	1	1
Horses and Other	0	0	0	0	Cyclist	0	0	1	1
					Pedestrians	0	0	0	0
Total Collisions	0	0	4	4	Other	0	0	0	0
					Total	0	0	4	4

**BVPI CATEGORIES**

\* Figures include Passengers/Pillions where applicable

Casualties:	Fatal	Serious	Slight	Total
Pedestrians	0	0	0	0
Pedal cyclists	0	0	1	1
Motorcyclists	0	0	1	1
Car users	0	0	2	2
Other vehicle	0	0	0	0
Total	0	0	4	4

**YOUNG DRIVERS**

Collisions involving:	Fatal	Serious	Slight	Total	Casualties:	Fatal	Serious	Slight	Total
Car drivers	0	0	0	0	Car drivers	0	0	0	0
Cycle riders	0	0	0	0	Cycle riders	0	0	0	0
Motorcycle riders	0	0	0	0	Motorcycle	0	0	0	0
Other motor vehs	0	0	0	0	Other motor	0	0	0	0
					Passengers of YD	0	0	0	0
					Pedestrians by YD	0	0	0	0
					Total	0	0	0	0

Collisions between dates 01/07/2019 and 31/12/2020 (18) months

**Selection:**

Selected using Manual Selection  
Young Drivers 17 to 24  
Older Drivers >= 60

**Notes:**

Puriton and Woolavington

**CHILD CASUALTIES**

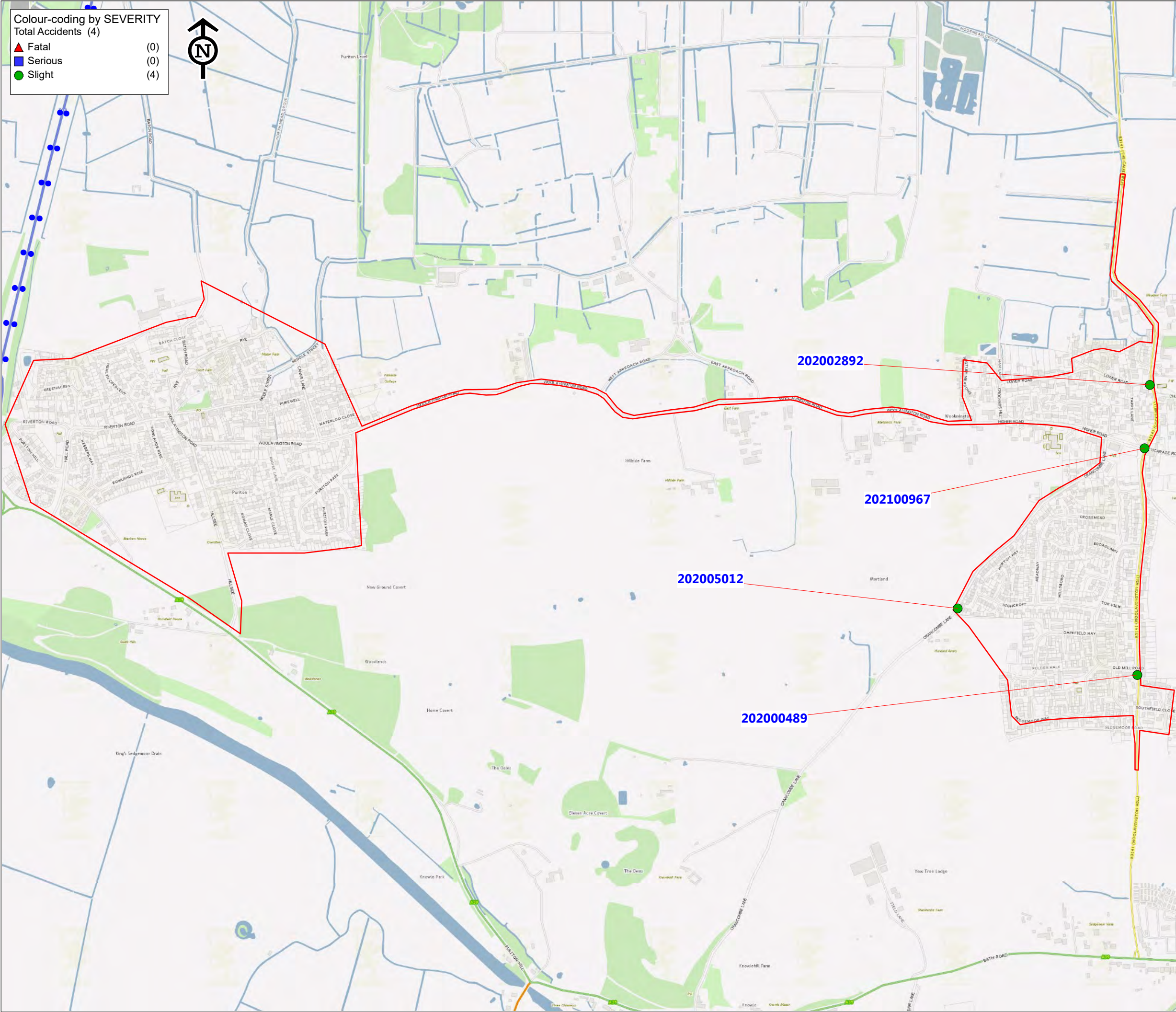
Collisions involving:	Fatal	Serious	Slight	Total	Casualties:	Fatal	Serious	Slight	Total
Car drivers	0	0	0	0	Car drivers	0	0	0	0
Cycle riders	0	0	0	0	Cycle riders	0	0	0	0
Motorcycle riders	0	0	0	0	Motorcycle	0	0	0	0
Other motor vehs	0	0	0	0	Other motor	0	0	0	0
					Passengers	0	0	0	0
					Pedestrians	0	0	0	0
					Total	0	0	0	0

**OLDER DRIVERS**

Collisions involving:	Fatal	Serious	Slight	Total	Casualties:	Fatal	Serious	Slight	Total
Car drivers	0	0	0	0	Car drivers	0	0	0	0
Cycle riders	0	0	0	0	Cycle riders	0	0	0	0
Motorcycle riders	0	0	1	1	Motorcycle	0	0	1	1
Other motor vehs	0	0	0	0	Other motor	0	0	0	0
					Passengers of OD	0	0	0	0
					Pedestrians by OD	0	0	0	0
					Total	0	0	1	1

**URBAN/RURAL**

Collisions:	Fatal	Serious	Slight	Total	Casualties:	Fatal	Serious	Slight	Total
Urban (Spd lim <41)	0	0	3	3	Urban (Spd lim <41)	0	0	3	3
Rural (Spd lim >40)	0	0	1	1	Rural (Spd lim >40)	0	0	1	1
					Total	0	0	4	4



# Puriton and Woolavington

Collisions between 01/07/2019 and 31/12/2020

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DATE	11/08/2021
DRAWING No.	0017/2021
DRAWN BY	M.P.D
CHECKED BY	D.H



**Collisions between dates**      **01/07/2019 and 31/12/2020**      (18) months

**Selection:**

Selected using Manual Selection

**Notes:**

Puriton and Woolavington

Table 1 - Collisions by Month

	2019	2020	Total
January	-	1	1
February	-	-	0
March	-	-	0
April	-	-	0
May	-	-	0
June	-	-	0
July	-	1	1
August	-	-	0
September	-	-	0
October	-	1	1
November	-	1	1
December	-	-	0
TOTAL	0	4	4

Table 2 - Casualties by Month

	2019	2020	Total
January	-	1	1
February	-	-	0
March	-	-	0
April	-	-	0
May	-	-	0
June	-	-	0
July	-	1	1
August	-	-	0
September	-	-	0
October	-	1	1
November	-	1	1
December	-	-	0
TOTAL	0	4	4

Table 3 - All Collisions by Severity

	2019	2020	Total
Fatal	0	0	0
Serious	0	0	0
Slight	0	4	4
TOTAL	0	4	4

Table 4 - Casualties by Severity

	2019	2020	Total
Fatal	0	0	0
Serious	0	0	0
Slight	0	4	4
TOTAL	0	4	4



**Collisions between dates**      **01/07/2019 and 31/12/2020**      (18) months

**Selection:**

Selected using Manual Selection

**Notes:**

Puriton and Woolavington

Table 5 - Pedestrian Collisions by Severity

	2019	2020	Total
Fatal	0	0	0
Serious	0	0	0
Slight	0	0	0
TOTAL	0	0	0

Table 6 - Cycle Collisions by Severity

	2019	2020	Total
Fatal	0	0	0
Serious	0	0	0
Slight	0	1	1
TOTAL	0	1	1

Table 7 - Motor Vehicle Only Collisions by Severity

	2019	2020	Total
Fatal	0	0	0
Serious	0	0	0
Slight	0	3	3
TOTAL	0	3	3

Table 8 - OAP Collisions by Severity

	2019	2020	Total
Fatal	0	0	0
Serious	0	0	0
Slight	0	1	1
TOTAL	0	1	1

Table 9 - Child Collisions by Severity

	2019	2020	Total
Fatal	0	0	0
Serious	0	0	0
Slight	0	0	0
TOTAL	0	0	0

Table 10 - P2W Collisions by Severity

	2019	2020	Total
Fatal	0	0	0
Serious	0	0	0
Slight	0	0	0
TOTAL	0	0	0

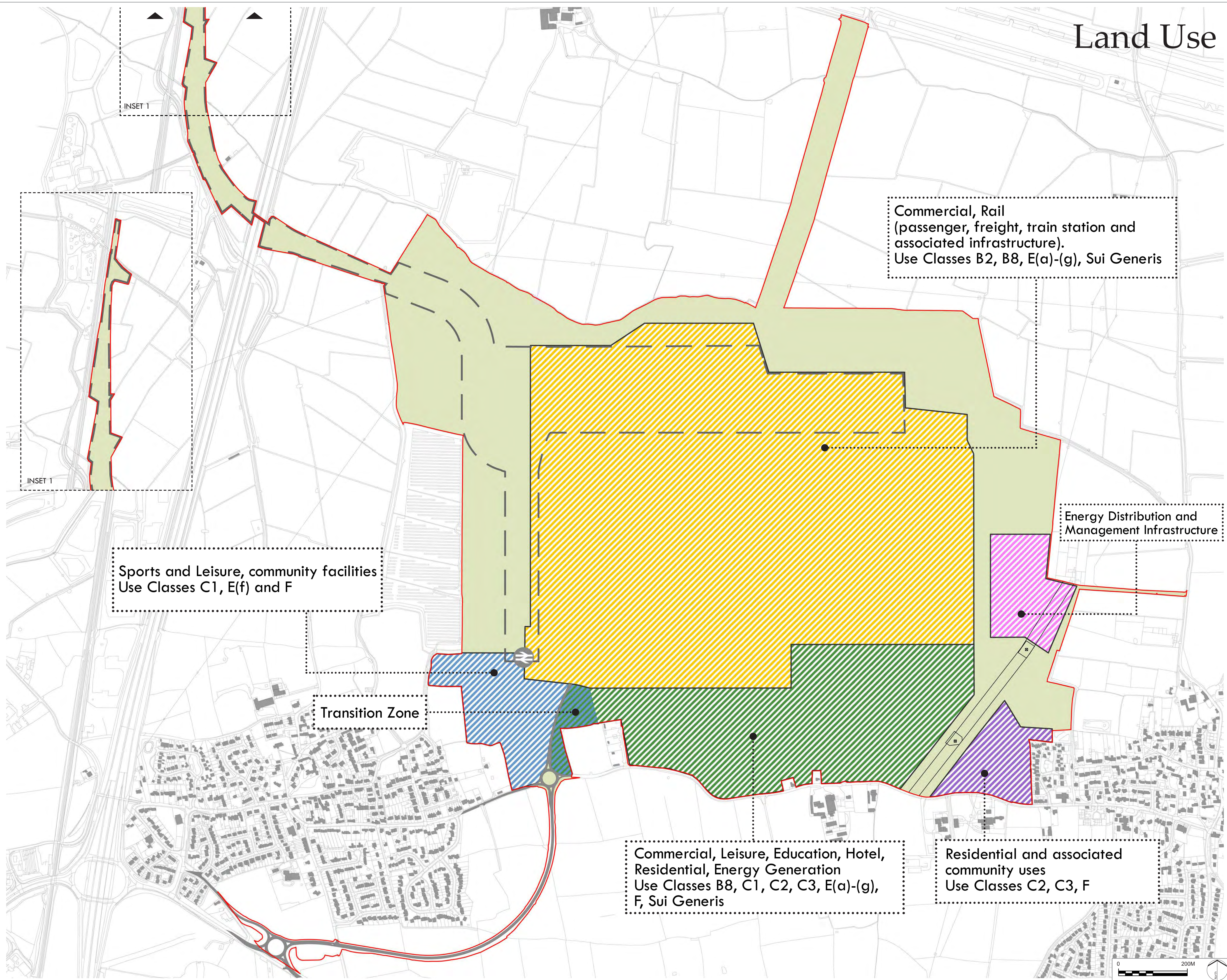
## **Appendix H      Various Parameter Plans**



Z:\6599\_Punto\_Gravity\_Masterplan\_Development\GeographicalPlans\_Images\ParameterPlans\PP101\_Land Uses.indd

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# Land Use

- LEGEND
- LDO Boundary
  - Commercial, Rail (passenger, freight, train station and associated infrastructure). Use Classes B2, B8, E(a)-(g), Sui Generis
  - Energy Distribution and Management Infrastructure
  - Residential and associated community uses Use Classes C2, C3, F
  - Commercial, Leisure, Education, Hotel, Residential, Energy Generation Use Classes B8, C1, C2, C3, E(a)-(g), F, Sui Generis
  - Sports and Leisure, community facilities Use Classes C1, E(f) and F
  - Transition Zone
  - Open space and biodiversity zones including surface water attenuation features, watercourses, woodland, hedgerows and trees, utilities, occasional vehicular routes and rail line with associated infrastructure.
  - Rail corridor - Freight and Passenger, and associated infrastructure
  - Passenger Station (indicative location)

L	Changes to title block	RF	08.09.21
K	Key updated	RF	25.08.21
J	Key updated	RF	16.08.21
I	Key updated	RF	16.08.21
H	Key updated	RF	16.08.21
G	Uses zones updated	RF	13.08.21
F	Key updated and train station logo relocated	RF	13.08.21
E	Key updated following comments from JH	RF	08.06.21
D	Key updated following comments from CP	RF	04.06.21
C	Rail corridor: plan inset	RF	03.06.21
B	Use classes	RF	24.05.21
A	Format of key amended	RF	24.05.21
-	First Issue	RF	21.05.21

REV.	DESCRIPTION	APP.	DATE
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LDĀDESIGN

PROJECT TITLE  
GRAVITY

DRAWING TITLE  
PARAMETER PLAN  
Land Uses

ISSUED BY	Exeter	T: 01392 260430	
DATE	May 2021	DRAWN	KS/DA
SCALE@A1	1:5,000	CHECKED	RF
STATUS	LDO	APPROVED	FO

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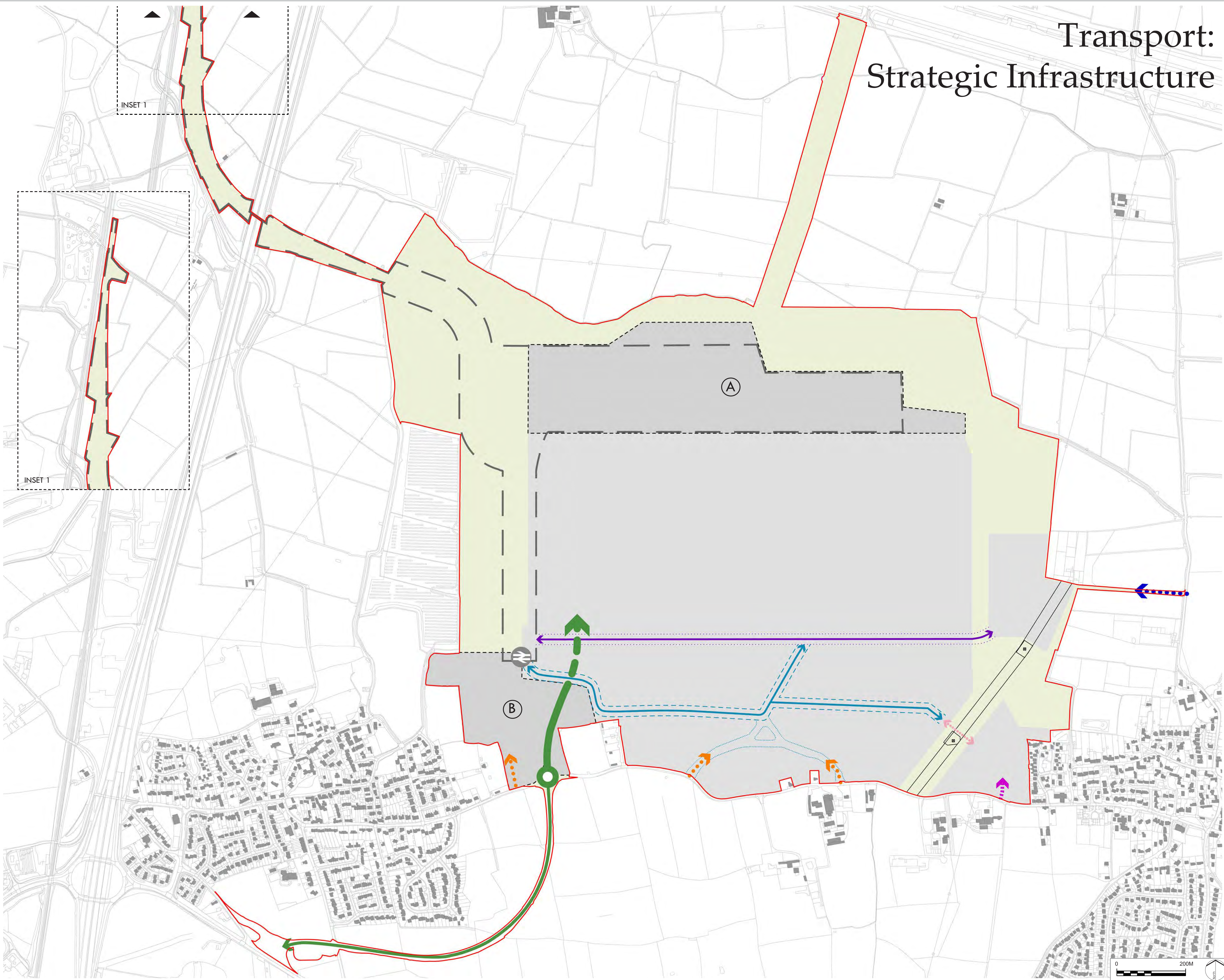
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LEGEND

LDO Boundary

Primary Road (all modes)

Link Road (approved)

Secondary Access (all modes)

Emergency / operations / pedestrian / cycle access only

Indicative vehicular crossing

Residential and smart mobility access

Transport corridor  
(Subject to centre line deviation limits of +/- 30m, unless other prevailing stipulations of the parameter plan directly inform alignment of the corridor .

Primary road corridor  
(Subject to centre line deviation limits of +/- 50m, unless other prevailing stipulations of the parameter plan directly inform alignment of the corridor).

Existing road network to be retained

Rail corridor - Freight and Passenger, and associated infrastructure

Passenger Station  
(indicative location)

Development zone

Development zone - Up to 50% of the zone will accommodate buildings, the remainder will be:  
A) associated infrastructure such as B), including mobile gantry cranes, roads and laydown space and/or green infrastructure.  
B) blue and green infrastructure, tree nursery, community uses, sports, leisure or associated infrastructure such as roads, footpaths and cycle routes.

Overhead powerlines 400 kVA

F	Amends to access labelling	RF	09.09.21
E	Changes to title block	RF	08.09.21
D	Train station logo relocated	RF	13.08.21
C	Key updated following comments from CP	RF	04.06.21
B	Changes to development zone plan inset	RF	03.06.21
A	Format of key amended	RF	24.05.21
	First Issue	RF	21.05.21
REV.	DESCRIPTION	APP.	DATE

LDĀDESIGN

PROJECT TITLE  
GRAVITY

DRAWING TITLE  
PARAMETER PLAN  
Transport and Movement  
Strategic Infrastructure

ISSUED BY	Exeter	T: 01392 260430	
DATE	May 2021	DRAWN	KS/DA
SCALE@A1	1:5,000	CHECKED	RF
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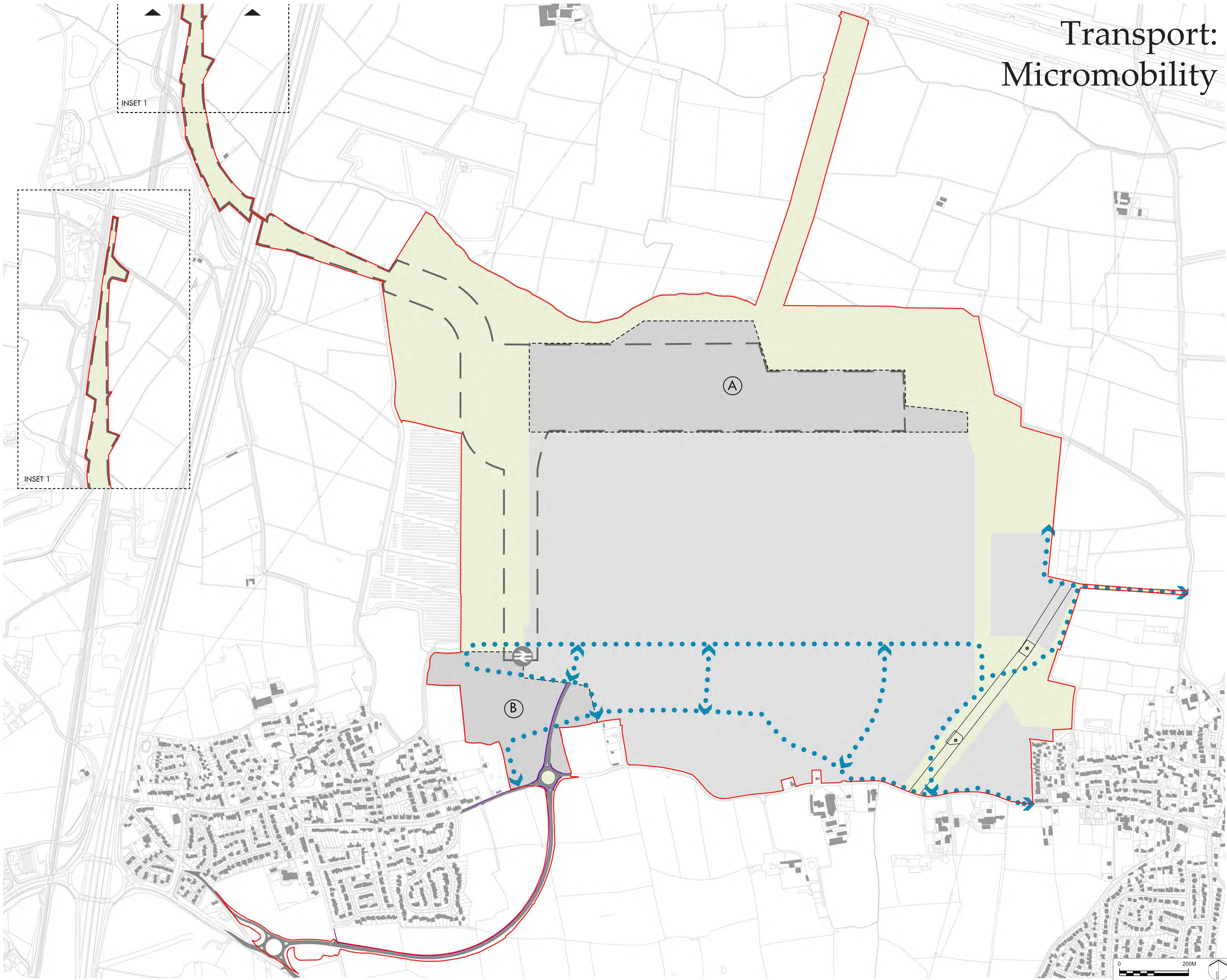




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# Transport: Micromobility

LEGEND

LDO Boundary

Micromobility connections (including pedestrian and cycle), indicative alignment

Footpath provided as part of Link Road

Open space and biodiversity zones including surface water attenuation features, watercourses, woodland, hedgerows and trees, utilities, occasional vehicular routes and rail line with associated infrastructure.

Rail corridor - Freight and Passenger, and associated Infrastructure

Passenger Station (indicative location)

Development zone

Development zone - Up to 50% of the zone will accommodate buildings, the remainder will be:  
(A) associated infrastructure such as rail, including mobile gantry cranes, roads and laydown space and/or green infrastructure.  
(B) blue and green infrastructure, tree nursery, community uses, sports, leisure or associated infrastructure such as roads, footpaths and cycle routes.

Overhead powerlines 400 kVA

E	Changes to title block	RF	08.09.21
D	Train station logo relocated	RF	13.08.21
C	Key updated following comments from CP	RF	04.06.21
B	Changes to development zone; plan inset	RF	03.06.21
A	Format of key amended	RF	24.05.21
-	First Issue	RF	21.05.21
REV.	DESCRIPTION	APP.	DATE

LDĀDESIGN

PROJECT TITLE  
GRAVITY

DRAWING TITLE  
PARAMETER PLAN  
Transport and Movement  
Micromobility

ISSUED BY Exeter

DATE May 2021

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T: 01392 260430

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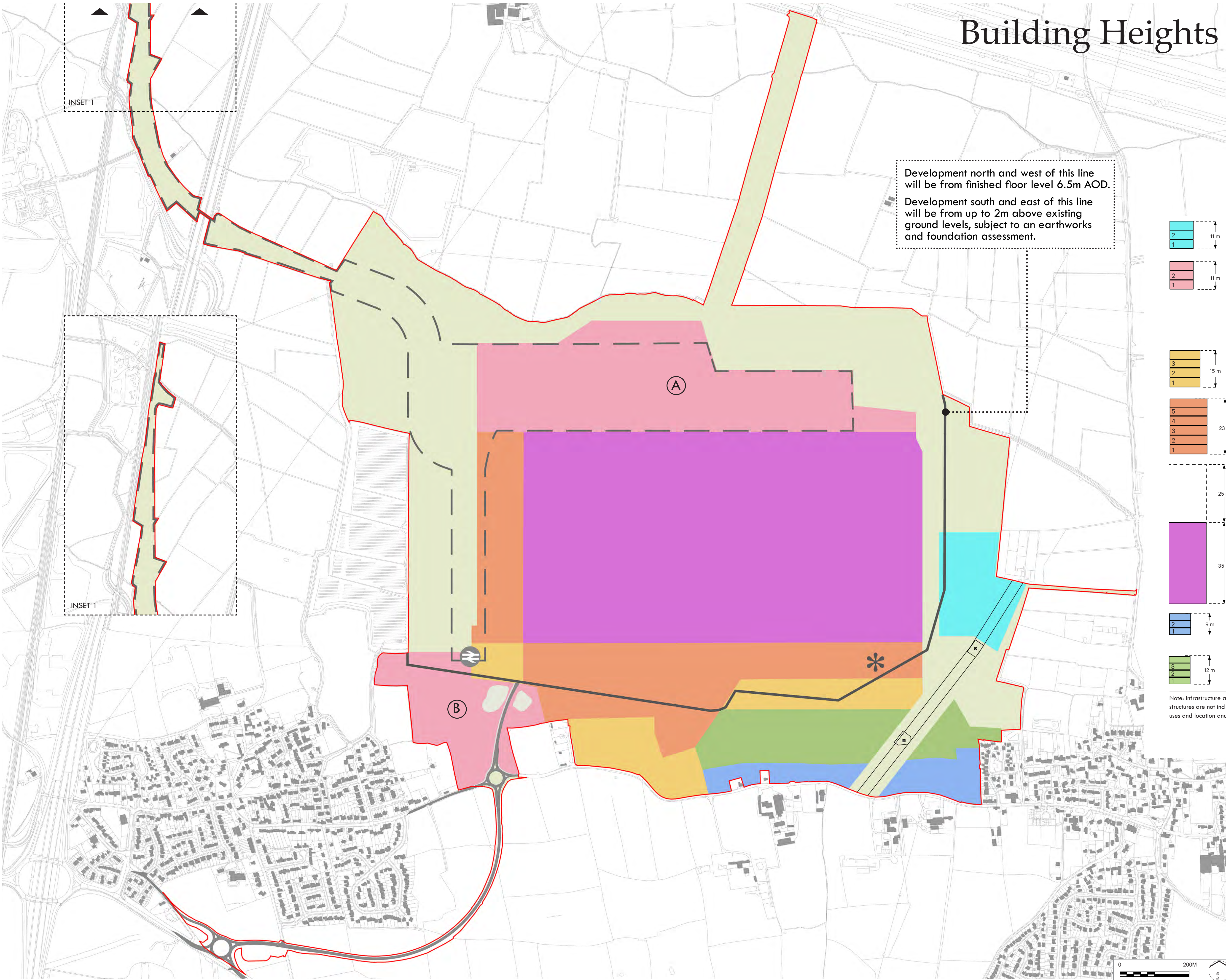




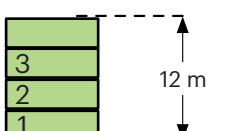
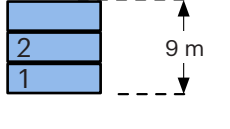
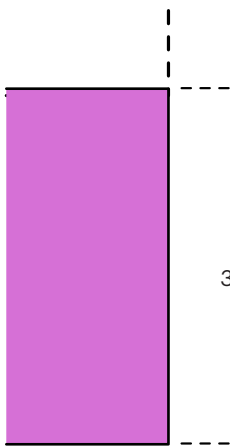
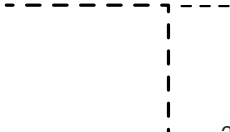
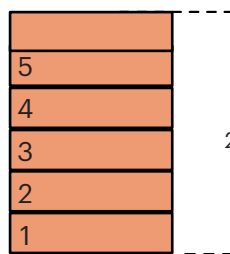
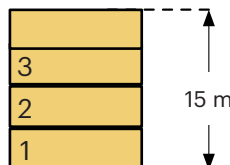
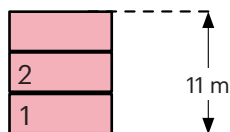
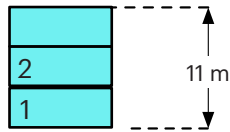
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- LEGEND
- LDO Boundary
  - Open space and biodiversity zones including surface water attenuation features, watercourses, woodland, hedgerows and trees, utilities, occasional vehicular routes and rail line with associated infrastructure.
  - Indicative location for Energy Generation. The height and number of flues associated with the Energy Generation will be determined by dispersion modeling. Typically 3m higher than adjacent building height.
  - Rail corridor - Freight and Passenger, and associated infrastructure
  - Passenger Station (indicative location)
  - Development north and west of this line will be from finished floor level 6.5m AOD. Development south and east of this line will be from up to 2m above existing ground levels, subject to an earthworks and foundation assessment.
  - Overhead powerlines 400 kVA



- Up to 11m ridge height from up to 2m above existing ground level. Up to 50% of the zone will accommodate buildings, the remainder will be:
  - (A) associated infrastructure such as rail, including mobile gantry cranes, roads and/or green infrastructure.
  - (B) green infrastructure, community uses, sports, leisure or associated infrastructure such as roads, footpaths and cycle routes.

- Up to 15m ridge height from up to 2m above existing ground level.

- Up to 23m ridge height from up to 2m above existing ground level.

- Up to 35m ridge height from up to 2m above existing ground level. An additional 25m permitted for stacks.

- Up to 9m ridge height, with limited areas (up to 5% of the height zone), of up to 12m ridge height in key locations, from up to 2m above existing ground level.

- Up to 12m ridge height from up to 2m above existing ground level.

Note: Infrastructure associated with utilities and rail such as cranes and other structures are not included within the parameters set out as they are likely to be mobile uses and location and number are to be determined by the end user.

I	Changes to building representation within legend	RF	20.10.21
H	Changes to title block	RF	08.09.21
G	Train station logo relocated	RF	13.08.21
F	Key updated following comments from JH	RF	12.07.21
E	Key updated to include +2m for ground reprofiling	RF	09.06.21
D	Key updated following comments from JH	RF	08.06.21
C	Key updated following comments from CP	RF	04.06.21
B	Cranes and rail line; key-plan inset	RF	03.06.21
A	Format of key amended	RF	24.05.21
REV.	DESCRIPTION	APP.	DATE

LDĀDESIGN

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GRAVITY

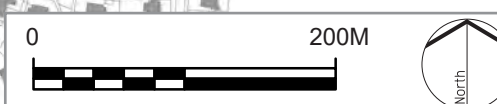
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PARAMETER PLAN  
Building Heights

ISSUED BY	Exeter	T: 01392 260430	
DATE	Oct 2021	DRAWN	KS/DA
SCALE@A1	1:5,000	CHECKED	RF
STATUS	LDO	APPROVED	FO

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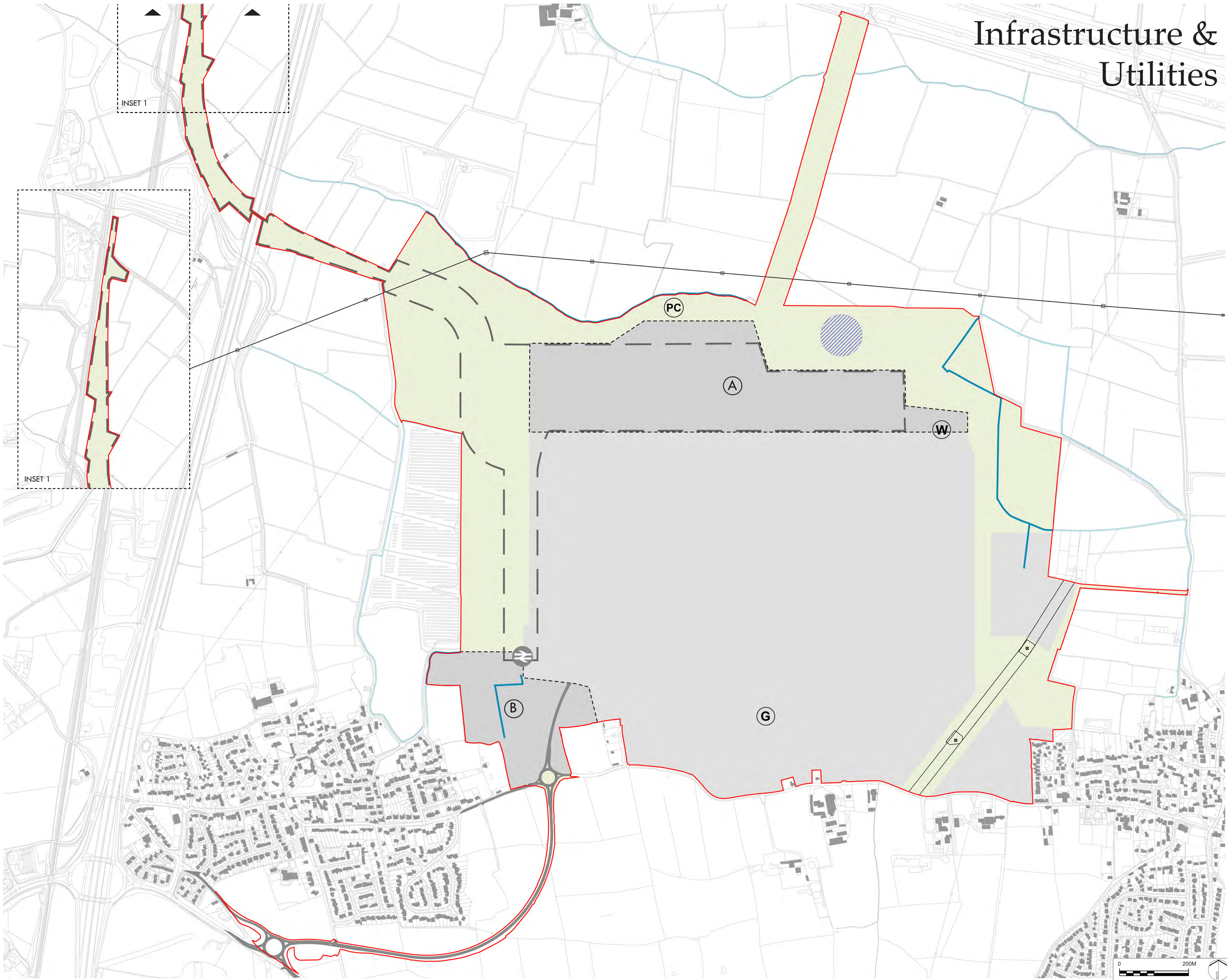
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v2016.0



# Infrastructure & Utilities

- LEGEND
- LDO Boundary
  - Existing IDB watercourse to be retained in situ
  - Overhead powerlines 400 kVA
  - Overhead powerlines 400 kVA
  - Water Treatment Works (indicative location)
  - Indicative area of water attenuation
  - Gas connection
  - Indicative zone for connection to overhead powerlines
  - Open space and biodiversity zones including surface water attenuation features, watercourses, woodland, hedgerows and trees, utilities, occasional vehicular routes and rail line with associated infrastructure.
  - Rail corridor - Freight and Passenger, and associated infrastructure
  - Passenger Station (indicative location)
  - Development zone
  - Development zone - Up to 50% of the zone will accommodate buildings, the remainder will be:
    - (A) associated infrastructure such as rail, including mobile gantry cranes, roads and laydown space and/or green infrastructure.
    - (B) blue and green infrastructure, tree nursery, community uses, sports, leisure or associated infrastructure such as roads, footpaths and cycle routes.

F	Reference to 132kv amended	RF	21.10.21
E	Changes to title block	RF	08.09.21
D	Train station logo relocated	RF	13.08.21
C	Key updated following comments from CP	RF	04.06.21
B	Key: power lines: plan inset	RF	03.06.21
A	Format of key amended	RF	24.05.21
-	First Issue	RF	21.05.21

REV.	DESCRIPTION	APP.	DATE
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LDĀDESIGN

PROJECT TITLE  
GRAVITY

DRAWING TITLE  
PARAMETER PLAN  
Infrastructure and Utilities

ISSUED BY	Exeter	T: 01392 260430	
DATE	Oct 2021	DRAWN	KS/DA
SCALE@A1	1:5,000	CHECKED	RF
STATUS	LDO	APPROVED	FO

DWG. NO. 6599\_PP205F

No dimensions are to be scaled from this drawing.  
All dimensions are to be checked on site.  
Area measurements for indicative purposes only.

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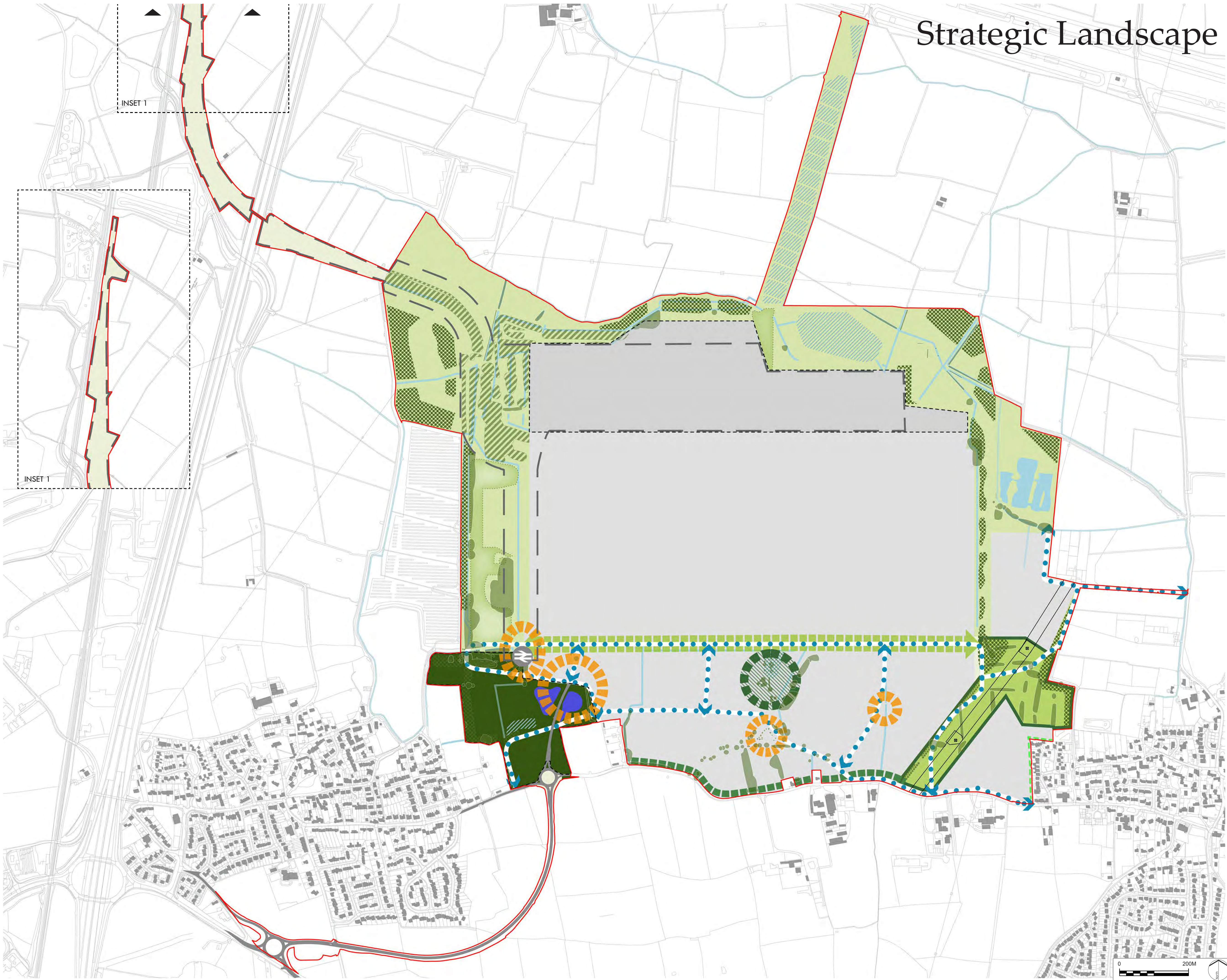
Sources: Ordnance Survey





2.6599\_Purton\_Gravity Masterplan DevelopmentGraphicsPhase\_ImageParameter Plans6599\_PP107\_Strategic Landscape.indd

v2016.0



# Strategic Landscape

## LEGEND

- LDO Boundary
- Greenspace
- Micromobility connections (including pedestrian and cycle)
- East-west landscape corridor to incorporate landscaping such as street trees and rhynes
- Existing trees/ woodland to be retained where possible
- Structural tree and woodland planting (indicative extents)
- Trees to be retained where possible subject to rail alignment and necessary associated infrastructure
- Gravity Park
- Green Edge to Woolavington
- Indicative location of greenspace
- Placemaking Node – important focal points, development should respond appropriately through landscape and built form.
- Green Edge to Woolavington Road – landscaped area adjoining highway to reflect campus feel.
- Landscape bund and planting
- Existing water bodies to be retained
- Indicative location of water attenuation
- Attenuation areas to be delivered as part of the link road
- Existing rhynes, IDB rhynes to be incorporated into site-wide drainage strategy
- Wellbeing and Arrival Zone  
Up to 50% of the zone will accommodate buildings, the remainder will be blue and green infrastructure, tree nursery, community uses, sports, leisure or associated infrastructure such as roads, footpaths and cycle routes.
- Rail corridor - Freight and Passenger, and associated infrastructure
- Passenger Station (indicative location)
- Development zone
- Development zone - Up to 50% of the zone will accommodate buildings, the remainder will be associated infrastructure such as rail, including mobile gantry cranes, roads and laydown space and/or green infrastructure.
- Overhead powerlines 400 kV

F	Changes to title block	RF	08.09.21
E	Woodland and water attenuation areas updated	RF	25.08.21
D	Train station logo relocated	RF	13.08.21
C	Key wording amended following CP comments	RF	04.06.21
B	Paths: graphic representation/ key: plan inset	RF	03.06.21
A	Format of key amended	RF	24.05.21
-	First Issue	RF	21.05.21
REV.	DESCRIPTION	APP.	DATE

## LDĀDESIGN

PROJECT TITLE  
GRAVITY

DRAWING TITLE  
PARAMETER PLAN  
Strategic Landscape

ISSUED BY	Exeter	T: 01392 260430	
DATE	May 2021	DRAWN	KS/DA
SCALE@A1	1:5,000	CHECKED	RF
STATUS	LDO	APPROVED	FO

DWG. NO. 6599\_PP206F

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Area measurements for indicative purposes only.

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Sources: Ordnance Survey



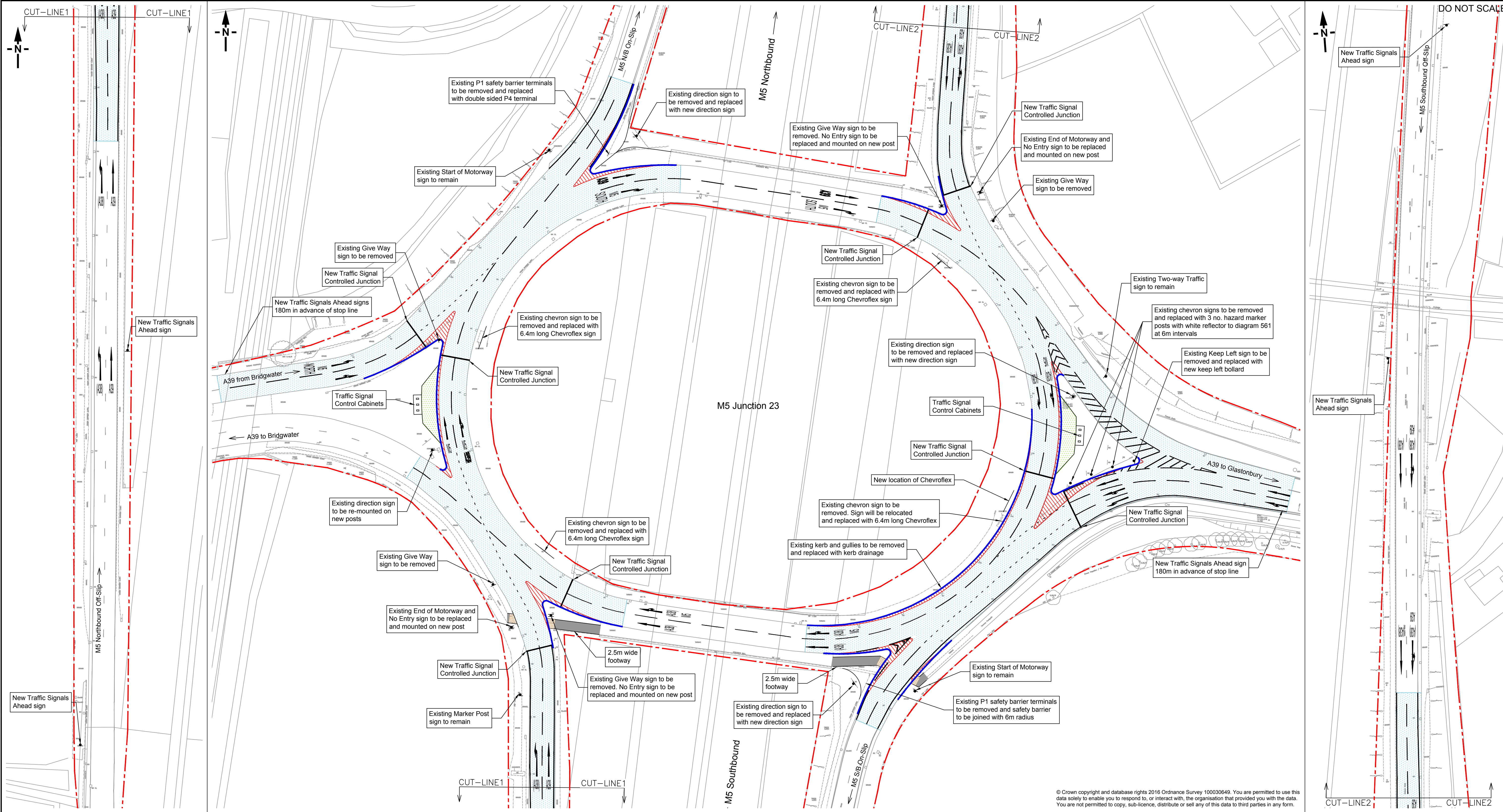






## **Appendix I      M5 J23 AS Built GA Plan**





- KEY:
- Carriageway Widening
  - New Kerb Line
  - Maintenance Hardstanding
  - Area of Resurfacing
  - New Footway Construction
  - Construction Red Line Boundary

AS-BUILT

This as-built drawing has been prepared based on the information provided by the Contractor. The information provided has been accurately transposed but not verified by Kier, therefore is dependent upon the accuracy of the initial details provided by the Contractor.

<p>This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose. We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.</p>																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						</
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## **Appendix J      A38 Dunball Rbt Planned Improvement**





**KEY:**

EXISTING CARRIAGEWAY TO BE RETAINED

PROPOSED CARRIAGEWAY

HIGH FRICTION SURFACING

EXISTING VERGE OR ISLAND TO BE RETAINED

PROPOSED VERGE OR ISLAND

EXISTING FOOTWAY / CYCLEWAY TO BE RETAINED

PROPOSED FOOTWAY / CYCLEWAY

EXISTING GRASSCRETE

PRIMARY TRAFFIC SIGNALS

SECONDARY TRAFFIC SIGNALS

**NOTES:**

1. FOR CROSS SECTIONS REFER TO DRG NOS.  
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PROJECT:	DUNBALL ROUNDABOUT CAPACITY IMPROVEMENTS	
TITLE:	GENERAL ARRANGEMENT OPTION 02	

SCALE @ A1:		CHECKED:		APPROVED:	
1:500		MA		MY	
PROJECT No:		DESIGNED:	DRAWN:	DATE:	
70047731		TJ	TJ	December 18	
DRAWING No:				REV	
70047731-WSP-HGN-TR6-SK-CH-6013				P1	
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## **Appendix K    TN004**



## TECHNICAL NOTE

**Job Name:** Gravity EZ LDO  
**Job No:** 49102  
**Note No:** TN004  
**Date:** 21/09/2021  
**Subject:** **GRAVITY – Scenario Forecasting Tool: response to queries**

Item	Subject
1.	<b>Introduction</b>  <p>This note has been prepared in response to queries raised by National Highways (NH, formerly Highways England) and Somerset County Council (SCC) (including by WSP on behalf of SCC) in respect of the Gravity scenario forecasting tool. There are four key sections which are as follows:</p> <ul style="list-style-type: none"> <li>• A comparison of the previous Huntspill Energy Park (HEP) consent against the results from the spreadsheet tool</li> <li>• The development of the future “Core” scenario including input parameters and transport interventions</li> <li>• A comparison of the Core scenario to a TRICS based approach.</li> <li>• An overview for the possible Gravity future scenarios including an overview of total trips and mode share</li> </ul> <p>This will provide an evidence base demonstrating that the spreadsheet tool produces a reasonable estimation of the travel demand associated with the Gravity development.</p>
2.	<b>Consented HEP Scenario – Employee Calculations</b>  <p>It should first be noted that the spreadsheet tool uses the number of employees per land use as the input rather than the floor area that was used in the original HEP submission primarily due to the type and nature of land uses now proposed. This has required an estimation of employee numbers from the original HEP scenario to enable a like for like comparison to be presented.</p> <p>Technical Note 003 (TN003 – Stantec, March 2021) initially provided an estimate of employee numbers based on density information from the Homes and Communities Agency Employment Density Guide, November 2015. There was a limitation in this approach as the employee density derived from this does not necessarily align with the employee densities of the TRICS data when compared to a TRICS analysis of floor area.</p>

### DOCUMENT ISSUE RECORD

Technical Note No	Rev	Date	Prepared	Checked	Reviewed (Discipline Lead)	Approved (Director)
49102/TN004	-	21.09.21	DC	RM	NC	RM

This report has been prepared by Stantec UK Limited ('Stantec') on behalf of its client to whom this report is addressed ('Client') in connection with the project described in this report and takes into account the Client's particular instructions and requirements. This report was prepared in accordance with the professional services appointment under which Stantec was appointed by its Client. This report is not intended for and should not be relied on by any third party (i.e. parties other than the Client). Stantec accepts no duty or responsibility (including in negligence) to any party other than the Client and disclaims all liability of any nature whatsoever to any such party in respect of this report.

## TECHNICAL NOTE

Item	Subject																																																															
	<p>To make the process more consistent with TRICS a new calculation of employees for the HEP scenario has been undertaken.</p> <p>Section 3 of TN003 presented the daily trip totals for each land use which were calculated by taking the original peak hour assessment and factoring to daily trips. The total daily trips for each land use are outlined in the table below.</p> <table><tr><th>Land use</th><th>Total Daily Trips</th></tr><tr><td>B1a</td><td>1,453</td></tr><tr><td>B1b</td><td>449</td></tr><tr><td>B1c</td><td>880</td></tr><tr><td>B2</td><td>3,579</td></tr><tr><td>B8</td><td>4,837</td></tr><tr><td><b>Total</b></td><td><b>11,198</b></td></tr></table> <p>For the purposes of the spreadsheet tool only light vehicles are calculated (HGV movements are calculated separately) so HGV movements need to be taken off the total daily trips. Factoring peak hour HGV movements from the original consent to 24 hours generates a total of 926 daily HGV movements, and these are all associated with the warehousing (B8) land use. The revised light vehicle daily trips by land use are provided in the table below. The light vehicle trips have then been converted to person trips using a car mode share of 83.97% as per the table in Section 4 of TN003 (this was taken from the HEP travel plan from March 2017).</p> <table><tr><th>Land use</th><th>Daily Light Vehicle Trips</th><th>Daily Person Trips</th></tr><tr><td>B1a</td><td>1,453</td><td>1,730</td></tr><tr><td>B1b</td><td>449</td><td>535</td></tr><tr><td>B1c</td><td>880</td><td>1,048</td></tr><tr><td>B2</td><td>3,579</td><td>4,262</td></tr><tr><td>B8</td><td>3,911</td><td>4,658</td></tr><tr><td><b>Total</b></td><td><b>10,272</b></td><td><b>12,233</b></td></tr></table> <p>To derive the employee numbers for the spreadsheet tool the daily person trips have been divided by the daily employee trip rate as presented in Section 5 of Technical Note 001 (TN001 – Stantec, January 2021). Note B8 uses the un-adjusted value of 1.920 from TRICS rather than 1.210 as shown in TN001 as that potentially underestimated the total trips).</p> <table><tr><th>Land use</th><th>Daily Person Trips</th><th>Daily Trip Rate (TN001)</th><th>Employees</th></tr><tr><td>B1a</td><td>1,730</td><td>3.606</td><td>480</td></tr><tr><td>B1b</td><td>535</td><td>3.117</td><td>172</td></tr><tr><td>B1c</td><td>1,048</td><td>3.908</td><td>268</td></tr><tr><td>B2</td><td>4,262</td><td>3.908</td><td>1,091</td></tr><tr><td>B8</td><td>4,658</td><td>1.920</td><td>2,426</td></tr><tr><td><b>Total</b></td><td><b>12,233</b></td><td></td><td><b>4,437</b></td></tr></table> <p>This gives a total of 4,437 employees. This is higher than the original estimates of around 4,000 from the original HEP consent but will result in a comparative number of trips when combined with the latest TRICS data used in this assessment. It should be noted that the original consent was based on TRICS floor areas and there was no link between the TRICS trips and the estimates of number of employees. Hence in effect we have calculated the number of employees that would be consistent with the HEP trip rates from TRICS.</p>	Land use	Total Daily Trips	B1a	1,453	B1b	449	B1c	880	B2	3,579	B8	4,837	<b>Total</b>	<b>11,198</b>	Land use	Daily Light Vehicle Trips	Daily Person Trips	B1a	1,453	1,730	B1b	449	535	B1c	880	1,048	B2	3,579	4,262	B8	3,911	4,658	<b>Total</b>	<b>10,272</b>	<b>12,233</b>	Land use	Daily Person Trips	Daily Trip Rate (TN001)	Employees	B1a	1,730	3.606	480	B1b	535	3.117	172	B1c	1,048	3.908	268	B2	4,262	3.908	1,091	B8	4,658	1.920	2,426	<b>Total</b>	<b>12,233</b>		<b>4,437</b>
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3.	<b>Consented HEP Scenario – Spreadsheet Tool Comparison</b>																																																															

## TECHNICAL NOTE

Item	Subject																																																		
	<p>To ensure the spreadsheet tool provides a reasonable estimate of travel demands a comparison has been undertaken between the spreadsheet tool and the original HEP consent.</p> <p>Within the spreadsheet tool the daily trips are calculated from the number of employees (by land use) and the daily employee trip rate. The trips for the peak hours are then calculated using daily trip profiles.</p> <p>There are four trip profiles used within the spreadsheet tool for the employment-based trips. Commute and non-commute trips have separate profiles and both have separate inbound and outbound profiles. The daily trips are split into commute and non-commute as the daily trips will include other trip purposes such as visiting shops at lunch. For example, the B1a daily trip rate is 3.606 however only 2 of these trips (1 in and 1 out) per person are likely to be commute trips. The commute profiles are set-up to assign most trips to the peak hours (default assumption for arrivals and departures) with the non-commute trips assigned to the rest of the day.</p> <p>The daily trip profiles were initially taken from TRICS and then adjustments were applied to determine the peak hours. The commute profile is then developed to factor the trips to match the peak hour trips as seen in the original HEP consent. The non-commute profile is derived by taking the hours that are not assigned as commute and re-factoring the total daily profile to 100% pro-rata based on the original TRICS profile.</p> <p>The B1a inbound profile has been provided below as an example; a similar approach has been adopted for the B1a outbound movement and all other land use in/outbound movements.</p> <div data-bbox="284 965 1251 1543"> <p style="text-align: center;"><b>B1a Inbound Profile - TRICS</b></p> <table border="1"> <caption>B1a Inbound Profile - TRICS Data</caption> <thead> <tr> <th>Time</th> <th>Profile (%)</th> </tr> </thead> <tbody> <tr><td>0000-0100</td><td>0.00</td></tr> <tr><td>0100-0200</td><td>0.00</td></tr> <tr><td>0200-0300</td><td>0.00</td></tr> <tr><td>0300-0400</td><td>0.00</td></tr> <tr><td>0400-0500</td><td>0.00</td></tr> <tr><td>0500-0600</td><td>0.00</td></tr> <tr><td>0600-0700</td><td>0.00</td></tr> <tr><td>0700-0800</td><td>5.50</td></tr> <tr><td>0800-0900</td><td>27.50</td></tr> <tr><td>0900-1000</td><td>17.50</td></tr> <tr><td>1000-1100</td><td>8.50</td></tr> <tr><td>1100-1200</td><td>5.00</td></tr> <tr><td>1200-1300</td><td>8.50</td></tr> <tr><td>1300-1400</td><td>12.50</td></tr> <tr><td>1400-1500</td><td>5.00</td></tr> <tr><td>1500-1600</td><td>3.50</td></tr> <tr><td>1600-1700</td><td>4.50</td></tr> <tr><td>1700-1800</td><td>4.50</td></tr> <tr><td>1800-1900</td><td>1.00</td></tr> <tr><td>1900-2000</td><td>0.00</td></tr> <tr><td>2000-2100</td><td>0.00</td></tr> <tr><td>2100-2200</td><td>0.00</td></tr> <tr><td>2200-2300</td><td>0.00</td></tr> <tr><td>2300-0000</td><td>0.00</td></tr> </tbody> </table> </div> <p>From inspection of the TRICS profile the peak period is determined to be 0700-1000. This then forms the basis for the commute profile along with the PM peak hour for the assessment. The AM peak hour (0800-0900) and PM peak hour (1700-1800) are set according to the values needed for the total inbound and outbound trips to match the previous HEP assessment. This gives the following commute profile.</p>	Time	Profile (%)	0000-0100	0.00	0100-0200	0.00	0200-0300	0.00	0300-0400	0.00	0400-0500	0.00	0500-0600	0.00	0600-0700	0.00	0700-0800	5.50	0800-0900	27.50	0900-1000	17.50	1000-1100	8.50	1100-1200	5.00	1200-1300	8.50	1300-1400	12.50	1400-1500	5.00	1500-1600	3.50	1600-1700	4.50	1700-1800	4.50	1800-1900	1.00	1900-2000	0.00	2000-2100	0.00	2100-2200	0.00	2200-2300	0.00	2300-0000	0.00
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Item	Subject
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## TECHNICAL NOTE

Item	Subject																							
	AM Inbound Car Trips	860	876	16																				
	AM Outbound Car Trips	365	371	6																				
	PM Inbound Car Trips	311	317	6																				
	PM Outbound Car Trips	806	818	12																				
	The spreadsheet tool results in a marginally higher light vehicle generation than the original HEP consent. This is due to the spreadsheet tool having a slightly higher car mode share as a result of the input parameters. The spreadsheet tool has a car mode share of around 85% whereas the original consent estimated a car mode share of around 84%.  The results are very similar overall which confirms that the spreadsheet tool provides a good basis for the Gravity scenario tests.																							
4.	<b>Core Scenario Development</b>  The core scenario has been tested using the spreadsheet tool. The only changes included are the number of employees to reflect the current land use proposals and the transport interventions that could form part of the transport strategy.  The core scenario presented here is just one possible future and set of transport interventions. The core scenario has been chosen as a representative scenario for the purpose of generating flows for the Environmental Statement (ES) and junction modelling and will ultimately be presented in the Transport Assessment (TA) alongside a 'business as usual' scenario as requested by NH/SCC.  All other elements of the spreadsheet tool are unchanged including the daily trips per employee, trip profiles and mode shares by distance / journey time band.  The Gravity assessment uses the following employee numbers for each land use. <table><tr><th>Land Use</th><th>Employees</th></tr><tr><td>B1a</td><td>125</td></tr><tr><td>B1b</td><td>583</td></tr><tr><td>B1c</td><td>160</td></tr><tr><td>B2</td><td>0</td></tr><tr><td>B8</td><td>188</td></tr><tr><td>Advanced Manufacturing</td><td>6,098</td></tr><tr><td>Supporting Uses</td><td>348</td></tr><tr><td><b>Total</b></td><td><b>7,502</b></td></tr></table> For the purposes of the spreadsheet tool, 90% of the supporting uses have been assigned to the advanced manufacturing class within the spreadsheet tool so that they will use the same (shift orientated) trip profile. The supporting uses includes workers associated with shops and gyms on the site that are provided to support the advanced manufacturing shifts; they are solely for on-site employee use and not typically open to wider public use. The remaining 10% are assigned to B1a as they are assumed to work normal office hours.  There is also an adjustment to the manufacturing trips where 10% are applied as office B1a. This is to reflect a small proportion of staff working office hours (such as sales or support teams). They are assigned as B1a employees so that they use the office worker trip profiles rather than the shifts associated with advanced manufacturing.  These adjustments produce the following employee numbers within the spreadsheet forecasting tool. <table><tr><th>Land Use</th><th>Employees</th></tr></table>				Land Use	Employees	B1a	125	B1b	583	B1c	160	B2	0	B8	188	Advanced Manufacturing	6,098	Supporting Uses	348	<b>Total</b>	<b>7,502</b>	Land Use	Employees
Land Use	Employees																							
B1a	125																							
B1b	583																							
B1c	160																							
B2	0																							
B8	188																							
Advanced Manufacturing	6,098																							
Supporting Uses	348																							
<b>Total</b>	<b>7,502</b>																							
Land Use	Employees																							

## TECHNICAL NOTE

Item	Subject																	
	B1a	770																
	B1b	583																
	B1c	160																
	B2	0																
	B8	188																
	Advanced Manufacturing	5,801																
	Total	7,502																
The assessment also includes 750 residential dwellings with the following house sizes:																		
<table><tr><th>House Size</th><th>Proportion</th></tr><tr><td>1 Bedroom</td><td>10%</td></tr><tr><td>2 Bedrooms</td><td>20%</td></tr><tr><td>3 Bedrooms</td><td>50%</td></tr><tr><td>4 Bedrooms</td><td>20%</td></tr><tr><td>5 Bedrooms</td><td>0%</td></tr></table>			House Size	Proportion	1 Bedroom	10%	2 Bedrooms	20%	3 Bedrooms	50%	4 Bedrooms	20%	5 Bedrooms	0%				
House Size	Proportion																	
1 Bedroom	10%																	
2 Bedrooms	20%																	
3 Bedrooms	50%																	
4 Bedrooms	20%																	
5 Bedrooms	0%																	
This results in a total residential population of 1,730 when using housing density (residents per household) information from the 2011 Census (Table KS102EW filtered to Sedgemoor).																		
For the employment-based trips the daily trips per employee as used in the spreadsheet tool are as outlined in TN001 (and in the HEP scenario run). TRICS does not contain relevant information to calculate the number of daily trips per employee for an advanced manufacturing land use and therefore additional analysis has been undertaken to determine a suitable value.																		
Analysis of ONS labour force statistics was undertaken which showed around 3.6 days per worker are lost each year due to sickness (this is consistent with previous years). In addition, most workers are entitled to 28 days leave. This would suggest that of the 365 days in a year (assumes the site operates 24/7) an average employee is at work for 91.3% of the working days. This results in a daily commute trip rate (1-way) of 0.913 which is then doubled to a two-way trip rate of 1.827 (note rounding applied here to 3 decimal places). This trip rate is similar to the B8 trip rate from TRICS (1.92) suggesting that the calculated value is reasonable.																		
For the core forecast scenario, the following parameters have been changed from the HEP scenario.																		
<ul style="list-style-type: none"><li>Go Dutch cycle uplift applied to zones in Bridgwater, Puriton and Woolavington</li><li>Car parking charge of £7.50</li><li>Incentivised car sharing (88% of car trips are car driver rather than census default of 92.41%)</li><li>Internalisation rates:</li></ul>																		
<table><tr><th>Trip Purpose</th><th>Internalisation</th></tr><tr><td>Employment – Non-commute</td><td>60%</td></tr><tr><td>Residential – Work</td><td>50%</td></tr><tr><td>Residential – Education</td><td>0%</td></tr><tr><td>Residential – Shop</td><td>30%</td></tr><tr><td>Residential – Other</td><td>30%</td></tr><tr><td>Residential – Entertainment</td><td>30%</td></tr><tr><td>Residential – Day Trip</td><td>0%</td></tr></table>			Trip Purpose	Internalisation	Employment – Non-commute	60%	Residential – Work	50%	Residential – Education	0%	Residential – Shop	30%	Residential – Other	30%	Residential – Entertainment	30%	Residential – Day Trip	0%
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The residential internalisation factors reflect the nature of the housing to be provide on-site which is inherently to serve / support the site-based workforce.																		



## TECHNICAL NOTE

Item	Subject																																																																																														
5.	<p><b>Core Scenario Comparison to TRICS – Employment Uses</b></p> <p>The core scenario has been run through the spreadsheet tool and the outputs have been compared to TRICS for the employment uses. The TRICS trip rates for the peak hours have been taken from the TRICS outputs that were included in Appendix C from TN001. The trip rates per employee are provided in the table below.</p> <table><tr><th>Land Use</th><th>AM IN Trip Rate (per employee)</th><th>AM OUT Trip Rate (per employee)</th><th>PM IN Trip Rate (per employee)</th><th>PM OUT Trip Rate (per employee)</th></tr><tr><td>B1a</td><td>0.498</td><td>0.037</td><td>0.051</td><td>0.475</td></tr><tr><td>B1b</td><td>0.443</td><td>0.063</td><td>0.041</td><td>0.334</td></tr><tr><td>B1c</td><td>0.153</td><td>0.014</td><td>0.019</td><td>0.173</td></tr><tr><td>B2</td><td>0.153</td><td>0.014</td><td>0.019</td><td>0.173</td></tr><tr><td>B8</td><td>0.074</td><td>0.023</td><td>0.017</td><td>0.087</td></tr></table> <p>It should be noted that these trip rates are per employee and are person trips rather than vehicle trips. On that basis the trips have been compared to the person trips generated in the spreadsheet tool. This also means that any mode share changes due to the transport interventions in the core scenario will not have affected the comparison.</p> <p>The spreadsheet tool calculates peak hour trips from the number of employees, daily trip rates and trip profile. The process starts by taking the number of employees by land use and multiplying by the daily trips per employee as taken from TRICS (outlined in TN001). Advanced Manufacturing uses a daily person trip rate of 1.827 which is derived as set out in Section 4.</p> <p>For land uses where the daily trip per employee is above 2, only 2 trips are applied as commute and the rest is applied in non-commute. The commute trips are split evenly into inbound and outbound as it is assumed there will be one commute trip in and one commute trip out per day. The table below shows the total commute trips for each land use. Note that the non-commute trip profiles for the peak hours are set to zero so are not included in this TRICS comparison analysis.</p> <p>The numbers in the table below are calculated before internalisation (between the employment and residential) is applied as better reflects the TRICS trip rates which will include trips entering or leaving each employment site.</p> <table><tr><th>Land Use</th><th>Employees</th><th>Daily Trip Rate</th><th>Daily Person Trips</th><th>Daily Commute Trip Rate</th><th>Daily Commute Person Trips</th><th>Daily Commute Inbound Trips</th><th>Daily Commute Outbound Trips</th></tr><tr><td>B1a</td><td>770</td><td>3.606</td><td>2,775</td><td>2.000</td><td>1,540</td><td>770</td><td>770</td></tr><tr><td>B1b</td><td>583</td><td>3.117</td><td>1,817</td><td>2.000</td><td>1,166</td><td>583</td><td>583</td></tr><tr><td>B1c</td><td>160</td><td>3.908</td><td>625</td><td>2.000</td><td>320</td><td>160</td><td>160</td></tr><tr><td>B2</td><td>0</td><td>3.908</td><td>0</td><td>2.000</td><td>0</td><td>0</td><td>0</td></tr><tr><td>B8</td><td>188</td><td>1.920</td><td>361</td><td>1.920</td><td>361</td><td>180</td><td>180</td></tr><tr><td>Advanced Manufacturing</td><td>5,801</td><td>1.827</td><td>10,598</td><td>1.827</td><td>10,598</td><td>5,299</td><td>5,299</td></tr><tr><td><b>Total</b></td><td><b>7,502</b></td><td></td><td><b>16,176</b></td><td></td><td><b>13,985</b></td><td><b>6,992</b></td><td><b>6,992</b></td></tr></table> <p>The daily inbound and outbound commute trips are then multiplied by the relevant trip profile to produce the peak hour trips. The peak hour profiles for commute are provided in the table below.</p>	Land Use	AM IN Trip Rate (per employee)	AM OUT Trip Rate (per employee)	PM IN Trip Rate (per employee)	PM OUT Trip Rate (per employee)	B1a	0.498	0.037	0.051	0.475	B1b	0.443	0.063	0.041	0.334	B1c	0.153	0.014	0.019	0.173	B2	0.153	0.014	0.019	0.173	B8	0.074	0.023	0.017	0.087	Land Use	Employees	Daily Trip Rate	Daily Person Trips	Daily Commute Trip Rate	Daily Commute Person Trips	Daily Commute Inbound Trips	Daily Commute Outbound Trips	B1a	770	3.606	2,775	2.000	1,540	770	770	B1b	583	3.117	1,817	2.000	1,166	583	583	B1c	160	3.908	625	2.000	320	160	160	B2	0	3.908	0	2.000	0	0	0	B8	188	1.920	361	1.920	361	180	180	Advanced Manufacturing	5,801	1.827	10,598	1.827	10,598	5,299	5,299	<b>Total</b>	<b>7,502</b>		<b>16,176</b>		<b>13,985</b>	<b>6,992</b>	<b>6,992</b>
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## TECHNICAL NOTE

Item	Subject				
	B2	0	0	0	0
	B8	4	9	15	12
	Total	37	53	50	15
	Overall, the total trip differences are small and show that the spreadsheet tool forecasts a higher trip generation than would otherwise be derived from TRICS.				

6. Gravity Forecast Scenarios

AM Peak

As outlined in Section 4 there are many future scenarios with a similar mode share and traffic generation to the core scenario. The spreadsheet tool has been tested with many different combinations of transport interventions and the results have been summarised and compared for each scenario.

Showing Car Driver for All scenarios (purposes: All Employment, Work, Education, Shopping, Other, Entertainment, Day Trip)

HEP Business as Usual Core Scenario 50% Internalisation 70% Internalisation

Target (Car Driver AM)

Trips

Scenario Name

HEP	BAU	Core	8	9	10	12	13	14	16	18	19	20	21	30	31	32	34	35
1,247	1,094	713	809	767	695	805	798	748	812	700	664	631	601	533	549	601	564	653

Target 65%

Mode Share

Scenario Name

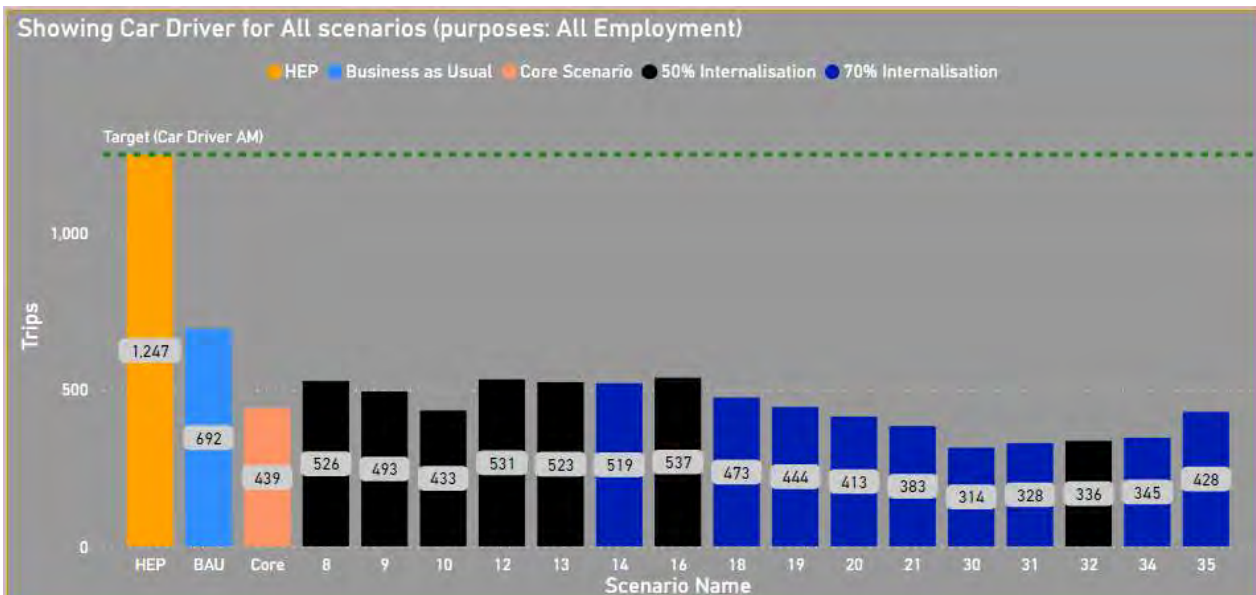
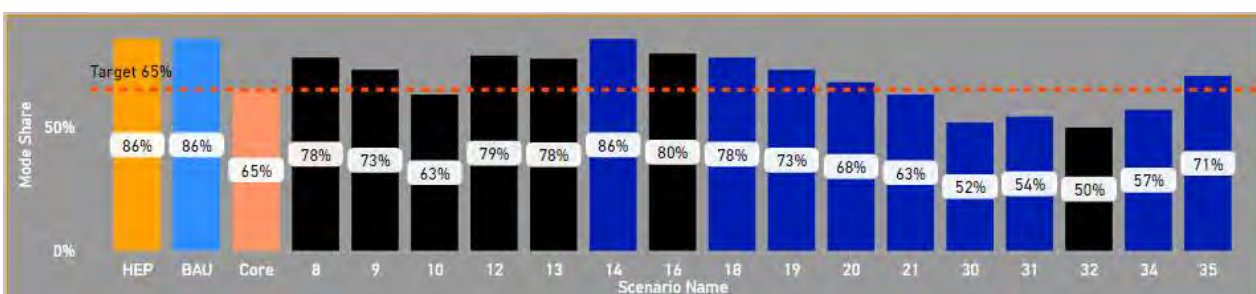
HEP	BAU	Core	8	9	10	12	13	14	16	18	19	20	21	30	31	32	34	35
86%	79%	64%	73%	69%	63%	73%	72%	77%	73%	72%	68%	65%	62%	55%	56%	54%	58%	67%

The first graph shows the car driver trips in the AM peak hour for each scenario. The second graph then shows the car mode share percentage for each scenario in the AM peak hour. The graph showing the car driver trips includes all trip purposes and therefore includes both employment and residential trips.

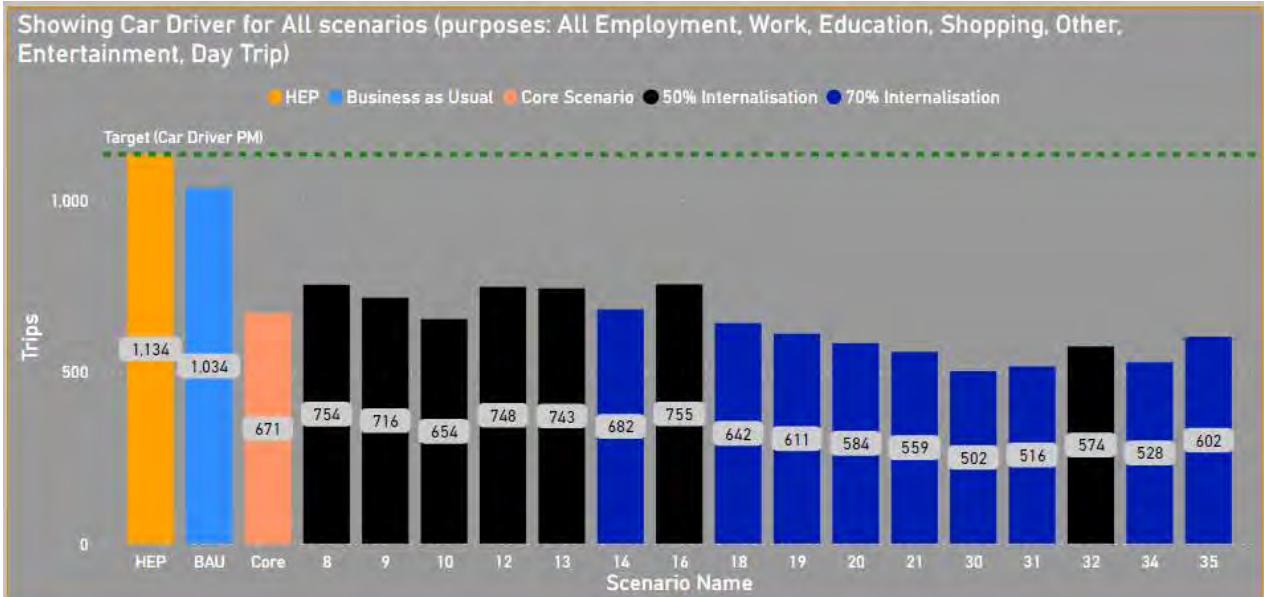
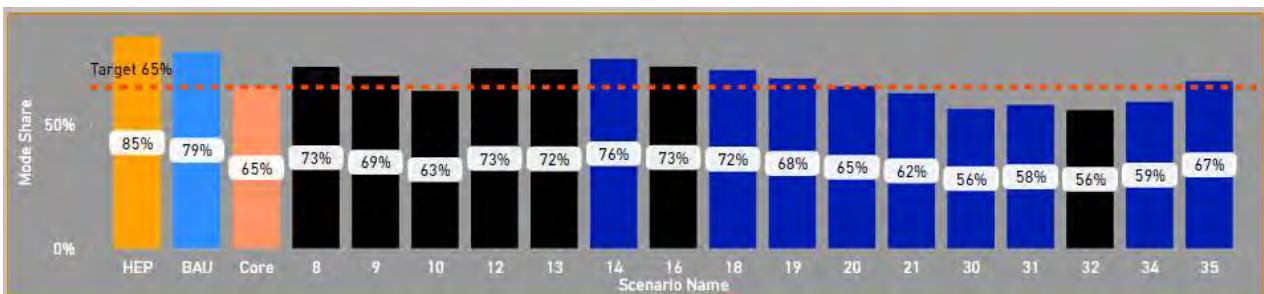
The outputs show that there are many scenario combinations that attain a desired car mode share of 65% or lower. In addition, the overall peak car driver traffic is lower than the consented HEP case in all scenarios (Target- Car Driver line in the graphs). This is due to the transport interventions and also the Gravity shift working patterns that will avoid the network peak hours.



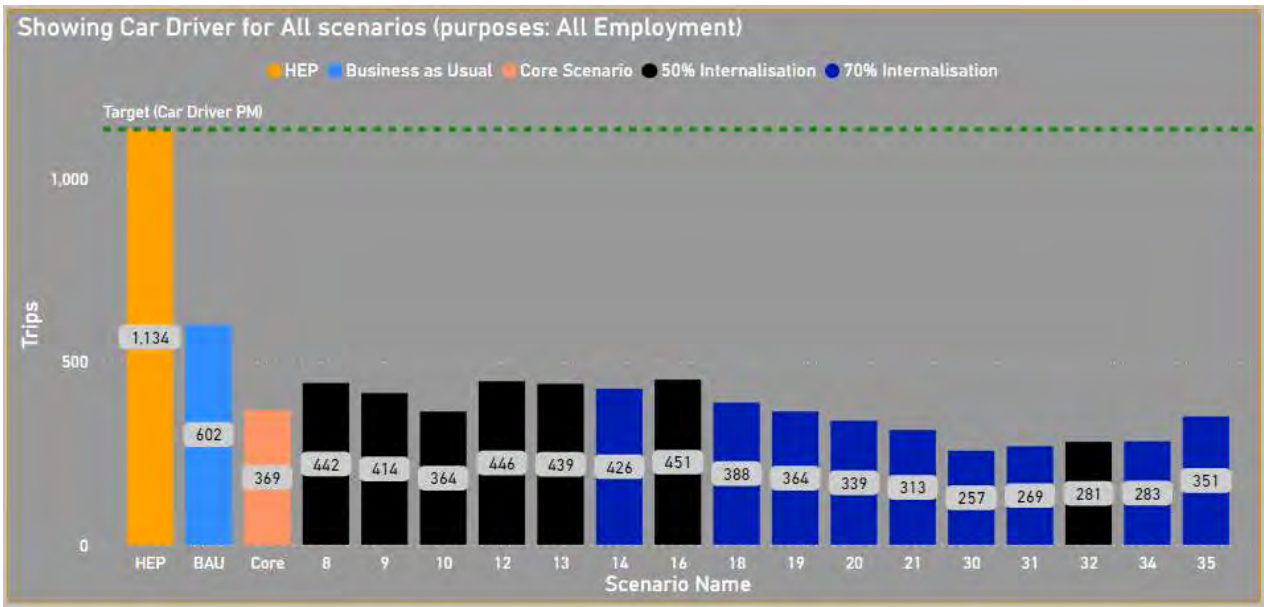
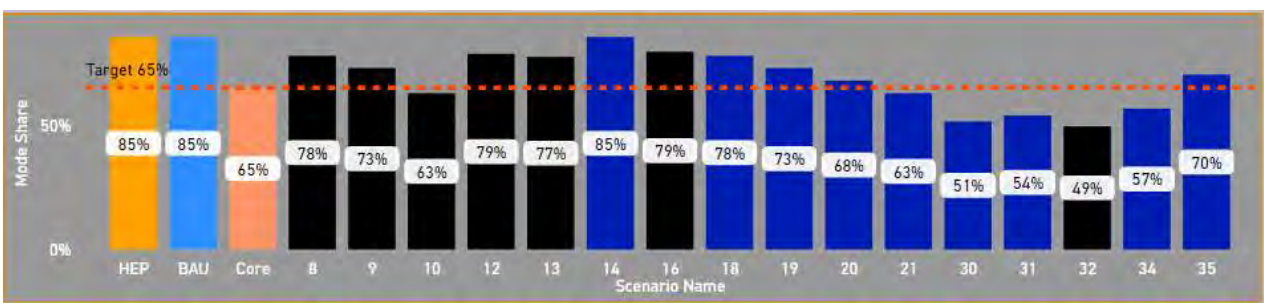
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	<p>For comparison purposes the mode share from key scenarios have been presented below. This includes the HEP scenario, a business-as-usual (BAU) development scenario, the core Gravity scenario and an alternative Gravity scenario. The alternative gravity scenario presented here retains the DRT bus service and cycle improvements from the core scenario but instead has a lower parking charge of £5.00 rather than £7.50. The alternative scenario also includes higher internalisation of 70% (instead of 50%) and also includes the Gravity passenger rail station.</p> <table><tr><th>Mode</th><th>HEP</th><th>BAU</th><th>Core</th><th>Alternative Gravity</th></tr><tr><td>Car Driver</td><td>85.57%</td><td>79.44%</td><td>64.40%</td><td>64.90%</td></tr><tr><td>Car Passenger</td><td>7.03%</td><td>14.00%</td><td>16.60%</td><td>17.97%</td></tr><tr><td>Cycle</td><td>2.81%</td><td>2.32%</td><td>7.61%</td><td>7.32%</td></tr><tr><td>PT</td><td>3.45%</td><td>3.26%</td><td>10.44%</td><td>8.89%</td></tr><tr><td>Walk</td><td>1.13%</td><td>0.98%</td><td>0.95%</td><td>0.92%</td></tr></table> <p>The table shows a lower car mode share in the business-as-usual scenario than in the HEP scenario. This is due to the residential trips lowering the overall mode share.</p> <p>To allow a direct comparison between the HEP scenario and the Gravity scenarios a further comparison has been made of the mode share with just the employment trips. The graphs below show the Gravity scenarios with just employment trips.</p> <div><p>Showing Car Driver for All scenarios (purposes: All Employment)</p><table><caption>Car Driver Trips (All Employment)</caption><tr><th>Scenario Name</th><th>Trips</th></tr><tr><td>HEP</td><td>1,247</td></tr><tr><td>BAU</td><td>692</td></tr><tr><td>Core</td><td>439</td></tr><tr><td>8</td><td>526</td></tr><tr><td>9</td><td>493</td></tr><tr><td>10</td><td>433</td></tr><tr><td>12</td><td>531</td></tr><tr><td>13</td><td>523</td></tr><tr><td>14</td><td>519</td></tr><tr><td>16</td><td>537</td></tr><tr><td>18</td><td>473</td></tr><tr><td>19</td><td>444</td></tr><tr><td>20</td><td>413</td></tr><tr><td>21</td><td>383</td></tr><tr><td>30</td><td>314</td></tr><tr><td>31</td><td>328</td></tr><tr><td>32</td><td>336</td></tr><tr><td>34</td><td>345</td></tr><tr><td>35</td><td>428</td></tr></table></div> <div><table><caption>Mode Share (All Employment)</caption><tr><th>Scenario Name</th><th>Mode Share</th></tr><tr><td>HEP</td><td>86%</td></tr><tr><td>BAU</td><td>86%</td></tr><tr><td>Core</td><td>65%</td></tr><tr><td>8</td><td>78%</td></tr><tr><td>9</td><td>73%</td></tr><tr><td>10</td><td>63%</td></tr><tr><td>12</td><td>79%</td></tr><tr><td>13</td><td>78%</td></tr><tr><td>14</td><td>86%</td></tr><tr><td>16</td><td>80%</td></tr><tr><td>18</td><td>78%</td></tr><tr><td>19</td><td>73%</td></tr><tr><td>20</td><td>68%</td></tr><tr><td>21</td><td>63%</td></tr><tr><td>30</td><td>52%</td></tr><tr><td>31</td><td>54%</td></tr><tr><td>32</td><td>50%</td></tr><tr><td>34</td><td>57%</td></tr><tr><td>35</td><td>71%</td></tr></table></div>	Mode	HEP	BAU	Core	Alternative Gravity	Car Driver	85.57%	79.44%	64.40%	64.90%	Car Passenger	7.03%	14.00%	16.60%	17.97%	Cycle	2.81%	2.32%	7.61%	7.32%	PT	3.45%	3.26%	10.44%	8.89%	Walk	1.13%	0.98%	0.95%	0.92%	Scenario Name	Trips	HEP	1,247	BAU	692	Core	439	8	526	9	493	10	433	12	531	13	523	14	519	16	537	18	473	19	444	20	413	21	383	30	314	31	328	32	336	34	345	35	428	Scenario Name	Mode Share	HEP	86%	BAU	86%	Core	65%	8	78%	9	73%	10	63%	12	79%	13	78%	14	86%	16	80%	18	78%	19	73%	20	68%	21	63%	30	52%	31	54%	32	50%	34	57%	35	71%
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	<p>The mode share for HEP and Business-as-usual is the same when comparing just employment trips as neither scenario has any transport interventions applied. The Core Gravity and Alternative Gravity scenario achieve a lower car mode share by providing infrastructure enhancements that increase the PT and cycle mode shares. A comparison of the mode share for key scenarios is shown in the table below.</p> <table><tr><th>Mode</th><th>HEP</th><th>BAU</th><th>Core</th><th>Alternative Gravity</th></tr><tr><td>Car Driver</td><td>85.57%</td><td>85.60%</td><td>65.23%</td><td>68.08%</td></tr><tr><td>Car Passenger</td><td>7.03%</td><td>7.03%</td><td>8.89%</td><td>9.28%</td></tr><tr><td>Cycle</td><td>2.81%</td><td>2.81%</td><td>9.83%</td><td>9.83%</td></tr><tr><td>PT</td><td>3.45%</td><td>3.42%</td><td>14.92%</td><td>11.67%</td></tr><tr><td>Walk</td><td>1.13%</td><td>1.13%</td><td>1.13%</td><td>1.13%</td></tr></table> <p><b>PM Peak</b></p> <p>The PM Peak produces similar results to the AM peak. The results for the PM peak are presented in the graphs below. There are less trips in the PM peak than there are in the AM peak, and the Gravity scenarios have fewer trips than the HEP scenario. As with the AM peak this is due to the shift working associated with the advanced manufacturing where there is no significant impact on the network peak hours. The graphs below show the results for all trip purposes (employment and residential).</p> <div><p>Showing Car Driver for All scenarios (purposes: All Employment, Work, Education, Shopping, Other, Entertainment, Day Trip)</p><table><caption>Car Driver PM Trips Data</caption><thead><tr><th>Scenario Name</th><th>Trips</th></tr></thead><tbody><tr><td>HEP</td><td>1,134</td></tr><tr><td>BAU</td><td>1,034</td></tr><tr><td>Core</td><td>671</td></tr><tr><td>8</td><td>754</td></tr><tr><td>9</td><td>716</td></tr><tr><td>10</td><td>654</td></tr><tr><td>12</td><td>748</td></tr><tr><td>13</td><td>743</td></tr><tr><td>14</td><td>682</td></tr><tr><td>16</td><td>755</td></tr><tr><td>18</td><td>642</td></tr><tr><td>19</td><td>611</td></tr><tr><td>20</td><td>584</td></tr><tr><td>21</td><td>559</td></tr><tr><td>30</td><td>502</td></tr><tr><td>31</td><td>516</td></tr><tr><td>32</td><td>574</td></tr><tr><td>34</td><td>528</td></tr><tr><td>35</td><td>602</td></tr></tbody></table></div> <div><table><caption>Car Driver PM Mode Share Data</caption><thead><tr><th>Scenario Name</th><th>Mode Share</th></tr></thead><tbody><tr><td>HEP</td><td>85%</td></tr><tr><td>BAU</td><td>79%</td></tr><tr><td>Core</td><td>65%</td></tr><tr><td>8</td><td>73%</td></tr><tr><td>9</td><td>69%</td></tr><tr><td>10</td><td>63%</td></tr><tr><td>12</td><td>73%</td></tr><tr><td>13</td><td>72%</td></tr><tr><td>14</td><td>76%</td></tr><tr><td>16</td><td>73%</td></tr><tr><td>18</td><td>72%</td></tr><tr><td>19</td><td>68%</td></tr><tr><td>20</td><td>65%</td></tr><tr><td>21</td><td>62%</td></tr><tr><td>30</td><td>56%</td></tr><tr><td>31</td><td>58%</td></tr><tr><td>32</td><td>56%</td></tr><tr><td>34</td><td>59%</td></tr><tr><td>35</td><td>67%</td></tr></tbody></table></div> <p>The car mode share is very similar to the AM peak in all scenarios. A comparison of the mode share (for all trip purposes) from key scenarios is provided in the table below.</p>	Mode	HEP	BAU	Core	Alternative Gravity	Car Driver	85.57%	85.60%	65.23%	68.08%	Car Passenger	7.03%	7.03%	8.89%	9.28%	Cycle	2.81%	2.81%	9.83%	9.83%	PT	3.45%	3.42%	14.92%	11.67%	Walk	1.13%	1.13%	1.13%	1.13%	Scenario Name	Trips	HEP	1,134	BAU	1,034	Core	671	8	754	9	716	10	654	12	748	13	743	14	682	16	755	18	642	19	611	20	584	21	559	30	502	31	516	32	574	34	528	35	602	Scenario Name	Mode Share	HEP	85%	BAU	79%	Core	65%	8	73%	9	69%	10	63%	12	73%	13	72%	14	76%	16	73%	18	72%	19	68%	20	65%	21	62%	30	56%	31	58%	32	56%	34	59%	35	67%
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	Car Driver	85.36%	85.33%	64.92%	67.81%
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	Cycle	2.81%	2.81%	9.83%	9.83%
	PT	3.68%	3.71%	15.27%	11.98%
	Walk	1.13%	1.13%	1.13%	1.13%
	<p>The core Gravity scenario still achieves the target car mode share of 65% however the alternative Gravity is slightly higher at 67.81%. This is still significantly lower than the HEP scenario or business-as-usual scenario. The graph shows that there are other scenarios which do achieve 65% mode share or lower so there are still multiple transport interventions that could achieve a 65% car driver share for the employment trips.</p>				
7.	<p><b>Summary</b></p> <p>This note has been produced to demonstrate the broad validity of the Gravity scenario forecasting tool and includes comparisons to the previous Huntspill Energy Park submission from 2013 and TRICS data.</p> <p>The HEP scenario has been forecast using the spreadsheet tool and the results show that the vehicle trip generation is broadly similar to the original HEP TA.</p> <p>A comparison has also been undertaken which shows that the total trip generation in the core Gravity scenario is similar to the total trips that would be generated from a TRICS analysis.</p> <p>The comparisons have demonstrated that the spreadsheet tool produces reasonable and comparable outputs and therefore should provide reasonable estimates for the number of trips for the purpose of scenario testing approach.</p> <p>An overview of the potential future scenarios has also been presented providing an overview of the total car trips in the AM peak as well as the overall mode share. This has shown that there are many scenarios that could achieve a car mode share of 65% or lower. This will be explored further within the transport assessment.</p>				

## **Appendix L      Site Access – Woolavington Rd Rbt Model Reports**

Junctions 10														
ARCADY 10 - Roundabout Module														
Version: 10.0.2.1574 © Copyright TRL Software Limited, 2021														
For sales and distribution information, program advice and maintenance, contact TRL Software: +44 (0)1344 379777 software@trl.co.uk trlsoftware.com														
The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution														

Filename: Woolavington Road Roundabout\_lane sim\_final scenarios.j10

Path: J:\49102 Gravity LDO\Transport\Junction Assessments\Lane Simulation\Models for TA

Report generation date: 15/10/2021 14:20:35

»2018 Base, AM  
 »2018 Base, PM  
 »2032 HEP, AM  
 »2032 HEP, PM  
 »2032 Gravity Core, AM  
 »2032 Gravity Core, PM  
 »2032 Gravity BAU, AM  
 »2032 Gravity BAU, PM

### Summary of junction performance

	AM							PM						
	Set ID	Queue (Veh)	Delay (s)	RFC	LOS	Junction Delay (s)	Network Residual Capacity	Set ID	Queue (Veh)	Delay (s)	RFC	LOS	Junction Delay (s)	Network Residual Capacity
	[Lane Simulation] - 2018 Base													
Arm 1	D1	0.2	5.04		A	5.04	% []	D2	0.2	4.81		A	5.18	% []
Arm 2		0.0	4.07		A				0.1	4.51		A		
Arm 3		0.2	5.15		A				0.3	5.58		A		
Arm 4		0.0	0.00		A				0.0	0.00		A		
	[Lane Simulation] - 2032 HEP													
Arm 1	D9	0.7	6.72		A	53.04	% []	D10	0.3	6.66		A	14.37	% []
Arm 2		27.3	113.65		F				0.6	7.37		A		
Arm 3		0.7	10.47		B				0.5	7.36		A		
Arm 4		1.5	9.10		A				6.0	20.37		C		
	[Lane Simulation] - 2032 Gravity Core													
Arm 1	D11	0.4	5.70		A	6.78	% []	D12	0.3	5.46		A	6.57	% []
Arm 2		1.0	8.07		A				0.6	6.14		A		
Arm 3		0.4	7.08		A				0.5	6.97		A		
Arm 4		0.8	5.92		A				1.1	7.03		A		
	[Lane Simulation] - 2032 Gravity BAU													
Arm 1	D13	0.6	6.22		A	9.43	% []	D14	0.3	5.99		A	8.61	% []
Arm 2		2.1	13.37		B				0.8	7.62		A		
Arm 3		0.5	7.96		A				0.6	7.91		A		
Arm 4		1.2	7.48		A				1.9	10.14		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. Arm and junction delays are averages for all movements, including movements with zero delay. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

### File summary

#### File Description

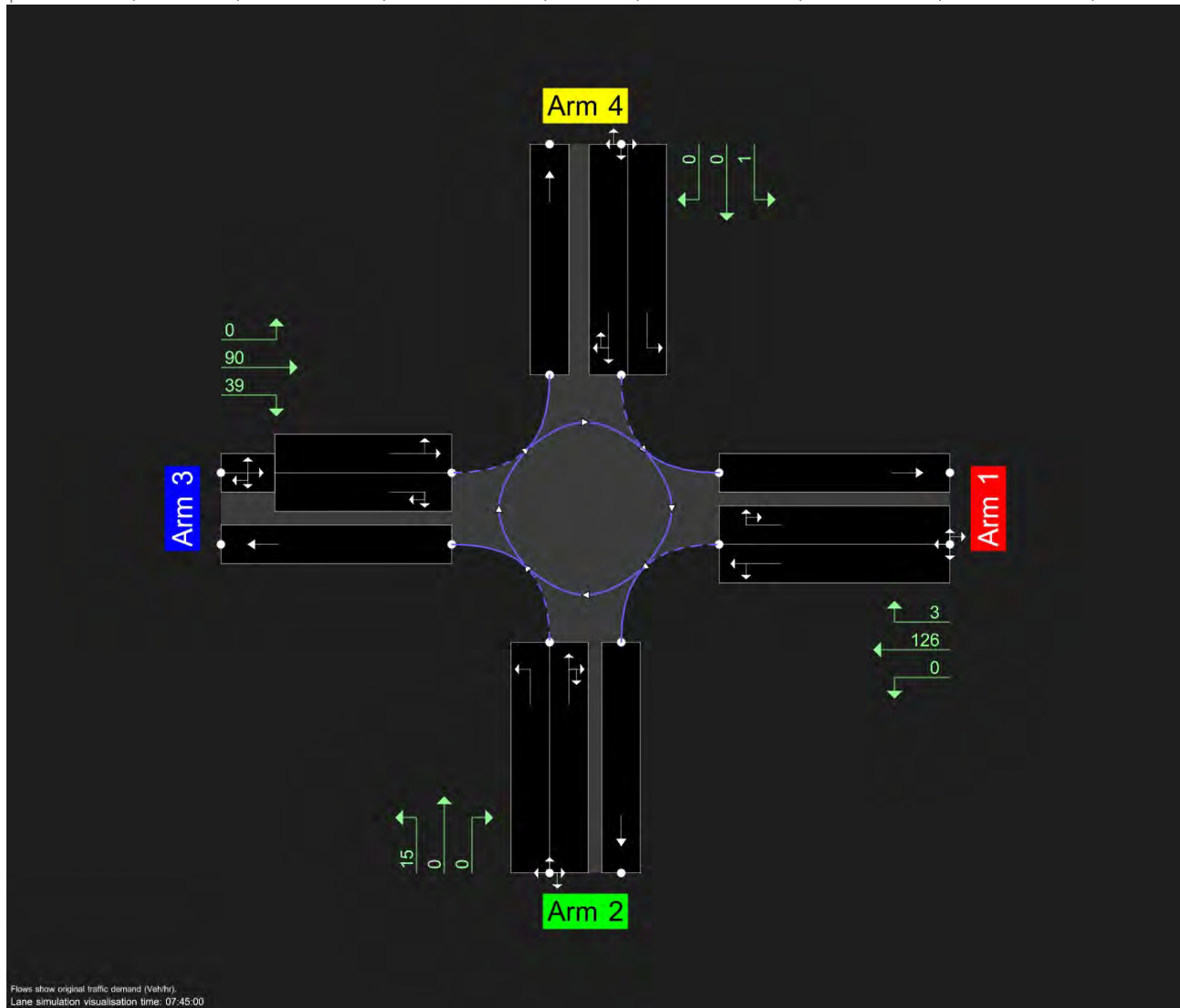
Title	
-------	--



Location	
Site number	
Date	27/09/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	CORP\matpearce
Description	

## Units

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



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	Residual capacity criteria type	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use iterations with HCM roundabouts	Max number of iterations for roundabouts
5.75					✓	Delay	0.85	36.00	20.00		500

### Lane Simulation options

Criteria type	Stop criteria (%)	Stop criteria time (s)	Stop criteria number of trials	Random seed	Results refresh speed (s)	Individual vehicle animation number of trials	Average animation capture interval (s)	Use quick response	Do flow sampling	Suppress automatic lane creation	Last run random seed	Last run number of trials	Last run time taken (s)
Delay	1.00	100000	100000	-1	3	1	60	✓			249822272	101	1.33

### Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2018 Base	AM	ONE HOUR	07:45	09:15	15	✓
D2	2018 Base	PM	ONE HOUR	16:45	18:15	15	✓
D9	2032 HEP	AM	ONE HOUR	07:45	09:15	15	✓
D10	2032 HEP	PM	ONE HOUR	16:45	18:15	15	✓
D11	2032 Gravity Core	AM	ONE HOUR	07:45	09:15	15	✓
D12	2032 Gravity Core	PM	ONE HOUR	16:45	18:15	15	✓
D13	2032 Gravity BAU	AM	ONE HOUR	07:45	09:15	15	✓
D14	2032 Gravity BAU	PM	ONE HOUR	16:45	18:15	15	✓

### Analysis Set Details

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

# 2018 Base, AM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 4 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
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.
Info	Lane Simulation	A1 - [Lane Simulation]	This analysis set uses Lane Simulation mode. For detailed information on this mode, please see the User Guide.

## 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	5.04	A

### Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.04	A

## Arms

### Arms

Arm	Name	Description	No give-way line
1	Woolavington Road (E)		
2	Access Road (S)		
3	Woolavington Road (W)		
4	Access Road (N)		

### Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
1	2.92	7.00	25.7	20.0	55.0	18.5		
2	3.65	7.00	35.9	20.0	55.0	25.5		
3	2.96	7.00	19.0	20.0	55.0	41.0		
4	3.65	7.03	48.1	20.0	55.0	19.5		

### Slope / Intercept / Capacity

#### Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1	0.609	1773
2	0.628	1917
3	0.549	1563
4	0.651	2013

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

### Lane Simulation: Arm options

Arm	Lane capacity source	Traffic considering secondary lanes (%)
1	Evenly split	10.00
2	Evenly split	10.00
3	Evenly split	10.00



4	Evenly split	10.00
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## Lanes

Arm	Side	Lane level	Lane	Destination arms	Has limited storage	Storage (PCU)	Has bottleneck	Has obstruction	Minimum capacity (PCU/hr)	Maximum capacity (PCU/hr)	Signalised
1	Entry	1	1	2, 3	✓	6.00			0	99999	
			2	1, 4	✓	6.00			0	99999	
	Exit	1	1	(1, 2, 3, 4)		Infinity					
			1			Infinity					
2	Entry	1	1	3	✓	9.00			0	99999	
			2	1, 2, 4	✓	9.00			0	99999	
	Exit	1	1	(1, 2, 3, 4)		Infinity					
			1			Infinity					
3	Entry	1	1	1, 4	✓	4.00			0	99999	
			2	2, 3	✓	4.00			0	99999	
	Exit	1	1	(1, 2, 3, 4)		Infinity					
			1			Infinity					
4	Entry	1	1	1	✓	10.00			0	99999	
			2	2, 3, 4	✓	10.00			0	99999	
	Exit	1	1	(1, 2, 3, 4)		Infinity					
			1			Infinity					

## Entry Lane slope and intercept

Arm	Side	Lane level	Lane	Final slope	Final intercept (PCU/hr)
1	Entry	1	1	0.304	886
			2	0.304	886
2	Entry	1	1	0.314	959
			2	0.314	959
3	Entry	1	1	0.274	781
			2	0.274	781
4	Entry	1	1	0.326	1006
			2	0.326	1006

## Summary of Entry Lane allowed movements

Arm	Lane Level	Lane	Destination arm			
			1	2	3	4
1	1	1		✓	✓	
		2	✓			✓
	2	1	✓	✓	✓	✓
2	1	1			✓	
		2	✓	✓		✓
	2	1	✓	✓	✓	✓
3	1	1	✓			✓
		2		✓	✓	
	2	1	✓	✓	✓	✓
4	1	1	✓			
		2		✓	✓	✓
	2	1	✓	✓	✓	✓

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2018 Base	AM	ONE HOUR	07:45	09:15	15	✓

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

✓	✓	HV Percentages	2.00
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### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	129	100.000
2		ONE HOUR	✓	15	100.000
3		ONE HOUR	✓	129	100.000
4		ONE HOUR	✓	1	100.000

## Origin-Destination Data

### Demand (Veh/hr)

	To				
	1	2	3	4	
From	1	0	0	126	3
	2	0	0	15	0
	3	90	39	0	0
	4	1	0	0	0

## Vehicle Mix

### Heavy Vehicle Percentages

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

## Results

### Results Summary for whole modelled period

Arm	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	5.04	0.2	A	121	181
2	4.07	0.0	A	13	20
3	5.15	0.2	A	118	177
4	0.00	0.0	A	0	0

### Main Results for each time segment

#### 07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	103	26	29	103	103	68	0.0	0.1	4.655	A
2	9	2	103	9	11	29	0.0	0.0	3.965	A
3	97	24	4	97	98	109	0.0	0.1	4.955	A
4	0	0	97	0	0	4	0.0	0.0	0.000	A

#### 08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	115	29	35	116	116	85	0.1	0.0	4.481	A

2	13	3	116	13	12	35	0.0	0.0	3.859	A
3	120	30	3	120	118	125	0.1	0.2	5.154	A
4	0	0	120	0	0	3	0.0	0.0	0.000	A

**08:15 - 08:30**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	147	37	40	147	139	98	0.0	0.2	5.043	A
2	18	5	147	18	17	40	0.0	0.0	3.852	A
3	136	34	3	138	139	162	0.2	0.1	4.996	A
4	0	0	138	0	0	3	0.0	0.0	0.000	A

**08:30 - 08:45**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	149	37	45	149	147	99	0.2	0.2	4.887	A
2	18	4	149	18	17	45	0.0	0.0	3.823	A
3	143	36	4	144	140	163	0.1	0.2	4.976	A
4	0	0	144	0	0	4	0.0	0.0	0.000	A

**08:45 - 09:00**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	117	29	35	118	115	80	0.2	0.1	4.731	A
2	12	3	118	12	14	35	0.0	0.0	3.935	A
3	115	29	4	115	116	126	0.2	0.2	5.017	A
4	0	0	115	0	0	4	0.0	0.0	0.000	A

**09:00 - 09:15**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	94	23	29	94	100	70	0.1	0.1	4.667	A
2	11	3	94	11	12	29	0.0	0.0	4.073	A
3	98	25	1	99	99	104	0.2	0.2	4.969	A
4	0	0	99	0	0	1	0.0	0.0	0.000	A

## Lane Results

*Lane Level notation: Lane Level 1 is always closest to the junction.*

### Lanes: Main Results for each time segment

**07:45 - 08:00**

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	2, 3	99	878	0.113	100	100	0.0	0.1	4.675	A
			2	1, 4	4	878	0.004	4	3	0.0	0.0	3.840	A
	Exit	1	1	(1, 2, 3, 4)	103			103	103	0.0	0.0	0.000	A
			1		68			68	68	0.0	0.0	0.000	A
2	Entry	1	1	3	9	926	0.010	9	11	0.0	0.0	3.965	A
			2	1, 2, 4	0	926	0.000	0	0	0.0	0.0	0.000	A
	Exit	1	1	(1, 2, 3, 4)	9			9	11	0.0	0.0	0.000	A
			1		29			29	29	0.0	0.0	0.000	A
3	Entry	1	1	1, 4	68	780	0.087	68	68	0.0	0.1	4.847	A
			2	2, 3	29	780	0.037	29	29	0.0	0.0	5.206	A
	Exit	1	1	(1, 2, 3, 4)	97			97	98	0.0	0.0	0.000	A
			1		109			109	112	0.0	0.0	0.000	A
4	Entry	1	1	1	0	975	0.000	0	0	0.0	0.0	0.000	A
			2	2, 3, 4	0	975	0.000	0	0	0.0	0.0	0.000	A
			2	(1, 2, 3, 4)	0			0	0	0.0	0.0	0.000	A



	Exit	1	1		4			4	3	0.0	0.0	0.000	A
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## 08:00 - 08:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	2, 3	111	876	0.127	113	113	0.1	0.0	4.496	A
			2	1, 4	3	876	0.004	3	3	0.0	0.0	3.886	A
	Exit	1	1	(1, 2, 3, 4)	115			115	116	0.0	0.0	0.000	A
			1		85			85	84	0.0	0.0	0.000	A
2	Entry	1	1	3	13	922	0.014	13	12	0.0	0.0	3.859	A
			2	1, 2, 4	0	922	0.000	0	0	0.0	0.0	0.000	A
	Exit	1	1	(1, 2, 3, 4)	13			13	12	0.0	0.0	0.000	A
			1		35			35	34	0.0	0.0	0.000	A
3	Entry	1	1	1, 4	85	781	0.109	85	84	0.1	0.1	5.253	A
			2	2, 3	34	781	0.044	35	34	0.0	0.0	4.910	A
	Exit	1	1	(1, 2, 3, 4)	120			120	118	0.0	0.0	0.000	A
			1		125			125	125	0.0	0.0	0.000	A
4	Entry	1	1	1	0	967	0.000	0	0	0.0	0.0	0.000	A
			2	2, 3, 4	0	967	0.000	0	0	0.0	0.0	0.000	A
	Exit	1	1	(1, 2, 3, 4)	0			0	0	0.0	0.0	0.000	A
			1		3			3	3	0.0	0.0	0.000	A

## 08:15 - 08:30

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	2, 3	143	874	0.164	144	135	0.0	0.2	5.076	A
			2	1, 4	3	874	0.004	3	3	0.0	0.0	3.720	A
	Exit	1	1	(1, 2, 3, 4)	147			147	140	0.0	0.0	0.000	A
			1		98			98	97	0.0	0.0	0.000	A
2	Entry	1	1	3	18	912	0.020	18	17	0.0	0.0	3.852	A
			2	1, 2, 4	0	912	0.000	0	0	0.0	0.0	0.000	A
	Exit	1	1	(1, 2, 3, 4)	18			18	17	0.0	0.0	0.000	A
			1		40			40	42	0.0	0.0	0.000	A
3	Entry	1	1	1, 4	96	780	0.124	98	97	0.1	0.1	5.085	A
			2	2, 3	40	780	0.051	40	42	0.0	0.1	4.794	A
	Exit	1	1	(1, 2, 3, 4)	136			136	139	0.0	0.0	0.000	A
			1		162			162	152	0.0	0.0	0.000	A
4	Entry	1	1	1	0	961	0.000	0	0	0.0	0.0	0.000	A
			2	2, 3, 4	0	961	0.000	0	0	0.0	0.0	0.000	A
	Exit	1	1	(1, 2, 3, 4)	0			0	0	0.0	0.0	0.000	A
			1		3			3	3	0.0	0.0	0.000	A

## 08:30 - 08:45

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	2, 3	144	873	0.166	145	143	0.2	0.1	4.923	A
			2	1, 4	4	873	0.005	4	4	0.0	0.0	3.584	A
	Exit	1	1	(1, 2, 3, 4)	149			149	146	0.0	0.0	0.000	A
			1		99			99	97	0.0	0.0	0.000	A
2	Entry	1	1	3	18	912	0.019	18	17	0.0	0.0	3.823	A
			2	1, 2, 4	0	912	0.000	0	0	0.0	0.0	0.000	A
	Exit	1	1	(1, 2, 3, 4)	18			18	17	0.0	0.0	0.000	A
			1		45			45	43	0.0	0.0	0.000	A
3	Entry	1	1	1, 4	99	780	0.127	99	97	0.1	0.2	5.101	A
			2	2, 3	44	780	0.056	45	43	0.1	0.0	4.684	A
	Exit	1	1	(1, 2, 3, 4)	143			143	140	0.0	0.0	0.002	A
			1		163			163	160	0.0	0.0	0.000	A
4	Entry	1	1	1	0	960	0.000	0	0	0.0	0.0	0.000	A
			2	2, 3, 4	0	960	0.000	0	0	0.0	0.0	0.000	A
	Exit	1	1	(1, 2, 3, 4)	0			0	0	0.0	0.0	0.000	A
			1		4			4	4	0.0	0.0	0.000	A

## 08:45 - 09:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	2, 3	113	876	0.129	114	111	0.1	0.1	4.735	A
			2	1, 4	4	876	0.004	4	3	0.0	0.0	4.598	A
	Exit	1	1	(1, 2, 3, 4)	117			117	114	0.0	0.0	0.000	A
			1		80			80	81	0.0	0.0	0.000	A
2	Entry	1	1	3	12	921	0.013	12	14	0.0	0.0	3.935	A
			2	1, 2, 4	0	921	0.000	0	0	0.0	0.0	0.000	A
	Exit	1	1	(1, 2, 3, 4)	12			12	14	0.0	0.0	0.000	A
			1		35			35	35	0.0	0.0	0.000	A
3	Entry	1	1	1, 4	80	780	0.102	80	81	0.2	0.1	5.080	A
			2	2, 3	35	780	0.045	35	35	0.0	0.1	4.868	A
	Exit	1	1	(1, 2, 3, 4)	115			115	116	0.0	0.0	0.000	A
			1		126			126	125	0.0	0.0	0.000	A
4	Entry	1	1	1	0	969	0.000	0	0	0.0	0.0	0.000	A
			2	2, 3, 4	0	969	0.000	0	0	0.0	0.0	0.000	A
	Exit	1	1	(1, 2, 3, 4)	0			0	0	0.0	0.0	0.000	A
			1		4			4	3	0.0	0.0	0.000	A

## 09:00 - 09:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	2, 3	92	878	0.105	93	98	0.1	0.1	4.678	A
			2	1, 4	1	878	0.001	1	2	0.0	0.0	4.174	A
	Exit	1	1	(1, 2, 3, 4)	94			94	100	0.0	0.0	0.000	A
			1		70			70	70	0.0	0.0	0.000	A
2	Entry	1	1	3	11	929	0.012	11	12	0.0	0.0	4.073	A
			2	1, 2, 4	0	929	0.000	0	0	0.0	0.0	0.000	A
	Exit	1	1	(1, 2, 3, 4)	11			11	12	0.0	0.0	0.000	A
			1		29			29	29	0.0	0.0	0.000	A
3	Entry	1	1	1, 4	70	781	0.089	70	70	0.1	0.1	4.855	A
			2	2, 3	29	781	0.037	29	29	0.1	0.1	5.242	A
	Exit	1	1	(1, 2, 3, 4)	98			98	99	0.0	0.0	0.000	A
			1		104			104	109	0.0	0.0	0.000	A
4	Entry	1	1	1	0	974	0.000	0	0	0.0	0.0	0.000	A
			2	2, 3, 4	0	974	0.000	0	0	0.0	0.0	0.000	A
	Exit	1	1	(1, 2, 3, 4)	0			0	0	0.0	0.0	0.000	A
			1		1			1	2	0.0	0.0	0.000	A

## Lane movements: Main Results for each time segment

## 07:45 - 08:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Simulation max flow (PCU/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	99	25	886	878	0.113	100	100	0.0	0.1	4.675	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	4	0.89	413	409	0.009	4	3	0.0	0.0	3.840	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	99	25	-	-	-	99	101	0.0	0.0	0.000	A
				4	4	0.89	-	-	-	4	3	0.0	0.0	0.000	A
		1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	9	2	902	869	0.011	9	11	0.0	0.0	3.965	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

2	Entry	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			3	9	2	-	-	-	9	11	0.0	0.0	0.000	A
			4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

3	Entry	1	1	1	68	17	781	781	0.087	68	68	0.0	0.1	4.847	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	29	7	781	781	0.037	29	29	0.0	0.0	5.206	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	68	17	-	-	-	68	69	0.0	0.0	0.000	A
				2	29	7	-	-	-	29	29	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

4	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

08:00 - 08:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Simulation max flow (PCU/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	111	28	886	876	0.127	113	113	0.1	0.0	4.496	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	3	0.80	465	460	0.007	3	3	0.0	0.0	3.886	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	111	28	-	-	-	111	113	0.0	0.0	0.000	A
				4	3	0.80	-	-	-	3	3	0.0	0.0	0.000	A
2	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	13	3	854	824	0.016	13	12	0.0	0.0	3.859	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	13	3	-	-	-	13	12	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		1	1	1	85	21	781	781	0.109	85	84	0.1	0.1	5.253	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A



3	Entry	1	2	4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	34	9	781	781	0.044	35	34	0.0	0.0	4.910	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				1	85	21	-	-	-	85	84	0.0	0.0	0.000	A
				2	34	9	-	-	-	34	34	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
4	Entry	1	1	4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

08:15 - 08:30

Arm	Side	Lane level	Lane	To Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Simulation max flow (PCU/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	143	36	886	875	0.164	144	135	0.0	0.2	5.076	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	3	0.86	491	485	0.007	3	3	0.0	0.0	3.720	A
2	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	143	36	-	-	-	143	136	0.0	0.0	0.000	A
				4	3	0.86	-	-	-	3	3	0.0	0.0	0.000	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	18	5	-	-	-	18	17	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
3	Entry	1	1	1	96	24	781	781	0.124	98	97	0.1	0.1	5.085	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	40	10	781	781	0.051	40	42	0.0	0.1	4.794	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		1	1	1	96	24	-	-	-	96	97	0.0	0.0	0.000	A
				2	40	10	-	-	-	40	42	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

4	Entry	1	2	3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

08:30 - 08:45

Arm	Side	Lane level	Lane	To Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Simulation max flow (PCU/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	144	36	886	873	0.166	145	143	0.2	0.1	4.923	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	4	1	562	554	0.008	4	4	0.0	0.0	3.584	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	144	36	-	-	-	144	143	0.0	0.0	0.000	A
				4	4	1	-	-	-	4	4	0.0	0.0	0.000	A
2	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	18	4	949	904	0.020	18	17	0.0	0.0	3.823	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	18	4	-	-	-	18	17	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
3	Entry	1	1	1	99	25	781	780	0.127	99	97	0.1	0.2	5.101	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	44	11	781	780	0.056	45	43	0.1	0.0	4.684	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	99	25	-	-	-	99	97	0.0	0.0	0.002	A
				2	44	11	-	-	-	44	43	0.0	0.0	0.005	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
4	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

08:45 - 09:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Simulation max flow (PCU/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	113	28	886	876	0.129	114	111	0.1	0.1	4.735	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	4	0.95	483	477	0.008	4	3	0.0	0.0	4.598	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	113	28	-	-	-	113	111	0.0	0.0	0.000	A
				4	4	0.95	-	-	-	4	3	0.0	0.0	0.000	A
2	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	12	3	959	923	0.012	12	14	0.0	0.0	3.935	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	12	3	-	-	-	12	14	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
3	Entry	1	1	1	80	20	781	781	0.102	80	81	0.2	0.1	5.080	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	35	9	781	781	0.045	35	35	0.0	0.1	4.868	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	80	20	-	-	-	80	81	0.0	0.0	0.000	A
				2	35	9	-	-	-	35	35	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
4	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

09:00 - 09:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Simulation max flow (PCU/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	92	23	886	878	0.105	93	98	0.1	0.1	4.678	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	1	0.30	325	321	0.004	1	2	0.0	0.0	4.174	A



		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	92	23	-	-	-	92	98	0.0	0.0	0.000	A
				4	1	0.30	-	-	-	1	2	0.0	0.0	0.000	A
2	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	11	3	902	871	0.013	11	12	0.0	0.0	4.073	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	11	3	-	-	-	11	12	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
3	Entry	1	1	1	70	17	781	781	0.089	70	70	0.1	0.1	4.855	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	29	7	781	781	0.037	29	29	0.1	0.1	5.242	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	70	17	-	-	-	70	70	0.0	0.0	0.000	A
				2	29	7	-	-	-	29	29	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
4	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

# 2018 Base, PM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 4 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
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.
Info	Lane Simulation	A1 - [Lane Simulation]	This analysis set uses Lane Simulation mode. For detailed information on this mode, please see the User Guide.

## 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	5.18	A

### Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.18	A

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2018 Base	PM	ONE HOUR	16:45	18:15	15	✓

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

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	98	100.000
2		ONE HOUR	✓	34	100.000
3		ONE HOUR	✓	155	100.000
4		ONE HOUR	✓	2	100.000

## Origin-Destination Data

### Demand (Veh/hr)

	To				
	1	2	3	4	
From	1	0	0	97	1
	2	0	0	34	0
	3	136	19	0	0
	4	2	0	0	0

## Vehicle Mix

### Heavy Vehicle Percentages

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

## Results

### Results Summary for whole modelled period

Arm	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	4.81	0.2	A	90	136
2	4.51	0.1	A	34	51
3	5.58	0.3	A	143	215
4	0.00	0.0	A	0	0

### Main Results for each time segment

#### 16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	74	19	14	75	76	100	0.0	0.1	4.474	A
2	27	7	75	27	28	14	0.0	0.0	3.855	A
3	114	29	0.61	114	118	102	0.0	0.2	5.228	A
4	0	0	114	0	0	0.61	0.0	0.0	0.000	A

#### 17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	90	23	16	89	87	125	0.1	0.2	4.515	A
2	33	8	89	33	30	16	0.0	0.1	3.953	A
3	141	35	0.61	141	141	122	0.2	0.2	5.224	A
4	0	0	141	0	0	0.61	0.0	0.0	0.000	A

#### 17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	107	27	23	107	107	156	0.2	0.1	4.641	A
2	38	9	107	38	39	23	0.1	0.0	4.148	A
3	180	45	0.86	178	169	144	0.2	0.3	5.548	A
4	0	0	178	0	0	0.86	0.0	0.0	0.000	A

#### 17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	111	28	23	111	110	149	0.1	0.2	4.814	A
2	39	10	111	39	38	23	0.0	0.0	3.823	A
3	174	43	0.73	172	172	149	0.3	0.3	5.578	A
4	0	0	172	0	0	0.73	0.0	0.0	0.000	A

#### 17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service



1	87	22	18	87	88	122	0.2	0.1	4.540	A
2	37	9	87	36	33	18	0.0	0.1	4.507	A
3	140	35	0.37	140	143	123	0.3	0.2	5.499	A
4	0	0	140	0	0	0.37	0.0	0.0	0.000	A

**18:00 - 18:15**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	73	18	16	72	74	97	0.1	0.1	4.436	A
2	29	7	72	29	27	16	0.1	0.0	4.294	A
3	112	28	0.61	113	116	101	0.2	0.2	5.228	A
4	0	0	113	0	0	0.61	0.0	0.0	0.000	A

## Lane Results

*Lane Level notation: Lane Level 1 is always closest to the junction.*

**Lanes: Main Results for each time segment****16:45 - 17:00**

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	2, 3	74	882	0.084	74	75	0.0	0.1	4.477	A
			2	1, 4	0.61	882	0.001	0.61	0.65	0.0	0.0	4.140	A
	Exit	1	1	(1, 2, 3, 4)	74			74	76	0.0	0.0	0.000	A
			1		100			100	103	0.0	0.0	0.000	A
2	Entry	1	1	3	27	935	0.029	27	28	0.0	0.0	3.855	A
			2	1, 2, 4	0	935	0.000	0	0	0.0	0.0	0.000	A
	Exit	1	1	(1, 2, 3, 4)	27			27	28	0.0	0.0	0.000	A
			1		14			14	15	0.0	0.0	0.000	A
3	Entry	1	1	1, 4	100	781	0.128	100	103	0.0	0.2	5.373	A
			2	2, 3	14	781	0.018	14	15	0.0	0.0	4.235	A
	Exit	1	1	(1, 2, 3, 4)	114			114	119	0.0	0.0	0.000	A
			1		102			102	103	0.0	0.0	0.000	A
4	Entry	1	1	1	0	969	0.000	0	0	0.0	0.0	0.000	A
			2	2, 3, 4	0	969	0.000	0	0	0.0	0.0	0.000	A
	Exit	1	1	(1, 2, 3, 4)	0			0	0	0.0	0.0	0.000	A
			1		0.61			0.61	0.65	0.0	0.0	0.000	A

**17:00 - 17:15**

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	2, 3	89	882	0.101	89	86	0.1	0.2	4.527	A
			2	1, 4	0.61	882	0.001	0.61	0.90	0.0	0.0	3.352	A
	Exit	1	1	(1, 2, 3, 4)	90			90	88	0.0	0.0	0.000	A
			1		125			125	125	0.0	0.0	0.000	A
2	Entry	1	1	3	33	931	0.036	33	30	0.0	0.1	3.953	A
			2	1, 2, 4	0	931	0.000	0	0	0.0	0.0	0.000	A
	Exit	1	1	(1, 2, 3, 4)	33			33	30	0.0	0.0	0.000	A
			1		16			16	17	0.0	0.0	0.000	A
3	Entry	1	1	1, 4	125	781	0.160	125	125	0.2	0.2	5.314	A
			2	2, 3	15	781	0.020	16	17	0.0	0.0	4.558	A
	Exit	1	1	(1, 2, 3, 4)	141			141	141	0.0	0.0	0.000	A
			1		122			122	117	0.0	0.0	0.000	A
4	Entry	1	1	1	0	961	0.000	0	0	0.0	0.0	0.000	A
			2	2, 3, 4	0	961	0.000	0	0	0.0	0.0	0.000	A
	Exit	1	1	(1, 2, 3, 4)	0			0	0	0.0	0.0	0.000	A
			1		0.61			0.61	0.90	0.0	0.0	0.000	A

**17:15 - 17:30**

		Lane		Destination	Total	Capacity		Throughput	Average	Start	End	Delay	Unsignalised
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Arm	Side	level	Lane	arms	Demand (Veh/hr)	(Veh/hr)	RFC	(Veh/hr)	throughput (PCU/hr)	queue (Veh)	queue (Veh)	(s)	level of service
1	Entry	1	1	2, 3	106	880	0.120	106	106	0.2	0.1	4.640	A
			2	1, 4	0.73	880	0.001	0.86	1	0.0	0.0	4.733	A
	Exit	1	1	(1, 2, 3, 4)	107			107	107	0.0	0.0	0.000	A
			1		156			156	149	0.0	0.0	0.000	A
2	Entry	1	1	3	38	925	0.041	38	39	0.1	0.0	4.148	A
			2	1, 2, 4	0	925	0.000	0	0	0.0	0.0	0.000	A
	Exit	1	1	(1, 2, 3, 4)	38			38	39	0.0	0.0	0.000	A
			1		23			23	20	0.0	0.0	0.000	A
3	Entry	1	1	1, 4	157	781	0.201	156	149	0.2	0.3	5.646	A
			2	2, 3	23	781	0.029	23	20	0.0	0.0	4.798	A
	Exit	1	1	(1, 2, 3, 4)	180			180	170	0.0	0.0	0.001	A
			1		144			144	145	0.0	0.0	0.000	A
4	Entry	1	1	1	0	948	0.000	0	0	0.0	0.0	0.000	A
			2	2, 3, 4	0	948	0.000	0	0	0.0	0.0	0.000	A
	Exit	1	1	(1, 2, 3, 4)	0			0	0	0.0	0.0	0.000	A
			1		0.86			0.86	1	0.0	0.0	0.000	A

## 17:30 - 17:45

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	2, 3	111	880	0.126	110	109	0.1	0.2	4.814	A
			2	1, 4	0.73	880	0.001	0.73	0.65	0.0	0.0	4.778	A
	Exit	1	1	(1, 2, 3, 4)	111			111	110	0.0	0.0	0.000	A
			1		149			149	149	0.0	0.0	0.000	A
2	Entry	1	1	3	39	924	0.042	39	38	0.0	0.0	3.823	A
			2	1, 2, 4	0	924	0.000	0	0	0.0	0.0	0.000	A
	Exit	1	1	(1, 2, 3, 4)	39			39	38	0.0	0.0	0.000	A
			1		23			23	23	0.0	0.0	0.000	A
3	Entry	1	1	1, 4	151	781	0.193	149	149	0.3	0.3	5.670	A
			2	2, 3	23	781	0.029	23	23	0.0	0.0	4.987	A
	Exit	1	1	(1, 2, 3, 4)	174			174	172	0.0	0.0	0.002	A
			1		149			149	147	0.0	0.0	0.000	A
4	Entry	1	1	1	0	950	0.000	0	0	0.0	0.0	0.000	A
			2	2, 3, 4	0	950	0.000	0	0	0.0	0.0	0.000	A
	Exit	1	1	(1, 2, 3, 4)	0			0	0	0.0	0.0	0.000	A
			1		0.73			0.73	0.65	0.0	0.0	0.000	A

## 17:45 - 18:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	2, 3	87	881	0.099	87	87	0.2	0.1	4.547	A
			2	1, 4	0.24	881	0.000	0.37	0.73	0.0	0.0	3.720	A
	Exit	1	1	(1, 2, 3, 4)	87			87	87	0.0	0.0	0.000	A
			1		122			122	126	0.0	0.0	0.000	A
2	Entry	1	1	3	37	931	0.039	36	33	0.0	0.1	4.507	A
			2	1, 2, 4	0	931	0.000	0	0	0.0	0.0	0.000	A
	Exit	1	1	(1, 2, 3, 4)	37			37	33	0.0	0.0	0.000	A
			1		18			18	18	0.0	0.0	0.000	A
3	Entry	1	1	1, 4	122	781	0.156	122	126	0.3	0.2	5.587	A
			2	2, 3	18	781	0.022	18	18	0.0	0.0	4.862	A
	Exit	1	1	(1, 2, 3, 4)	140			140	143	0.0	0.0	0.001	A
			1		123			123	120	0.0	0.0	0.000	A
4	Entry	1	1	1	0	961	0.000	0	0	0.0	0.0	0.000	A
			2	2, 3, 4	0	961	0.000	0	0	0.0	0.0	0.000	A
	Exit	1	1	(1, 2, 3, 4)	0			0	0	0.0	0.0	0.000	A
			1		0.37			0.37	0.73	0.0	0.0	0.000	A

## 18:00 - 18:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service

1	Entry	1	1	2, 3	72	882	0.082	72	73	0.1	0.1	4.448	A
			2	1, 4	0.61	882	0.001	0.61	1	0.0	0.0	3.512	A
		2	1	(1, 2, 3, 4)	73			73	74	0.0	0.0	0.000	A
	Exit	1	1		97			97	101	0.0	0.0	0.000	A
2	Entry	1	1	3	29	936	0.030	29	27	0.1	0.0	4.294	A
			2	1, 2, 4	0	936	0.000	0	0	0.0	0.0	0.000	A
		2	1	(1, 2, 3, 4)	29			29	27	0.0	0.0	0.000	A
	Exit	1	1		16			16	15	0.0	0.0	0.000	A
3	Entry	1	1	1, 4	96	781	0.123	97	101	0.2	0.2	5.351	A
			2	2, 3	15	781	0.020	16	15	0.0	0.0	4.399	A
		2	1	(1, 2, 3, 4)	112			112	116	0.0	0.0	0.000	A
	Exit	1	1		101			101	100	0.0	0.0	0.000	A
4	Entry	1	1	1	0	970	0.000	0	0	0.0	0.0	0.000	A
			2	2, 3, 4	0	970	0.000	0	0	0.0	0.0	0.000	A
		2	1	(1, 2, 3, 4)	0			0	0	0.0	0.0	0.000	A
	Exit	1	1		0.61			0.61	1	0.0	0.0	0.000	A

### Lane movements: Main Results for each time segment

16:45 - 17:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Simulation max flow (PCU/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	74	18	886	882	0.084	74	75	0.0	0.1	4.477	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0.61	0.15	145	144	0.004	0.61	0.65	0.0	0.0	4.140	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	74	18	-	-	-	74	76	0.0	0.0	0.000	A
				4	0.61	0.15	-	-	-	0.61	0.65	0.0	0.0	0.000	A
2	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	27	7	959	935	0.029	27	28	0.0	0.0	3.855	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	27	7	-	-	-	27	28	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
3	Entry	1	1	1	100	25	781	781	0.128	100	103	0.0	0.2	5.373	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	14	3	773	773	0.018	14	15	0.0	0.0	4.235	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	100	25	-	-	-	100	104	0.0	0.0	0.000	A
				2	14	3	-	-	-	14	15	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A



4	Entry	1	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

## 17:00 - 17:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Simulation max flow (PCU/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	89	22	886	882	0.101	89	86	0.1	0.2	4.527	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0.61	0.15	190	189	0.003	0.61	0.90	0.0	0.0	3.352	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	89	22	-	-	-	89	87	0.0	0.0	0.000	A
				4	0.61	0.15	-	-	-	0.61	0.90	0.0	0.0	0.000	A
2	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	33	8	959	932	0.036	33	30	0.0	0.1	3.953	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	33	8	-	-	-	33	30	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
3	Entry	1	1	1	125	31	781	781	0.160	125	125	0.2	0.2	5.314	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	15	4	765	765	0.020	16	17	0.0	0.0	4.558	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	125	31	-	-	-	125	125	0.0	0.0	0.000	A
				2	15	4	-	-	-	15	17	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
4	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

## 17:15 - 17:30

					Total	Junction	Simulation				Average	Start	End		Unsignalised
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Arm	Side	Lane level	Lane	To Arm	Demand (Veh/hr)	Arrivals (Veh)	max flow (PCU/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	throughput (PCU/hr)	queue (Veh)	queue (Veh)	Delay (s)	level of service
1	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	106	26	886	880	0.120	106	106	0.2	0.1	4.640	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0.73	0.18	208	207	0.004	0.86	1	0.0	0.0	4.733	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	106	26	-	-	-	106	106	0.0	0.0	0.000	A
				4	0.73	0.18	-	-	-	0.73	1	0.0	0.0	0.000	A
2	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	38	9	959	925	0.041	38	39	0.1	0.0	4.148	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	38	9	-	-	-	38	39	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
3	Entry	1	1	1	157	39	781	781	0.201	156	149	0.2	0.3	5.646	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	23	6	781	781	0.029	23	20	0.0	0.0	4.798	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	157	39	-	-	-	157	150	0.0	0.0	0.002	A
				2	23	6	-	-	-	23	20	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
4	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

17:30 - 17:45

Arm	Side	Lane level	Lane	To Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Simulation max flow (PCU/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	111	28	886	879	0.126	110	109	0.1	0.2	4.814	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0.73	0.18	136	134	0.005	0.73	0.65	0.0	0.0	4.778	A
			1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

2	Entry	1	1	2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	111	28	-	-	-	111	110	0.0	0.0	0.000	A
				4	0.73	0.18	-	-	-	0.73	0.65	0.0	0.0	0.000	A
				1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		1	1	2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	39	10	959	924	0.042	39	38	0.0	0.0	3.823	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	2	2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
3	Entry	1	1	2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	39	10	-	-	-	39	38	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	151	38	781	781	0.193	149	149	0.3	0.3	5.670	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		1	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	23	6	773	773	0.030	23	23	0.0	0.0	4.987	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
4	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		1	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

17:45 - 18:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Simulation max flow (PCU/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	87	22	886	881	0.099	87	87	0.2	0.1	4.547	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0.24	0.06	145	144	0.002	0.37	0.73	0.0	0.0	3.720	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	87	22	-	-	-	87	86	0.0	0.0	0.000	A
				4	0.24	0.06	-	-	-	0.24	0.73	0.0	0.0	0.000	A
2	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	37	9	959	932	0.039	36	33	0.0	0.1	4.507	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A



		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	37	9	-	-	-	37	33	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
3	Entry	1	1	1	122	31	781	781	0.156	122	126	0.3	0.2	5.587	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	18	4	773	773	0.023	18	18	0.0	0.0	4.862	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	122	31	-	-	-	122	126	0.0	0.0	0.001	A
				2	18	4	-	-	-	18	17	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
4	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

## 18:00 - 18:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Simulation max flow (PCU/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	72	18	886	882	0.082	72	73	0.1	0.1	4.448	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0.61	0.15	208	207	0.003	0.61	1	0.0	0.0	3.512	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	72	18	-	-	-	72	73	0.0	0.0	0.000	A
				4	0.61	0.15	-	-	-	0.61	1	0.0	0.0	0.000	A
2	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	29	7	959	937	0.030	29	27	0.1	0.0	4.294	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	29	7	-	-	-	29	27	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
3	Entry	1	1	1	96	24	781	781	0.123	97	101	0.2	0.2	5.351	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	15	4	758	757	0.020	16	15	0.0	0.0	4.399	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

4	Entry	2	1	4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				1	96	24	-	-	-	96	101	0.0	0.0	0.000	A
				2	15	4	-	-	-	15	15	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

# 2032 HEP, AM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 4 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Info	Lane Simulation	A1 - [Lane Simulation]	This analysis set uses Lane Simulation mode. For detailed information on this mode, please see the User Guide.

## 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	53.04	F

### Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	53.04	F

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D9	2032 HEP	AM	ONE HOUR	07:45	09:15	15	✓

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

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	328	100.000
2		ONE HOUR	✓	723	100.000
3		ONE HOUR	✓	211	100.000
4		ONE HOUR	✓	452	100.000

## Origin-Destination Data

### Demand (Veh/hr)

	To				
	1	2	3	4	
From	1	0	0	150	178
	2	0	0	18	705
	3	107	46	0	58
	4	75	353	24	0

## Vehicle Mix

### Heavy Vehicle Percentages

	To				
	1	2	3	4	



From	1	0	0	0	0
	2	0	0	0	9
	3	0	0	0	0
	4	0	23	0	0

## Results

### Results Summary for whole modelled period

Arm	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	6.72	0.7	A	303	455
2	113.65	27.3	F	665	998
3	10.47	0.7	B	194	291
4	9.10	1.5	A	414	622

### Main Results for each time segment

#### 07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	254	63	315	253	251	137	0.0	0.4	5.566	A
2	550	138	271	550	588	297	0.0	2.1	13.636	B
3	158	39	675	157	159	147	0.0	0.3	7.483	A
4	337	84	115	337	400	717	0.0	0.7	6.749	A

#### 08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	300	75	378	300	297	166	0.4	0.5	6.107	A
2	649	162	321	658	703	357	2.1	3.8	21.361	C
3	189	47	806	189	188	174	0.3	0.4	8.435	A
4	405	101	138	405	479	857	0.7	0.9	7.517	A

#### 08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	363	91	475	364	366	201	0.5	0.6	6.642	A
2	802	201	391	741	796	448	3.8	19.8	62.459	F
3	236	59	922	235	231	210	0.4	0.7	9.754	A
4	507	127	170	506	584	987	0.9	1.4	9.100	A

#### 08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	363	91	464	363	360	206	0.6	0.7	6.718	A
2	794	198	388	773	836	438	19.8	27.2	113.651	F
3	235	59	948	235	232	213	0.7	0.7	10.469	B
4	499	125	170	500	584	1013	1.4	1.1	8.898	A

#### 08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	294	74	379	294	296	161	0.7	0.5	6.168	A
2	647	162	316	686	785	357	27.2	9.3	79.592	F

3	190	48	830	190	191	172	0.7	0.5	9.284	A
4	402	100	137	403	485	883	1.1	0.9	7.921	A

**09:00 - 09:15**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	245	61	317	246	250	132	0.5	0.3	5.696	A
2	547	137	265	555	624	298	9.3	2.5	23.237	C
3	156	39	674	156	159	146	0.5	0.4	8.050	A
4	336	84	114	336	401	717	0.9	0.7	6.834	A

## Lane Results

*Lane Level notation: Lane Level 1 is always closest to the junction.*

**Lanes: Main Results for each time segment****07:45 - 08:00**

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	2, 3	116	772	0.151	116	115	0.0	0.2	5.456	A
			2	1, 4	138	772	0.178	138	136	0.0	0.2	5.658	A
	Exit	2	1	(1, 2, 3, 4)	254			254	253	0.0	0.0	0.000	A
			1		137			137	137	0.0	0.0	0.000	A
2	Entry	1	1	3	13	873	0.015	13	14	0.0	0.0	4.151	A
			2	1, 2, 4	538	802	0.671	537	574	0.0	2.0	13.078	B
	Exit	2	1	(1, 2, 3, 4)	550			551	597	0.0	0.1	0.760	A
			1		297			297	359	0.0	0.0	0.000	A
3	Entry	1	1	1, 4	124	583	0.212	123	125	0.0	0.3	7.782	A
			2	2, 3	34	583	0.059	34	34	0.0	0.0	6.312	A
	Exit	2	1	(1, 2, 3, 4)	158			158	160	0.0	0.0	0.014	A
			1		147			147	147	0.0	0.0	0.000	A
4	Entry	1	1	1	56	969	0.058	57	57	0.0	0.1	3.883	A
			2	2, 3, 4	281	797	0.353	280	343	0.0	0.6	7.307	A
	Exit	2	1	(1, 2, 3, 4)	337			337	403	0.0	0.0	0.011	A
			1		717			717	754	0.0	0.0	0.000	A

**08:00 - 08:15**

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	2, 3	137	748	0.183	137	135	0.2	0.3	5.902	A
			2	1, 4	163	748	0.217	164	162	0.2	0.3	6.277	A
	Exit	2	1	(1, 2, 3, 4)	300			300	297	0.0	0.0	0.000	A
			1		166			166	163	0.0	0.0	0.000	A
2	Entry	1	1	3	16	858	0.018	16	16	0.0	0.0	4.114	A
			2	1, 2, 4	637	788	0.808	643	687	2.0	3.2	18.667	C
	Exit	2	1	(1, 2, 3, 4)	649			653	708	0.1	0.5	3.012	A
			1		357			357	431	0.0	0.0	0.000	A
3	Entry	1	1	1, 4	147	545	0.269	147	147	0.3	0.3	8.758	A
			2	2, 3	42	545	0.077	42	41	0.0	0.1	7.097	A
	Exit	2	1	(1, 2, 3, 4)	189			189	189	0.0	0.0	0.039	A
			1		174			174	172	0.0	0.0	0.000	A
4	Entry	1	1	1	70	961	0.072	69	68	0.1	0.1	4.096	A
			2	2, 3, 4	335	785	0.427	336	411	0.6	0.8	8.179	A
	Exit	2	1	(1, 2, 3, 4)	405			405	480	0.0	0.0	0.027	A
			1		857			857	901	0.0	0.0	0.000	A

**08:15 - 08:30**

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
			1	2, 3	165	714	0.230	165	168	0.3	0.3	6.421	A

1	Entry	1	2	1, 4	199	714	0.278	199	198	0.3	0.3	6.827	A
		2	1	(1, 2, 3, 4)	363			363	366	0.0	0.0	0.000	A
	Exit	1	1		201			201	197	0.0	0.0	0.000	A
2	Entry	1	1	3	18	836	0.022	18	19	0.0	0.0	4.381	A
		2	1	1, 2, 4	730	765	0.953	723	777	3.2	7.2	30.282	D
		2	1	(1, 2, 3, 4)	802			748	814	0.5	12.5	32.346	D
	Exit	1	1		448			448	526	0.0	0.0	0.000	A
3	Entry	1	1	1, 4	181	510	0.356	181	180	0.3	0.6	10.277	B
		2	1	2, 3	54	510	0.106	54	51	0.1	0.1	7.278	A
		2	1	(1, 2, 3, 4)	236			236	232	0.0	0.0	0.137	A
	Exit	1	1		210			210	214	0.0	0.0	0.000	A
4	Entry	1	1	1	85	951	0.089	85	82	0.1	0.1	4.116	A
		2	1	2, 3, 4	423	782	0.540	421	502	0.8	1.4	10.021	B
		2	1	(1, 2, 3, 4)	507			507	586	0.0	0.0	0.055	A
	Exit	1	1		987			987	1039	0.0	0.0	0.000	A

## 08:30 - 08:45

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	2, 3	168	718	0.234	168	164	0.3	0.3	6.446	A
			2	1, 4	194	718	0.271	195	196	0.3	0.4	6.945	A
		2	1	(1, 2, 3, 4)	363			363	360	0.0	0.0	0.000	A
	Exit	1	1		206			206	200	0.0	0.0	0.000	A
2	Entry	1	1	3	19	837	0.023	19	20	0.0	0.0	4.686	A
			2	1, 2, 4	756	770	0.981	754	817	7.2	7.6	34.982	D
		2	1	(1, 2, 3, 4)	794			775	838	12.5	19.5	79.340	F
	Exit	1	1		438			438	526	0.0	0.0	0.000	A
3	Entry	1	1	1, 4	184	503	0.366	185	181	0.6	0.6	10.882	B
			2	2, 3	50	503	0.099	50	51	0.1	0.1	8.067	A
		2	1	(1, 2, 3, 4)	235			234	232	0.0	0.0	0.203	A
	Exit	1	1		213			213	210	0.0	0.0	0.000	A
4	Entry	1	1	1	86	951	0.090	86	83	0.1	0.1	4.163	A
			2	2, 3, 4	413	783	0.527	414	501	1.4	1.0	9.773	A
		2	1	(1, 2, 3, 4)	499			499	583	0.0	0.0	0.070	A
	Exit	1	1		1013			1013	1077	0.0	0.0	0.000	A

## 08:45 - 09:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	2, 3	135	748	0.180	135	138	0.3	0.2	6.061	A
			2	1, 4	159	748	0.213	159	158	0.4	0.3	6.261	A
		2	1	(1, 2, 3, 4)	294			294	295	0.0	0.0	0.000	A
	Exit	1	1		161			161	163	0.0	0.0	0.000	A
2	Entry	1	1	3	15	859	0.018	15	17	0.0	0.0	4.598	A
			2	1, 2, 4	665	787	0.844	671	768	7.6	4.3	28.694	D
		2	1	(1, 2, 3, 4)	647			680	771	19.5	5.0	52.367	F
	Exit	1	1		357			357	437	0.0	0.0	0.000	A
3	Entry	1	1	1, 4	149	537	0.278	150	149	0.6	0.4	9.710	A
			2	2, 3	41	537	0.076	41	42	0.1	0.1	7.625	A
		2	1	(1, 2, 3, 4)	190			190	190	0.0	0.0	0.041	A
	Exit	1	1		172			172	178	0.0	0.0	0.000	A
4	Entry	1	1	1	65	962	0.067	65	66	0.1	0.1	3.998	A
			2	2, 3, 4	337	787	0.428	338	418	1.0	0.8	8.629	A
		2	1	(1, 2, 3, 4)	402			402	483	0.0	0.0	0.040	A
	Exit	1	1		883			883	979	0.0	0.0	0.000	A

## 09:00 - 09:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	2, 3	113	771	0.146	113	114	0.2	0.1	5.468	A
			2	1, 4	132	771	0.172	133	137	0.3	0.2	5.886	A
		2	1	(1, 2, 3, 4)	245			245	250	0.0	0.0	0.000	A



	Exit	1	1		132			132	136	0.0	0.0	0.000	A
2	Entry	1	1	3	14	875	0.016	14	14	0.0	0.0	4.192	A
			2	1, 2, 4	538	806	0.669	542	611	4.3	2.2	16.778	C
		2	1	(1, 2, 3, 4)	547			552	616	5.0	0.2	7.426	A
	Exit	1	1		298			298	361	0.0	0.0	0.000	A
3	Entry	1	1	1, 4	122	583	0.209	122	124	0.4	0.3	8.330	A
			2	2, 3	34	583	0.058	35	35	0.1	0.1	7.000	A
		2	1	(1, 2, 3, 4)	156			156	158	0.0	0.0	0.018	A
	Exit	1	1		146			146	146	0.0	0.0	0.000	A
4	Entry	1	1	1	53	969	0.055	53	57	0.1	0.1	4.080	A
			2	2, 3, 4	283	798	0.355	283	344	0.8	0.6	7.386	A
		2	1	(1, 2, 3, 4)	336			336	400	0.0	0.0	0.007	A
	Exit	1	1		717			717	791	0.0	0.0	0.000	A

### Lane movements: Main Results for each time segment

07:45 - 08:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Simulation max flow (PCU/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	116	29	886	772	0.151	116	115	0.0	0.2	5.456	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	138	34	886	772	0.178	138	136	0.0	0.2	5.658	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	116	29	-	-	-	116	116	0.0	0.0	0.000	A
				4	138	34	-	-	-	138	137	0.0	0.0	0.000	A
2	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	13	3	940	857	0.015	13	14	0.0	0.0	4.151	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	538	134	959	802	0.672	537	574	0.0	2.0	13.078	B
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	13	3	-	-	-	13	14	0.0	0.0	0.520	A
				4	537	134	-	-	-	538	583	0.0	0.1	0.766	A
3	Entry	1	1	1	81	20	781	584	0.139	80	81	0.0	0.2	7.687	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	43	11	781	584	0.073	43	44	0.0	0.1	7.953	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	34	9	781	582	0.059	34	34	0.0	0.0	6.312	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	81	20	-	-	-	81	81	0.0	0.0	0.020	A
				2	34	9	-	-	-	34	34	0.0	0.0	0.006	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	43	11	-	-	-	43	45	0.0	0.0	0.011	A
4	Entry	1	1	1	56	14	1006	969	0.058	57	57	0.0	0.1	3.883	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	263	66	1006	787	0.334	263	325	0.0	0.6	7.358	A
				3	18	4	998	961	0.019	18	18	0.0	0.0	6.550	A

				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				1	56	14	-	-	-	56	57	0.0	0.0	0.004	A
				2	263	66	-	-	-	263	328	0.0	0.0	0.010	A
				3	18	4	-	-	-	18	18	0.0	0.0	0.037	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

## 08:00 - 08:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Simulation max flow (PCU/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	137	34	886	748	0.184	137	135	0.2	0.3	5.902	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	163	41	886	748	0.217	164	162	0.2	0.3	6.277	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	137	34	-	-	-	137	135	0.0	0.0	0.000	A
				4	163	41	-	-	-	163	163	0.0	0.0	0.000	A
2	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	16	4	951	854	0.018	16	16	0.0	0.0	4.114	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	637	159	959	788	0.808	643	687	2.0	3.2	18.667	C
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	15	4	-	-	-	16	16	0.0	0.0	3.490	A
				4	633	158	-	-	-	637	692	0.1	0.5	3.000	A
3	Entry	1	1	1	96	24	781	545	0.177	96	95	0.3	0.2	8.858	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	50	13	781	546	0.092	51	52	0.3	0.1	8.574	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	42	10	781	547	0.077	42	41	0.0	0.1	7.097	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	96	24	-	-	-	96	95	0.0	0.0	0.045	A
				2	42	10	-	-	-	42	42	0.0	0.0	0.006	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	50	13	-	-	-	50	52	0.0	0.0	0.055	A
4	Entry	1	1	1	70	17	1006	962	0.072	69	68	0.1	0.1	4.096	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	314	79	1006	775	0.405	315	389	0.6	0.8	8.231	A
				3	21	5	1002	958	0.022	21	21	0.6	0.0	7.412	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	70	17	-	-	-	70	68	0.0	0.0	0.014	A
				2	314	79	-	-	-	314	390	0.0	0.0	0.028	A
				3	21	5	-	-	-	21	21	0.0	0.0	0.052	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

## 08:15 - 08:30

Arm	Side	Lane level	Lane	To Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Simulation max flow (PCU/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
				1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

1	Entry	1	1	2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	165	41	886	714	0.230	165	168	0.3	0.3	6.421	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	2	2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	199	50	886	715	0.278	199	198	0.3	0.3	6.827	A
				1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	165	41	-	-	-	165	168	0.0	0.0	0.001	A
				4	199	50	-	-	-	199	198	0.0	0.0	0.000	A
				1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
2	Entry	1	1	2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	18	5	951	830	0.022	18	19	0.0	0.0	4.381	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	730	182	959	765	0.953	723	777	3.2	7.2	30.282	D
				1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	19	5	-	-	-	18	19	0.5	0.3	32.494	D
				4	783	196	-	-	-	730	795	0.5	12.2	32.342	D
				1	116	29	781	509	0.228	116	116	0.3	0.3	10.298	B
3	Entry	1	1	2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	65	16	781	510	0.128	65	64	0.3	0.2	10.237	B
				1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	2	54	14	781	509	0.106	54	51	0.1	0.1	7.278	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				1	116	29	-	-	-	116	116	0.0	0.0	0.154	A
		2	1	2	54	14	-	-	-	54	51	0.0	0.0	0.092	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	65	16	-	-	-	65	65	0.0	0.0	0.141	A
				1	85	21	1006	951	0.089	85	82	0.1	0.1	4.116	A
4	Entry	1	1	2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	2	396	99	1006	773	0.512	394	474	0.8	1.3	10.096	B
				3	27	7	1006	951	0.028	27	27	0.8	0.1	8.963	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				1	85	21	-	-	-	85	82	0.0	0.0	0.030	A
		2	1	2	395	99	-	-	-	396	477	0.0	0.0	0.060	A
				3	27	7	-	-	-	27	27	0.0	0.0	0.048	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

08:30 - 08:45

Arm	Side	Lane level	Lane	To Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Simulation max flow (PCU/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	168	42	886	718	0.234	168	164	0.3	0.3	6.446	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	194	49	886	719	0.271	195	196	0.3	0.4	6.945	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	168	42	-	-	-	168	165	0.0	0.0	0.000	A
				4	194	49	-	-	-	194	196	0.0	0.0	0.000	A



2	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	19	5	947	829	0.023	19	20	0.0	0.0	4.686	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	756	189	959	770	0.982	754	817	7.2	7.6	34.982	D
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	19	5	-	-	-	19	19	12.5	0.4	72.388	F
				4	775	194	-	-	-	756	818	12.5	19.1	79.517	F
3	Entry	1	1	1	119	30	781	504	0.237	120	117	0.6	0.3	10.934	B
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	65	16	781	503	0.129	65	64	0.6	0.2	10.789	B
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	50	12	781	502	0.099	50	51	0.1	0.1	8.067	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	120	30	-	-	-	119	117	0.0	0.0	0.274	A
				2	50	12	-	-	-	50	51	0.0	0.0	0.093	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	65	16	-	-	-	65	64	0.0	0.0	0.161	A
4	Entry	1	1	1	86	21	1006	951	0.090	86	83	0.1	0.1	4.163	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	388	97	1006	774	0.501	389	475	1.4	1.0	9.814	A
				3	25	6	1006	951	0.026	25	26	1.4	0.1	9.166	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	86	21	-	-	-	86	83	0.0	0.0	0.056	A
				2	388	97	-	-	-	388	474	0.0	0.0	0.072	A
				3	25	6	-	-	-	25	26	0.0	0.0	0.089	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

08:45 - 09:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Simulation max flow (PCU/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	135	34	886	748	0.180	135	138	0.3	0.2	6.061	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	159	40	886	748	0.213	159	158	0.4	0.3	6.261	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	135	34	-	-	-	135	137	0.0	0.0	0.000	A
				4	159	40	-	-	-	159	158	0.0	0.0	0.000	A
2	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	15	4	951	854	0.018	15	17	0.0	0.0	4.598	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	665	166	959	787	0.844	671	768	7.6	4.3	28.694	D
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	15	4	-	-	-	15	17	19.5	0.1	57.460	F

				4	633	158	-	-	-	665	753	19.5	4.9	52.235	F
3	Entry	1	1	1	97	24	781	535	0.181	96	96	0.6	0.3	9.714	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	53	13	781	535	0.098	53	53	0.6	0.1	9.703	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	41	10	781	534	0.076	41	42	0.1	0.1	7.625	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	97	24	-	-	-	97	96	0.0	0.0	0.048	A
				2	41	10	-	-	-	41	42	0.0	0.0	0.010	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	53	13	-	-	-	53	52	0.0	0.0	0.052	A
4	Entry	1	1	1	65	16	1006	962	0.067	65	66	0.1	0.1	3.998	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	315	79	1006	777	0.405	316	395	1.0	0.7	8.691	A
				3	22	6	1002	958	0.023	22	23	1.0	0.0	7.769	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	65	16	-	-	-	65	66	0.0	0.0	0.026	A
				2	315	79	-	-	-	315	394	0.0	0.0	0.043	A
				3	22	6	-	-	-	22	23	0.0	0.0	0.030	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

09:00 - 09:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Simulation max flow (PCU/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	113	28	886	772	0.146	113	114	0.2	0.1	5.468	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	132	33	886	771	0.172	133	137	0.3	0.2	5.886	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	113	28	-	-	-	113	113	0.0	0.0	0.000	A
				4	132	33	-	-	-	132	136	0.0	0.0	0.001	A
2	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	14	3	947	863	0.016	14	14	0.0	0.0	4.192	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	538	135	959	806	0.669	542	611	4.3	2.2	16.778	C
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	14	3	-	-	-	14	14	5.0	0.0	7.677	A
				4	533	133	-	-	-	538	602	5.0	0.2	7.420	A
3	Entry	1	1	1	79	20	781	584	0.136	79	80	0.4	0.2	8.315	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	43	11	781	583	0.073	43	44	0.4	0.1	8.358	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	34	8	781	583	0.058	35	35	0.1	0.1	7.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	80	20	-	-	-	79	80	0.0	0.0	0.030	A
				2	34	8	-	-	-	34	35	0.0	0.0	0.000	A

				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	43	11	-	-	-	43	44	0.0	0.0	0.013	A
4	Entry	1	1	1	53	13	1006	969	0.055	53	57	0.1	0.1	4.080	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	264	66	1006	788	0.336	264	326	0.8	0.6	7.445	A
				3	19	5	987	950	0.020	19	18	0.8	0.0	6.542	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	53	13	-	-	-	53	56	0.0	0.0	0.002	A
				2	264	66	-	-	-	264	325	0.0	0.0	0.009	A
				3	19	5	-	-	-	19	18	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A



# 2032 HEP, PM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 4 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Info	Lane Simulation	A1 - [Lane Simulation]	This analysis set uses Lane Simulation mode. For detailed information on this mode, please see the User Guide.

## 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	14.37	B

### Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	14.37	B

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D10	2032 HEP	PM	ONE HOUR	16:45	18:15	15	✓

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

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	179	100.000
2		ONE HOUR	✓	312	100.000
3		ONE HOUR	✓	204	100.000
4		ONE HOUR	✓	850	100.000

## Origin-Destination Data

### Demand (Veh/hr)

	To				
	1	2	3	4	
From	1	0	0	114	65
	2	0	0	40	272
	3	161	22	0	21
	4	166	630	54	0

## Vehicle Mix

### Heavy Vehicle Percentages

	To				
	1	2	3	4	

From	1	0	0	0	0
	2	0	0	0	14
	3	0	0	0	0
	4	0	5	0	0

## Results

### Results Summary for whole modelled period

Arm	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	6.66	0.3	A	164	246
2	7.37	0.6	A	288	433
3	7.36	0.5	A	188	282
4	20.37	6.0	C	780	1170

### Main Results for each time segment

#### 16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	139	35	533	140	136	239	0.0	0.2	5.761	A
2	242	60	181	242	266	492	0.0	0.4	5.973	A
3	151	38	260	152	152	162	0.0	0.3	6.343	A
4	638	159	134	638	664	278	0.0	1.4	8.340	A

#### 17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	164	41	630	164	161	301	0.2	0.3	6.043	A
2	278	70	214	277	313	581	0.4	0.5	6.790	A
3	182	46	302	181	182	189	0.3	0.3	6.481	A
4	761	190	164	767	792	319	1.4	2.0	10.642	B

#### 17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	197	49	771	198	198	364	0.3	0.3	6.376	A
2	344	86	258	346	387	712	0.5	0.6	7.368	A
3	229	57	365	227	226	239	0.3	0.5	7.359	A
4	945	236	206	930	953	387	2.0	5.7	17.977	C

#### 17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	195	49	770	196	198	353	0.3	0.3	6.664	A
2	348	87	254	351	391	712	0.6	0.5	7.362	A
3	219	55	376	220	222	229	0.5	0.4	7.214	A
4	932	233	198	925	967	398	5.7	6.0	20.367	C

#### 17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	163	41	641	163	162	292	0.3	0.2	6.181	A
2	281	70	213	282	317	592	0.5	0.5	6.454	A

3	181	45	310	182	184	185	0.4	0.4	7.168	A
4	762	190	165	768	805	327	6.0	1.9	11.261	B

**18:00 - 18:15**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	127	32	530	126	132	258	0.2	0.3	5.519	A
2	239	60	168	238	265	489	0.5	0.5	5.860	A
3	163	41	252	163	157	154	0.4	0.3	6.441	A
4	644	161	145	644	672	270	1.9	1.4	8.420	A

## Lane Results

Lane Level notation: Lane Level 1 is always closest to the junction.

**Lanes: Main Results for each time segment****16:45 - 17:00**

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	2, 3	87	718	0.122	88	86	0.0	0.1	5.892	A
			2	1, 4	52	718	0.072	52	50	0.0	0.1	5.532	A
	Exit	2	1	(1, 2, 3, 4)	139			139	137	0.0	0.0	0.000	A
			1		239			239	246	0.0	0.0	0.000	A
2	Entry	1	1	3	34	902	0.037	33	32	0.0	0.1	4.516	A
			2	1, 2, 4	208	800	0.260	209	234	0.0	0.3	6.201	A
	Exit	2	1	(1, 2, 3, 4)	242			242	268	0.0	0.0	0.000	A
			1		492			492	512	0.0	0.0	0.000	A
3	Entry	1	1	1, 4	136	703	0.193	136	136	0.0	0.2	6.509	A
			2	2, 3	15	703	0.022	15	16	0.0	0.0	4.841	A
	Exit	2	1	(1, 2, 3, 4)	151			151	153	0.0	0.0	0.012	A
			1		162			162	161	0.0	0.0	0.000	A
4	Entry	1	1	1	119	963	0.124	120	126	0.0	0.1	4.348	A
			2	2, 3, 4	519	924	0.562	518	538	0.0	1.3	9.162	A
	Exit	2	1	(1, 2, 3, 4)	638			638	670	0.0	0.0	0.114	A
			1		278			278	299	0.0	0.0	0.000	A

**17:00 - 17:15**

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	2, 3	105	686	0.154	105	102	0.1	0.2	6.395	A
			2	1, 4	59	686	0.086	59	59	0.1	0.0	5.428	A
	Exit	2	1	(1, 2, 3, 4)	164			164	161	0.0	0.0	0.000	A
			1		301			301	296	0.0	0.0	0.000	A
2	Entry	1	1	3	35	891	0.039	35	37	0.1	0.0	4.062	A
			2	1, 2, 4	244	774	0.316	243	275	0.3	0.5	7.206	A
	Exit	2	1	(1, 2, 3, 4)	278			278	314	0.0	0.0	0.003	A
			1		581			581	611	0.0	0.0	0.000	A
3	Entry	1	1	1, 4	165	689	0.239	164	163	0.2	0.3	6.613	A
			2	2, 3	17	689	0.025	17	19	0.0	0.0	5.099	A
	Exit	2	1	(1, 2, 3, 4)	182			182	183	0.0	0.0	0.026	A
			1		189			189	189	0.0	0.0	0.000	A
4	Entry	1	1	1	154	953	0.162	155	151	0.1	0.1	4.527	A
			2	2, 3, 4	607	910	0.666	613	641	1.3	1.8	11.817	B
	Exit	2	1	(1, 2, 3, 4)	761			760	794	0.0	0.1	0.259	A
			1		319			319	353	0.0	0.0	0.000	A

**17:15 - 17:30**

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
			1	2, 3	128	642	0.200	130	128	0.2	0.2	6.475	A



1	Entry	1	2	1, 4	68	642	0.106	68	69	0.0	0.2	6.194	A
		2	1	(1, 2, 3, 4)	197			197	198	0.0	0.0	0.000	A
	Exit	1	1		364			364	358	0.0	0.0	0.000	A
2	Entry	1	1	3	49	878	0.056	49	46	0.0	0.1	4.354	A
			2	1, 2, 4	294	766	0.385	297	340	0.5	0.5	7.830	A
		2	1	(1, 2, 3, 4)	344			344	387	0.0	0.0	0.008	A
	Exit	1	1		712			712	741	0.0	0.0	0.000	A
3	Entry	1	1	1, 4	206	669	0.307	204	203	0.3	0.5	7.503	A
			2	2, 3	23	669	0.035	24	23	0.0	0.0	5.564	A
		2	1	(1, 2, 3, 4)	229			229	227	0.0	0.0	0.051	A
	Exit	1	1		239			239	232	0.0	0.0	0.000	A
4	Entry	1	1	1	183	939	0.194	182	178	0.1	0.3	4.953	A
			2	2, 3, 4	764	901	0.847	747	775	1.8	4.7	17.822	C
		2	1	(1, 2, 3, 4)	945			946	966	0.1	0.7	2.588	A
	Exit	1	1		387			387	434	0.0	0.0	0.000	A

## 17:30 - 17:45

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	2, 3	126	642	0.196	126	126	0.2	0.2	7.023	A
			2	1, 4	70	642	0.109	70	72	0.2	0.1	6.037	A
		2	1	(1, 2, 3, 4)	195			195	198	0.0	0.0	0.000	A
	Exit	1	1		353			353	358	0.0	0.0	0.000	A
2	Entry	1	1	3	45	879	0.052	46	46	0.1	0.1	4.536	A
			2	1, 2, 4	302	773	0.390	305	345	0.5	0.5	7.773	A
		2	1	(1, 2, 3, 4)	348			348	391	0.0	0.0	0.010	A
	Exit	1	1		712			712	749	0.0	0.0	0.000	A
3	Entry	1	1	1, 4	194	667	0.291	194	198	0.5	0.4	7.398	A
			2	2, 3	25	667	0.038	26	24	0.0	0.0	5.575	A
		2	1	(1, 2, 3, 4)	219			219	222	0.0	0.0	0.017	A
	Exit	1	1		229			229	230	0.0	0.0	0.000	A
4	Entry	1	1	1	180	942	0.192	180	183	0.3	0.2	4.917	A
			2	2, 3, 4	745	902	0.825	745	784	4.7	4.3	19.408	C
		2	1	(1, 2, 3, 4)	932			925	965	0.7	1.5	3.771	A
	Exit	1	1		398			398	441	0.0	0.0	0.000	A

## 17:45 - 18:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	2, 3	99	682	0.146	101	103	0.2	0.1	6.401	A
			2	1, 4	63	682	0.093	63	60	0.1	0.1	5.805	A
		2	1	(1, 2, 3, 4)	163			163	162	0.0	0.0	0.000	A
	Exit	1	1		292			292	298	0.0	0.0	0.000	A
2	Entry	1	1	3	35	892	0.040	35	34	0.1	0.1	4.265	A
			2	1, 2, 4	245	783	0.314	247	282	0.5	0.4	6.757	A
		2	1	(1, 2, 3, 4)	281			281	317	0.0	0.0	0.000	A
	Exit	1	1		592			592	624	0.0	0.0	0.000	A
3	Entry	1	1	1, 4	161	687	0.235	162	164	0.4	0.3	7.252	A
			2	2, 3	20	687	0.029	20	20	0.0	0.0	6.003	A
		2	1	(1, 2, 3, 4)	181			181	184	0.0	0.0	0.054	A
	Exit	1	1		185			185	186	0.0	0.0	0.000	A
4	Entry	1	1	1	147	953	0.154	147	152	0.2	0.2	4.558	A
			2	2, 3, 4	615	908	0.677	621	653	4.3	1.7	12.237	B
		2	1	(1, 2, 3, 4)	762			762	794	1.5	0.1	0.680	A
	Exit	1	1		327			327	360	0.0	0.0	0.000	A

## 18:00 - 18:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	2, 3	80	718	0.112	80	84	0.1	0.1	5.774	A
			2	1, 4	47	718	0.065	46	48	0.1	0.1	5.075	A
		2	1	(1, 2, 3, 4)	127			127	132	0.0	0.0	0.000	A

	Exit	1	1		258			258	250	0.0	0.0	0.000	A
2	Entry	1	1	3	32	906	0.035	32	31	0.1	0.0	3.820	A
			2	1, 2, 4	207	794	0.261	206	235	0.4	0.4	6.164	A
		2	1	(1, 2, 3, 4)	239			239	265	0.0	0.0	0.000	A
	Exit	1	1		489			489	522	0.0	0.0	0.000	A
3	Entry	1	1	1, 4	147	704	0.208	147	140	0.3	0.3	6.530	A
			2	2, 3	16	704	0.023	17	17	0.0	0.0	5.426	A
		2	1	(1, 2, 3, 4)	163			163	157	0.0	0.0	0.031	A
	Exit	1	1		154			154	155	0.0	0.0	0.000	A
4	Entry	1	1	1	131	959	0.137	130	126	0.2	0.2	4.425	A
			2	2, 3, 4	514	915	0.560	514	546	1.7	1.3	9.298	A
		2	1	(1, 2, 3, 4)	644			645	671	0.1	0.0	0.087	A
	Exit	1	1		270			270	299	0.0	0.0	0.000	A

### Lane movements: Main Results for each time segment

16:45 - 17:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Simulation max flow (PCU/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	87	22	886	715	0.122	88	86	0.0	0.1	5.892	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	52	13	886	716	0.072	52	50	0.0	0.1	5.532	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	87	22	-	-	-	87	87	0.0	0.0	0.000	A
				4	52	13	-	-	-	52	50	0.0	0.0	0.000	A
2	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	34	8	959	903	0.037	33	32	0.0	0.1	4.516	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	208	52	959	800	0.260	209	234	0.0	0.3	6.201	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	34	8	-	-	-	34	33	0.0	0.0	0.000	A
				4	208	52	-	-	-	208	236	0.0	0.0	0.000	A
3	Entry	1	1	1	118	30	781	703	0.168	119	120	0.0	0.2	6.509	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	17	4	754	679	0.026	17	15	0.0	0.0	6.510	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	15	4	760	688	0.022	15	16	0.0	0.0	4.841	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	118	30	-	-	-	118	121	0.0	0.0	0.012	A
				2	15	4	-	-	-	15	16	0.0	0.0	0.026	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	17	4	-	-	-	17	15	0.0	0.0	0.000	A
4	Entry	1	1	1	119	30	1006	962	0.124	120	126	0.0	0.1	4.348	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	478	120	1006	921	0.520	477	496	0.0	1.2	9.129	A
				3	40	10	1006	961	0.042	41	42	0.0	0.1	9.526	A

				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	119	30	-	-	-	119	126	0.0	0.0	0.087	A
				2	478	120	-	-	-	478	501	0.0	0.0	0.124	A
				3	40	10	-	-	-	40	43	0.0	0.0	0.088	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

## 17:00 - 17:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Simulation max flow (PCU/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	105	26	886	687	0.153	105	102	0.1	0.2	6.395	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	59	15	886	686	0.086	59	59	0.1	0.0	5.428	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	105	26	-	-	-	105	103	0.0	0.0	0.000	A
				4	59	15	-	-	-	59	59	0.0	0.0	0.000	A
2	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	35	9	950	883	0.039	35	37	0.1	0.0	4.062	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	244	61	959	773	0.316	243	275	0.3	0.5	7.206	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	35	9	-	-	-	35	37	0.0	0.0	0.003	A
				4	244	61	-	-	-	244	277	0.0	0.0	0.003	A
3	Entry	1	1	1	147	37	781	688	0.214	146	145	0.2	0.3	6.537	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	18	4	760	672	0.026	18	18	0.2	0.0	7.206	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	17	4	781	690	0.025	17	19	0.0	0.0	5.099	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	147	37	-	-	-	147	145	0.0	0.0	0.031	A
				2	17	4	-	-	-	17	19	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	18	4	-	-	-	18	19	0.0	0.0	0.021	A
4	Entry	1	1	1	154	38	1006	953	0.162	155	151	0.1	0.1	4.527	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	557	139	1006	907	0.614	563	592	1.3	1.6	11.807	B
				3	50	12	1006	953	0.052	50	49	1.3	0.2	11.937	B
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	154	39	-	-	-	154	151	0.0	0.0	0.210	A
				2	557	139	-	-	-	557	593	0.0	0.1	0.279	A
				3	50	12	-	-	-	50	49	0.0	0.0	0.173	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

## 17:15 - 17:30

Arm	Side	Lane level	Lane	To Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Simulation max flow (PCU/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
				1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A



1	Entry	1	1	2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	128	32	886	639	0.201	130	128	0.2	0.2	6.475	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	2	2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	68	17	886	642	0.106	68	69	0.0	0.2	6.194	A
				1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	128	32	-	-	-	128	128	0.0	0.0	0.000	A
				4	68	17	-	-	-	68	70	0.0	0.0	0.000	A
				1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
2	Entry	1	1	2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	49	12	959	877	0.056	49	46	0.0	0.1	4.354	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	294	74	959	765	0.385	297	340	0.5	0.5	7.830	A
				1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	49	12	-	-	-	49	47	0.0	0.0	0.000	A
				4	294	74	-	-	-	294	340	0.0	0.0	0.009	A
				1	183	46	781	669	0.274	182	179	0.3	0.5	7.532	A
3	Entry	1	1	2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	22	6	781	669	0.033	22	24	0.3	0.1	7.291	A
				1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	2	23	6	774	662	0.035	24	23	0.0	0.0	5.564	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				1	184	46	-	-	-	183	180	0.0	0.0	0.060	A
		2	1	2	23	6	-	-	-	23	23	0.0	0.0	0.006	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	22	6	-	-	-	22	24	0.0	0.0	0.023	A
				1	183	46	1006	940	0.194	182	178	0.1	0.3	4.953	A
4	Entry	1	1	2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	2	702	176	1006	898	0.782	688	718	1.8	4.3	17.817	C
				3	61	15	1006	938	0.065	60	57	1.8	0.4	17.875	C
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				1	182	45	-	-	-	183	179	0.1	0.1	2.476	A
		2	1	2	702	175	-	-	-	702	729	0.1	0.6	2.613	A
				3	61	15	-	-	-	61	58	0.1	0.0	2.633	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

17:30 - 17:45

Arm	Side	Lane level	Lane	To Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Simulation max flow (PCU/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	126	31	886	642	0.196	126	126	0.2	0.2	7.023	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	70	17	886	641	0.109	70	72	0.2	0.1	6.037	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	126	31	-	-	-	126	126	0.0	0.0	0.000	A
				4	70	17	-	-	-	70	72	0.0	0.0	0.000	A

2	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	45	11	959	876	0.052	46	46	0.1	0.1	4.536	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	302	76	959	772	0.390	305	345	0.5	0.5	7.773	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	45	11	-	-	-	45	45	0.0	0.0	0.004	A
				4	302	76	-	-	-	302	345	0.0	0.0	0.011	A
3	Entry	1	1	1	172	43	781	666	0.258	172	175	0.5	0.4	7.395	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	22	5	774	660	0.033	22	23	0.5	0.0	7.423	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	25	6	781	665	0.038	26	24	0.0	0.0	5.575	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	172	43	-	-	-	172	174	0.0	0.0	0.019	A
				2	25	6	-	-	-	25	24	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	22	5	-	-	-	22	23	0.0	0.0	0.018	A
4	Entry	1	1	1	180	45	1006	942	0.192	180	183	0.3	0.2	4.917	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	687	172	1006	898	0.764	687	725	4.7	4.0	19.433	C
				3	58	14	1006	943	0.061	58	59	4.7	0.3	19.109	C
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	183	46	-	-	-	180	183	0.7	0.4	3.575	A
				2	692	173	-	-	-	687	723	0.7	1.0	3.803	A
				3	57	14	-	-	-	58	58	0.7	0.1	4.001	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

## 17:45 - 18:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Simulation max flow (PCU/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	99	25	886	683	0.145	101	103	0.2	0.1	6.401	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	63	16	886	684	0.092	63	60	0.1	0.1	5.805	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	99	25	-	-	-	99	102	0.0	0.0	0.000	A
				4	63	16	-	-	-	63	60	0.0	0.0	0.000	A
2	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	35	9	959	891	0.040	35	34	0.1	0.1	4.265	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	245	61	959	783	0.314	247	282	0.5	0.4	6.757	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	35	9	-	-	-	35	34	0.0	0.0	0.000	A

				4	245	61	-	-	-	245	282	0.0	0.0	0.000	A
3	Entry	1	1	1	144	36	781	686	0.210	145	146	0.4	0.3	7.255	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	17	4	774	680	0.026	17	18	0.4	0.1	7.232	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	20	5	767	675	0.030	20	20	0.0	0.0	6.003	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	144	36	-	-	-	144	146	0.0	0.0	0.055	A
				2	20	5	-	-	-	20	20	0.0	0.0	0.028	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	17	4	-	-	-	17	18	0.0	0.0	0.082	A
4	Entry	1	1	1	147	37	1006	952	0.155	147	152	0.2	0.2	4.558	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	567	142	1006	904	0.627	572	604	4.3	1.6	12.246	B
				3	48	12	1006	952	0.051	49	49	4.3	0.1	12.131	B
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	147	37	-	-	-	147	152	1.5	0.0	0.573	A
				2	566	142	-	-	-	567	594	1.5	0.1	0.686	A
				3	48	12	-	-	-	48	48	1.5	0.0	0.949	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

## 18:00 - 18:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Simulation max flow (PCU/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	80	20	886	716	0.112	80	84	0.1	0.1	5.774	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	47	12	886	715	0.066	46	48	0.1	0.1	5.075	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	80	20	-	-	-	80	84	0.0	0.0	0.000	A
				4	47	12	-	-	-	47	48	0.0	0.0	0.000	A
2	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	32	8	959	905	0.035	32	31	0.1	0.0	3.820	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	207	52	959	793	0.261	206	235	0.4	0.4	6.164	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	32	8	-	-	-	32	31	0.0	0.0	0.000	A
				4	207	52	-	-	-	207	235	0.0	0.0	0.000	A
3	Entry	1	1	1	128	32	781	704	0.182	128	123	0.3	0.3	6.488	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	18	5	767	691	0.026	18	17	0.3	0.0	6.846	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	16	4	781	704	0.023	17	17	0.0	0.0	5.426	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	128	32	-	-	-	128	123	0.0	0.0	0.032	A
				2	16	4	-	-	-	16	17	0.0	0.0	0.000	A



				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	18	5	-	-	-	18	17	0.0	0.0	0.055	A
4	Entry	1	1	1	131	33	1006	960	0.137	130	126	0.2	0.2	4.425	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	472	118	1006	912	0.516	472	505	1.7	1.1	9.267	A
				3	42	10	1006	960	0.044	42	41	1.7	0.1	9.658	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	131	33	-	-	-	131	127	0.1	0.0	0.080	A
				2	472	118	-	-	-	472	503	0.1	0.0	0.086	A
				3	42	10	-	-	-	42	41	0.0	0.0	0.117	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

# 2032 Gravity Core, AM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 4 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Info	Lane Simulation	A1 - [Lane Simulation]	This analysis set uses Lane Simulation mode. For detailed information on this mode, please see the User Guide.

## 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	6.78	A

### Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	6.78	A

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D11	2032 Gravity Core	AM	ONE HOUR	07:45	09:15	15	✓

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

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	226	100.000
2		ONE HOUR	✓	364	100.000
3		ONE HOUR	✓	168	100.000
4		ONE HOUR	✓	319	100.000

## Origin-Destination Data

### Demand (Veh/hr)

	To				
	1	2	3	4	
From	1	0	0	150	76
	2	0	0	18	346
	3	107	46	0	15
	4	44	263	12	0

## Vehicle Mix

### Heavy Vehicle Percentages

To				

From		1	2	3	4
	1	0	0	0	0
	2	0	0	0	5
	3	0	0	0	0
	4	0	7	0	0

## Results

### Results Summary for whole modelled period

Arm	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	5.70	0.4	A	209	313
2	8.07	1.0	A	334	501
3	7.08	0.4	A	160	239
4	5.92	0.8	A	298	447

### Main Results for each time segment

#### 07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	172	43	242	172	173	115	0.0	0.3	5.044	A
2	266	66	182	266	295	232	0.0	0.4	5.714	A
3	125	31	312	125	128	136	0.0	0.3	5.886	A
4	243	61	113	244	255	324	0.0	0.3	5.055	A

#### 08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	222	56	305	221	210	143	0.3	0.4	5.352	A
2	318	79	234	316	340	293	0.4	0.7	6.669	A
3	156	39	372	157	151	177	0.3	0.2	6.177	A
4	303	76	144	304	306	385	0.3	0.4	5.690	A

#### 08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	251	63	364	252	244	181	0.4	0.4	5.596	A
2	408	102	264	404	431	352	0.7	1.0	7.896	A
3	203	51	467	204	189	200	0.2	0.4	7.083	A
4	359	90	186	358	371	485	0.4	0.6	5.916	A

#### 08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	247	62	347	249	243	176	0.4	0.3	5.695	A
2	401	100	262	401	425	334	1.0	0.8	8.066	A
3	189	47	463	190	190	200	0.4	0.2	6.930	A
4	349	87	174	349	366	479	0.6	0.7	5.915	A

#### 08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	193	48	299	192	200	144	0.3	0.4	5.322	A



2	337	84	204	338	348	288	0.8	0.5	6.616	A
3	160	40	389	161	157	154	0.2	0.2	6.143	A
4	297	74	148	295	308	402	0.7	0.6	5.369	A

**09:00 - 09:15**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	167	42	245	167	165	111	0.4	0.2	5.053	A
2	274	68	178	276	293	234	0.5	0.3	5.865	A
3	124	31	316	125	127	138	0.2	0.2	5.830	A
4	237	59	114	241	260	326	0.6	0.2	5.087	A

## Lane Results

*Lane Level notation: Lane Level 1 is always closest to the junction.*

**Lanes: Main Results for each time segment****07:45 - 08:00**

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	2, 3	113	808	0.140	112	115	0.0	0.3	5.078	A
			2	1, 4	59	808	0.073	60	58	0.0	0.1	4.976	A
	Exit	1	1	(1, 2, 3, 4)	172			172	174	0.0	0.0	0.000	A
			1		115			115	115	0.0	0.0	0.000	A
2	Entry	1	1	3	14	902	0.016	14	14	0.0	0.0	4.288	A
			2	1, 2, 4	251	851	0.295	252	281	0.0	0.4	5.788	A
	Exit	1	1	(1, 2, 3, 4)	266			266	297	0.0	0.0	0.000	A
			1		232			232	249	0.0	0.0	0.000	A
3	Entry	1	1	1, 4	93	692	0.135	92	92	0.0	0.2	5.919	A
			2	2, 3	32	692	0.046	33	36	0.0	0.1	5.800	A
	Exit	1	1	(1, 2, 3, 4)	125			125	129	0.0	0.0	0.000	A
			1		136			136	137	0.0	0.0	0.000	A
4	Entry	1	1	1	34	970	0.036	35	33	0.0	0.0	3.720	A
			2	2, 3, 4	208	899	0.231	209	221	0.0	0.3	5.270	A
	Exit	1	1	(1, 2, 3, 4)	243			243	256	0.0	0.0	0.000	A
			1		324			324	349	0.0	0.0	0.000	A

**08:00 - 08:15**

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	2, 3	148	789	0.188	148	142	0.3	0.2	5.668	A
			2	1, 4	74	789	0.093	73	69	0.1	0.1	4.706	A
	Exit	1	1	(1, 2, 3, 4)	222			222	211	0.0	0.0	0.000	A
			1		143			143	134	0.0	0.0	0.000	A
2	Entry	1	1	3	16	885	0.019	16	16	0.0	0.0	3.921	A
			2	1, 2, 4	302	840	0.358	299	324	0.4	0.7	6.809	A
	Exit	1	1	(1, 2, 3, 4)	318			318	341	0.0	0.0	0.001	A
			1		293			293	298	0.0	0.0	0.000	A
3	Entry	1	1	1, 4	113	675	0.168	114	109	0.2	0.2	6.391	A
			2	2, 3	42	675	0.063	43	42	0.1	0.0	5.575	A
	Exit	1	1	(1, 2, 3, 4)	156			156	151	0.0	0.0	0.012	A
			1		177			177	168	0.0	0.0	0.000	A
4	Entry	1	1	1	42	959	0.044	42	39	0.0	0.0	4.125	A
			2	2, 3, 4	261	910	0.287	262	267	0.3	0.4	5.931	A
	Exit	1	1	(1, 2, 3, 4)	303			303	307	0.0	0.0	0.000	A
			1		385			385	407	0.0	0.0	0.000	A

**08:15 - 08:30**

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
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1	Entry	1	1	2, 3	166	769	0.216	166	161	0.2	0.2	5.780	A
			2	1, 4	85	769	0.110	86	82	0.1	0.1	5.228	A
	Exit	1	1	(1, 2, 3, 4)	251			251	244	0.0	0.0	0.002	A
			1		181			181	165	0.0	0.0	0.000	A
2	Entry	1	1	3	23	876	0.026	23	21	0.0	0.0	4.642	A
			2	1, 2, 4	386	836	0.461	381	410	0.7	0.9	8.068	A
	Exit	1	1	(1, 2, 3, 4)	408			408	432	0.0	0.0	0.000	A
			1		352			352	365	0.0	0.0	0.000	A
3	Entry	1	1	1, 4	149	648	0.229	150	137	0.2	0.3	7.352	A
			2	2, 3	54	648	0.084	54	52	0.0	0.1	6.294	A
	Exit	1	1	(1, 2, 3, 4)	203			203	190	0.0	0.0	0.025	A
			1		200			200	195	0.0	0.0	0.000	A
4	Entry	1	1	1	50	946	0.053	49	45	0.0	0.1	4.051	A
			2	2, 3, 4	309	884	0.349	309	326	0.4	0.4	6.196	A
	Exit	1	1	(1, 2, 3, 4)	359			359	372	0.0	0.0	0.000	A
			1		485			485	510	0.0	0.0	0.000	A

## 08:30 - 08:45

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	2, 3	167	776	0.215	168	163	0.2	0.2	5.879	A
			2	1, 4	81	776	0.104	81	80	0.1	0.1	5.318	A
	Exit	1	1	(1, 2, 3, 4)	247			247	243	0.0	0.0	0.000	A
			1		176			176	168	0.0	0.0	0.000	A
2	Entry	1	1	3	19	876	0.022	19	20	0.0	0.0	4.287	A
			2	1, 2, 4	382	837	0.456	382	405	0.9	0.8	8.253	A
	Exit	1	1	(1, 2, 3, 4)	401			401	425	0.0	0.0	0.007	A
			1		334			334	358	0.0	0.0	0.000	A
3	Entry	1	1	1, 4	138	649	0.212	139	137	0.3	0.2	7.225	A
			2	2, 3	51	649	0.079	51	53	0.1	0.0	6.026	A
	Exit	1	1	(1, 2, 3, 4)	189			189	189	0.0	0.0	0.036	A
			1		200			200	197	0.0	0.0	0.000	A
4	Entry	1	1	1	52	950	0.055	53	48	0.1	0.0	3.873	A
			2	2, 3, 4	297	901	0.330	296	318	0.4	0.7	6.236	A
	Exit	1	1	(1, 2, 3, 4)	349			349	367	0.0	0.0	0.000	A
			1		479			479	502	0.0	0.0	0.000	A

## 08:45 - 09:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	2, 3	126	790	0.160	126	135	0.2	0.3	5.535	A
			2	1, 4	66	790	0.084	67	65	0.1	0.1	4.882	A
	Exit	1	1	(1, 2, 3, 4)	193			193	200	0.0	0.0	0.000	A
			1		144			144	139	0.0	0.0	0.000	A
2	Entry	1	1	3	17	894	0.019	16	15	0.0	0.0	4.215	A
			2	1, 2, 4	320	853	0.375	322	333	0.8	0.4	6.733	A
	Exit	1	1	(1, 2, 3, 4)	337			337	347	0.0	0.0	0.000	A
			1		288			288	301	0.0	0.0	0.000	A
3	Entry	1	1	1, 4	118	670	0.176	118	115	0.2	0.2	6.396	A
			2	2, 3	43	670	0.064	43	42	0.0	0.0	5.402	A
	Exit	1	1	(1, 2, 3, 4)	160			160	157	0.0	0.0	0.011	A
			1		154			154	161	0.0	0.0	0.000	A
4	Entry	1	1	1	39	958	0.040	39	38	0.0	0.0	3.837	A
			2	2, 3, 4	259	893	0.290	256	270	0.7	0.5	5.600	A
	Exit	1	1	(1, 2, 3, 4)	297			297	307	0.0	0.0	0.000	A
			1		402			402	412	0.0	0.0	0.000	A

## 09:00 - 09:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
	Entry	1	1	2, 3	112	808	0.138	113	111	0.3	0.1	5.117	A
			2	1, 4	56	808	0.069	54	53	0.1	0.1	4.918	A

1		2	1	(1, 2, 3, 4)	167			167	164	0.0	0.0	0.000	A
	Exit	1	1		111			111	115	0.0	0.0	0.000	A
2	Entry	1	1	3	14	903	0.016	14	14	0.0	0.0	3.912	A
			2	1, 2, 4	260	861	0.301	261	279	0.4	0.3	5.972	A
	Exit	1	1	(1, 2, 3, 4)	274			274	293	0.0	0.0	0.000	A
			1		234			234	252	0.0	0.0	0.000	A
3	Entry	1	1	1, 4	91	691	0.132	92	94	0.2	0.2	6.089	A
			2	2, 3	33	691	0.048	33	33	0.0	0.0	5.094	A
	Exit	1	1	(1, 2, 3, 4)	124			124	127	0.0	0.0	0.000	A
			1		138			138	135	0.0	0.0	0.000	A
4	Entry	1	1	1	30	969	0.031	30	32	0.0	0.0	3.692	A
			2	2, 3, 4	207	914	0.227	211	228	0.5	0.2	5.296	A
	Exit	1	1	(1, 2, 3, 4)	237			237	259	0.0	0.0	0.000	A
			1		326			326	343	0.0	0.0	0.000	A

### Lane movements: Main Results for each time segment

07:45 - 08:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Simulation max flow (PCU/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	113	28	886	807	0.140	112	115	0.0	0.3	5.078	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	59	15	886	809	0.073	60	58	0.0	0.1	4.976	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	113	28	-	-	-	113	116	0.0	0.0	0.000	A
				4	59	15	-	-	-	59	58	0.0	0.0	0.000	A
2	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	14	4	905	851	0.017	14	14	0.0	0.0	4.288	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	251	63	959	852	0.295	252	281	0.0	0.4	5.788	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	14	4	-	-	-	14	14	0.0	0.0	0.000	A
				4	251	63	-	-	-	251	283	0.0	0.0	0.000	A
3	Entry	1	1	1	81	20	781	693	0.116	80	81	0.0	0.2	5.996	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	12	3	752	665	0.019	12	11	0.0	0.0	5.332	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	32	8	781	691	0.046	33	36	0.0	0.1	5.800	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	81	20	-	-	-	81	82	0.0	0.0	0.000	A
				2	32	8	-	-	-	32	36	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	12	3	-	-	-	12	11	0.0	0.0	0.000	A
		1	1	1	34	9	1006	970	0.036	35	33	0.0	0.0	3.720	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	198	50	1006	898	0.220	199	213	0.0	0.3	5.269	A



4	Entry	2	2	3	10	3	820	789	0.013	10	8	0.0	0.0	5.298	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			1	1	34	9	-	-	-	34	34	0.0	0.0	0.000	A
				2	198	50	-	-	-	198	214	0.0	0.0	0.000	A
				3	10	3	-	-	-	10	8	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

## 08:00 - 08:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Simulation max flow (PCU/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	148	37	886	789	0.188	148	142	0.3	0.2	5.668	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	74	18	886	790	0.093	73	69	0.1	0.1	4.706	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	148	37	-	-	-	148	141	0.0	0.0	0.000	A
				4	74	18	-	-	-	74	69	0.0	0.0	0.000	A
2	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	16	4	941	871	0.019	16	16	0.0	0.0	3.921	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	302	75	959	840	0.358	299	324	0.4	0.7	6.809	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	16	4	-	-	-	16	16	0.0	0.0	0.000	A
				4	302	75	-	-	-	302	325	0.0	0.0	0.001	A
3	Entry	1	1	1	101	25	781	675	0.149	101	96	0.2	0.1	6.481	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	12	3	767	659	0.019	13	13	0.2	0.0	5.753	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	42	11	781	673	0.063	43	42	0.1	0.0	5.575	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	101	25	-	-	-	101	96	0.0	0.0	0.019	A
				2	42	11	-	-	-	42	42	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	12	3	-	-	-	12	13	0.0	0.0	0.000	A
4	Entry	1	1	1	42	11	1006	959	0.044	42	39	0.0	0.0	4.125	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	249	62	1006	909	0.275	250	256	0.3	0.4	5.928	A
				3	12	3	895	855	0.014	12	11	0.3	0.0	6.009	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	42	11	-	-	-	42	39	0.0	0.0	0.000	A
				2	249	62	-	-	-	249	257	0.0	0.0	0.000	A
				3	12	3	-	-	-	12	11	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

## 08:15 - 08:30

Arm	Side	Lane level	Lane	To Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Simulation max flow (PCU/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service

1	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	166	42	886	770	0.216	166	161	0.2	0.2	5.780	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	85	21	886	770	0.110	86	82	0.1	0.1	5.228	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	166	42	-	-	-	166	161	0.0	0.0	0.003	A
				4	85	21	-	-	-	85	82	0.0	0.0	0.000	A
2	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	23	6	959	878	0.026	23	21	0.0	0.0	4.642	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	386	96	959	836	0.461	381	410	0.7	0.9	8.068	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	23	6	-	-	-	23	21	0.0	0.0	0.000	A
				4	386	96	-	-	-	386	412	0.0	0.0	0.000	A
3	Entry	1	1	1	130	33	781	648	0.201	131	120	0.2	0.2	7.296	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	18	5	781	646	0.028	18	17	0.2	0.0	7.759	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	54	14	781	649	0.084	54	52	0.0	0.1	6.294	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	130	33	-	-	-	130	120	0.0	0.0	0.037	A
				2	54	14	-	-	-	54	53	0.0	0.0	0.004	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	18	5	-	-	-	18	17	0.0	0.0	0.004	A
4	Entry	1	1	1	50	13	1006	948	0.053	49	45	0.0	0.1	4.051	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	297	74	1006	882	0.337	298	313	0.4	0.4	6.169	A
				3	11	3	988	931	0.012	11	13	0.4	0.0	6.803	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	50	13	-	-	-	50	46	0.0	0.0	0.000	A
				2	297	74	-	-	-	297	313	0.0	0.0	0.000	A
				3	11	3	-	-	-	11	13	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

08:30 - 08:45

Arm	Side	Lane level	Lane	To Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Simulation max flow (PCU/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	167	42	886	776	0.215	168	163	0.2	0.2	5.879	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	81	20	886	775	0.104	81	80	0.1	0.1	5.318	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	167	42	-	-	-	167	163	0.0	0.0	0.000	A

				4	81	20	-	-	-	81	80	0.0	0.0	0.000	A
2	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	19	5	941	862	0.022	19	20	0.0	0.0	4.287	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	382	95	959	837	0.456	382	405	0.9	0.8	8.253	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	19	5	-	-	-	19	20	0.0	0.0	0.000	A
				4	382	95	-	-	-	382	405	0.0	0.0	0.007	A
3	Entry	1	1	1	122	30	781	651	0.187	123	120	0.3	0.1	7.233	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	16	4	752	626	0.026	16	17	0.3	0.0	7.172	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	51	13	781	652	0.078	51	53	0.1	0.0	6.026	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	122	30	-	-	-	122	120	0.0	0.0	0.051	A
				2	51	13	-	-	-	51	52	0.0	0.0	0.009	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	16	4	-	-	-	16	17	0.0	0.0	0.015	A
4	Entry	1	1	1	52	13	1006	950	0.055	53	48	0.1	0.0	3.873	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	285	71	1006	898	0.318	283	305	0.4	0.7	6.221	A
				3	12	3	950	897	0.013	13	13	0.0	0.0	6.557	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	52	13	-	-	-	52	47	0.0	0.0	0.000	A
				2	285	71	-	-	-	285	306	0.0	0.0	0.000	A
				3	12	3	-	-	-	12	13	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

08:45 - 09:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Simulation max flow (PCU/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	126	32	886	791	0.160	126	135	0.2	0.3	5.535	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	66	17	886	791	0.084	67	65	0.1	0.1	4.882	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	126	32	-	-	-	126	135	0.0	0.0	0.000	A
				4	66	17	-	-	-	66	65	0.0	0.0	0.000	A
2	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	17	4	905	844	0.020	16	15	0.0	0.0	4.215	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	320	80	959	853	0.375	322	333	0.8	0.4	6.733	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A



3	Entry	1	1	3	17	4	-	-	-	17	15	0.0	0.0	0.000	A
				4	320	80	-	-	-	320	331	0.0	0.0	0.000	A
				1	104	26	781	670	0.156	104	101	0.2	0.2	6.450	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	13	3	767	654	0.020	13	14	0.2	0.0	6.014	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	43	11	781	672	0.064	43	42	0.0	0.0	5.402	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	104	26	-	-	-	104	101	0.0	0.0	0.016	A
				2	43	11	-	-	-	43	42	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	13	3	-	-	-	13	14	0.0	0.0	0.010	A
4	Entry	1	1	1	39	10	1006	961	0.040	39	38	0.0	0.0	3.837	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	247	62	1006	890	0.278	245	259	0.7	0.5	5.625	A
				3	12	3	932	886	0.013	12	11	0.0	0.0	5.064	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	39	10	-	-	-	39	38	0.0	0.0	0.000	A
				2	247	62	-	-	-	247	258	0.0	0.0	0.000	A
				3	12	3	-	-	-	12	11	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

09:00 - 09:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Simulation max flow (PCU/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	112	28	886	809	0.138	113	111	0.3	0.1	5.117	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	56	14	886	807	0.069	54	53	0.1	0.1	4.918	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	112	28	-	-	-	112	111	0.0	0.0	0.000	A
				4	56	14	-	-	-	56	53	0.0	0.0	0.000	A
2	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	14	4	923	873	0.016	14	14	0.0	0.0	3.912	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	260	65	959	860	0.302	261	279	0.4	0.3	5.972	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	14	4	-	-	-	14	15	0.0	0.0	0.000	A
				4	260	65	-	-	-	260	278	0.0	0.0	0.000	A
3	Entry	1	1	1	81	20	781	692	0.117	81	83	0.2	0.2	6.118	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	10	3	695	614	0.017	10	11	0.0	0.0	5.871	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	33	8	781	695	0.047	33	33	0.0	0.0	5.094	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				1	81	20	-	-	-	81	83	0.0	0.0	0.000	A

4	Entry	2	1	2	33	8	-	-	-	33	33	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	10	3	-	-	-	10	11	0.0	0.0	0.000	A
		1	1	1	30	7	1006	970	0.030	30	32	0.0	0.0	3.692	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	196	49	1006	912	0.215	200	219	0.5	0.1	5.311	A
				3	12	3	988	952	0.012	11	9	0.5	0.1	4.965	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	30	7	-	-	-	30	32	0.0	0.0	0.000	A
				2	196	49	-	-	-	196	217	0.0	0.0	0.000	A
				3	12	3	-	-	-	12	9	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

# 2032 Gravity Core, PM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 4 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Info	Lane Simulation	A1 - [Lane Simulation]	This analysis set uses Lane Simulation mode. For detailed information on this mode, please see the User Guide.

## 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	6.57	A

### Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	6.57	A

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D12	2032 Gravity Core	PM	ONE HOUR	16:45	18:15	15	✓

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

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	153	100.000
2		ONE HOUR	✓	271	100.000
3		ONE HOUR	✓	195	100.000
4		ONE HOUR	✓	430	100.000

## Origin-Destination Data

### Demand (Veh/hr)

	To				
	1	2	3	4	
From	1	0	0	114	39
	2	0	0	40	231
	3	161	22	0	12
	4	73	344	13	0

## Vehicle Mix

### Heavy Vehicle Percentages

To				



From		1	2	3	4
	1	0	0	0	0
	2	0	0	0	8
	3	0	0	0	0
	4	0	6	0	0

## Results

### Results Summary for whole modelled period

Arm	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	5.46	0.3	A	139	208
2	6.14	0.6	A	247	371
3	6.97	0.5	A	177	266
4	7.03	1.1	A	392	588

### Main Results for each time segment

#### 16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	115	29	287	116	117	171	0.0	0.1	4.830	A
2	211	53	126	209	218	276	0.0	0.4	5.073	A
3	144	36	205	142	144	130	0.0	0.3	5.782	A
4	322	81	133	325	342	214	0.0	0.3	5.403	A

#### 17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	133	33	335	132	133	214	0.1	0.2	5.091	A
2	248	62	142	247	266	325	0.4	0.4	5.648	A
3	180	45	243	179	174	146	0.3	0.4	6.824	A
4	381	95	169	380	403	253	0.3	0.7	5.887	A

#### 17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	161	40	408	161	163	263	0.2	0.2	5.276	A
2	295	74	171	293	321	399	0.4	0.6	5.655	A
3	214	54	289	216	216	174	0.4	0.4	6.970	A
4	468	117	203	469	496	302	0.7	0.8	7.035	A

#### 17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	172	43	419	172	172	251	0.2	0.3	5.457	A
2	295	74	187	296	319	405	0.6	0.5	6.143	A
3	210	52	299	209	209	183	0.4	0.5	6.970	A
4	481	120	196	474	498	312	0.8	1.1	6.996	A

#### 17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	141	35	335	141	140	211	0.3	0.2	5.325	A

2	228	57	152	229	262	323	0.5	0.3	5.567	A
3	169	42	235	168	175	146	0.5	0.3	6.580	A
4	387	97	157	389	409	246	1.1	0.6	5.807	A

**18:00 - 18:15**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	110	28	276	111	117	176	0.2	0.1	5.030	A
2	206	51	120	204	220	267	0.3	0.4	5.115	A
3	148	37	203	149	147	121	0.3	0.1	5.777	A
4	315	79	141	312	333	211	0.6	0.6	5.514	A

## Lane Results

*Lane Level notation: Lane Level 1 is always closest to the junction.*

**Lanes: Main Results for each time segment****16:45 - 17:00**

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	2, 3	85	794	0.107	86	87	0.0	0.1	4.868	A
			2	1, 4	30	794	0.037	30	30	0.0	0.0	4.717	A
	Exit	1	1	(1, 2, 3, 4)	115			115	117	0.0	0.0	0.000	A
			1		171			171	172	0.0	0.0	0.000	A
2	Entry	1	1	3	33	919	0.036	34	30	0.0	0.0	4.163	A
			2	1, 2, 4	178	845	0.210	176	188	0.0	0.4	5.231	A
	Exit	1	1	(1, 2, 3, 4)	211			211	219	0.0	0.0	0.000	A
			1		276			276	296	0.0	0.0	0.000	A
3	Entry	1	1	1, 4	127	721	0.177	126	126	0.0	0.3	5.857	A
			2	2, 3	17	721	0.023	16	17	0.0	0.0	5.144	A
	Exit	1	1	(1, 2, 3, 4)	144			144	145	0.0	0.0	0.011	A
			1		130			130	126	0.0	0.0	0.000	A
4	Entry	1	1	1	54	963	0.057	55	54	0.0	0.0	3.730	A
			2	2, 3, 4	268	909	0.295	270	288	0.0	0.3	5.736	A
	Exit	1	1	(1, 2, 3, 4)	322			322	343	0.0	0.0	0.000	A
			1		214			214	226	0.0	0.0	0.000	A

**17:00 - 17:15**

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	2, 3	98	778	0.127	98	99	0.1	0.2	5.262	A
			2	1, 4	34	778	0.044	35	34	0.0	0.0	4.595	A
	Exit	1	1	(1, 2, 3, 4)	133			133	134	0.0	0.0	0.000	A
			1		214			214	210	0.0	0.0	0.000	A
2	Entry	1	1	3	39	914	0.043	39	38	0.0	0.0	4.333	A
			2	1, 2, 4	209	838	0.250	208	228	0.4	0.4	5.884	A
	Exit	1	1	(1, 2, 3, 4)	248			248	266	0.0	0.0	0.002	A
			1		325			325	346	0.0	0.0	0.000	A
3	Entry	1	1	1, 4	158	710	0.223	158	154	0.3	0.3	6.996	A
			2	2, 3	21	710	0.030	21	20	0.0	0.0	5.299	A
	Exit	1	1	(1, 2, 3, 4)	180			180	174	0.0	0.0	0.023	A
			1		146			146	148	0.0	0.0	0.000	A
4	Entry	1	1	1	66	951	0.069	66	66	0.0	0.1	4.319	A
			2	2, 3, 4	315	893	0.353	314	337	0.3	0.5	6.212	A
	Exit	1	1	(1, 2, 3, 4)	381			381	405	0.0	0.0	0.000	A
			1		253			253	271	0.0	0.0	0.000	A

**17:15 - 17:30**

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
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1	Entry	1	1	2, 3	120	755	0.159	120	121	0.2	0.2	5.406	A
			2	1, 4	41	755	0.054	41	42	0.0	0.0	4.899	A
	Exit	1	1	(1, 2, 3, 4)	161			161	163	0.0	0.0	0.000	A
			1		263			263	261	0.0	0.0	0.000	A
2	Entry	1	1	3	45	905	0.050	45	45	0.0	0.1	4.258	A
			2	1, 2, 4	250	839	0.298	248	276	0.4	0.5	5.903	A
	Exit	1	1	(1, 2, 3, 4)	295			295	322	0.0	0.0	0.000	A
			1		399			399	425	0.0	0.0	0.000	A
3	Entry	1	1	1, 4	193	697	0.277	194	192	0.3	0.3	7.113	A
			2	2, 3	21	697	0.030	21	23	0.0	0.0	5.435	A
	Exit	1	1	(1, 2, 3, 4)	214			214	216	0.0	0.0	0.037	A
			1		174			174	179	0.0	0.0	0.000	A
4	Entry	1	1	1	81	940	0.086	81	81	0.1	0.1	4.061	A
			2	2, 3, 4	387	889	0.435	388	415	0.5	0.7	7.645	A
	Exit	1	1	(1, 2, 3, 4)	468			468	496	0.0	0.0	0.001	A
			1		302			302	331	0.0	0.0	0.000	A

## 17:30 - 17:45

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	2, 3	127	752	0.169	127	127	0.2	0.2	5.627	A
			2	1, 4	45	752	0.060	45	45	0.0	0.0	4.975	A
	Exit	1	1	(1, 2, 3, 4)	172			172	172	0.0	0.0	0.000	A
			1		251			251	251	0.0	0.0	0.000	A
2	Entry	1	1	3	42	900	0.047	42	43	0.1	0.1	3.978	A
			2	1, 2, 4	253	833	0.303	253	276	0.5	0.5	6.507	A
	Exit	1	1	(1, 2, 3, 4)	295			295	319	0.0	0.0	0.000	A
			1		405			405	428	0.0	0.0	0.000	A
3	Entry	1	1	1, 4	184	694	0.265	183	184	0.3	0.4	7.141	A
			2	2, 3	26	694	0.038	26	24	0.0	0.1	5.332	A
	Exit	1	1	(1, 2, 3, 4)	210			210	209	0.0	0.0	0.042	A
			1		183			183	185	0.0	0.0	0.000	A
4	Entry	1	1	1	82	943	0.087	81	80	0.1	0.1	4.164	A
			2	2, 3, 4	399	892	0.447	393	417	0.7	1.0	7.502	A
	Exit	1	1	(1, 2, 3, 4)	481			481	499	0.0	0.0	0.058	A
			1		312			312	334	0.0	0.0	0.000	A

## 17:45 - 18:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	2, 3	104	778	0.134	104	104	0.2	0.2	5.509	A
			2	1, 4	36	778	0.047	36	36	0.0	0.1	4.789	A
	Exit	1	1	(1, 2, 3, 4)	141			141	140	0.0	0.0	0.000	A
			1		211			211	211	0.0	0.0	0.000	A
2	Entry	1	1	3	30	911	0.033	31	37	0.1	0.0	4.076	A
			2	1, 2, 4	197	849	0.232	198	225	0.5	0.3	5.831	A
	Exit	1	1	(1, 2, 3, 4)	228			228	261	0.0	0.0	0.000	A
			1		323			323	352	0.0	0.0	0.000	A
3	Entry	1	1	1, 4	151	713	0.212	150	155	0.4	0.3	6.739	A
			2	2, 3	18	713	0.025	18	20	0.1	0.1	5.336	A
	Exit	1	1	(1, 2, 3, 4)	169			169	175	0.0	0.0	0.004	A
			1		146			146	152	0.0	0.0	0.000	A
4	Entry	1	1	1	72	955	0.075	72	67	0.1	0.1	3.926	A
			2	2, 3, 4	315	894	0.352	317	342	1.0	0.5	6.198	A
	Exit	1	1	(1, 2, 3, 4)	387			387	407	0.0	0.0	0.000	A
			1		246			246	271	0.0	0.0	0.000	A

## 18:00 - 18:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
	Entry	1	1	2, 3	84	798	0.106	85	88	0.2	0.1	5.128	A
			2	1, 4	26	798	0.032	26	30	0.1	0.0	4.745	A



1		2	1	(1, 2, 3, 4)	110			110	117	0.0	0.0	0.000	A
	Exit	1	1		176			176	174	0.0	0.0	0.000	A
2	Entry	1	1	3	27	921	0.029	27	29	0.0	0.0	3.843	A
			2	1, 2, 4	179	844	0.212	177	191	0.3	0.4	5.325	A
	Exit	1	1	(1, 2, 3, 4)	206			206	221	0.0	0.0	0.000	A
			1		267			267	288	0.0	0.0	0.000	A
3	Entry	1	1	1, 4	132	721	0.184	133	131	0.3	0.1	5.858	A
			2	2, 3	15	721	0.021	16	16	0.1	0.0	5.106	A
	Exit	1	1	(1, 2, 3, 4)	148			148	146	0.0	0.0	0.000	A
			1		121			121	126	0.0	0.0	0.000	A
4	Entry	1	1	1	52	960	0.054	51	51	0.1	0.1	3.883	A
			2	2, 3, 4	263	910	0.289	261	281	0.5	0.5	5.830	A
	Exit	1	1	(1, 2, 3, 4)	315			315	333	0.0	0.0	0.000	A
			1		211			211	230	0.0	0.0	0.000	A

### Lane movements: Main Results for each time segment

16:45 - 17:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Simulation max flow (PCU/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	85	21	886	797	0.107	86	87	0.0	0.1	4.868	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	30	7	886	796	0.037	30	30	0.0	0.0	4.717	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	85	21	-	-	-	85	87	0.0	0.0	0.000	A
				4	30	7	-	-	-	30	30	0.0	0.0	0.000	A
2	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	33	8	959	919	0.036	34	30	0.0	0.0	4.163	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	178	44	959	846	0.210	176	188	0.0	0.4	5.231	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	33	8	-	-	-	33	30	0.0	0.0	0.000	A
				4	178	44	-	-	-	178	189	0.0	0.0	0.000	A
3	Entry	1	1	1	119	30	781	720	0.165	117	118	0.0	0.2	5.820	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	9	2	674	622	0.014	9	8	0.0	0.0	6.381	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	17	4	781	721	0.023	16	17	0.0	0.0	5.144	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	119	30	-	-	-	119	119	0.0	0.0	0.010	A
				2	17	4	-	-	-	17	18	0.0	0.0	0.025	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	9	2	-	-	-	9	8	0.0	0.0	0.000	A
		1	1	1	54	14	1006	964	0.056	55	54	0.0	0.0	3.730	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	258	64	1006	908	0.284	260	279	0.0	0.3	5.764	A

4	Entry	2	3	10	3	882	843	0.012	10	9	0.0	0.0	4.934	A
				0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			1	54	14	-	-	-	54	54	0.0	0.0	0.000	A
				258	64	-	-	-	258	280	0.0	0.0	0.000	A
				10	3	-	-	-	10	9	0.0	0.0	0.000	A
		2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

## 17:00 - 17:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Simulation max flow (PCU/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	98	25	886	778	0.127	98	99	0.1	0.2	5.262	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	34	9	886	780	0.044	35	34	0.0	0.0	4.595	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	98	25	-	-	-	98	99	0.0	0.0	0.000	A
				4	34	9	-	-	-	34	34	0.0	0.0	0.000	A
2	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	39	10	959	915	0.043	39	38	0.0	0.0	4.333	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	209	52	959	838	0.250	208	228	0.4	0.4	5.884	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	39	10	-	-	-	39	38	0.0	0.0	0.006	A
				4	209	52	-	-	-	209	228	0.0	0.0	0.001	A
3	Entry	1	1	1	148	37	781	710	0.209	148	145	0.3	0.3	6.961	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	10	3	674	614	0.016	10	10	0.3	0.0	7.538	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	21	5	771	701	0.031	21	20	0.0	0.0	5.299	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	148	37	-	-	-	148	145	0.0	0.0	0.027	A
				2	21	5	-	-	-	21	20	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	10	3	-	-	-	10	9	0.0	0.0	0.000	A
4	Entry	1	1	1	66	17	1006	953	0.069	66	66	0.0	0.1	4.319	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	305	76	1006	891	0.342	305	326	0.3	0.5	6.214	A
				3	10	2	965	913	0.011	10	11	0.0	0.0	6.171	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	66	17	-	-	-	66	66	0.0	0.0	0.000	A
				2	305	76	-	-	-	305	327	0.0	0.0	0.000	A
				3	10	2	-	-	-	10	12	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

## 17:15 - 17:30

Arm	Side	Lane level	Lane	To Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Simulation max flow (PCU/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service

1	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	120	30	886	751	0.160	120	121	0.2	0.2	5.406	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	41	10	886	751	0.054	41	42	0.0	0.0	4.899	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	120	30	-	-	-	120	121	0.0	0.0	0.000	A
				4	41	10	-	-	-	41	42	0.0	0.0	0.000	A
2	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	45	11	959	905	0.050	45	45	0.0	0.1	4.258	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	250	63	959	839	0.298	248	276	0.4	0.5	5.903	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	45	11	-	-	-	45	45	0.0	0.0	0.000	A
				4	250	63	-	-	-	250	277	0.0	0.0	0.000	A
3	Entry	1	1	1	180	45	781	697	0.258	181	180	0.3	0.3	7.111	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	13	3	771	684	0.019	13	13	0.0	0.0	7.133	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	21	5	781	696	0.030	21	23	0.0	0.0	5.435	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	180	45	-	-	-	180	180	0.0	0.0	0.035	A
				2	21	5	-	-	-	21	23	0.0	0.0	0.009	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	13	3	-	-	-	13	13	0.0	0.0	0.109	A
4	Entry	1	1	1	81	20	1006	939	0.086	81	81	0.1	0.1	4.061	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	377	94	1006	887	0.424	378	402	0.5	0.7	7.636	A
				3	10	3	979	916	0.011	9	13	0.5	0.1	7.884	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	81	20	-	-	-	81	81	0.0	0.0	0.000	A
				2	377	94	-	-	-	377	402	0.0	0.0	0.002	A
				3	10	3	-	-	-	10	13	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

17:30 - 17:45

Arm	Side	Lane level	Lane	To Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Simulation max flow (PCU/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	127	32	886	751	0.169	127	127	0.2	0.2	5.627	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	45	11	886	752	0.060	45	45	0.0	0.0	4.975	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	127	32	-	-	-	127	127	0.0	0.0	0.000	A



2	Entry	1	1	4	45	11	-	-	-	45	45	0.0	0.0	0.000	A
				1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	42	11	959	898	0.047	42	43	0.1	0.1	3.978	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	253	63	959	834	0.303	253	276	0.5	0.5	6.507	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	42	11	-	-	-	42	43	0.0	0.0	0.000	A
				4	253	63	-	-	-	253	276	0.0	0.0	0.001	A
3	Entry	1	1	1	170	43	781	693	0.246	170	171	0.3	0.4	7.147	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	14	3	749	665	0.021	14	14	0.3	0.0	7.067	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	26	7	781	693	0.038	26	24	0.0	0.1	5.332	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	170	43	-	-	-	170	171	0.0	0.0	0.044	A
				2	26	7	-	-	-	26	25	0.0	0.0	0.010	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	14	3	-	-	-	14	14	0.0	0.0	0.080	A
4	Entry	1	1	1	82	20	1006	943	0.087	81	80	0.1	0.1	4.164	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	384	96	1006	890	0.431	379	403	0.7	1.0	7.502	A
				3	15	4	1006	942	0.016	14	14	0.7	0.0	7.495	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	82	20	-	-	-	82	81	0.0	0.0	0.044	A
				2	384	96	-	-	-	384	404	0.0	0.0	0.061	A
				3	15	4	-	-	-	15	14	0.0	0.0	0.058	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

## 17:45 - 18:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Simulation max flow (PCU/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	104	26	886	778	0.134	104	104	0.2	0.2	5.509	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	36	9	886	777	0.047	36	36	0.0	0.1	4.789	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	104	26	-	-	-	104	104	0.0	0.0	0.000	A
				4	36	9	-	-	-	36	36	0.0	0.0	0.000	A
2	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	30	8	959	911	0.033	31	37	0.1	0.0	4.076	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	197	49	959	849	0.232	198	225	0.5	0.3	5.831	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

3	Entry	1	1	3	30	8	-	-	-	30	37	0.0	0.0	0.000	A
				4	197	49	-	-	-	197	224	0.0	0.0	0.000	A
				1	140	35	781	713	0.196	139	144	0.4	0.3	6.678	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	11	3	717	653	0.017	11	10	0.0	0.0	7.579	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	18	4	760	689	0.026	18	20	0.1	0.1	5.336	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	140	35	-	-	-	140	144	0.0	0.0	0.005	A
				2	18	4	-	-	-	18	20	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	11	3	-	-	-	11	10	0.0	0.0	0.000	A
4	Entry	1	1	1	72	18	1006	957	0.075	72	67	0.1	0.1	3.926	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	303	76	1006	891	0.340	305	332	1.0	0.5	6.210	A
				3	12	3	937	888	0.013	12	11	1.0	0.0	5.868	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	72	18	-	-	-	72	67	0.0	0.0	0.000	A
				2	303	76	-	-	-	303	330	0.0	0.0	0.000	A
				3	12	3	-	-	-	12	11	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

## 18:00 - 18:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Simulation max flow (PCU/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	84	21	886	797	0.106	85	88	0.2	0.1	5.128	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	26	6	886	796	0.032	26	30	0.1	0.0	4.745	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	84	21	-	-	-	84	87	0.0	0.0	0.000	A
				4	26	6	-	-	-	26	30	0.0	0.0	0.000	A
2	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	27	7	959	919	0.030	27	29	0.0	0.0	3.843	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	179	45	959	844	0.212	177	191	0.3	0.4	5.325	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	27	7	-	-	-	27	29	0.0	0.0	0.000	A
				4	179	45	-	-	-	179	192	0.0	0.0	0.000	A
3	Entry	1	1	1	125	31	781	720	0.173	125	123	0.3	0.1	5.872	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	8	2	642	592	0.013	8	8	0.3	0.0	5.656	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	15	4	781	721	0.021	16	16	0.1	0.0	5.106	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				1	125	31	-	-	-	125	122	0.0	0.0	0.000	A

4	Entry	2	1	2	15	4	-	-	-	15	16	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	8	2	-	-	-	8	8	0.0	0.0	0.000	A
		1	1	1	52	13	1006	961	0.054	51	51	0.1	0.1	3.883	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	254	63	1006	908	0.279	251	272	0.5	0.5	5.806	A
				3	9	2	882	842	0.011	9	9	0.5	0.0	6.494	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	52	13	-	-	-	52	52	0.0	0.0	0.000	A
				2	254	63	-	-	-	254	272	0.0	0.0	0.000	A
				3	9	2	-	-	-	9	9	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A



# 2032 Gravity BAU, AM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 4 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Info	Lane Simulation	A1 - [Lane Simulation]	This analysis set uses Lane Simulation mode. For detailed information on this mode, please see the User Guide.

## 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	9.43	A

### Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	9.43	A

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D13	2032 Gravity BAU	AM	ONE HOUR	07:45	09:15	15	✓

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

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	279	100.000
2		ONE HOUR	✓	515	100.000
3		ONE HOUR	✓	194	100.000
4		ONE HOUR	✓	468	100.000

## Origin-Destination Data

### Demand (Veh/hr)

	To				
	1	2	3	4	
From	1	0	0	150	129
	2	0	0	18	497
	3	107	46	0	41
	4	69	366	33	0

## Vehicle Mix

### Heavy Vehicle Percentages

To				

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

## Results

### Results Summary for whole modelled period

Arm	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	6.22	0.6	A	255	383
2	13.37	2.1	B	473	710
3	7.96	0.5	A	174	262
4	7.48	1.2	A	430	644

### Main Results for each time segment

#### 07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	209	52	339	209	208	128	0.0	0.3	5.432	A
2	382	96	234	383	400	314	0.0	0.8	7.661	A
3	140	35	468	140	141	150	0.0	0.2	6.516	A
4	355	89	112	356	371	497	0.0	0.4	5.507	A

#### 08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	239	60	399	239	245	150	0.3	0.4	5.604	A
2	464	116	269	459	473	369	0.8	1.2	8.950	A
3	170	42	555	169	174	173	0.2	0.3	6.706	A
4	418	105	131	417	433	593	0.4	0.7	5.994	A

#### 08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	310	77	499	308	307	183	0.4	0.6	6.222	A
2	576	144	343	574	594	464	1.2	1.8	12.787	B
3	206	52	692	206	209	225	0.3	0.5	7.961	A
4	518	130	162	521	531	736	0.7	1.0	7.484	A

#### 08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	308	77	492	307	304	191	0.6	0.5	6.138	A
2	569	142	345	572	596	454	1.8	2.0	13.370	B
3	211	53	699	212	212	218	0.5	0.4	7.961	A
4	516	129	169	514	534	743	1.0	1.1	7.089	A

#### 08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	254	63	392	255	254	157	0.5	0.4	5.828	A

2	453	113	285	459	481	363	2.0	1.0	9.846	A
3	175	44	563	176	176	181	0.4	0.3	7.419	A
4	417	104	135	414	437	605	1.1	0.8	6.148	A

**09:00 - 09:15**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	213	53	331	213	212	134	0.4	0.4	5.237	A
2	396	99	239	398	408	306	1.0	0.7	7.498	A
3	145	36	486	145	145	151	0.3	0.2	6.868	A
4	353	88	114	351	364	517	0.8	0.6	5.441	A

## Lane Results

*Lane Level notation: Lane Level 1 is always closest to the junction.*

**Lanes: Main Results for each time segment****07:45 - 08:00**

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	2, 3	112	778	0.144	112	111	0.0	0.2	5.543	A
			2	1, 4	97	778	0.125	97	97	0.0	0.1	5.305	A
	Exit	1	1	(1, 2, 3, 4)	209			209	210	0.0	0.0	0.000	A
			1		128			128	128	0.0	0.0	0.000	A
2	Entry	1	1	3	12	885	0.014	12	13	0.0	0.0	4.198	A
			2	1, 2, 4	370	854	0.433	371	387	0.0	0.7	7.778	A
	Exit	1	1	(1, 2, 3, 4)	382			382	403	0.0	0.0	0.005	A
			1		314			314	329	0.0	0.0	0.000	A
3	Entry	1	1	1, 4	106	649	0.163	106	108	0.0	0.2	6.602	A
			2	2, 3	34	649	0.053	34	34	0.0	0.0	6.227	A
	Exit	1	1	(1, 2, 3, 4)	140			140	142	0.0	0.0	0.002	A
			1		150			150	150	0.0	0.0	0.000	A
4	Entry	1	1	1	51	970	0.052	51	49	0.0	0.0	4.097	A
			2	2, 3, 4	304	919	0.331	305	321	0.0	0.3	5.734	A
	Exit	1	1	(1, 2, 3, 4)	355			355	372	0.0	0.0	0.000	A
			1		497			497	514	0.0	0.0	0.000	A

**08:00 - 08:15**

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	2, 3	129	760	0.170	128	132	0.2	0.2	5.705	A
			2	1, 4	110	760	0.144	111	112	0.1	0.1	5.484	A
	Exit	1	1	(1, 2, 3, 4)	239			239	245	0.0	0.0	0.000	A
			1		150			150	157	0.0	0.0	0.000	A
2	Entry	1	1	3	16	874	0.018	15	15	0.0	0.0	4.117	A
			2	1, 2, 4	448	840	0.533	444	457	0.7	1.2	9.057	A
	Exit	1	1	(1, 2, 3, 4)	464			464	475	0.0	0.0	0.059	A
			1		369			369	384	0.0	0.0	0.000	A
3	Entry	1	1	1, 4	128	624	0.204	127	133	0.2	0.2	6.981	A
			2	2, 3	42	624	0.068	42	41	0.0	0.1	5.767	A
	Exit	1	1	(1, 2, 3, 4)	170			170	174	0.0	0.0	0.014	A
			1		173			173	177	0.0	0.0	0.000	A
4	Entry	1	1	1	60	964	0.063	61	61	0.0	0.0	3.831	A
			2	2, 3, 4	357	923	0.387	357	372	0.3	0.6	6.367	A
	Exit	1	1	(1, 2, 3, 4)	418			418	434	0.0	0.0	0.000	A
			1		593			593	607	0.0	0.0	0.000	A

**08:15 - 08:30**

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
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1	Entry	1	1	2, 3	171	729	0.234	169	167	0.2	0.3	6.412	A
			2	1, 4	139	729	0.191	139	139	0.1	0.3	5.995	A
	Exit	1	1	(1, 2, 3, 4)	310			310	308	0.0	0.0	0.000	A
			1		183			183	190	0.0	0.0	0.000	A
2	Entry	1	1	3	21	851	0.025	21	21	0.0	0.0	4.579	A
			2	1, 2, 4	556	815	0.682	553	573	1.2	1.7	12.523	B
	Exit	1	1	(1, 2, 3, 4)	576			577	596	0.0	0.1	0.544	A
			1		464			464	471	0.0	0.0	0.000	A
3	Entry	1	1	1, 4	154	585	0.264	155	159	0.2	0.4	8.343	A
			2	2, 3	52	585	0.089	51	50	0.1	0.1	6.618	A
	Exit	1	1	(1, 2, 3, 4)	206			206	210	0.0	0.0	0.033	A
			1		225			225	224	0.0	0.0	0.000	A
4	Entry	1	1	1	74	954	0.077	73	74	0.0	0.1	4.056	A
			2	2, 3, 4	445	913	0.487	447	457	0.6	0.9	8.045	A
	Exit	1	1	(1, 2, 3, 4)	518			518	532	0.0	0.0	0.020	A
			1		736			736	756	0.0	0.0	0.000	A

## 08:30 - 08:45

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	2, 3	163	731	0.223	162	162	0.3	0.3	6.333	A
			2	1, 4	145	731	0.199	145	142	0.3	0.2	5.914	A
	Exit	1	1	(1, 2, 3, 4)	308			308	303	0.0	0.0	0.000	A
			1		191			191	191	0.0	0.0	0.000	A
2	Entry	1	1	3	17	850	0.020	17	19	0.0	0.0	4.132	A
			2	1, 2, 4	553	814	0.679	555	577	1.7	2.0	13.233	B
	Exit	1	1	(1, 2, 3, 4)	569			570	597	0.1	0.0	0.446	A
			1		454			454	475	0.0	0.0	0.000	A
3	Entry	1	1	1, 4	158	583	0.271	159	160	0.4	0.3	8.185	A
			2	2, 3	53	583	0.091	54	52	0.1	0.1	7.106	A
	Exit	1	1	(1, 2, 3, 4)	211			211	211	0.0	0.0	0.040	A
			1		218			218	217	0.0	0.0	0.000	A
4	Entry	1	1	1	76	951	0.080	76	74	0.1	0.1	4.193	A
			2	2, 3, 4	440	909	0.484	438	459	0.9	1.0	7.565	A
	Exit	1	1	(1, 2, 3, 4)	516			516	534	0.0	0.0	0.012	A
			1		743			743	762	0.0	0.0	0.000	A

## 08:45 - 09:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	2, 3	136	762	0.179	136	135	0.3	0.3	6.040	A
			2	1, 4	118	762	0.154	119	119	0.2	0.1	5.581	A
	Exit	1	1	(1, 2, 3, 4)	254			254	254	0.0	0.0	0.002	A
			1		157			157	157	0.0	0.0	0.000	A
2	Entry	1	1	3	15	869	0.018	16	16	0.0	0.0	4.356	A
			2	1, 2, 4	438	835	0.524	444	465	2.0	1.0	9.975	A
	Exit	1	1	(1, 2, 3, 4)	453			454	477	0.0	0.0	0.074	A
			1		363			363	386	0.0	0.0	0.000	A
3	Entry	1	1	1, 4	135	622	0.217	135	135	0.3	0.2	7.706	A
			2	2, 3	40	622	0.065	41	41	0.1	0.1	6.413	A
	Exit	1	1	(1, 2, 3, 4)	175			175	175	0.0	0.0	0.010	A
			1		181			181	182	0.0	0.0	0.000	A
4	Entry	1	1	1	62	962	0.065	62	62	0.1	0.1	3.764	A
			2	2, 3, 4	355	921	0.386	351	375	1.0	0.8	6.554	A
	Exit	1	1	(1, 2, 3, 4)	417			417	436	0.0	0.0	0.004	A
			1		605			605	623	0.0	0.0	0.000	A

## 09:00 - 09:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
	Entry	1	1	2, 3	112	782	0.144	112	114	0.3	0.2	5.209	A
			2	1, 4	101	782	0.129	102	98	0.1	0.1	5.268	A

1		2	1	(1, 2, 3, 4)	213			213	212	0.0	0.0	0.000	A
	Exit	1	1		134			134	135	0.0	0.0	0.000	A
2	Entry	1	1	3	13	884	0.015	13	12	0.0	0.0	4.303	A
			2	1, 2, 4	383	851	0.450	385	396	1.0	0.7	7.595	A
	Exit	1	1	(1, 2, 3, 4)	396			396	407	0.0	0.0	0.008	A
			1		306			306	320	0.0	0.0	0.000	A
3	Entry	1	1	1, 4	111	644	0.172	111	111	0.2	0.2	7.150	A
			2	2, 3	34	644	0.054	34	34	0.1	0.1	5.958	A
	Exit	1	1	(1, 2, 3, 4)	145			145	145	0.0	0.0	0.007	A
			1		151			151	151	0.0	0.0	0.000	A
4	Entry	1	1	1	54	969	0.056	54	53	0.1	0.1	3.782	A
			2	2, 3, 4	299	935	0.320	297	311	0.8	0.6	5.741	A
	Exit	1	1	(1, 2, 3, 4)	353			353	363	0.0	0.0	0.000	A
			1		517			517	523	0.0	0.0	0.000	A

### Lane movements: Main Results for each time segment

07:45 - 08:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Simulation max flow (PCU/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	112	28	886	778	0.144	112	111	0.0	0.2	5.543	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	97	24	886	776	0.125	97	97	0.0	0.1	5.305	A
2	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	112	28	-	-	-	112	112	0.0	0.0	0.000	A
				4	97	24	-	-	-	97	98	0.0	0.0	0.000	A
		2	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	370	92	959	854	0.433	371	387	0.0	0.7	7.778	A
3	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	12	3	930	856	0.015	12	13	0.0	0.0	4.198	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	370	92	-	-	-	370	390	0.0	0.0	0.005	A
4	Entry	1	1	1	77	19	781	651	0.118	77	78	0.0	0.1	6.583	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	29	7	781	649	0.044	29	30	0.0	0.0	6.653	A
		2	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	34	9	781	651	0.052	34	34	0.0	0.0	6.227	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
5	Entry	1	1	1	77	19	-	-	-	77	79	0.0	0.0	0.002	A
				2	34	9	-	-	-	34	34	0.0	0.0	0.004	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	29	7	-	-	-	29	30	0.0	0.0	0.000	A
		2	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	279	70	1006	914	0.306	280	296	0.0	0.3	5.742	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

4	Entry	2	2	3	25	6	1006	970	0.025	25	26	0.0	0.0	5.638	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			1	1	51	13	-	-	-	51	50	0.0	0.0	0.000	A
				2	279	70	-	-	-	279	297	0.0	0.0	0.000	A
				3	25	6	-	-	-	25	26	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	2	1	51	13	-	-	-	51	50	0.0	0.0	0.000	A
				2	279	70	-	-	-	279	297	0.0	0.0	0.000	A

## 08:00 - 08:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Simulation max flow (PCU/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	129	32	886	761	0.170	128	132	0.2	0.2	5.705	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	110	27	886	760	0.144	111	112	0.1	0.1	5.484	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	129	32	-	-	-	129	133	0.0	0.0	0.000	A
				4	110	27	-	-	-	110	112	0.0	0.0	0.000	A
2	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	16	4	949	864	0.018	15	15	0.0	0.0	4.117	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	448	112	959	840	0.533	444	457	0.7	1.2	9.057	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	16	4	-	-	-	16	15	0.0	0.0	0.000	A
				4	448	112	-	-	-	448	459	0.0	0.0	0.061	A
3	Entry	1	1	1	90	22	781	624	0.144	89	96	0.2	0.2	6.828	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	38	9	781	623	0.060	38	37	0.2	0.1	7.376	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	42	11	781	623	0.068	42	41	0.0	0.1	5.767	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	90	22	-	-	-	90	96	0.0	0.0	0.023	A
				2	42	11	-	-	-	42	42	0.0	0.0	0.002	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	38	9	-	-	-	38	37	0.0	0.0	0.007	A
4	Entry	1	1	1	60	15	1006	963	0.063	61	61	0.0	0.0	3.831	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	328	82	1006	919	0.357	327	343	0.3	0.6	6.368	A
				3	29	7	1006	962	0.031	30	29	0.3	0.3	6.355	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	60	15	-	-	-	60	61	0.0	0.0	0.000	A
				2	328	82	-	-	-	328	344	0.0	0.0	0.000	A
				3	29	7	-	-	-	29	29	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

## 08:15 - 08:30

Arm	Side	Lane level	Lane	To Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Simulation max flow (PCU/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service



1	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	171	43	886	730	0.234	169	167	0.2	0.3	6.412	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	139	35	886	730	0.191	139	139	0.1	0.3	5.995	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	171	43	-	-	-	171	168	0.0	0.0	0.000	A
				4	139	35	-	-	-	139	140	0.0	0.0	0.000	A
2	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	21	5	949	842	0.025	21	21	0.0	0.0	4.579	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	556	139	959	815	0.682	553	573	1.2	1.7	12.523	B
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	21	5	-	-	-	21	21	0.0	0.0	0.491	A
				4	554	139	-	-	-	556	575	0.0	0.0	0.546	A
3	Entry	1	1	1	110	27	781	584	0.188	110	115	0.2	0.3	8.330	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	44	11	781	587	0.076	45	43	0.2	0.1	8.378	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	52	13	781	585	0.089	51	50	0.1	0.1	6.618	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	110	27	-	-	-	110	116	0.0	0.0	0.045	A
				2	52	13	-	-	-	52	50	0.0	0.0	0.008	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	44	11	-	-	-	44	44	0.0	0.0	0.031	A
4	Entry	1	1	1	74	18	1006	953	0.077	73	74	0.0	0.1	4.056	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	410	103	1006	910	0.451	413	421	0.6	0.7	8.048	A
				3	34	9	1006	953	0.036	34	36	0.6	0.1	8.013	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	74	18	-	-	-	74	74	0.0	0.0	0.014	A
				2	410	103	-	-	-	410	422	0.0	0.0	0.022	A
				3	34	9	-	-	-	34	36	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

08:30 - 08:45

Arm	Side	Lane level	Lane	To Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Simulation max flow (PCU/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	163	41	886	732	0.223	162	162	0.3	0.3	6.333	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	145	36	886	730	0.199	145	142	0.3	0.2	5.914	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	163	41	-	-	-	163	162	0.0	0.0	0.000	A

				4	145	36	-	-	-	145	141	0.0	0.0	0.000	A
2	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	17	4	949	842	0.021	17	19	0.0	0.0	4.132	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	553	138	959	814	0.679	555	577	1.7	2.0	13.233	B
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	17	4	-	-	-	17	19	0.1	0.0	0.270	A
				4	551	138	-	-	-	553	578	0.1	0.0	0.452	A
3	Entry	1	1	1	114	29	781	582	0.197	115	116	0.4	0.2	8.298	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	44	11	781	580	0.076	44	43	0.4	0.1	7.880	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	53	13	781	580	0.091	54	52	0.1	0.1	7.106	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	114	29	-	-	-	114	116	0.0	0.0	0.045	A
				2	53	13	-	-	-	53	52	0.0	0.0	0.029	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	44	11	-	-	-	44	43	0.0	0.0	0.038	A
4	Entry	1	1	1	76	19	1006	952	0.080	76	74	0.1	0.1	4.193	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	401	100	1006	905	0.444	400	423	0.9	0.9	7.579	A
				3	39	10	1006	949	0.041	38	36	0.9	0.1	7.398	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	76	19	-	-	-	76	74	0.0	0.0	0.011	A
				2	401	100	-	-	-	401	424	0.0	0.0	0.011	A
				3	39	10	-	-	-	39	36	0.0	0.0	0.021	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

08:45 - 09:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Simulation max flow (PCU/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	136	34	886	762	0.179	136	135	0.3	0.3	6.040	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	118	29	886	762	0.154	119	119	0.2	0.1	5.581	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	136	34	-	-	-	136	135	0.0	0.0	0.003	A
				4	118	29	-	-	-	118	119	0.0	0.0	0.001	A
2	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	15	4	959	869	0.018	16	16	0.0	0.0	4.356	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	438	110	959	835	0.524	444	465	2.0	1.0	9.975	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

3	Entry	1	1	3	15	4	-	-	-	15	16	0.0	0.0	0.035	A
				4	438	110	-	-	-	438	461	0.0	0.0	0.076	A
				1	94	23	781	621	0.151	94	96	0.3	0.2	7.787	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	41	10	781	619	0.066	41	39	0.3	0.0	7.506	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	40	10	781	620	0.065	41	41	0.1	0.1	6.413	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	94	23	-	-	-	94	95	0.0	0.0	0.018	A
				2	40	10	-	-	-	40	41	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	41	10	-	-	-	41	39	0.0	0.0	0.003	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	325	81	1006	917	0.355	322	345	1.0	0.7	6.571	A
				3	30	7	1006	961	0.031	29	30	1.0	0.0	6.366	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
4	Entry	1	1	1	62	16	1006	963	0.065	62	62	0.1	0.1	3.764	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	325	81	1006	917	0.355	322	345	1.0	0.7	6.571	A
				3	30	7	1006	961	0.031	29	30	1.0	0.0	6.366	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	62	16	-	-	-	62	62	0.0	0.0	0.004	A
				2	325	81	-	-	-	325	344	0.0	0.0	0.005	A
				3	30	7	-	-	-	30	30	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	325	81	1006	917	0.355	322	345	1.0	0.7	6.571	A
				3	30	7	1006	961	0.031	29	30	1.0	0.0	6.366	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

## 09:00 - 09:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Simulation max flow (PCU/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	112	28	886	782	0.144	112	114	0.3	0.2	5.209	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	101	25	886	783	0.129	102	98	0.1	0.1	5.268	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	112	28	-	-	-	112	113	0.0	0.0	0.000	A
				4	101	25	-	-	-	101	98	0.0	0.0	0.000	A
2	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	13	3	911	840	0.016	13	12	0.0	0.0	4.303	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	383	96	959	851	0.450	385	396	1.0	0.7	7.595	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	13	3	-	-	-	13	12	0.0	0.0	0.000	A
				4	383	96	-	-	-	383	395	0.0	0.0	0.008	A
3	Entry	1	1	1	79	20	781	642	0.124	80	82	0.2	0.1	7.199	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	31	8	781	643	0.049	31	29	0.2	0.0	7.014	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	34	9	781	645	0.053	34	34	0.1	0.1	5.958	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				1	79	20	-	-	-	79	81	0.0	0.0	0.006	A



4	Entry	2	1	2	34	9	-	-	-	34	35	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	31	8	-	-	-	31	29	0.0	0.0	0.017	A
		1	1	1	54	13	1006	969	0.056	54	53	0.1	0.1	3.782	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	274	68	1006	932	0.294	272	285	0.8	0.5	5.776	A
				3	25	6	1006	970	0.026	25	25	0.8	0.0	5.361	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	54	13	-	-	-	54	54	0.0	0.0	0.000	A
				2	274	68	-	-	-	274	285	0.0	0.0	0.000	A
				3	25	6	-	-	-	25	25	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

# 2032 Gravity BAU, PM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 4 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Info	Lane Simulation	A1 - [Lane Simulation]	This analysis set uses Lane Simulation mode. For detailed information on this mode, please see the User Guide.

## 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	8.61	A

### Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	8.61	A

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D14	2032 Gravity BAU	PM	ONE HOUR	16:45	18:15	15	✓

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

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	179	100.000
2		ONE HOUR	✓	374	100.000
3		ONE HOUR	✓	216	100.000
4		ONE HOUR	✓	645	100.000

## Origin-Destination Data

### Demand (Veh/hr)

	To				
	1	2	3	4	
From	1	0	0	114	65
	2	0	0	40	334
	3	161	22	0	33
	4	121	487	37	0

## Vehicle Mix

### Heavy Vehicle Percentages

To				

From		1	2	3	4
	1	0	0	0	0
	2	0	0	0	6
	3	0	0	0	0
	4	0	4	0	0

## Results

### Results Summary for whole modelled period

Arm	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	5.99	0.3	A	166	250
2	7.62	0.8	A	344	516
3	7.91	0.6	A	196	293
4	10.14	1.9	B	593	890

### Main Results for each time segment

#### 16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	138	35	415	138	136	213	0.0	0.2	5.388	A
2	286	72	169	286	302	383	0.0	0.5	5.710	A
3	161	40	304	161	166	152	0.0	0.3	6.755	A
4	496	124	136	492	500	329	0.0	1.0	6.296	A

#### 17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	163	41	490	163	159	252	0.2	0.2	5.590	A
2	327	82	200	324	352	453	0.5	0.6	6.408	A
3	191	48	352	192	190	173	0.3	0.3	6.762	A
4	586	146	160	582	593	384	1.0	1.4	7.332	A

#### 17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	199	50	572	200	198	295	0.2	0.2	5.870	A
2	423	106	235	422	439	536	0.6	0.7	7.207	A
3	226	57	449	225	232	209	0.3	0.6	7.795	A
4	682	170	187	679	718	486	1.4	1.8	9.157	A

#### 17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	198	50	608	198	194	317	0.2	0.3	5.985	A
2	406	101	241	406	430	565	0.7	0.7	7.621	A
3	242	60	436	241	239	211	0.6	0.5	7.911	A
4	720	180	201	724	744	475	1.8	1.9	10.142	B

#### 17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	171	43	490	171	164	261	0.3	0.2	5.618	A



2	339	85	201	339	360	460	0.7	0.6	6.572	A
3	197	49	363	199	198	177	0.5	0.3	7.292	A
4	583	146	171	580	601	390	1.9	1.1	7.394	A

**18:00 - 18:15**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	130	33	412	131	134	209	0.2	0.2	5.228	A
2	282	71	158	283	301	385	0.6	0.4	5.837	A
3	156	39	303	157	163	138	0.3	0.2	6.283	A
4	493	123	130	491	503	330	1.1	1.1	6.339	A

## Lane Results

*Lane Level notation: Lane Level 1 is always closest to the junction.*

**Lanes: Main Results for each time segment****16:45 - 17:00**

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	2, 3	88	756	0.117	88	86	0.0	0.2	5.465	A
			2	1, 4	50	756	0.066	50	50	0.0	0.1	5.256	A
	Exit	1	1	(1, 2, 3, 4)	138			138	137	0.0	0.0	0.000	A
			1		213			213	216	0.0	0.0	0.000	A
2	Entry	1	1	3	33	905	0.036	32	32	0.0	0.0	4.211	A
			2	1, 2, 4	254	859	0.296	254	270	0.0	0.4	5.900	A
	Exit	1	1	(1, 2, 3, 4)	286			286	304	0.0	0.0	0.000	A
			1		383			383	394	0.0	0.0	0.000	A
3	Entry	1	1	1, 4	146	694	0.210	146	150	0.0	0.2	6.909	A
			2	2, 3	16	694	0.022	15	16	0.0	0.0	5.047	A
	Exit	1	1	(1, 2, 3, 4)	161			161	167	0.0	0.0	0.024	A
			1		152			152	148	0.0	0.0	0.000	A
4	Entry	1	1	1	93	962	0.097	93	92	0.0	0.1	4.151	A
			2	2, 3, 4	403	930	0.433	400	408	0.0	0.9	6.794	A
	Exit	1	1	(1, 2, 3, 4)	496			496	504	0.0	0.0	0.000	A
			1		329			329	346	0.0	0.0	0.000	A

**17:00 - 17:15**

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	2, 3	104	732	0.142	104	102	0.2	0.1	5.748	A
			2	1, 4	59	732	0.080	59	57	0.1	0.1	5.309	A
	Exit	1	1	(1, 2, 3, 4)	163			163	159	0.0	0.0	0.000	A
			1		252			252	248	0.0	0.0	0.000	A
2	Entry	1	1	3	32	896	0.036	31	34	0.0	0.1	3.968	A
			2	1, 2, 4	295	843	0.350	293	318	0.4	0.5	6.683	A
	Exit	1	1	(1, 2, 3, 4)	327			327	353	0.0	0.0	0.005	A
			1		453			453	472	0.0	0.0	0.000	A
3	Entry	1	1	1, 4	171	680	0.252	173	172	0.2	0.3	6.966	A
			2	2, 3	19	680	0.029	19	19	0.0	0.0	4.663	A
	Exit	1	1	(1, 2, 3, 4)	191			191	191	0.0	0.0	0.023	A
			1		173			173	168	0.0	0.0	0.000	A
4	Entry	1	1	1	112	954	0.117	111	108	0.1	0.1	4.396	A
			2	2, 3, 4	474	922	0.514	471	485	0.9	1.2	7.997	A
	Exit	1	1	(1, 2, 3, 4)	586			586	594	0.0	0.0	0.006	A
			1		384			384	406	0.0	0.0	0.000	A

**17:15 - 17:30**

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
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1	Entry	1	1	2, 3	127	706	0.179	127	126	0.1	0.1	6.055	A
			2	1, 4	72	706	0.102	72	72	0.1	0.1	5.547	A
	Exit	1	1	(1, 2, 3, 4)	199			199	198	0.0	0.0	0.000	A
			1		295			295	309	0.0	0.0	0.000	A
2	Entry	1	1	3	46	885	0.052	46	46	0.1	0.0	4.203	A
			2	1, 2, 4	377	830	0.453	376	393	0.5	0.7	7.541	A
	Exit	1	1	(1, 2, 3, 4)	423			423	439	0.0	0.0	0.035	A
			1		536			536	570	0.0	0.0	0.000	A
3	Entry	1	1	1, 4	205	652	0.315	203	209	0.3	0.6	7.926	A
			2	2, 3	21	652	0.032	21	23	0.0	0.0	5.807	A
	Exit	1	1	(1, 2, 3, 4)	226			226	233	0.0	0.0	0.078	A
			1		209			209	210	0.0	0.0	0.000	A
4	Entry	1	1	1	129	945	0.136	129	133	0.1	0.1	4.286	A
			2	2, 3, 4	553	912	0.606	550	585	1.2	1.7	10.129	B
	Exit	1	1	(1, 2, 3, 4)	682			682	720	0.0	0.0	0.145	A
			1		486			486	499	0.0	0.0	0.000	A

## 17:30 - 17:45

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	2, 3	127	694	0.183	127	125	0.1	0.2	6.159	A
			2	1, 4	71	694	0.102	72	69	0.1	0.1	5.673	A
	Exit	1	1	(1, 2, 3, 4)	198			198	194	0.0	0.0	0.000	A
			1		317			317	313	0.0	0.0	0.000	A
2	Entry	1	1	3	42	883	0.048	42	44	0.0	0.1	4.188	A
			2	1, 2, 4	363	838	0.434	364	386	0.7	0.6	7.991	A
	Exit	1	1	(1, 2, 3, 4)	406			406	430	0.0	0.0	0.039	A
			1		565			565	590	0.0	0.0	0.000	A
3	Entry	1	1	1, 4	219	656	0.334	218	216	0.6	0.5	8.095	A
			2	2, 3	23	656	0.035	23	24	0.0	0.0	5.303	A
	Exit	1	1	(1, 2, 3, 4)	242			242	239	0.0	0.0	0.093	A
			1		211			211	211	0.0	0.0	0.000	A
4	Entry	1	1	1	140	941	0.149	139	135	0.1	0.2	4.298	A
			2	2, 3, 4	581	901	0.645	585	609	1.7	1.7	11.224	B
	Exit	1	1	(1, 2, 3, 4)	720			721	744	0.0	0.0	0.216	A
			1		475			475	493	0.0	0.0	0.000	A

## 17:45 - 18:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	2, 3	109	733	0.149	109	104	0.2	0.1	5.774	A
			2	1, 4	62	733	0.084	61	60	0.1	0.1	5.347	A
	Exit	1	1	(1, 2, 3, 4)	171			171	164	0.0	0.0	0.000	A
			1		261			261	256	0.0	0.0	0.000	A
2	Entry	1	1	3	37	895	0.042	38	38	0.1	0.0	4.514	A
			2	1, 2, 4	302	854	0.354	301	323	0.6	0.6	6.825	A
	Exit	1	1	(1, 2, 3, 4)	339			339	360	0.0	0.0	0.000	A
			1		460			460	478	0.0	0.0	0.000	A
3	Entry	1	1	1, 4	177	678	0.262	179	178	0.5	0.3	7.480	A
			2	2, 3	20	678	0.029	19	21	0.0	0.0	5.514	A
	Exit	1	1	(1, 2, 3, 4)	197			197	198	0.0	0.0	0.019	A
			1		177			177	176	0.0	0.0	0.000	A
4	Entry	1	1	1	109	951	0.114	109	109	0.2	0.1	4.367	A
			2	2, 3, 4	475	920	0.516	471	491	1.7	1.0	7.969	A
	Exit	1	1	(1, 2, 3, 4)	583			583	598	0.0	0.0	0.103	A
			1		390			390	413	0.0	0.0	0.000	A

## 18:00 - 18:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
	Entry	1	1	2, 3	79	757	0.105	80	83	0.1	0.1	5.195	A
			2	1, 4	51	757	0.067	51	51	0.1	0.1	5.282	A

1		2	1	(1, 2, 3, 4)	130			130	134	0.0	0.0	0.000	A
	Exit	1	1		209			209	211	0.0	0.0	0.000	A
2	Entry	1	1	3	31	909	0.034	31	29	0.0	0.0	4.127	A
			2	1, 2, 4	251	856	0.294	252	272	0.6	0.4	6.030	A
	Exit	1	1	(1, 2, 3, 4)	282			282	300	0.0	0.0	0.000	A
			1		385			385	402	0.0	0.0	0.000	A
3	Entry	1	1	1, 4	141	694	0.204	142	146	0.3	0.2	6.349	A
			2	2, 3	15	694	0.022	15	17	0.0	0.0	5.669	A
	Exit	1	1	(1, 2, 3, 4)	156			156	162	0.0	0.0	0.005	A
			1		138			138	139	0.0	0.0	0.000	A
4	Entry	1	1	1	94	964	0.097	94	92	0.1	0.1	4.036	A
			2	2, 3, 4	399	932	0.428	397	412	1.0	0.9	6.873	A
	Exit	1	1	(1, 2, 3, 4)	493			493	503	0.0	0.0	0.001	A
			1		330			330	350	0.0	0.0	0.000	A

### Lane movements: Main Results for each time segment

16:45 - 17:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Simulation max flow (PCU/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	88	22	886	756	0.117	88	86	0.0	0.2	5.465	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	50	12	886	757	0.066	50	50	0.0	0.1	5.256	A
2	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	88	22	-	-	-	88	87	0.0	0.0	0.000	A
				4	50	12	-	-	-	50	51	0.0	0.0	0.000	A
		2	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	254	64	959	859	0.296	254	270	0.0	0.4	5.900	A
3	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	33	8	959	906	0.036	32	32	0.0	0.0	4.211	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	254	64	-	-	-	254	272	0.0	0.0	0.000	A
4	Entry	1	1	1	121	30	781	696	0.173	121	124	0.0	0.2	6.914	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	25	6	781	694	0.036	25	26	0.0	0.0	6.887	A
		2	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	16	4	774	688	0.023	15	16	0.0	0.0	5.047	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
5	Entry	1	1	1	121	30	-	-	-	121	125	0.0	0.0	0.028	A
				2	16	4	-	-	-	16	16	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	25	6	-	-	-	25	26	0.0	0.0	0.017	A
		2	2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	371	93	1006	927	0.401	368	378	0.0	0.8	6.803	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A



4	Entry	2	3	31	8	1006	962	0.033	32	30	0.0	0.0	6.694	A
				0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			1	93	23	-	-	-	93	92	0.0	0.0	0.000	A
				371	93	-	-	-	371	382	0.0	0.0	0.000	A
		2	3	31	8	-	-	-	31	30	0.0	0.0	0.000	A
				0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

## 17:00 - 17:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Simulation max flow (PCU/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	104	26	886	734	0.142	104	102	0.2	0.1	5.748	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	59	15	886	735	0.080	59	57	0.1	0.1	5.309	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	104	26	-	-	-	104	101	0.0	0.0	0.000	A
				4	59	15	-	-	-	59	57	0.0	0.0	0.000	A
2	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	32	8	959	895	0.036	31	34	0.0	0.1	3.968	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	295	74	959	843	0.350	293	318	0.4	0.5	6.683	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	32	8	-	-	-	32	35	0.0	0.0	0.000	A
				4	295	74	-	-	-	295	318	0.0	0.0	0.005	A
3	Entry	1	1	1	140	35	781	680	0.205	141	141	0.2	0.2	6.893	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	32	8	781	678	0.047	32	31	0.2	0.0	7.297	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	19	5	766	664	0.029	19	19	0.0	0.0	4.663	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	140	35	-	-	-	140	141	0.0	0.0	0.027	A
				2	19	5	-	-	-	19	19	0.0	0.0	0.032	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	32	8	-	-	-	32	31	0.0	0.0	0.000	A
4	Entry	1	1	1	112	28	1006	954	0.117	111	108	0.1	0.1	4.396	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	437	109	1006	920	0.475	434	453	0.9	1.1	7.966	A
				3	37	9	1006	953	0.039	37	32	0.9	0.1	8.416	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	112	28	-	-	-	112	108	0.0	0.0	0.005	A
				2	437	109	-	-	-	437	454	0.0	0.0	0.006	A
				3	37	9	-	-	-	37	33	0.0	0.0	0.014	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

## 17:15 - 17:30

Arm	Side	Lane level	Lane	To Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Simulation max flow (PCU/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service

1	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	127	32	886	705	0.180	127	126	0.1	0.1	6.055	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	72	18	886	705	0.102	72	72	0.1	0.1	5.547	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	127	32	-	-	-	127	126	0.0	0.0	0.000	A
				4	72	18	-	-	-	72	72	0.0	0.0	0.000	A
2	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	46	12	959	886	0.052	46	46	0.1	0.0	4.203	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	377	94	959	830	0.453	376	393	0.5	0.7	7.541	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	46	12	-	-	-	46	46	0.0	0.0	0.000	A
				4	377	94	-	-	-	377	393	0.0	0.0	0.039	A
3	Entry	1	1	1	167	42	781	652	0.257	166	175	0.3	0.5	7.993	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	38	9	781	651	0.058	37	34	0.3	0.1	7.580	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	21	5	781	654	0.032	21	23	0.0	0.0	5.807	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	168	42	-	-	-	167	176	0.0	0.0	0.083	A
				2	21	5	-	-	-	21	23	0.0	0.0	0.052	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	38	9	-	-	-	38	34	0.0	0.0	0.071	A
4	Entry	1	1	1	129	32	1006	945	0.137	129	133	0.1	0.1	4.286	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	516	129	1006	910	0.568	515	547	1.2	1.6	10.143	B
				3	36	9	1006	942	0.039	36	38	1.2	0.1	9.934	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	129	32	-	-	-	129	133	0.0	0.0	0.138	A
				2	516	129	-	-	-	516	549	0.0	0.0	0.146	A
				3	36	9	-	-	-	36	38	0.0	0.0	0.148	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

17:30 - 17:45

Arm	Side	Lane level	Lane	To Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Simulation max flow (PCU/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	127	32	886	693	0.184	127	125	0.1	0.2	6.159	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	71	18	886	689	0.103	72	69	0.1	0.1	5.673	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	127	32	-	-	-	127	125	0.0	0.0	0.000	A

				4	71	18	-	-	-	71	69	0.0	0.0	0.000	A
2	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	42	11	959	882	0.048	42	44	0.0	0.1	4.188	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	363	91	959	837	0.434	364	386	0.7	0.6	7.991	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	42	11	-	-	-	42	44	0.0	0.0	0.008	A
				4	363	91	-	-	-	363	386	0.0	0.0	0.043	A
3	Entry	1	1	1	179	45	781	656	0.273	178	178	0.6	0.4	8.058	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	40	10	781	658	0.061	40	38	0.6	0.1	8.267	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	23	6	781	656	0.035	23	24	0.0	0.0	5.303	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	179	45	-	-	-	179	177	0.0	0.0	0.098	A
				2	23	6	-	-	-	23	24	0.0	0.0	0.012	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	40	10	-	-	-	40	38	0.0	0.0	0.120	A
4	Entry	1	1	1	140	35	1006	940	0.149	139	135	0.1	0.2	4.298	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	539	135	1006	898	0.601	542	567	1.7	1.6	11.226	B
				3	41	10	1006	941	0.044	43	42	1.7	0.1	11.200	B
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	140	35	-	-	-	140	135	0.0	0.0	0.169	A
				2	539	135	-	-	-	539	567	0.0	0.0	0.220	A
				3	41	10	-	-	-	41	42	0.0	0.0	0.327	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

## 17:45 - 18:00

Arm	Side	Lane level	Lane	To Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Simulation max flow (PCU/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	109	27	886	734	0.149	109	104	0.2	0.1	5.774	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	62	15	886	732	0.084	61	60	0.1	0.1	5.347	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	109	27	-	-	-	109	104	0.0	0.0	0.000	A
				4	62	15	-	-	-	62	60	0.0	0.0	0.000	A
2	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	37	9	959	897	0.042	38	38	0.1	0.0	4.514	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	302	75	959	854	0.353	301	323	0.6	0.6	6.825	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A



3	Entry	1	1	3	37	9	-	-	-	37	38	0.0	0.0	0.000	A
				4	302	75	-	-	-	302	322	0.0	0.0	0.000	A
				1	150	38	781	677	0.222	152	147	0.5	0.2	7.557	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	27	7	781	678	0.040	27	31	0.5	0.1	7.108	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	20	5	781	675	0.029	19	21	0.0	0.0	5.514	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	150	38	-	-	-	150	146	0.0	0.0	0.022	A
				2	20	5	-	-	-	20	21	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	27	7	-	-	-	27	31	0.0	0.0	0.015	A
4	Entry	1	1	1	109	27	1006	951	0.114	109	109	0.2	0.1	4.367	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	444	111	1006	919	0.484	440	458	1.7	1.0	7.946	A
				3	30	8	1006	952	0.032	31	34	1.7	0.0	8.268	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	109	27	-	-	-	109	109	0.0	0.0	0.132	A
				2	444	111	-	-	-	444	455	0.0	0.0	0.094	A
				3	30	8	-	-	-	30	34	0.0	0.0	0.137	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A

## 18:00 - 18:15

Arm	Side	Lane level	Lane	To Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Simulation max flow (PCU/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	79	20	886	758	0.105	80	83	0.1	0.1	5.195	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	51	13	886	757	0.068	51	51	0.1	0.1	5.282	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	79	20	-	-	-	79	83	0.0	0.0	0.000	A
				4	51	13	-	-	-	51	51	0.0	0.0	0.000	A
2	Entry	1	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	31	8	959	909	0.034	31	29	0.0	0.0	4.127	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	251	63	959	856	0.294	252	272	0.6	0.4	6.030	A
		2	1	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	31	8	-	-	-	31	29	0.0	0.0	0.000	A
				4	251	63	-	-	-	251	271	0.0	0.0	0.000	A
3	Entry	1	1	1	115	29	781	693	0.166	115	119	0.3	0.2	6.369	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	26	7	781	693	0.038	26	27	0.3	0.0	6.261	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	15	4	774	686	0.022	15	17	0.0	0.0	5.669	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				1	115	29	-	-	-	115	119	0.0	0.0	0.006	A

4	Entry	2	1	2	15	4	-	-	-	15	17	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	26	7	-	-	-	26	27	0.0	0.0	0.007	A
		1	1	1	94	23	1006	962	0.097	94	92	0.1	0.1	4.036	A
				2	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				3	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
			2	1	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
				2	372	93	1006	930	0.400	370	385	1.0	0.9	6.872	A
				3	27	7	996	954	0.028	27	27	1.0	0.1	6.887	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
		2	1	1	94	23	-	-	-	94	92	0.0	0.0	0.000	A
				2	372	93	-	-	-	372	384	0.0	0.0	0.001	A
				3	27	7	-	-	-	27	27	0.0	0.0	0.000	A
				4	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A