



University of Kent, Canterbury Campus

Preliminary Transport Appraisal: Disposal Sites BCD





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Executive summary

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- 1.1.1. WSP has been commissioned by the University of Kent (UoK) to provide transport and environmental advice for the development of proposals at various sites in and around their Canterbury Campus.
 - 1.1.2. In August 2021 UoK submitted representations to Canterbury City Council's (CCC) Preferred Options Local Plan Consultation. This submission included proposals for development of a residential led new community on land to the north of the University's Campus referred to as Sites BCD. As part of that submission a Transport Strategy (August 2021) was included to consider the potential transport impacts of the Proposed Development.
 - 1.1.3. This Preliminary Transport Appraisal (PTA) has been prepared to supplement the information presented in the Transport Strategy and has been developed in accordance with a scope agreed with Kent County Council (KCC) as highway authority.
 - 1.1.4. The Proposed Development site benefits from access by a range of modes of transport and provisional strategies have been developed to ensure that access by sustainable modes is prioritised above that of the private car.
 - 1.1.5. The trip generation for the Proposed Development has been developed using person trip rates and split down by land use and journey purpose allowing for consideration of internalisation. No account has been made at this stage for travel planning which would further reduce the vehicular trip making characteristics of the site.
 - 1.1.6. A highway network assessment has been developed based around a manual spreadsheet-based trip generation, distribution and assignment. The impact of the Proposed Development on the highway network has then been tested at 13 locations surrounding the site that were agreed with KCC.
 - 1.1.7. The highway network assessment identified a number of locations where the existing highway network is anticipated to operate at/above capacity in the future year of 2040 and the Proposed Development was likely to increase queueing and delay.

- 1.1.8. Mitigation measures were developed at four locations which effectively reduced the impacts of the Proposed Development and improved the performance of the highway network when compared to the Do Nothing scenario.
- 1.1.9. At two locations (Junction 4 – Whitstable Road/Giles Lane and Junction 6 – Whitstable Road/London Road) a review of the junction layouts identified limited opportunities for improvements within the highway boundary. At Junction 4 it was noted that queueing and delay was limited to the Giles Lane minor arm. Traffic would likely re-distribute to the University Road junction where no capacity issues were identified.
- 1.1.10. At Junction 6 it was noted that the level crossing on St Dunstan's Street is likely to affect the level of queueing and delay that occurs in this location as well as the attractiveness of this junction for journeys within Canterbury. Whilst no specific mitigation has been proposed at this location it is likely that drivers will either re-route or re-time their journey should delays in this location increase significantly. The other junctions in the study area that could be used by re-routing traffic (Junction 3, Junction 7 and Junction 12) did not indicate significant capacity constraints that would prevent traffic from re-routing, even once growth through to 2040 had been accounted for. As such, whilst no cost-effective solution within the highway boundary has been identified for either Junction 4 or Junction 6 at this time, further testing of these junctions and the wider highway network within the strategic model is likely to identify opportunities for re-routing which will likely reduce impacts to an acceptable level.
- 1.1.11. It was therefore concluded that the Proposed Development can be accommodated on the highway network and from a transport perspective following development of a number of mitigation and re-routing options together with sustainable travel planning measures, as such there are no reasons why the site should not be allocated within the forthcoming Local Plan.

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2 Introduction

2.1 Background

- 2.1.1. WSP has been commissioned by the University of Kent (UoK) to provide transport and environmental advice for the development of proposals at various sites in and around their Canterbury Campus.
- 2.1.2. In August 2021 UoK submitted representations to Canterbury City Council's (CCC) Preferred Options Local Plan Consultation. As part of this submission a Transport Strategy was included that identified how land to the north of the University's Campus could be unlocked to facilitate a residential led new community.
- 2.1.3. Kent County Council (KCC), in their capacity as highway authority reviewed the Transport Strategy¹ and requested further information regarding the likely impacts of the Proposed Development on the transport network with a focus on likely highway impacts.
- 2.1.4. This Preliminary Transport Appraisal (PTA) has been prepared to outline the results of an initial highway impact assessment undertaken to better understand the deliverability of the Proposed Development.
- 2.1.5. At this early stage in the development of proposals a full Transport Assessment (as would be expected to accompany a planning application) has not been prepared. Instead, an initial assessment has been undertaken based upon a scope agreed with KCC, acknowledging that further, more detailed assessment will likely be required in due course as the proposals are further developed.

2.2 Scope

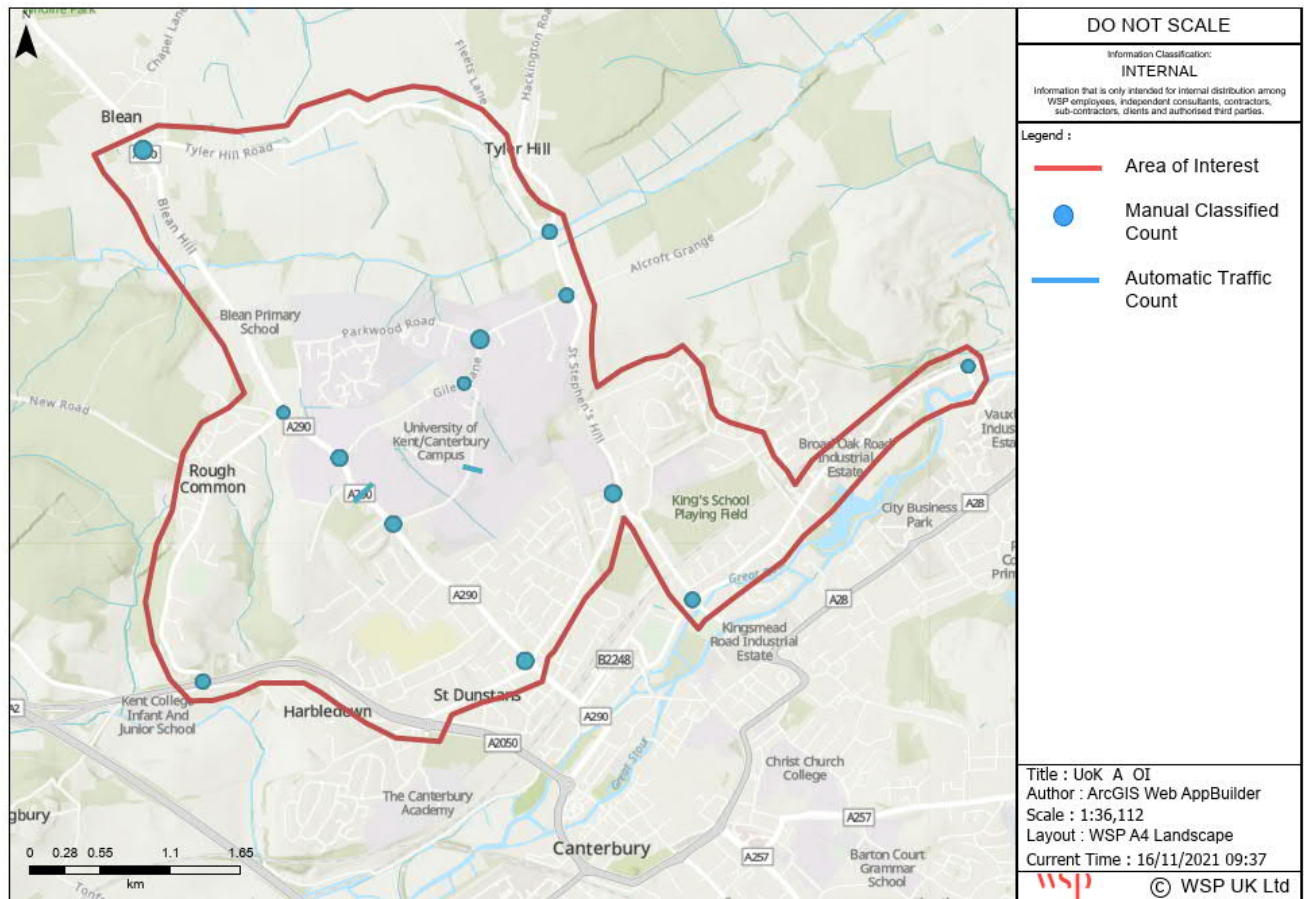
- 2.2.1. WSP approached KCC Highways to discuss and agree the scope of this PTA prior to its preparation. It was acknowledged at that time that two potential approaches could be utilised to understand the impacts of the Proposed Development on the highway network:
 - Utilising the Canterbury strategic transport model developed by Jacobs; or
 - A manual spreadsheet-based trip assignment with individual junction capacity assessments
- 2.2.2. Both options were explored and it was agreed that owing to the work required to the Canterbury strategic transport model to make it suitable for use in PTA that met the timescales requested by CCC to inform the Local Plan process a manual spreadsheet-based trip assignment and individual junction capacity assessments was the most

¹ WSP Transport Strategy: Disposal Sites (August 2021)

appropriate for this stage of the process and would be utilised to understand the likely impacts arising from the Proposed Development.

- 2.2.3. A study area consisting of 13 key junctions was agreed with KCC Highways. This study area is shown in **Figure 1**.

Figure 1: PTA Area of Interest



- 2.2.4. Junction turning counts were undertaken at the key junctions identified and agreed with KCC on Tuesday 7th December 2021. In addition, two week-long surveys were undertaken on Whitstable Road and University Road. These surveys were used to verify the results of the counts undertaken on the 7th December 2021 and for the purposes of producing data suitable for use within the separately prepared air quality assessment.

2.3 Report structure

- 2.3.1. Following this introduction, the remainder of this PTA is set out as follows:
- Section 2 considers the existing site and transport conditions
 - Section 3 provides an overview of the emerging development proposals and transport strategy
 - Section 4 provides a trip generation for the development proposals
 - Section 5 considers the impacts of the development proposals on the highway network



- Section 6 considers potential mitigation; and
- Section 7 provides a summary, conclusion and considers next steps.

3 Existing Transport Conditions

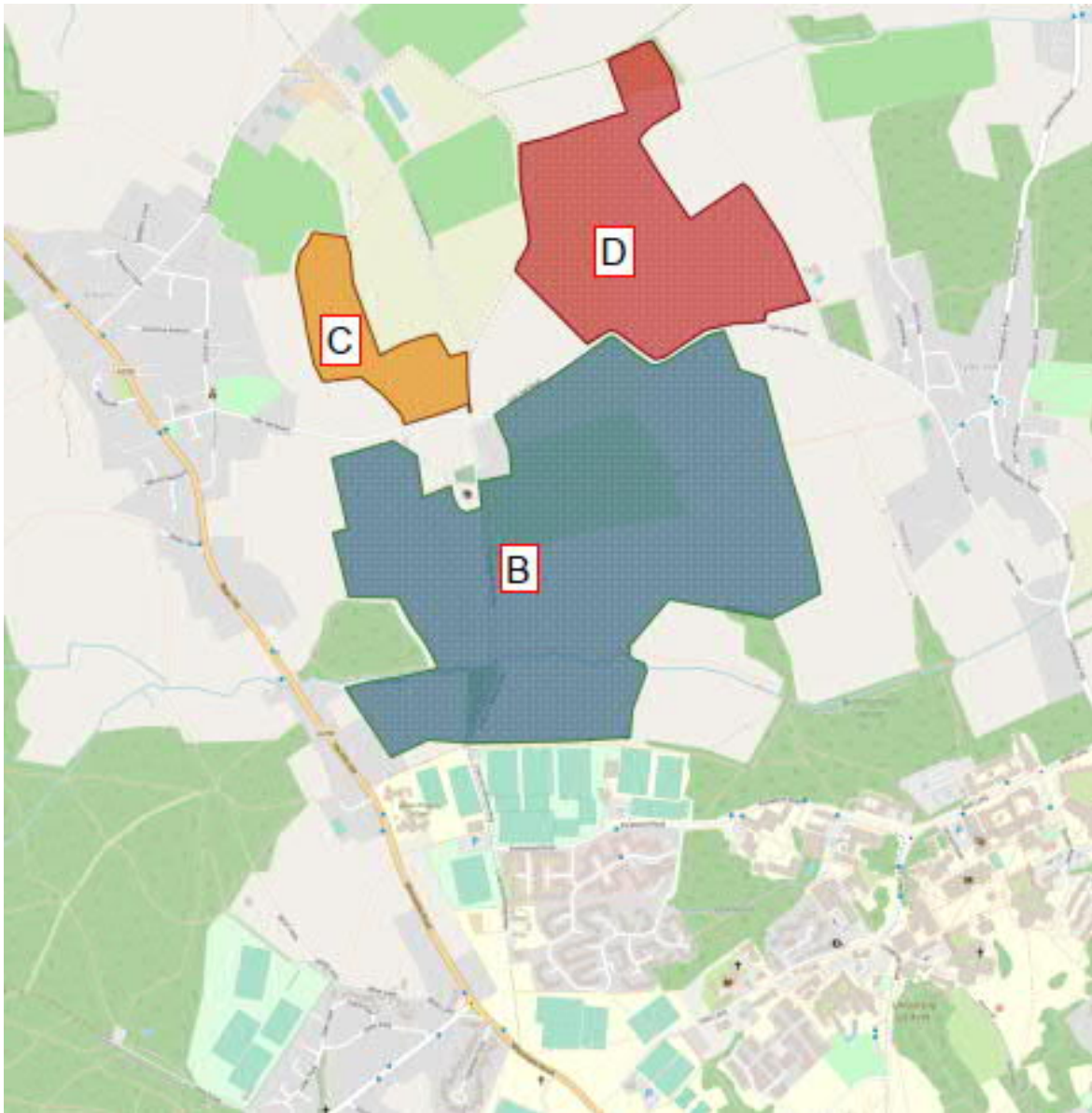
3.1 Introduction

- 3.1.1. This section outlines the existing transport conditions in the vicinity of the disposal sites, assessing the walking, cycling, public transport and local highway network facilities and accessibility.

3.2 Site location

- 3.2.1. The UoK Canterbury Campus is located to the north of the centre of Canterbury on the urban fringe of the City. Covering an area of approximately 105 hectares the University Campus features a mixture of academic and student accommodation buildings alongside associated sports and recreational facilities.
- 3.2.2. The focus of this PTA is land that the University has identified to the north of the University Campus and referred to as sites BCD. Sites BCD are currently accessed from Tyler Hill Road, an unclassified rural road that runs approximately east west between Blean and the A290 Whitstable Road in the west to the village of Tyler Hill in the east. Frontage to this road from Sites BCD is limited with third party land between the site boundary and adopted highway.
- 3.2.3. **Figure 2** identifies the location of Sites BCD in the context of the surrounding highway network.

Figure 2: UoK Disposal Sites BCD Site Location



3.3 Pedestrians

- 3.3.1. The area benefits from a combination of pedestrian footways bounding highway routes in the local area and a series of public rights of way that provide connections across the surrounding rural hinterland.
- 3.3.2. Several footways, bridleways and byways provide pedestrian access to the University campus and the surrounding surplus land. The main footways are provided along the neighbouring Whitstable Road in the west and St Stephen's Hill in the east. The University Campus is then accessed via either University Road or Giles Lane. Both Giles Lane and University Road feature footways along their length albeit in some locations these are only provided along one side of the carriageway. Continuous pedestrian routes are therefore

provided east west through the University Campus to connect Whitstable Road in the west with St Stephen's Hill in the east.

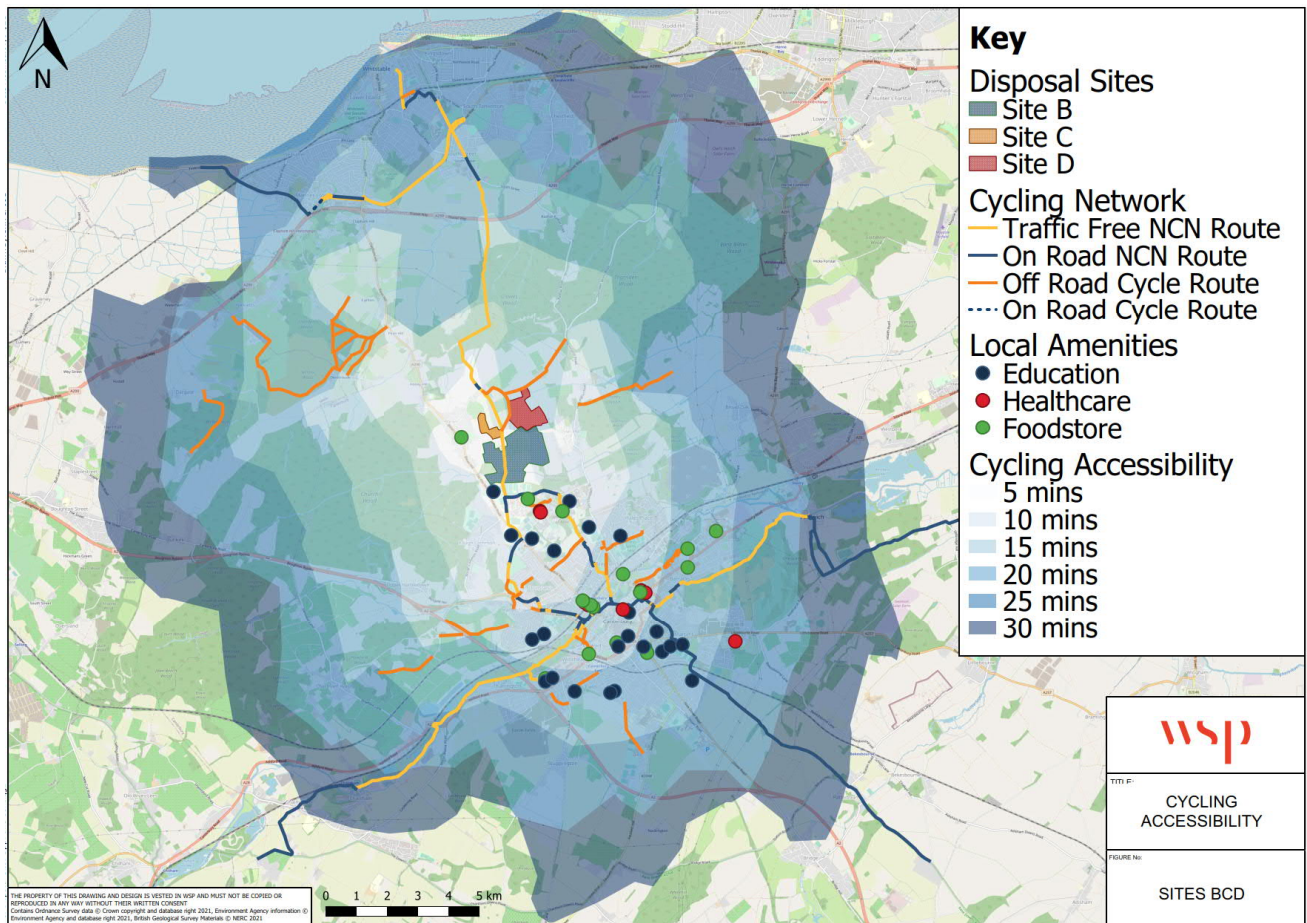
- 3.3.3. CB24A (The Crab and Winkle Way) provides a strategic walking connection between Canterbury and Whitstable (a distance of approximately 7.2km). The route commences on Whitstable Road in the west of the University Campus and heads north directly through the Campus on a combination of dedicated off road shared use pedestrian/footway and shared surface (used by both vehicles and active mode users). To the north of the University Campus the route continues across open farmland as a shared footway/cycleway within Site B before reaching Tyler Hill Road. The route from Whitstable Road to Tyler Hill Road is a designated bridleway. The route then crosses Tyler Hill Road at an uncontrolled crossing point before continuing north along the boundary of Site C and is designated as a byway. North of Site C the route continues towards Whitstable on a combination of bridleway and footpaths.
- 3.3.4. A series of public footpaths run east west across Site B including CB12 which follows the alignment of the watercourse and connects Blean in the west with Tyler Hill in the east. CB12 also connects with footpath CB13 which connects into the University Campus and Giles Lane. Footpath CB14 runs east west between Tyler Hill Road and Tyler Hill.
- 3.3.5. Site C is bound by byway CB27 in the east along with footpath CB16 both of which form part of the Crab and Winkle Way. Site C is also bound to the north by footpath CB18A which connects with Blean in the west.
- 3.3.6. Site D is bound in the west by byway CB27 and in the north by bridleway CB24.

3.4 Cyclists

- 3.4.1. There are several cycle paths that currently provide access to the University Campus and surplus land. The National Cycle Network (NCN) route 1, also known as the Crab and Winkle Way runs from north to south, part on carriageway and part traffic free through the University Campus and Site B and bounds Site C in the east. Locally the route runs between Canterbury in the south and Whitstable in the north. In addition to the NCN route, there are several off-road cycle routes that run through the University Campus east to west.
- 3.4.2. As shown in **Figure 3** the whole of Canterbury and areas to the north including Whitstable are all accessible within a five mile (30 minute) cycle of the centre of these sites. Five miles is considered to be the maximum distance that people could realistically swap car-based travel for cycling². A range of amenities and facilities can be accessed within these existing settlements including schools, convenience retail and healthcare.

² Department for Transport's Local Transport Note 1/20: Cycle Infrastructure Design (2020) Paragraph 2.2.2

Figure 3 – Sites BCD Cycling Isochrone



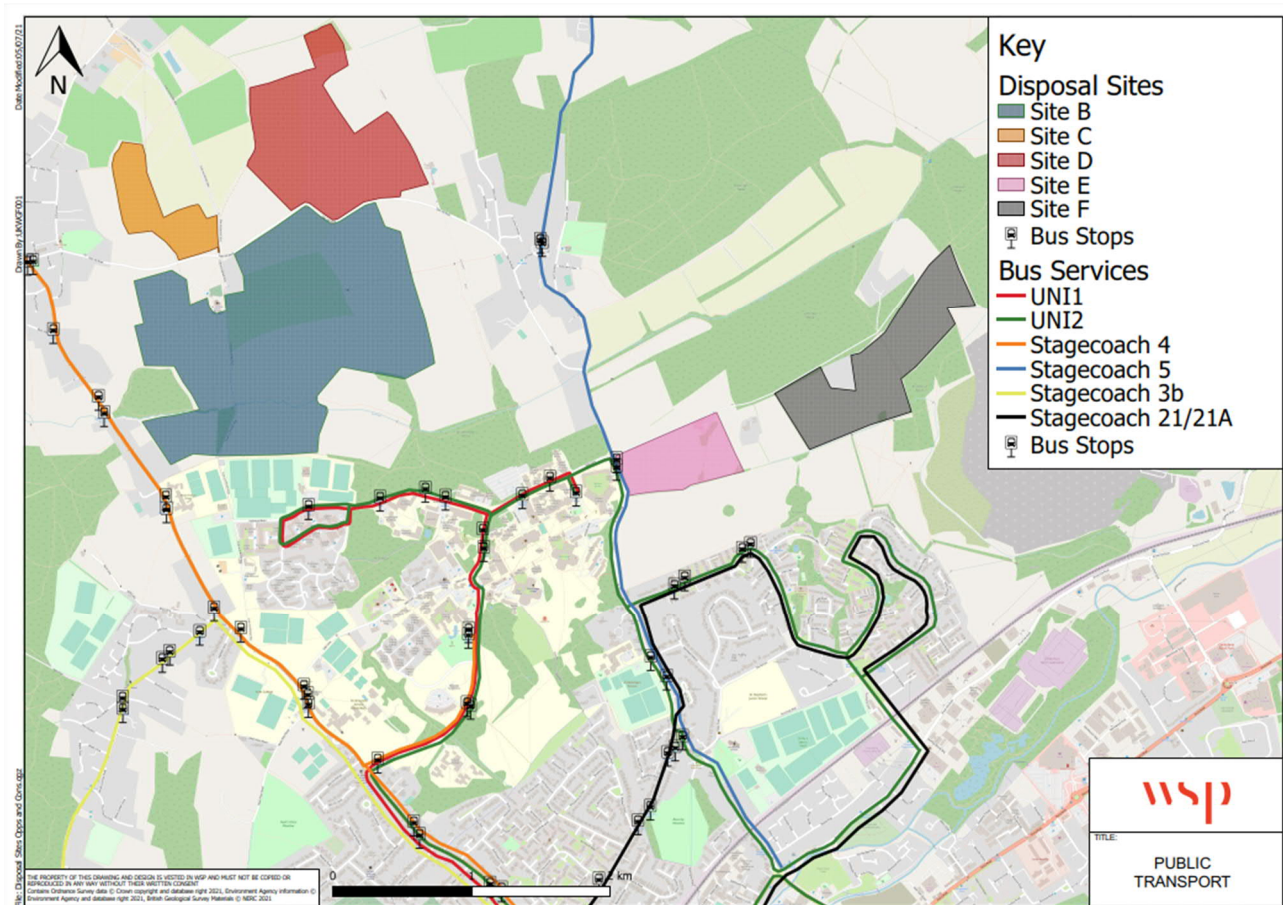
3.5 Public Transport

- 3.5.1. The University Campus and surrounding land benefits from access to a range of public transport services that primarily connect the University with wider Canterbury and destinations further afield. At the time of preparation of this study Covid-19 travel restrictions meant that some bus services were not operating. However, for the purposes of this Strategy pre-covid timetable information has been used to inform the assessment of accessibility on the basis that services will return in the near future.

Bus Services

- 3.5.2. **Figure 4** illustrates the bus stops and bus routes that are accessible from the bus stops in the vicinity of the University Campus and surrounding area.

Figure 4 – Local Bus Stops and Routes



- 3.5.3. **Figure 4** demonstrates that the University is served directly by three bus services whilst further services are accessible from both Whitstable Road in the west and St Stephen's Hill in the east.
- 3.5.4. **Table 1** provides a summary of the bus services accessible from the University Campus, Whitstable Road and St Stephen's Hill that could be utilised by users of Sites BCD.

Table 1 - Bus Services in the Vicinity of the Sites

Bus Service	Route	First Bus	Last Bus	Frequency		
				Mon - Fri	Sat	Sun
3 / 333 / 3x	Canterbury - Sittingbourne	07:40	21:00	Hourly	Hourly	Hourly
4	Canterbury - University of Kent – Whitstable – Tankerton - Greenhill	07:58	17:20	30 minutes	30 minutes	N/A
5	Canterbury – Tyler Hill – Chestfield – Whitstable - Seasalter	07:22	17:02	Hourly	Hourly	N/A
21/21A	City Centre - St. Dunstan's - Hales Place - City Centre	06:28	22:45	15 minutes	15 minutes	Hourly
UNI1	University of Kent – Canterbury City Centre	08:27	17:38	30 minutes	30 minutes	N/A
UNI2	Canterbury – Westgate Towers, University of Kent	09:00	18:04	30 minutes	30 minutes	N/A

- 3.5.5. **Table 1** demonstrates that a range of services are available in the area surrounding the sites that operate on a range of frequencies up to every 15 minutes. Key destinations served include Canterbury City Centre, Canterbury West Railway Station, Sittingbourne, Whitstable and Herne Bay.

Rail services

- 3.5.6. Canterbury West Railway Station is located approximately 1.7 km from the closest access point to the University and 2.7 km from the heart of the University Campus. To Sites BCD the station is 3.7 km. **Tables 2-4** provide details of the rail services from Canterbury West Station from Monday to Friday and Saturday and Sunday Respectively. All timings are from Canterbury West Station.

Table 2 - Rail Services (Monday – Friday)

Direct Service	First Train	Last Train	Frequency	Journey Time
Ramsgate – Canterbury West – London Victoria	07:03	22:03	Hourly	123 minutes
Margate – Canterbury West – London St Pancras	05:18	22:26	Hourly	54 minutes
Canterbury to Ashford International	05:18	23:26	Hourly	15 minutes

Table 3 - Rail Services (Saturday)

Direct Service	First Train	Last Train	Frequency	Journey Time
Ramsgate – Canterbury West – London Victoria	06:05	22:05	Hourly	121 minutes
Margate – Canterbury West – London St Pancras	05:26	22:26	Hourly	55 minutes
Canterbury to Ashford International	06:05	23:26	Hourly	15 minutes

Table 4 - Rail Services (Sunday)

Direct Service	First Train	Last Train	Frequency	Journey Time
Ramsgate – Canterbury West – London Victoria	08:03	21:03	Hourly	133 minutes
Margate – Canterbury West – London St Pancras	05:26	22:26	Hourly	55 minutes
Canterbury to Ashford International	06:05	23:26	Hourly	15 minutes

3.5.7. **Tables 2-4** demonstrate that Canterbury West Station provides train services to a range of locations including London Victoria, London St Pancras, and Ashford International.

- 3.5.8. The analysis presented above demonstrates that the railway station is accessible by either bus or by cycling from the disposal sites. Space for 134 cycles is provided at Canterbury West Station³.

3.6 Highway Network

- 3.6.1. The local highway network in the vicinity of Sites BCD is characterised by a series of north south radial routes that converge on Canterbury City Centre in the south and connect with the settlements of Herne Bay and Whitstable in the north. In the west the A290 Whitstable Road provides a connection between the City Centre Ring Road, the University, Blean and north towards the A299 and Whitstable. This road also connects in the vicinity of the University with Rough Common Road which provides a connection to the A2050 and A2 in the west.
- 3.6.2. In the east St Stephen's Hill connects the City Centre and areas to the east of Canterbury along the A28 corridor with the University and north towards the A299 and Herne Bay.
- 3.6.3. The University Campus itself is accessible from either Whitstable Road or St Stephen's Hill. Giles Lane provides a continuous east-west connection through the University Campus between Whitstable Road and St Stephen's Hill. However, its width is constrained within part of the University resulting in an informal priority working system. University Road provides a connection between Whitstable Road in the west and Giles Lane in the centre of the University Campus. The road forms a priority junction with Giles Lane. Within the centre of the University Campus both Giles Lane and University Road are subject to a 20mph speed limit.
- 3.6.4. Park Wood Road is a private internal university road that connects Giles Lane with areas in the north of the University.
- 3.6.5. Tyler Hill Road provides an east-west connection between the villages of Blean and Tyler Hill and runs between Sites BCD. The road is a rural country lane which whilst subject to national speed limit (60mph speed limit) features constrained geometry which limits the speed of vehicles.

3.7 Summary

- 3.7.1. This Section has provided a summary of the existing transport conditions in the vicinity of the site. It is evident from this that Sites BCD could benefit from access to a range of modes of transport. The proposed transport strategy is identified in Section 4.

³ Source: National Rail Website

4 Development Proposals

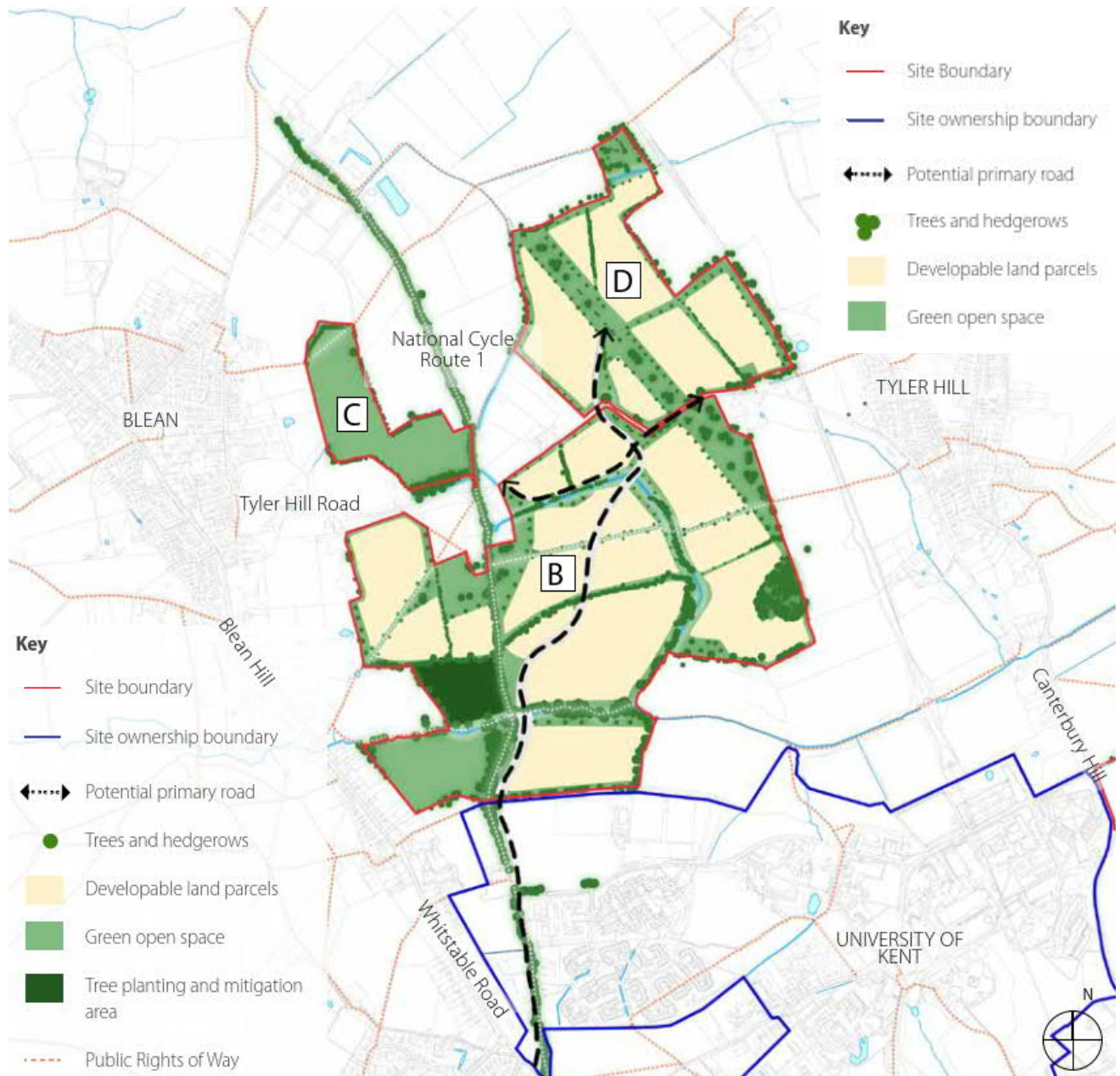
4.1 Introduction

- 4.1.1. This section provides an overview of the Development Proposals that have been considered within this PTA.

4.2 Development Proposals

- 4.2.1. A residential led mixed-use development is proposed to the north of the University Campus on Sites BCD. Initial masterplanning optioneering indicated potential for approximately 2000 homes supported by a local centre (incorporating transport hub) and primary school to serve the new population.
- 4.2.2. Access to the site would focus movement towards a north-south axis with movement to/from Tyler Hill Road managed through incorporation of the road within the site where it bounds the site.
- 4.2.3. A new access road for all users (pedestrians, cyclists and vehicles) would be delivered through the University Campus and access onto the public highway on Whitstable Road (A290). Previous work undertaken for the University Masterplan identified the potential for a traffic signal junction on Whitstable Road to facilitate access in this location. The form of access proposed is considered in more detail within Section 5.
- 4.2.4. Limited vehicular access to Site C would lend the site to provision of open space to contribute towards the overall provision across Sites BCD albeit acknowledging that should alternative access opportunities arise (for instance in the form of third party land) then there may be opportunity to deliver further residential development.
- 4.2.5. **Figure 5** outlines the current emerging masterplan for Sites BCD.

Figure 5: Emerging Masterplan Option (Source: PRP)



4.3 Access Strategy

Vehicular Access

- 4.3.1. When considering vehicular access to Sites BCD the starting point was to investigate where the current sites connect with the public highway. The only existing point of connection to the public highway is Tyler Hill Road. Tyler Hill Road is a single carriageway road that connects the A290 Whitstable Road in the west with the village of Tyler Hill and Hackington Road in the east. In the vicinity of Sites BCD Tyler Hill Road is subject to national speed limit (60mph), varies in width between approximately 4m and 6m, is subject to a 7.5t weight restriction and in places features limited forward visibility (**Figures 6-9**).

Figure 6 – View west along Tyler Hill Road adjacent to Hothe Lodge



Figure 7 – View east along Tyler Hill Road adjacent to Hothe Lodge



Figure 8 – View east along Tyler Hill Road from Blean Village

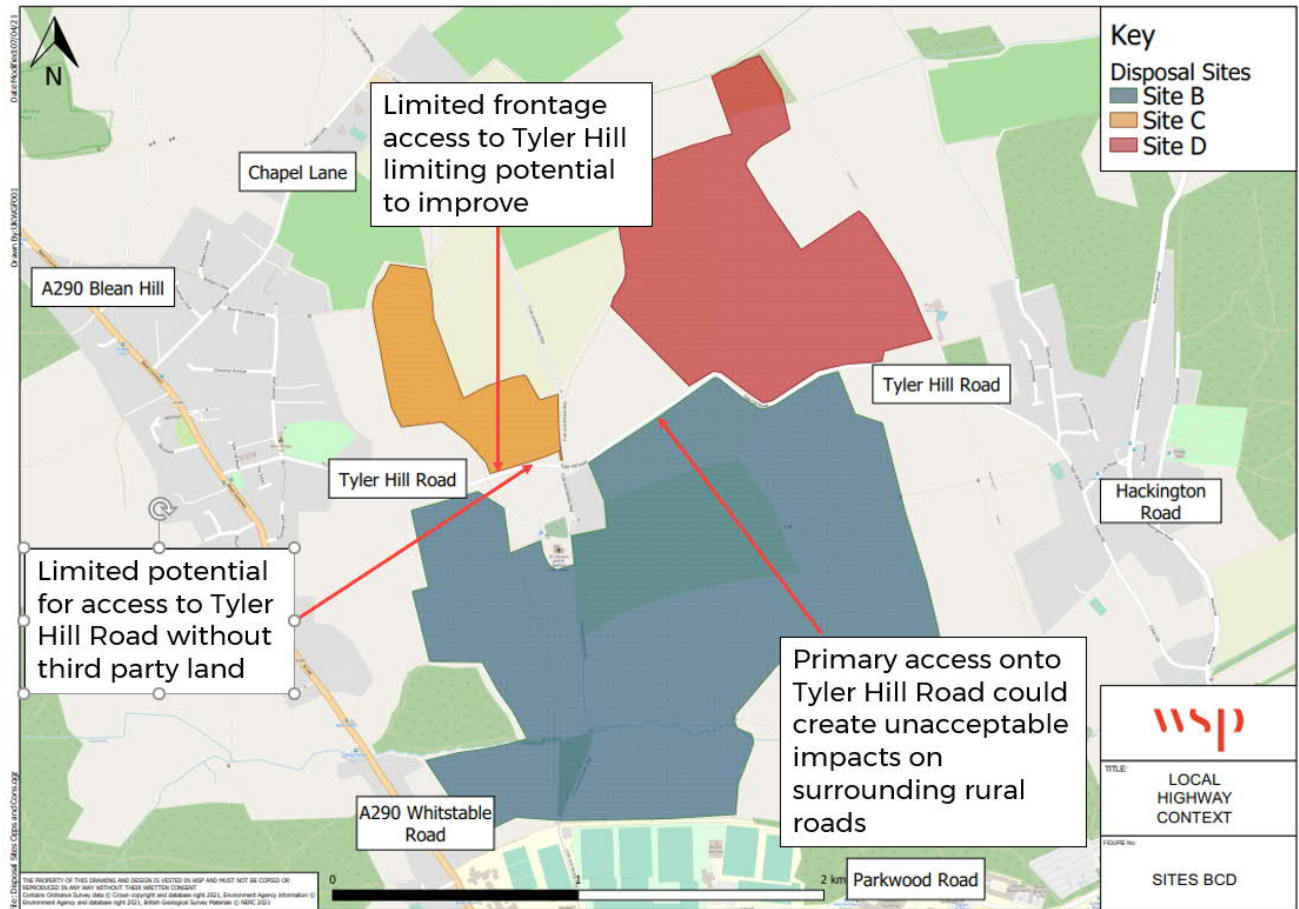


Figure 9 – View east along Tyler Hill Road from Hothe Court Farm



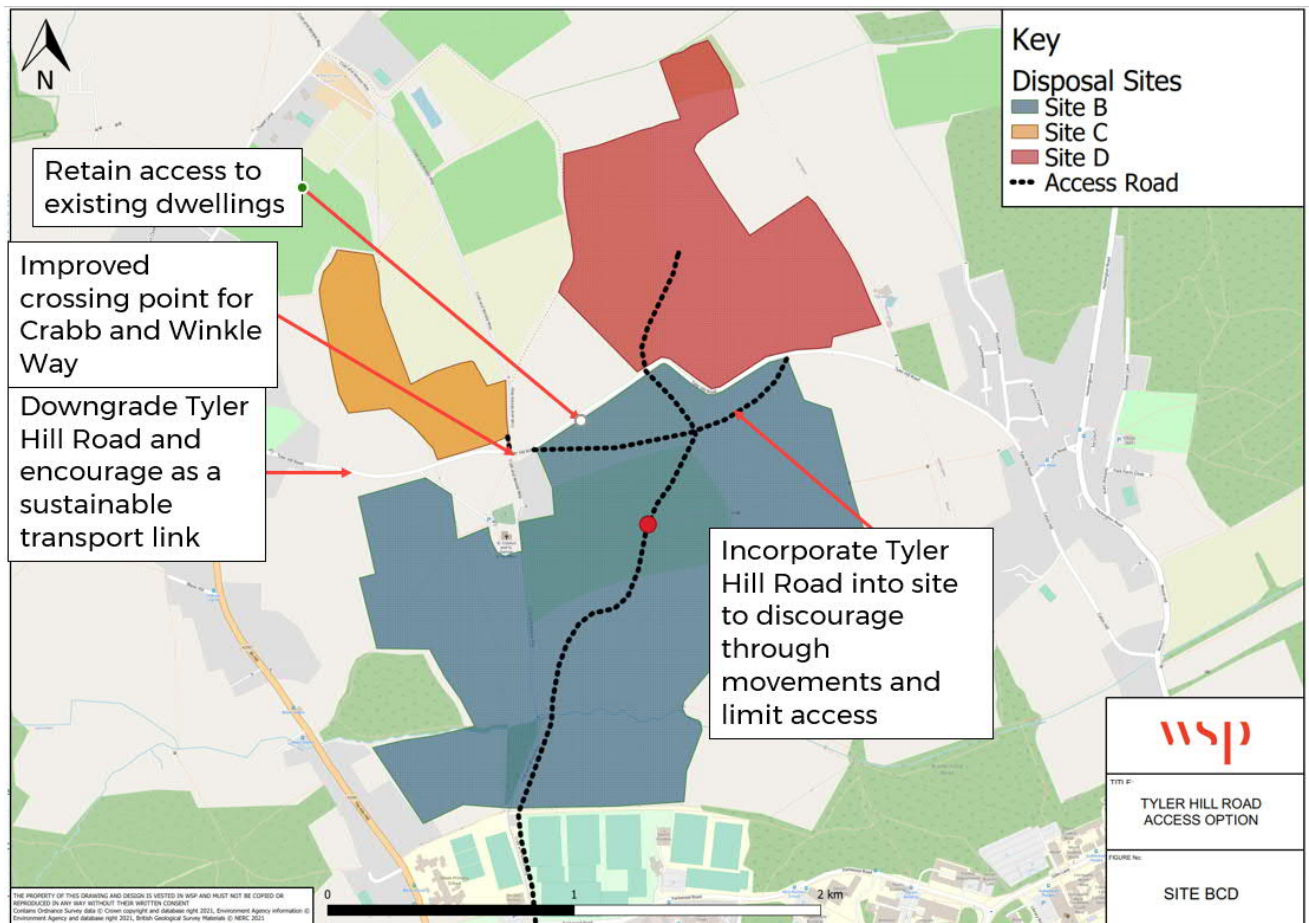
- 4.3.2. In its current form Tyler Hill Road is not currently considered suitable to accommodate a significant increase in volumes of traffic. Due to the University's limited frontage onto Tyler Hill Road, constrained highway boundary extents and multiple land ownerships fronting the highway, the University has limited potential within its own land ownership to improve the existing Tyler Hill Road (**Figure 10**).

Figure 10 – Access Constraints



- 4.3.3. Consideration has been given to whether access could be achieved through third party land acquisition. However, the multiple land ownerships restrict the ability to achieve this at this early stage (although opportunities may arise in due course). In addition, significantly increasing traffic volumes on this road could result in unacceptable impacts on the neighbouring village of Tyler Hill and upon the two junctions at either end (A290 and Hackington Road) which have been highlighted by KCC as a concern.
- 4.3.4. On the basis of the above, the access strategy for unlocking Sites BCD recommended developing a new north-south route through the University Campus achieving access onto Whitstable Road. To discourage increased usage of Tyler Hill Road it was recommended that the existing road was downgraded where it passed through University owned land and the highway incorporated into the masterplan where design measures could be incorporated to manage through traffic and limit access from the development out onto the retained sections of road. Further benefits would be the ability to re-prioritise Tyler Hill Road as a sustainable transport link and improve crossing conditions for the Crab and Winkle Way (**Figure 11**).

Figure 11 – Access Strategy



- 4.3.5. A range of alignments were considered for the new access road (**Figure 12**) to minimise impacts on the existing University Campus and other constraints such as the ancient woodland and watercourse.

Figure 12 – Access Road Alignment Options



- 4.3.6. The road itself would be designed in accordance with the principles established within the Department for Transport's (DfT) 'Manual for Streets' and likely feature a 30mph design speed. For the purposes of the initial feasibility design work a highway corridor of 15m was assumed to ensure sufficient space to accommodate the carriageway, pedestrian and cycle infrastructure in accordance with DfT Local Transport Note 1/20 'Cycle Infrastructure Design'.
- 4.3.7. The highway corridor has been designed as a separate movement corridor to the existing internal University infrastructure and the Crab and Winkle Way. Where the alignment either shares the same corridor or crosses the Crab and Winkle Way careful consideration will be made to preserve the priority of this strategic pedestrian and cycle corridor, integrating with it where appropriate.
- 4.3.8. The access road would also have the benefit of facilitating the ambitions of the University Masterplan to deliver a new access onto Whitstable Road and allow access to the new parking areas proposed within the masterplan.

- 4.3.9. The form of the access road junction with Whitstable Road is considered in more detail in Section 5.
- 4.3.10. Construction of a new highway corridor across the University will have an impact on existing facilities on the Campus and this would need to be fully considered within a Construction Traffic Management Plan.

Pedestrians and Cyclists

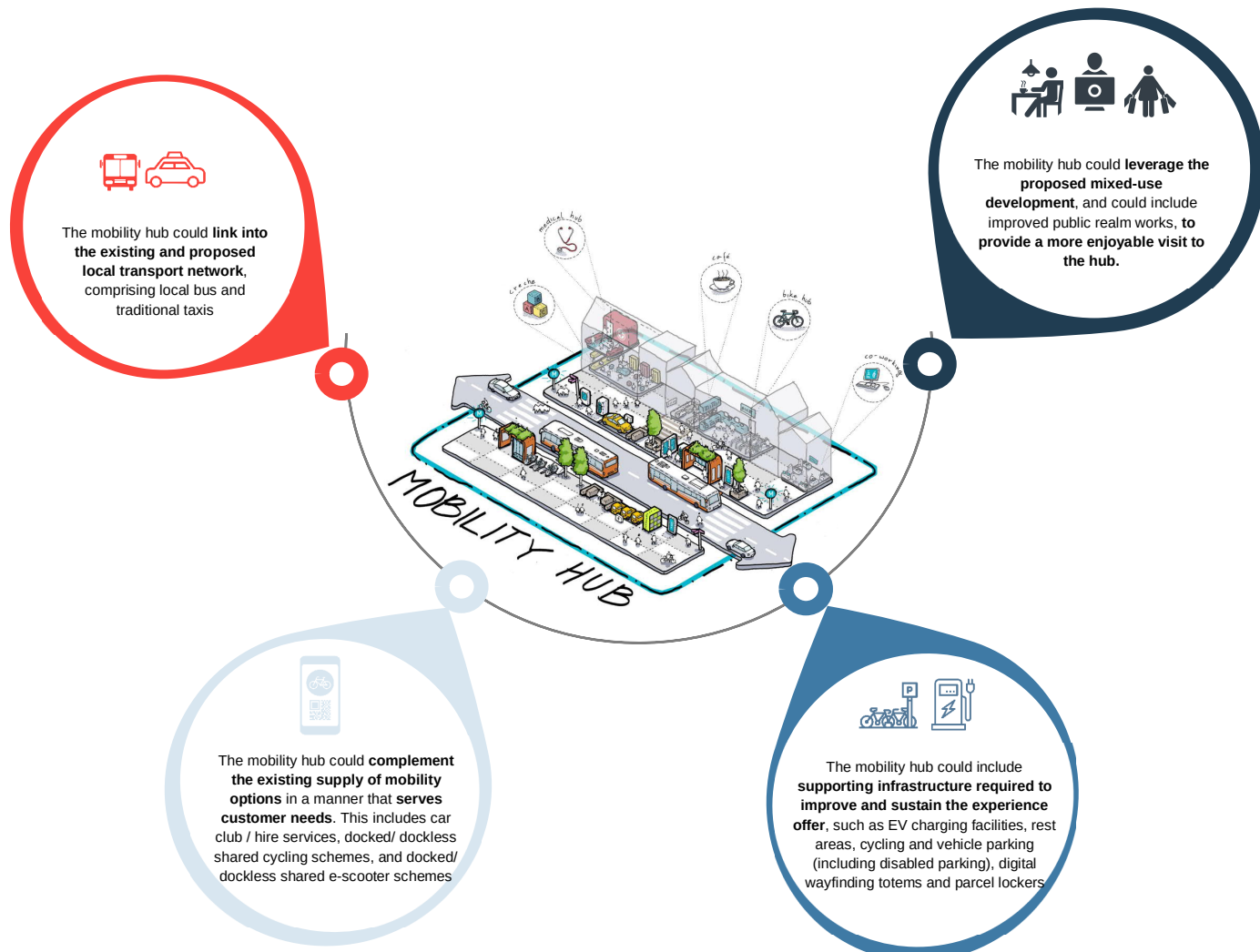
- 4.3.11. Pedestrians and cyclists would be afforded a high level of priority within the proposed masterplan to ensure that active travel can be a genuine alternative for shorter distance trips than the private car. To deliver this the following access infrastructure is proposed:
- Provision of footways and cycleways on the key movement corridors into and out of the site
 - Integration of the on-site provision with the Crab and Winkle Way and surrounding infrastructure
 - Improvements to Public Rights of Way in the local area to enhance connectivity with local destinations.

4.4 Public Transport Strategy

- 4.4.1. A key principle of the transport strategy is the delivery of a transport hub on the development site to focus and provide access to a range of transport options, with the overarching aim of reducing reliance on the private car (**Figure 13**). A mobility hub can be understood as a 'place' or interchange providing different and connected transport modes supplemented with enhanced facilities to both attract and benefit the traveller. They are usually focussed around mass public transport (e.g. bus stops or rail station) and last mile mobility solutions (e.g. cycles). The transport hub would be located adjacent to the local centre and be complimentary to the uses within the local centre itself. Whilst the principle of a mobility hub (transport hub) is still evolving the key transport components of the facility would include:
- Bus stop including access to real time passenger information
 - Cycle parking to facilitate modal interchange including bike pump and repair facilities
 - A focal point for ride sharing and hailing services (such as Uber)
 - Car club spaces
 - Micro-mobility (bike and scooter hire docking stations)
 - Rapid electric vehicle charging
- 4.4.2. Complimentary facilities may include:
- Micro-consolidation facilities such as parcel lockers (e.g. Amazon lockers)
 - Retail
 - Digital services (real time public transport information, community news etc)

- 4.4.3. The deployment of mobility hubs has already started across the UK with proposals emerging in Manchester (Ancoates and New Islington) and incorporation within the new garden settlement at Otterpool near Folkestone in Kent.

Figure 13 – Illustration of Transport Hub

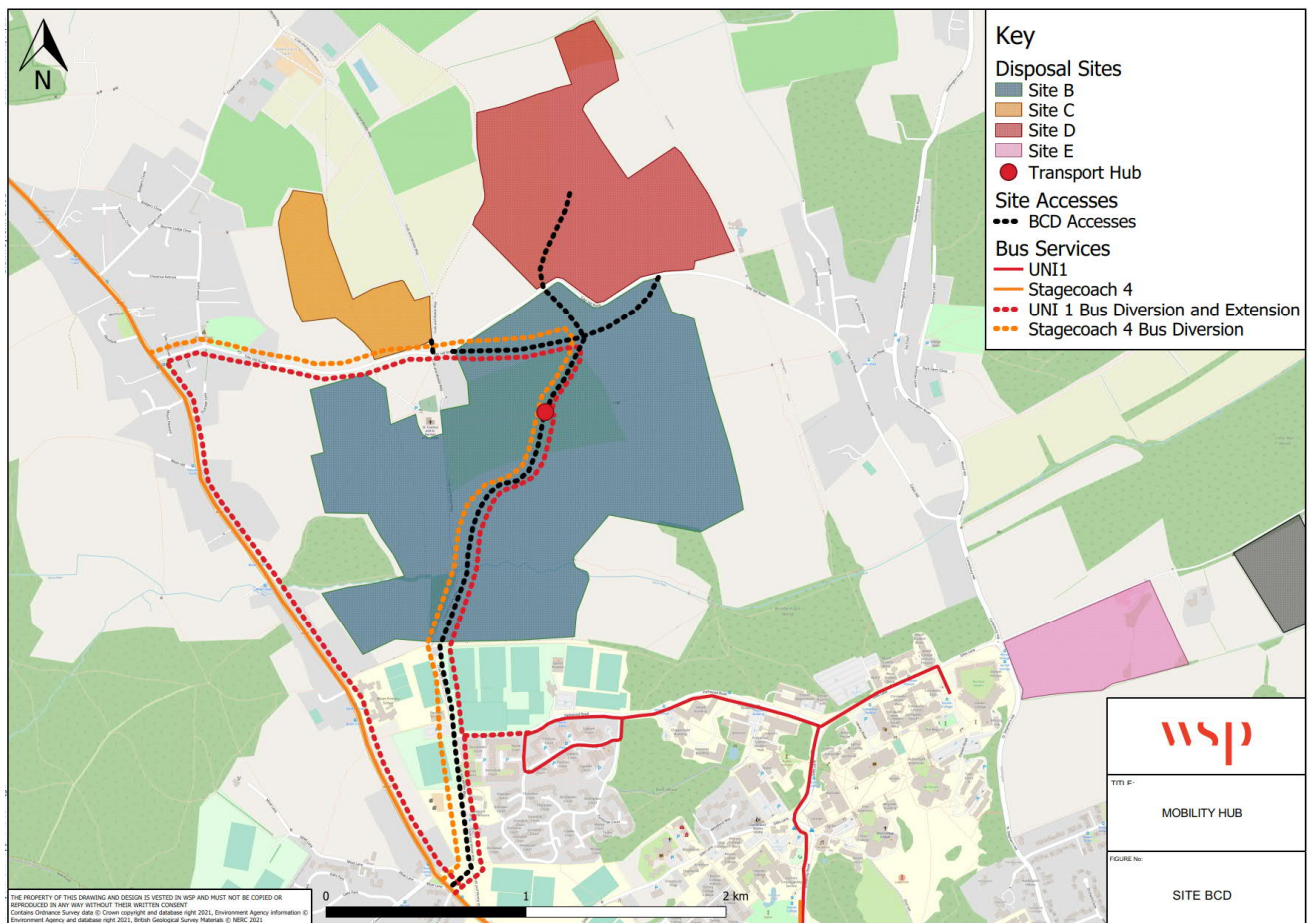


- 4.4.4. Alongside the emergence of mobility hubs technology has facilitated the development of personalised journey planning platforms. When combined across modes these are known as Mobility as a Service (MaaS). KCC are currently developing a MaaS platform for deployment across Dartford and Gravesham with a focus on the Ebbsfleet Garden Community. This app-based platform enables access to a wide range of mobility services (traditional bus, rail and taxi services) as well as emerging technologies such as car clubs and e-scooter and cycle hire. By providing access to information about all the services in one place people can make informed decisions about the most appropriate mode or multiple modes for their entire journey. Deployment of this platform could be done on a regional basis (as per the KCC example) or on a development specific basis (Enterprise Car Club for instance have developed their own platform which is being deployed in parts of Scotland). The use of a MaaS is considered a key element of future developments

alongside the provision of the Transport Hub to offer a range of services to residents and visitors of the site.

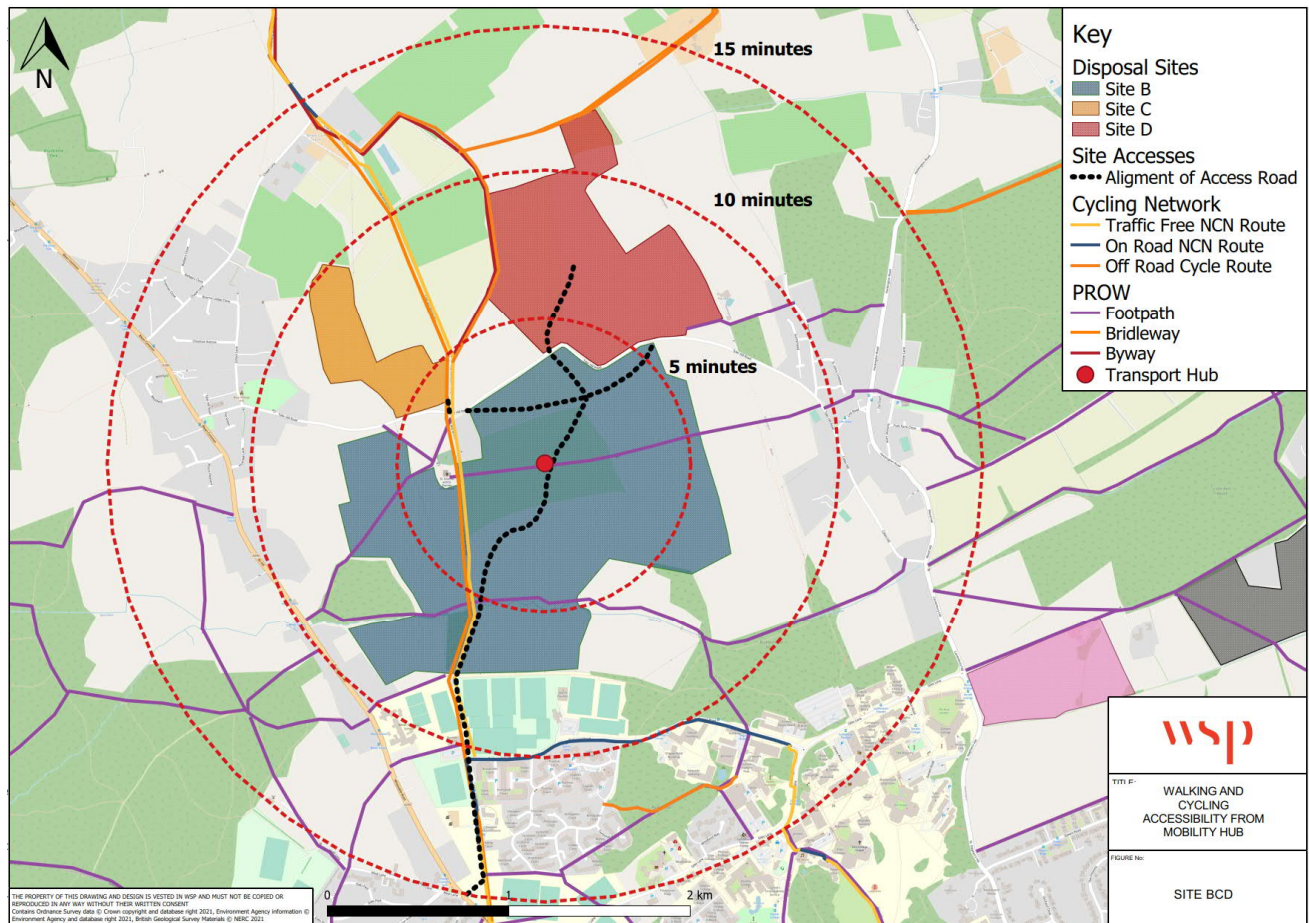
- 4.4.5. The Sites benefit from the high levels of public transport that access the University Campus. The public transport strategy will seek to build on the existing network of bus routes by extension of existing services to serve the on-site public transport hub located on the site. **Figure 14** indicates how existing bus routes could be extended to serve the development's on-site transport hub.

Figure 14: Public Transport Strategy



- 4.4.6. The strategy currently assumes an extension to Uni1 to serve the on-site transport hub. This would provide a daytime frequency of every 30 minutes. This would be further enhanced with the diversion of Route 4 southbound through the site to increase connectivity to the City Centre. However, further discussions would be held with the University and Stagecoach as local bus operator to ensure integration of the site with the public transport network.
- 4.4.7. **Figure 15** provides indicative walking times from the transport hub to all parts of the development site. These walking times would be further reduced through development of the site infrastructure and final siting of the public transport hub.

Figure 15: Public Transport Hub Walking Distances



4.5 Walking, Cycling and Micro-mobility Strategy

- 4.5.1. The emergence of new forms of personal mobility (e-scooters, e-bikes, cargo bikes, electric skateboards, shared bicycles and scooters) are collectively referred to as Micro-mobility. Whilst some of these modes may be personal (owned by the user) there is a growing trend towards shared usage (Santander cycle hire in London for instance). Through the MaaS platform mentioned previously residents and visitors of the site would have access to a range of mobility services to facilitate travel to and from the development.
- 4.5.2. The development site benefits from access to the Crab and Winkle Way and as identified in **Figure 3** the site benefits from access to the whole of Canterbury within a 30 minute cycle distance. The proximity of Canterbury to the site and available infrastructure alongside any enhancements that may be identified make travel by micro-mobility mobility an attractive option for future residents and visitors to the site.

4.6 Parking Strategy

- 4.6.1. The vision for the Proposed Development is to provide a sustainable new residential community. The site will prioritise pedestrian and cycle movements over that of vehicles, and to achieve this, it is envisaged that the development will be an early adopter of

innovative transport and servicing solutions based around the “Future Mobility” agenda, namely mechanisation and shared and autonomous transport solutions.

- 4.6.2. Whilst walking, cycling and public transport will be the primary modes of transport adopted for travel to and from the site, there will still be a role for personal vehicle travel. It is anticipated that a proportion of this demand can be catered for through shared mobility services such as car clubs and taxis. However, there will still be, particularly in the early years of the development a demand for private vehicle ownership and use which will drive a demand for parking.
- 4.6.3. The final level of parking to be provided will be determined at a later stage of design. However, reference will be made to KCCs vehicle parking standards with due regard given to demand for electric vehicle parking.
- 4.6.4. A key consideration will also be cycle parking and ensuring this is sufficient for the needs and vision of the development. Sufficient space will be provided to accommodate parking on plot with space for adaptive cycles and trailers. Visitor cycle parking will also be conveniently located to facilitate access to the site by cycle.

4.7 Servicing and Waste Strategy

- 4.7.1. The Covid Pandemic has resulted in an acceleration of online shopping trends. It is anticipated that this form of shopping will continue to grow as traditional retail responds to this growing demand. However, one detractor of the growth in online shopping has been the increase in delivery vehicles to accommodate demand.
- 4.7.2. Micro-consolidation offers the ability to reduce the number of deliveries and total mileage driven by couriers. The transport hub would be able to accommodate facilities such as parcel lockers offering a consolidated location for delivery of certain items that could then be picked up by residents at their own convenience and by active mode.
- 4.7.3. The waste strategy for the site will be developed in conjunction with CCC in due course but will need to have due regard to the Environment Bill which has recently been approved.

4.8 Future Trends Strategy

- 4.8.1. Technology is playing an increasing role in our day to day lives and this is having a transformative effect. The Covid-19 Pandemic has brought this further into focus and opportunities to accelerate the process of change have emerged.
- 4.8.2. Research undertaken by WSPs Future Ready team anticipates the following changes emerging:
 - Initially, the continued evolution of new mobility business models will increase the breadth of mobility services available and offer a viable alternative to personal vehicle ownership. These mobility business models capitalise on the ability to match customers and trips in real-time, to offer customers a more personalised form of mobility. Examples include:

- o **Ride Sharing** – Schemes/digital platforms that match drivers and passengers who share similar destinations. These operate at both individual and corporation levels. E.g. Faxe, Liftshare;
- o **Ride Sourcing** – Real-time, dynamic allocation of customers to drivers based on origin and destination and payment services using pre-approved accounts. Usually rides are in private hire vehicles however increasing offering of micro-transit vehicles to use operating model. E.g. Uber, ArrivaClick, ViaVan;
- o **Car Sharing** – On-demand short-term car rentals with the vehicle owned and managed by a fleet operator or private individual. E.g. Zipcar.
- o **Micro mobility** – On demand services are increasingly being introduced initially in the form of bikes but now with e-scooters

- Emergence of MaaS schemes, which unlock the use and adoption of both shared and public transport through seamless and personalised information, reservation, booking and payments integration. e.g. Whim.
- Lastly, the adoption of increasingly automated, connected and autonomous vehicles which enable travellers to migrate to shared assets; they also provide door-to-door transport whilst providing access on a personal or shared basis. These advances are expected to be commercially deployed at scale within private hire and city taxi fleets from 2025.

4.8.3. In addition, the recent Covid-19 Pandemic has seen the emergence of new policies promoting a shift towards walking and cycling as the primary modes of transport. The recent Emergency Active Travel Fund grant has seen urban areas closed to vehicular traffic and the re-prioritisation of walking and cycling which should in the longer term increase the use of these modes.

4.8.4. The continued growth and evolution of these new forms of mobility is very dependent on future external levers, such as the regulatory environment, the affordability and acceptability of technology, and the customers' willingness to share. However, wider automotive sector trends already indicate how transport offerings are influencing customer behaviours:

- Driving licencing amongst young people has been falling since a peak of 48% (17-20 year olds) and 75% (21-29year olds) in 1993, to 29% and 63% respectively in 2014; with research suggesting that changing behaviours are more than just a postponement of driving⁴

4

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/673176/young-peoples-travel-whats-changed.pdf

- The uptake of car clubs within urban areas has created an opportunity for car free living without compromising on the ability to have access to a car for leisure and recreational purposes. Canterbury currently has a car club operated by Co-wheels for instance.
- Traditional car manufacturers, concerned about losing customer ownership, are actively planning and investing in integrated mobility services. Volvo has recently launched 'Care' a monthly car subscription service⁵ with no long-term commitments
- Rates of urbanisation are increasing and city residents are being pressed to reassess the benefits of personal vehicle ownership as the breadth of mobility services available increases⁶
- Increasing prevalence of telecommuting which has been an area of focus during the recent Covid-19 Pandemic.

4.8.5. The transport strategy outlined in this section has reflected upon the most recent trends and innovations across the transport industry and will be developed and refined as the proposals are developed.

⁵ <https://www.volvocars.com/uk/care-by-volvo/>

⁶ <https://www.bbc.co.uk/news/uk-44482291>

5 Trip Generation and Distribution

5.1 Introduction

- 5.1.1. This section outlines a trip generation for the Proposed Development along with detailing how the trip distribution has been derived. The trip generation is presented for both the peak hours and across the day as a whole. The daily trip generation is utilised in the separately prepared air quality assessment.

5.2 Development Quantum

- 5.2.1. For the purposes of this PTA the development proposals that have been considered are as follows:
- 2,000 dwellings with a mixture of housing and tenure type. Based upon the emerging masterplan the residential development quantum has been split down with 1447 dwellings assumed on Site B and 553 dwellings assumed on Site D.
 - Local Centre located on Site B to serve the needs of the new community including a transport hub
 - Primary School located on Site B to accommodate the primary school age pupils living on site
 - Public open space to accommodate the needs of the development

5.3 Residential Trip Generation

- 5.3.1. The industry standard TRICS trip generation database has been interrogated to identify trip rates for the residential land use. The category 'Private Houses' was selected to reflect the likely mix of dwellings proposed on the site. The 'Private Houses' trip rate was applied as this allows for up to 25% of the dwellings to be affordable and up to 25% of the dwellings to be apartments (source: TRICS Land use definitions). Multi-modal trip rates were selected to allow for the person trip generation to be calculated.
- 5.3.2. The AM and PM peak person trip rates (per dwelling) extracted from TRICS are shown in **Table 5** along with the resultant person trip generation. The TRICS output is contained in **Appendix A**.

Table 5 - Residential Person Trip Rates and Trip Generation

	AM Peak (08:00 - 09:00)			PM Peak (17:00 - 18:00)			Daily		
	Arrivals	Departures	Total	Arrivals	Departures	Total	Arrivals	Departures	Total
Residential Person Trip Rate (per dwelling)	0.173	0.754	0.927	0.590	0.300	0.890	3.557	3.621	7.178
Residential Person Trip Generation (2000 dwellings)	346	1508	1854	1180	600	1780	7114	7242	14356

- 5.3.3. As seen in **Table 5** above, the provisional person trip generation would total 1854 in the AM peak and 1780 in the PM peak.
- 5.3.4. The person trip rates, and the subsequent person trip generation were then disaggregated by journey purpose and mode. This approach enabled detailed consideration of internalisation as well as providing an opportunity for different mode shares to be applied to each journey purpose.
- 5.3.5. The methodology utilised the National Travel Survey (NTS0502) data which identified journey purpose by time of day as shown in **Table 6**.

Table 6 – NTS0502 Journey Purpose By Start Time (2019)

Journey Purpose	AM Peak (08:00-09:00)	PM Peak (17:00 – 18:00)	Daily
Commuting	20%	32%	18%
Business	3%	3%	4%
Education	29%	3%	9%
Escort Education	23%	2%	8%
Shopping	4%	12%	17%
Other work, other escort or personal business	14%	20%	19%
Visiting friends / entertainment / sport	3%	20%	18%
Holiday / Day trip / Other	4%	8%	9%

5.3.6. The journey purposes outlined in **Table 6** were then combined to reduce the number of individual trip generations required as follows:

- Commuting and Business
- Education
- Education Escort
- Shopping
- Other work, visiting friends, holiday

5.3.7. **Table 7** presents the person trip generation for Sites B and D split by journey purpose based upon the person trip generation shown in **Table 5**.

Table 7 – Residential Person Trip Generation By Journey Purpose and Site

Journey Purpose/ Peak Period	Private Houses (Total)	Communit g / Business	Retail	Education	Education Escort	Other Work, visiting friends, holiday
Site B						
AM Peak (08:00-09:00)	1341	307	56	383	307	288
PM Peak (17:00 – 18:00)	1288	458	155	38	28	608
Daily	10387	2314	1718	1013	831	4511
Site D						
AM Peak (08:00-09:00)	513	117	22	146	117	110
PM Peak (17:00 – 18:00)	492	175	59	15	11	233
Daily	3969	884	656	387	317	1724

- 5.3.8. Education trips are separated within NTS 0502 into those that are escorted and those that are not. For the purpose of the trip generation, it was assumed that unescorted trips represent those undertaken by secondary, further and higher education pupils, whilst education escort trips were assumed to be undertaken by primary school pupils.
- 5.3.9. The following mode share and internalisation assumptions were applied after the trips were split by journey purpose.
- Retail – 10% of the residential trips were internalised reflecting the presence of a local centre on site to serve the needs of the development.
 - Escort Education – 100% of the residential trips were internalised to reflect the presence of a primary school on site.
- 5.3.10. The residential person trip generation by site taking account of the internalisation factors outlined above is detailed in **Table 8**.

Table 8 – Residential Person Trip Generation By Journey Purpose and Site (Including Internalisation)

Journey Purpose/ Peak Period	Private Houses (Total)	Communit g / Business	Retail	Education	Education Escort	Other Work, visiting friends, holiday
Site B						
AM Peak (08:00-09:00)	1029	307	51	383	0	288
PM Peak (17:00 – 18:00)	1244	458	140	38	0	608
Daily	9384	2314	1546	1013	0	4511
Site D						
AM Peak (08:00-09:00)	393	117	19	146	0	110
PM Peak (17:00 – 18:00)	475	175	53	15	0	233
Daily	3586	884	591	387	0	1724

5.3.11. A review of 2011 Census Travel to Work data was undertaken to identify the likely mode share of residential external trip making by all journey purposes. **Table 9** illustrates the mode share derived for the Mid Layer Super Output Area (MSOA) that the site is located within.

Table 9: 2011 Census Travel to Work Mode Share

Mode	Percentage (based upon Canterbury 012 and Census Table WU03EW)
Rail (including underground)	5.41%
Bus	8.04%
Taxi	0.84%
Motorcycle	0.48%
Car Driver	58.33%
Car Passenger	4.90%
Bicycle	4.20%
Foot	17.80%
Other	0.00%
Total	100%

5.3.12. **Tables 10** and **11** show the residential trip generation my mode for Sites B and D.

Table 10 – Site B Residential Development Trip Generation

Mode	AM Peak (08:00-09:00)			PM Peak (17:00 – 18:00)			Daily		
	Arrivals	Departures	Total	Arrivals	Departures	Total	Arrivals	Departures	Total
Public Transport	26	113	138	111	56	167	632	630	1262
Taxi	2	7	9	7	4	11	39	39	79
Motorcycle	1	4	5	4	2	6	22	22	45
Car Driver	112	488	600	481	245	726	2741	2733	5474
Car Passenger	9	41	50	40	21	61	230	229	460
Cycle	8	35	43	35	18	52	197	197	394
Pedestrian	34	149	183	147	75	221	836	834	1670
Total	192	837	1029	825	421	1246	4699	4685	9384
Vehicular Total	136	499	614	492	263	742	2803	2795	5598

Table 11 – Site D Residential Development Trip Generation

Mode	AM Peak (08:00-09:00)			PM Peak (17:00 – 18:00)			Daily		
	Arrivals	Departures	Total	Arrivals	Departures	Total	Arrivals	Departures	Total
Public Transport	10	43	53	42	22	64	242	241	482
Taxi	1	3	4	3	1	4	15	15	30
Motorcycle	0	2	2	1	1	2	9	9	17
Car Driver	43	187	229	184	93	277	1047	1045	2092
Car Passenger	4	16	19	15	8	23	88	88	176
Cycle	3	13	16	13	7	20	75	75	151
Pedestrian	13	57	70	56	29	85	320	319	638
Total	74	321	395	314	161	475	1796	1791	3586
Vehicular Total	44	191	235	188	96	284	1071	1068	2139

5.3.13. The resultant residential trip generation for both Sites B and D combined is shown in **Table 12**.

Table 12 – Total Residential Trip Generation (Sites B and D)

Mode	AM Peak (08:00-09:00)			PM Peak (17:00 – 18:00)			Daily		
	Arrivals	Departures	Total	Arrivals	Departures	Total	Arrivals	Departures	Total
Public Transport	36	156	191	153	78	231	874	871	1745
Taxi	2	10	12	10	5	14	55	54	109
Motorcycle	1	5	7	5	3	8	31	31	62
Car Driver	155	675	830	665	338	1003	3788	3778	7566
Car Passenger	13	57	70	56	28	84	318	317	635
Cycle	11	49	60	48	24	72	273	272	545
Pedestrian	47	206	253	203	103	306	1156	1153	2309
Total	265	1157	1423	1140	580	1720	6494	6476	12970
Vehicular Total	180	690	849	680	359	1026	3874	3863	7737

5.4 Other land use trip generation

Local Centre

- 5.4.1. The local centre is proposed to serve the needs of the Proposed Development and as such will not attract trips external to the development except a limited number of staff and servicing trips. For the purposes of this PTA no trip generation has been assumed associated with this land use.

Primary school

- 5.4.2. The primary school is proposed to serve the needs of the Proposed Development. The only trips associated with this land use will therefore be staff trips and a limited number of servicing trips. A provisional external to site trip generation has been developed on the basis of provision of a two-form of entry primary school. **Table 13** presents the staff trip generation on the basis of the following assumptions:

- A two-form of entry primary school would have approximately 42 full time equivalent staff of which 69% would be teaching staff and 31% non-teaching staff
- 20% of these staff are likely to live on the development site
- 50% of teaching staff would arrive and depart in the peak hours. 90% of non-teaching would arrive in the AM peak and 10% depart in the PM peak
- External to site staff trips will be 100% via private vehicle

Table 13 – Primary School Staff Vehicular Trip Generation

	AM Peak (08:00-09:00)			PM Peak (17:00 – 18:00)			Daily		
	Arrivals	Departures	Total	Arrivals	Departures	Total	Arrivals	Departures	Total
Primary School Staff Trips	21	0	21	0	13	13	34	34	68

Public open space

- 5.4.3. Public open space will be provided to accommodate the needs of the development, and this will not have an external trip generation.

Development Trip Generation

- 5.4.4. **Table 14** illustrates the total trip generation for the proposed development.

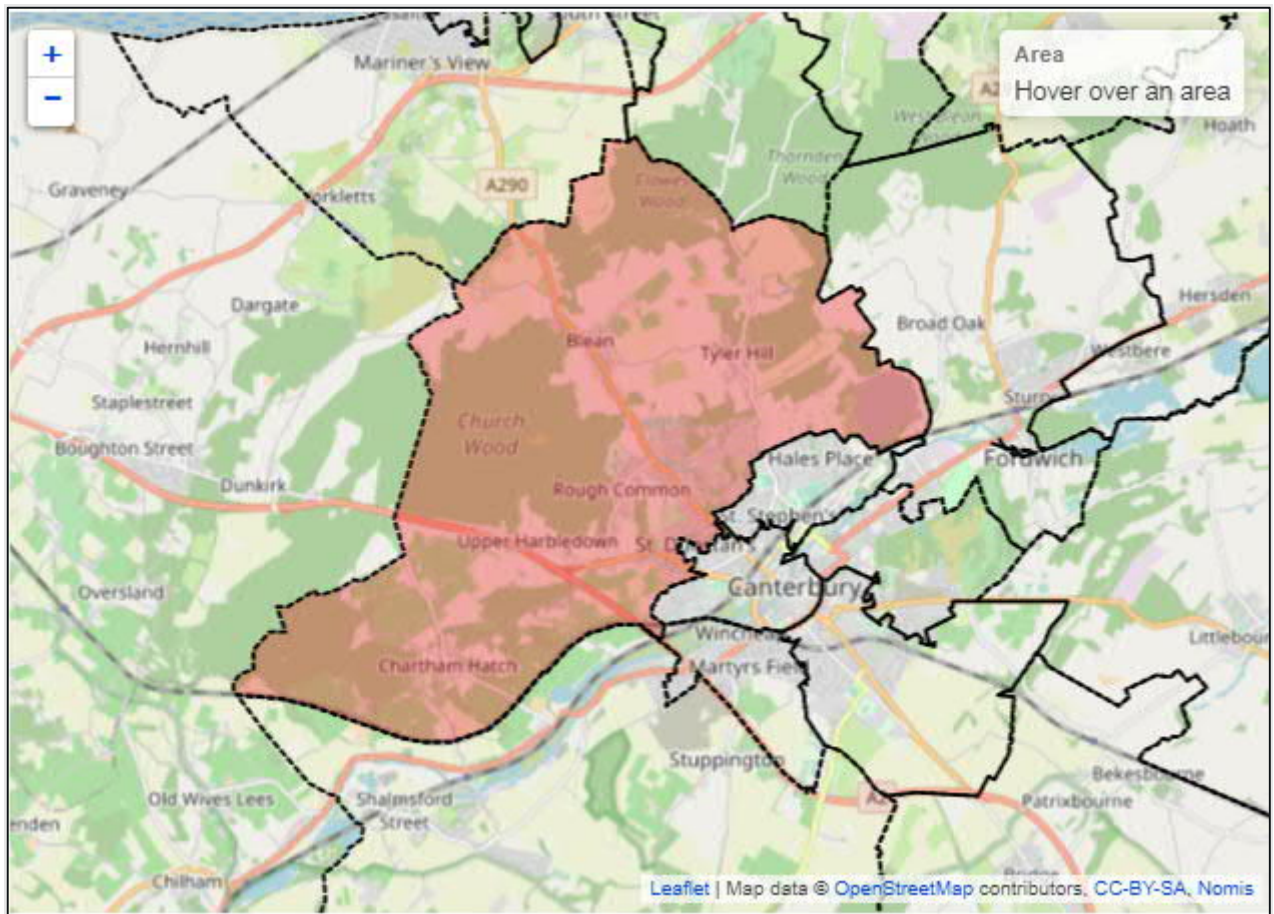
Table 14 - Total Development Trip Generation

Mode	AM Peak (08:00-09:00)			PM Peak (17:00 – 18:00)			Daily		
	Arrivals	Departures	Total	Arrivals	Departures	Total	Arrivals	Departures	Total
Public Transport	36	156	191	153	78	231	874	871	1745
Taxi	2	10	12	10	5	14	55	54	109
Motorcycle	1	5	7	5	3	8	31	31	62
Car Driver	176	675	851	665	351	1016	3822	3812	7634
Car Passenger	13	57	70	56	28	84	318	317	635
Cycle	11	49	60	48	24	72	273	272	545
Pedestrian	47	206	253	203	103	306	1156	1153	2309
Total	287	1157	1444	1140	593	1733	6528	6510	13038
Vehicular Total	180	690	870	680	359	1039	3908	3897	7805

5.5 Trip distribution

- 5.5.1. A two-stage trip distribution process has been adopted to calculate the anticipated provisional trip distribution for the trips associated with the Proposed Development. Firstly, 2011 Census, 'Location of usual residence and place of work by method of travel to work' data at the MSOA level (Table WU03EW) was extracted from the Nomis database to provide the proportion of trips to each MSOA across the Country from the MSOA used to derive the mode share for the Site (Canterbury 012), as shown in **Figure 16**.

Figure 16 - MSOA Canterbury 012 Source: Nomis



- 5.5.2. Data for the mode car driver was used to ensure that trip patterns replicated the mode to be used within the highway network assessment. The destination MSOA's were then ranked by the total number of people making the journey per MSOA.
- 5.5.3. An online journey planner was then used to find the quickest route to the destination MSOA from the Proposed Development in order to assign the trips to the network. The journey planner was set to a weekday 8am start time to ensure that peak period congestion was accounted for.
- 5.5.4. The initial stage of the trip distribution identified that the majority of car based trips (70%) remained within the Canterbury City Council area, the next most popular destination was identified as Dover (7%) followed by Swale (6%) and Ashford (6%). this was followed by Thanet (4%), Shepway (2%) and Maidstone (2%). Remaining destinations included Medway, Dartford, Tonbridge and Malling and Reigate.
- 5.5.5. Secondly due to the proposed development having multiple access points a high-level assessment was carried out to determine the site access assignments, based on direction of travel to and from the MSOA's. **Table 15** and **Table 16** show the assignments for each access from each Site.

Table 15 – Site B Site Access Assignments

Parcel B Accesses	To/From			
	North	East	South	West
1 – New Access Road	20%	75%	50%	75%
2 – Tyler Hill Road (West)	80%	0%	0%	25%
3 – Tyler Hill Road (East)	0%	25%	50%	0%

Table 16 – Parcel B Site Access Assignments

Parcel B Accesses	To/From			
	North	East	South	West
1 – New Access Road	0%	0%	80%	50%
2 – Tyler Hill Road (West)	100%	0%	10%	50%
3 – Tyler Hill Road (East)	0%	100%	10%	0%

- 5.5.6. Traffic flow diagrams showing the resultant trip distribution are contained within **Appendix B**.

6 Highway Network Assessment

6.1 Introduction

- 6.1.1. This Section provides an overview of the process followed to develop the highway network assessment along with the results.

6.2 Traffic data collection

- 6.2.1. Traffic surveys were undertaken at 13 key junctions agreed with KCC across Canterbury in December 2021.
- 6.2.2. The data collected was analysed to identify the AM and PM peak hours at each location and then the network peaks identified across the 13 junctions. This analysis (presented in **Table 17**) identified that the peak hours on the highway network within the study area were 08:00-09:00 in the AM and 16:30-17:30 in the PM.

Table 17– Peak Hour Analysis

Time Interval			Total Flow at Each Junction													Total
			Site 1	Site 2	Site 3	Site 4	Site 5	Site 6	Site 7	Site 8	Site 9	Site 10	Site 11	Site 12	Site 13	
07:00	-	08:00	1422	1611	1791	517	501	990	668	213	259	782	681	1759	1133	12328
07:15	-	08:15	1806	2207	2109	733	668	1149	855	356	418	1015	858	2021	1375	15571
07:30	-	08:30	2110	2766	2300	1016	894	1372	1046	534	619	1250	1016	2242	1559	18725
07:45	-	08:45	2082	3041	2400	1191	1060	1456	1156	692	830	1383	1073	2384	1620	20369
08:00	-	09:00	1988	3147	2368	1259	1142	1474	1174	874	1068	1431	1032	2356	1617	20931
08:15	-	09:15	1818	2876	2226	1159	1104	1485	1157	854	1066	1368	969	2321	1537	19941
08:30	-	09:30	1614	2477	1993	969	960	1403	1054	763	965	1221	860	2315	1460	18055
08:45	-	09:45	1556	2117	1836	798	805	1335	960	644	790	1080	765	2225	1369	16281
09:00	-	10:00	1512	1924	1671	708	707	1264	874	469	562	916	673	2175	1288	14744
16:00	-	17:00	1863	2568	1873	971	944	1476	1056	563	660	1097	749	2371	1319	17509
16:15	-	17:15	1929	2626	1936	992	1000	1489	1034	636	749	1152	779	2400	1368	18089
16:30	-	17:30	1967	2659	1942	1006	994	1484	1039	696	825	1162	761	2469	1429	18432
16:45	-	17:45	1799	2529	1925	964	970	1487	1008	682	823	1124	732	2493	1438	17973
17:00	-	18:00	1755	2393	1951	893	938	1463	1014	684	826	1112	719	2503	1403	17653
17:15	-	18:15	1627	2241	1895	827	841	1444	978	614	751	1024	649	2435	1345	16670
17:30	-	18:30	1461	2001	1843	749	797	1448	927	552	676	936	580	2297	1214	15480
17:45	-	18:45	1369	1725	1755	647	717	1387	857	500	617	835	497	2142	1102	14149
18:00	-	19:00	1214	1529	1613	586	633	1327	757	422	531	727	424	1962	989	12714

- 6.2.3. Traffic flows representing the network peak hours were used within the highway network assessment. Traffic flow diagrams showing the 2021 observed network peak traffic flows are contained in **Appendix B**.

6.3 Future year assessment

- 6.3.1. A future forecast year for assessment of the Development Proposals was agreed with KCC as part of the scoping discussions. To ensure consistency with the local plan and allow for wider growth on the highway network a future forecast year of 2040 was used.
- 6.3.2. The Trip End Model Presentation Programme (TEMPro) was used to derive growth factors that would allow the 2021 traffic flows to be growthed through to a future forecast year of 2040. TEMPro is an industry standard tool used to estimate traffic growth.

- 6.3.3. TEMPro version 7.2c was used to create the 2040 future forecast year. The forecasts are based on increases in households and jobs anticipated for the upcoming years. Whilst no explicit development is included within these growth projections they do include for the level of growth anticipated at a local authority level.
- 6.3.4. Since the start of the Covid 19 Pandemic traffic levels have varied significantly with a steep reduction in traffic flow witnessed in 2020 followed by a gradual increase. As we emerge from the pandemic it is unclear whether traffic volumes will return to pre-pandemic levels as it is widely anticipated that there will be a shift in the way people work to follow a more hybrid approach mixing home and office type working. Research undertaken during the pandemic⁷ indicated that if people worked from home two days per week this could result in 14% fewer peak time trips.
- 6.3.5. Traffic monitoring undertaken by the DfT⁸ indicated that traffic volumes are 16.1% lower than pre-pandemic levels. Whether this trend continues creates uncertainty for forecasting future traffic trends. The TEMPro traffic model has not been updated since before the Pandemic and therefore the factors it creates should be treated with caution.
- 6.3.6. The growth factors contained within TEMPro were adjusted using the alternative assumption tool to remove the housing associated with the Proposed Development to avoid potential double counting of trips. As such, 2000 dwellings were removed from the growth factor assumptions for 2040.
- 6.3.7. For the purposes of this assessment, the geographic area of Canterbury was selected and growth factors for car driver trips selected.
- 6.3.8. The growth factors used in the assessment are provided in **Table 18**.

Table 18– Traffic Growth Factors

Scenario	AM Peak	PM Peak	Daily
2021 - 2040	1.1413	1.1451	1.1631

- 6.3.9. Traffic flow diagrams showing the 2040 network peak traffic flows are contained in **Appendix B**.

6.4 Existing Traffic Redistribution

- 6.4.1. The introduction of a new access to the University along with a new highway link that connects A290 Whitstable Road with Tyler Hill Road may attract some existing traffic to

⁷ <https://www.creds.ac.uk/wp-content/uploads/CREDS-covid-transport-report.pdf>

⁸ <https://www.gov.uk/government/statistics/provisional-road-traffic-estimates-great-britain-october-2020-to-september-2021/provisional-road-traffic-estimates-great-britain-october-2020-to-september-2021>

utilise this new link. The attractiveness of this new highway link will depend upon a number of factors including speed limit, directness, junction form etc. The potential for this re-distribution has not been considered within this PTA. However, it is acknowledged that in due course, as the proposals develop further consideration to potential re-distribution should be taken into account.

6.5 Highway network assessment approach

- 6.5.1. Junction capacity assessments have been undertaken using the industry standard software PICADY for priority junctions and ARCADY for roundabouts as part of the 'Junctions 10' software package and 'LinSig' (version 3) for traffic signal junctions.
- 6.5.2. The output from PICADY and ARCADY provides a number of measurements to provide information on junction operation. These relate to the 'Ratio of Flow to Capacity' (RFC), maximum queue length, and delay in seconds per vehicle. The main indication of a junction's performance is provided by the RFC for each arm. The capacity of a junction is realised when the demand flow at the entry is great enough to cause a continuous queue of vehicles to wait on the approach. This is reached when the RFC attains a value of 1 or more. A junction with an RFC of 1 or above is still able to operate but would be more sensitive to changes in queueing and delay.
- 6.5.3. To account for daily fluctuations in traffic flow which are generally regarded to be as much as +/- 10%, a junction operating with an RFC of 0.85 or below is considered to be performing satisfactorily⁹.
- 6.5.4. LinSig provides a number of measurements to ascertain information of a junction's operation. These relate to the 'Degree of Saturation' (DoS), mean maximum queue length, Practical Reserve Capacity (PRC) and delay in minutes per arriving vehicle. The main indication of a junction's performance is provided by the DoS for each arm.
- 6.5.5. The peak capacity is realised when the demand flow at the entry is such that not all vehicles queueing at the beginning of the green phase are able to clear the junction by the end of the green phase. This is reached when the DoS attains a value of 100% or more. However, to account for daily fluctuations in traffic flow a DoS of 90% is generally used to represent when a junction begins to operate at capacity and the PRC is zero.
- 6.5.6. RFC and DoS are indicators by which congestion levels at a junction can be considered and are the initial means by which junction capacity is interpreted. However, interpretation of the indicators such as queueing and delay are also required to understand junction

⁹ Page 109 Section 10.3. Junctions 10 User Guide (Application Guide 74), TRL, 2021

performance and to understand the likely impact of changes in traffic flow. Where a junction is congested, interpretation of a range of metrics (RFC, DoS, queueing and delay) is required and professional judgement has to be applied to determine the severity of the impact at a junction.

6.6 Baseline model development

- 6.6.1. The existing conditions on the highway network were determined and assessed using observed data. A series of traffic surveys were commissioned in December 2021, including Automatic Traffic Counts (ATCs), junction turning counts, and queue length surveys. The ATC data covered a two-week period, and the turning counts and queue length surveys were carried out on a mid-week day. Analysis of the ATC data that was collected over 14 days demonstrated that traffic conditions on the days the turning counts and queue length surveys were carried out were 'typical', i.e. no major incidents on the network were identified.
- 6.6.2. Junction capacity assessment models were developed for each of the 13 locations within the agreed study area by following the below approach:
 - Geometries were measured by overlaying OS mastermap (1:1250 scale) mapping with aerial photography.
 - The geometries were then validated through a site visit undertaken in December 2021 to observe any significant difference between the layouts identified from the desktop geometric calculations and the layouts on-site.
 - Adjustments were made to the models using the on-site measurements as these were considered to be the most accurate representation of existing conditions.
 - Junction capacity assessment models were then run for the AM and PM peak hours using the actual turning movements at each junction.
 - Modelled queue lengths were then compared to the average maximum queue length identified from the queue length surveys on each arm of each of the junctions to identify where the modelled junction differed from that identified from the observed data collected.
 - Where the observed queue varied considerably, further consideration was given to the calibration of the model.
- 6.6.3. Following review of the observed and modelled base junction queueing the following adjustments were made:
 - *Junction 6 (A290 Whitstable Road / London Road)* - At this location the level of queueing observed was significantly greater than the modelled queue lengths. The likely reason for this is the presence of the level crossing to the south of the junction on St Dunstan's Street. The junction capacity assessment is unable to replicate these conditions accurately as the pattern of level crossing closures can be subject to change on a daily basis owing to the variability of train operating conditions. The model was therefore not

adjusted and the implications on the junction capacity assessment results are considered in more detail later in this section.

- *Junction 10 (St Stephen's Hill/Giles Lane)* – an intercept adjustment of +100 was made on Arm A – St Stephen's Hill North to reduce the modelled queue to reflect the observed queue
- *Junction 13 (Broad Oak Road/Vauxhall Road)* – an intercept adjustment of +250 was made on Arm B – Broad Oak Road East to reduce the modelled queue to reflect the observed queue.

6.7 Junction impact assessment

- 6.7.1. This section provides a summary of the results of the modelling undertaken at each of the key junctions identified within the study area.

Junction 1 - A290 Whitstable Road / Tyler Hill Road

- 6.7.2. The A290 Whitstable Road / Tyler Hill Road priority junction has been assessed using Junctions 10 (PICADY). The capacity assessment results for the AM and PM peaks are summarised in **Table 19**. Full results are contained in **Appendix C**.

Table 19 - Junction 1 – A290 Whitstable Road / Tyler Hill Road

Arm Description	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
2021 Base						
B-Tyler Hill Road	0.2	11.24	0.19	0.3	11.63	0.23
C-A290 South	0.1	4.91	0.07	0.3	4.33	0.13
2040						
B-Tyler Hill Road	0.3	12.81	0.23	0.4	13.36	0.28
C-A290 South	0.2	4.89	0.09	0.4	4.27	0.16
2040+Dev						
B-Tyler Hill Road	4.4	53.44	0.84	1.7	28.10	0.64
C-A290 South	0.4	5.22	0.17	1.7	6.94	0.48

- 6.7.3. The results presented in **Table 19** show that the junction operates with satisfactory performance (RFC below 0.85) in all scenarios assessed.
- 6.7.4. The impacts of the Proposed Development are not considered to be significant at this junction and mitigation is therefore not necessary as the junction can accommodate traffic associated with the Proposed Development.

Junction 2 – A290 Whitstable Road / Rough Common Road

- 6.7.5. The A290 Whitstable Road / Rough Common Road priority junction has been assessed using Junctions 10 (ARCADY). The capacity assessment results for the AM and PM peaks are summarised in **Table 20**. Full results are contained in **Appendix C**.

Table 20 - Junction 2 – A290 Whitstable Road / Rough Common Road

Arm Description	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
2020 Base						
A – A290 North	1.6	12.26	0.62	3.1	18.35	0.76
B – A290 South	14.0	79.80	0.97	2.2	18.10	0.69
C – Rough Common Road	2.2	14.10	0.70	0.6	5.71	0.39
2040						
A – A290 North	2.5	17.10	0.72	6.6	35.84	0.88
B – A290 South	54.9	255.72	1.14	4.2	31.84	0.82
C – Rough Common Road	3.8	21.29	0.80	0.8	6.44	0.45
2040+Dev						
A – A290 North	17.1	87.92	0.99	49.9	193.51	1.10
B – A290 South	93.4	513.49	1.25	56.4	335.88	1.16
C – Rough Common Road	13.1	61.39	0.96	1.4	8.78	0.58

- 6.7.6. The results presented in **Table 20** show that in the 2021 Base scenario, Arm B the A290 South is approaching capacity (RFC of 1) in the AM peak. In the future year of 2040, the A290 South operates at/above capacity (RFC of 1) in the AM peak in the 2040+Dev scenario, Arms A and B operate at/above capacity (RFC of 1) in both the AM and PM Peak
- 6.7.7. Maximum queueing and delay are 94 vehicles and 513 seconds in the AM peak on Arm B – A290 South and in the PM peak maximum queueing and delay are 56 vehicles and 336 seconds on Arm B – A290 South.
- 6.7.8. The junction operates at/above capacity (RFC of 1) in the 2040 scenario and the results deteriorate further in the 2040+Dev scenario. Mitigation is therefore considered for this junction and is discussed in Section 6 of this report.

Junction 3 – A2050 / Palmers Cross Hill

- 6.7.9. The A2050/Palmers Cross Hill is a three arm traffic signal junction. To develop a suitable base model signal specification information was obtained from KCC. This information was used to develop the staging for the junction. The junction is controlled using Microprocessor Optimised Vehicle Actuation (MOVA) which optimises the signal timings based upon

demand. To calculate the cycle time the average cycle time as recorded from the CCTV data collected as part of the traffic surveys was utilised.

- 6.7.10. The A2050 / Palmars Cross Hill traffic signal junction has been assessed using LinSig3. The capacity assessment results for the AM and PM peaks are summarised in **Table 21**. Full results are contained in **Appendix C**.

Table 21 - Junction 3 – A2050/Palmars Cross Hill

Arm Description	AM			PM		
	Mean Max Queue (PCU)	Delay (s/PCU)	Deg Sat (%)	Mean Max Queue (PCU)	Delay (s/PCU)	Deg Sat (%)
2020 Base						
A2050 (West) Left Turn	3.0	5.8	31.2	0.8	7.2	12.9
A2050 (West) Ahead	6.6	13.8	59.9	3.8	17.1	56.0
Rough Common Road Left and Right Turn	4.2	24.4	60.0	3.2	17.4	56.0
A2050 (East) Ahead Right	3.8	11.2	59.3	5.6	11.0	58.5
2040						
A2050 (West) Left Turn	3.6	6.1	35.6	1.0	7.2	14.7
A2050 (West) Ahead	8.1	7.5	68.3	4.6	18.2	64.2
Rough Common Road Left and Right Turn	5.1	26.3	68.5	3.9	19.0	64.2
A2050 (East) Ahead Right	4.6	11.6	67.8	7.0	12.2	66.8
2040+Dev						
A2050 (West) Left Turn	3.9	6.2	38.2	2.0	8.0	27.5
A2050 (West) Ahead	10.1	22.0	78.3	5.0	20.6	70.6
Rough Common Road Left and Right Turn	7.6	24.9	78.7	5.1	20.1	72.0
A2050 (East) Ahead Right	6.1	14.9	71.4	7.5	13.6	75.1

- 6.7.11. The junction capacity results show that the junction operates within capacity (with a DoS of less than 100%) in all scenarios considered.

Junction 4 – A290 Whitstable Road / Giles Lane

- 6.7.12. The A290 Whitstable Road / Giles Lane priority junction has been assessed using Junctions 10 (PICADY). The capacity assessment results for the AM and PM peaks are summarised in **Table 22**. Full results are contained in **Appendix C**.

Table 22 - Junction 4 – A290 Whitstable Road / Giles Lane

Arm Description	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
2021 Base						
B - Giles Lane	1.7	30.07	0.63	3.5	45.44	0.80
C – Whitstable Road South	0.4	6.68	0.21	0.2	5.08	0.11
2040						
B - Giles Lane	3.3	54.64	0.79	10.3	114.12	0.97
C – Whitstable Road South	0.6	7.07	0.26	0.3	5.05	0.14
2040+Dev						
B - Giles Lane	9.3	150.48	0.98	27.4	280.95	1.14
C – Whitstable Road South	0.9	7.56	0.31	0.5	4.55	0.18

- 6.7.13. The results presented in **Table 22** show that in the 2040 scenario Arm B Giles Lane is approaching capacity (RFC of 1) in the PM peak. With the addition of the development ARM B Giles Lane is shown to operate nearing capacity (RFC of 1) in the AM peak and at/above capacity (RFC of 1) in the PM peak.
- 6.7.14. The junction operates at/above capacity (RFC of 1) in the 2040 scenario and the results deteriorate further in the 2040+Dev scenario. Mitigation is therefore considered for this junction and is discussed in Section 6 of this report.

Junction 5 – A290 Whitstable Road / University Road

- 6.7.15. The A290 Whitstable Road / University Road priority junction has been assessed using Junctions 10 (PICADY). The capacity assessment results for the AM and PM peaks are summarised in **Table 23**. Full results are contained in **Appendix C**.

Table 23 - Junction 5 – A290 Whitstable Road / University Road

Arm Description	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
2021 Base						
B - University Road (left)	0.3	8.64	0.23	0.7	11.88	0.41
B – University Road (right)	0.3	19.40	0.24	0.5	17.29	0.32
C – Whitstable Road South	1.2	13.25	0.53	0.3	9.06	0.25
2040						
B - University Road (left)	0.4	9.83	0.28	1.0	15.46	0.51
B – University Road (right)	0.4	24.81	0.31	0.7	23.05	0.42
C – Whitstable Road South	1.9	15.88	0.63	0.4	9.78	0.30
2040+Dev						
B - University Road (left)	0.5	12.78	0.34	1.4	21.07	0.59
B – University Road (right)	0.7	40.12	0.42	1.1	37.10	0.54
C – Whitstable Road South	2.9	19.77	0.70	0.5	10.32	0.32

6.7.16. The results presented in **Table 23** show that in all scenarios the junction operates within capacity (RFC of 1) in the AM peak and PM peak.

Junction 6 – A290 Whitstable Road / London Road

6.7.17. The A290 Whitstable Road / London Road mini roundabout junction has been assessed using Junctions 10 (ARCADY). The capacity assessment results for the AM and PM peaks are summarised in **Table 24**. Full results are contained in **Appendix C**.

Table 24 - Junction 6 – A290 Whitstable Road / University Road

Arm Description	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
2021 Base						
A – A290 North	3.0	16.87	0.75	2.9	16.71	0.75
B – A290 South	1.0	9.77	0.49	1.6	12.74	0.61
C – London Road	5.3	34.16	0.86	3.0	21.49	0.76
2040						
A – A290 North	5.9	30.13	0.87	5.9	31.04	0.87
B – A290 South	1.5	13.47	0.60	3.0	21.94	0.76
C – London Road	18.3	98.10	1.00	6.9	44.39	0.89
2040+Dev						
A – A290 North	53.2	187.75	1.10	18.0	78.81	0.99
B – A290 South	1.8	14.13	0.65	22.8	111.15	1.03
C – London Road	26.1	133.73	1.04	21.4	127.25	1.03

- 6.7.18. The results presented in **Table 24** show that in the 2040 scenario, Arm C London Road is forecast to operate at capacity (RFC of 1) in the AM peak. With the addition of the Proposed Development the A290 North and London Road both operate at/above capacity (RFC of 1) in the AM peak. In the PM Peak the A290 South and London Road are forecast to operate at/above capacity (RFC of 1) in both the AM and PM Peak.
- 6.7.19. The junction operates at/above capacity (RFC of 1) in the 2040 scenario and queueing and delay increase as a result of the Proposed Development. Mitigation is therefore considered for this junction and is discussed in Section 6 of this report.

Junction 7 – St Stephens Hill / Beaconsfield Road

- 6.7.20. The St Stephens Hill / Beaconsfield Road mini roundabout junction has been assessed using Junctions 10 (ARCADY). Stephenson's Road at this junction is exit only. The mini-roundabout module of ARCADY is not able to include an exit only arm. Therefore, the mini-roundabout has been modelled as three arms instead of four with the traffic flow for Stephen's Road added to the adjacent corresponding movement. The capacity assessment results for the AM and PM peaks are summarised in **Table 25**. Full results are contained in **Appendix C**.

Table 25 - Junction 7 – St Stephens Hill / Beaconsfield Road

Arm Description	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
2021 Base						
A – St Stephens Hill North	1.5	8.83	0.60	0.6	5.55	0.37
B – St Stephens Hill South	0.8	7.96	0.43	0.8	7.09	0.45
C – Beaconsfield Road	0.8	9.66	0.46	1.0	10.34	0.50
2040						
A – St Stephens Hill North	2.2	11.65	0.70	0.7	6.18	0.43
B – St Stephens Hill South	1.0	9.56	0.51	1.1	8.25	0.52
C – Beaconsfield Road	1.2	11.88	0.54	1.4	13.12	0.59
2040+Dev						
A – St Stephens Hill North	3.9	17.99	0.80	1.0	7.15	0.50
B – St Stephens Hill South	1.3	10.82	0.57	2.2	12.76	0.69
C – Beaconsfield Road	1.4	13.40	0.58	2.2	20.38	0.70

6.7.21. The results presented in **Table 25** show that in all scenarios the junction operates within capacity (RFC of 1).

Junction 8 – Giles Lane / University Road

6.7.22. The traffic flow diagrams contained in Appendix B indicate that the Proposed Development will not have an impact on this junction. Therefore it has not been considered further within the PTA.

Junction 9 – Giles Lane / Parkwood Road

6.7.23. The traffic flow diagrams contained in Appendix B indicate that the Proposed Development will not have an impact on this junction. Therefore it has not been considered further within the PTA.

Junction 10 – St Stephens Hill / Giles Lane

6.7.24. The St Stephens Hill / Giles Lane mini roundabout junction has been assessed using Junctions 10 (ARCADY). The capacity assessment results for the AM and PM peaks are provided in **Table 26**. Full results are contained in **Appendix C**.

Table 26 - Junction 10 – St Stephens Hill / Giles Lane

Arm Description	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
2021 Base						
A – St Stephens Hill North	9.0	42.19	0.92	0.4	5.89	0.28
B – Giles Lane (Private Road)	0.0	14.64	0.03	0.0	0.0	0.0
C – St Stephens Hill South	1.9	14.78	0.67	2.0	12.79	0.67
D – Giles Lane	0.4	5.59	0.28	1.3	10.10	0.56
2040						
A – St Stephens Hill North	41.0	146.57	1.06	0.5	6.47	0.33
B – Giles Lane (Private Road)	0.0	18.50	0.04	0.0	0.0	0.0
C – St Stephens Hill South	3.1	21.26	0.77	3.3	18.46	0.77
D – Giles Lane	0.5	6.07	0.33	2.0	13.80	0.67
2040+Dev						
A – St Stephens Hill North	118.3	471.45	1.23	0.7	7.53	0.43
B – Giles Lane (Private Road)	0.0	18.89	0.04	0.0	0.0	0.0
C – St Stephens Hill South	3.7	23.62	0.80	11.6	55.10	0.95
D – Giles Lane	0.5	6.29	0.33	2.7	19.07	0.74

- 6.7.25. The results presented in **Table 26** show that in the 2021 Base scenario in the AM Peak Arm A – St Stephens Hill North is reaching capacity (RFC of 1) with an RFC of 0.92. In both the 2040 and 2040+Dev scenarios, Arm A operates at/above capacity (RFC of 1).
- 6.7.26. The junction operates at/above capacity (RFC of 1) in the 2040 scenario and queueing and delay increase as a result of the Proposed Development. Mitigation is therefore considered for this junction and is discussed in Section 6 of this report.

Junction 11 – Calais Hill / Canterbury Hill

- 6.7.27. The Calais Hill / Canterbury Hill priority junction has been assessed using Junctions 10 (PICADY). The capacity assessment results for the AM and PM peaks are summarised in **Table 27**. Full results are contained in **Appendix C**.

Table 27 - Junction 11 – Calais Hill / Canterbury Hill

Arm Description	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
2021 Base						
B – Calais Hill (left)	0.0	6.44	0.01	0.0	0.0	0.0
B – Calais Hill (right)	0.5	16.46	0.33	0.1	11.25	0.07
C - Wood Hill	0.0	4.13	0.02	0.0	5.68	0.0
2040						
B – Calais Hill (left)	0.0	6.96	0.01	0.0	0.0	0.0
B – Calais Hill (right)	0.7	20.20	0.41	0.1	12.29	0.09
C - Wood Hill	0.0	3.89	0.02	0.0	5.65	0.0
2040+Dev						
B – Calais Hill (left)	0.2	310.42	0.24	0.0	0.0	0.0
B – Calais Hill (right)	6.9	97.36	0.92	0.3	17.94	0.35
C - Wood Hill	0.0	3.91	0.02	0.0	5.90	0.0

6.7.28. The results presented in **Table 27** show that in all scenarios the junction operates within capacity (RFC of 1) in the AM peak and PM peak. Stream B-A from Calais Hill to Wood Hill is nearing capacity (RFC of 1) in the AM Peak in the 2040+Dev scenario. However, the junction continues to operate within capacity and therefore it is not considered that mitigation is necessary.

Junction 12 – Kingsmead Road / Broad Oak Road

6.7.29. The Kingsmead Road / Broad Oak Road roundabout junction has been assessed using Junctions 10 (ARCADY). The capacity assessment results for the AM and PM peaks are provided in **Table 28**. Full results are contained in **Appendix C**.

Table 28 - Junction 12 – Kingsmead Road / Broad Oak Road

Arm Description	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
2021 Base						
A – St Stephens Hill North	1.7	12.08	0.63	1.6	12.54	0.62
B – Broad Oak Road	4.2	23.00	0.82	2.3	13.95	0.70
C – Kingsmead Road	1.7	9.67	0.63	2.7	11.45	0.73
D – St Stephens Hill South	1.3	6.27	0.56	1.7	7.82	0.63
2040						
A – St Stephens Hill North	3.4	21.60	0.78	3.3	23.88	0.78
B – Broad Oak Road	16.9	79.67	0.99	5.0	28.14	0.85
C – Kingsmead Road	2.9	14.79	0.75	5.6	21.56	0.86
D – St Stephens Hill South	2.0	8.41	0.66	3.1	12.5	0.76
2040+Dev						
A – St Stephens Hill North	13.6	72.65	0.97	7.9	50.58	0.91
B – Broad Oak Road	42.3	174.85	1.09	16.9	80.83	0.99
C – Kingsmead Road	3.3	16.33	0.78	21.7	72.17	1.00
D – St Stephens Hill South	2.4	9.99	0.71	5.1	20.50	0.85

- 6.7.30. The results presented in **Table 28** show that in the 2040 scenario in the AM Peak Arm B – Broad Oak Road is approaching capacity (RFC of 1). In the 2040+Dev scenario in the AM Peak, Arm A – St Stephens Hill is nearing capacity (RFC of 1) and Arm B - Broad Oak Road operates at/above capacity (RFC of 1). In the PM peak Arm B – Broad Oak Road is approaching capacity (RFC of 1) and Arm C – Kingsmead Road operates at/above capacity (RFC of 1).
- 6.7.31. The junction operates at/above capacity (RFC of 1) in the 2040 scenario and queueing and delay increase as a result of the Proposed Development. Mitigation is therefore considered for this junction and is discussed in Section 6 of this report.

Junction 13 – Broad Oak Road / Vauxhall Road

- 6.7.32. The Broad Oak Road / Vauxhall Road mini roundabout junction has been assessed using Junctions 10 (PICADY). The capacity assessment results for the AM and PM peaks are provided in **Table 29**. Full results are contained in **Appendix C**.

Table 29 - Junction 13 – Broad Oak Road / Vauxhall Road

Arm Description	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
2021 Base						
A – Broad Oak Road West	1.4	7.95	0.59	3.0	13.46	0.75
B – Broad Oak Road East	15.5	79.53	0.98	0.4	6.38	0.27
C – Vauxhall Road	3.3	31.89	0.78	2.9	20.14	0.75
2040						
A – Broad Oak Road West	2.1	10.09	0.68	6.3	25.63	0.88
B – Broad Oak Road East	72.8	305.26	1.19	0.5	7.32	0.33
C – Vauxhall Road	6.0	52.44	0.88	6.1	38.37	0.88
2040+Dev						
A – Broad Oak Road West	2.3	11.0	0.70	7.1	28.32	0.89
B – Broad Oak Road East	82.1	363.09	1.22	0.5	7.46	0.33
C – Vauxhall Road	6.1	52.61	0.88	8.4	50.79	0.92

- 6.7.33. The results presented in **Table 29** show that in the 2040 scenario in the AM Peak Arm B – Broad Oak Road East operates at/above capacity (RFC of 1).
- 6.7.34. The junction operates at/above capacity (RFC of 1) in the 2040 scenario and queueing and delay increase as a result of the Proposed Development. Mitigation is therefore considered for this junction and is discussed in Section 6 of this report.

Site Access

- 6.7.35. The Transport Strategy (August 2021) identified the potential for a traffic signal junction to be provided on Whitstable Road to act as a new access point to the development and University. Initial testing of this option using LinSig for the 2040 Base + Development Scenario indicated that the traffic signal junction layout identified would struggle to accommodate the volume of traffic anticipated. Alternative junction layouts were therefore considered. A staggered priority junction was investigated. A concept design for this staggered junction is shown on drawing 70080896-XX-XX-TP-016 contained in **Appendix D**.
- 6.7.36. The site access right-left staggered priority junction has been assessed using Junctions 10 (PICADY). The capacity assessment results for the AM and PM peaks are provided in **Table 30**.

Table 30 – Site Access Junction

Arm Description	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
2021 Base						
Site Access Left	4.4	114.76	0.91	0.2	9.22	0.16
Site Access Right	5.1	126.71	0.90	0.7	26.08	0.41
Whitstable Road North	0.0	7.63	0.02	0.0	8.30	0.01
Whitstable Road South	0.1	15.16	0.07	0.0	12.88	0.05
Stream C-ABD	0.1	10.29	0.10	0.4	10.28	0.29

6.7.37. The results presented in **Table 30** indicate that the site access will operate within capacity (RFC of 1) in the future year of 2040 in both peak hours.

7 Mitigation

7.1 Introduction

- 7.1.1. This section discusses potential highway mitigation that could be delivered to reduce any impacts associated with the Proposed Development. At this stage the mitigation measures are not fixed proposals but provide a concept for the type of mitigation that could be delivered. In due course, further modelling would be required as part of any planning application and the requirement for mitigation revisited.

7.2 Junction Mitigation

Junction 2 – A290 Whitstable Road / Rough Common Road

- 7.2.1. The junction capacity assessment results outlined in Section 5 indicated that Junction 2 would operate at/ above capacity (RFC of 1) in the future year of 2040 with queueing and delay increased by the Proposed Development.
- 7.2.2. A mitigation scheme has been developed to provide widened entries on both Rough Common Road and A290 Whitstable Road.
- 7.2.3. 70080896-XX-XX-TP-016 in **Appendix D** illustrates the mitigation scheme for Junction 2. **Table 31** provides a summary of the modelling results both pre and post mitigation with full results contained in **Appendix C**.

Table 31 Junction 2 – A290 Whitstable Road / Rough Common Mitigate Scheme Results

Arm Description	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
2021 Base (Pre-mitigation)						
A – A290 North	1.6	12.26	0.62	3.1	18.35	0.76
B – A290 South	14.0	79.80	0.97	2.2	18.10	0.69
C – Rough Common Road	2.2	14.10	0.70	0.6	5.71	0.39
2040 (Pre-mitigation)						
A – A290 North	2.5	17.10	0.72	6.6	35.84	0.88
B – A290 South	54.9	255.72	1.14	4.2	31.84	0.82
C – Rough Common Road	3.8	21.29	0.80	0.8	6.44	0.45
2040+Dev (Pre-mitigation)						
A – A290 North	17.1	87.92	0.99	49.9	193.51	1.10
B – A290 South	93.4	513.49	1.25	56.4	335.88	1.16
C – Rough Common Road	13.1	61.39	0.96	1.4	8.78	0.58
2040+Dev (Post-mitigation)						
A – A290 North	3.4	17.69	0.78	6.3	27.88	0.88
B – A290 South	7.8	37.49	0.90	4.9	27.35	0.84
C – Rough Common Road	11.5	54.27	0.95	1.2	7.97	0.55

- 7.2.4. **Table 31** illustrates that the mitigation measures address the capacity issues identified with the maximum RFC reducing to below 1 in both 2040 + Dev scenarios tested. It is therefore considered that the mitigation provides an acceptable improvement that would accommodate traffic associated with the Proposed Development.

Junction 4 – A290 Whitstable Road / Giles Lane

- 7.2.5. The A290 Whitstable Road / Giles Lane priority junction was assessed using Junctions 10 (PICADY). The capacity assessment results for the AM and PM peaks are summarised in **Table 32**.

Table 32 - Junction 4 – A290 Whitstable Road / Giles Lane

Arm Description	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
2021 Base (Pre-mitigation)						
B - Giles Lane	1.7	30.07	0.63	3.5	45.44	0.80
C – Whitstable Road South	0.4	6.68	0.21	0.2	5.08	0.11
2040 (Pre-mitigation)						
B - Giles Lane	3.3	54.64	0.79	10.3	114.12	0.97
C – Whitstable Road South	0.6	7.07	0.26	0.3	5.05	0.14
2040+Dev (Pre-mitigation)						
B - Giles Lane	9.3	150.48	0.98	27.4	280.95	1.14
C – Whitstable Road South	0.9	7.56	0.31	0.5	4.55	0.18

- 7.2.6. The results presented in **Table 32** indicate that with the Proposed Development in place queueing and delay is increased at this junction and the RFC is increased to above 1, indicating that the junction would operate at/above capacity. A review of the junction layout identified limited opportunities for improvement within the highway boundary. However, it should be noted that the additional queueing and delay is limited to Giles Lane only. Through traffic on Whitstable Road is therefore not constrained by this delay. It is likely that traffic on Giles Lane would divert to alternative routes such as via University Road which showed no capacity constraint. It is therefore concluded that no mitigation is required in this location. Further testing within the strategic model would be undertaken to demonstrate the impacts of re-routing traffic.

Junction 6 – A290 Whitstable Road / London Road

- 7.2.7. The A290 Whitstable Road / London Road mini roundabout junction was assessed using Junctions 10 (ARCADY). The capacity assessment results for the AM and PM peaks are summarised in **Table 33**.

Table 33 - Junction 6 – A290 Whitstable Road / University Road

Arm Description	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
2021 Base (Pre-mitigation)						
A – A290 North	3.0	16.87	0.75	2.9	16.71	0.75
B – A290 South	1.0	9.77	0.49	1.6	12.74	0.61
C – London Road	5.3	34.16	0.86	3.0	21.49	0.76
2040 (Pre-mitigation)						
A – A290 North	5.9	30.13	0.87	5.9	31.04	0.87
B – A290 South	1.5	13.47	0.60	3.0	21.94	0.76
C – London Road	18.3	98.10	1.00	6.9	44.39	0.89
2040+Dev (Pre-mitigation)						
A – A290 North	53.2	187.75	1.10	18.0	78.81	0.99
B – A290 South	1.8	14.13	0.65	22.8	111.15	1.03
C – London Road	26.1	133.73	1.04	21.4	127.25	1.03

- 7.2.8. The results presented in **Table 33** indicate that with the Proposed Development in place queueing and delay is increased at this junction and the RFC is increased to above 1, indicating that the junction would operate at/above capacity. A review of the junction layout identified limited opportunities for improvement within the highway boundary. However, it should be noted that the level crossing on St Dunstan's Street is likely to affect the level of queueing and delay that occurs in this location as well as the attractiveness of this junction for journeys within Canterbury. It is likely that drivers will either re-route or re-time their journey should delays in this location increase significantly. The other junctions in the study area that could be used by re-routing traffic (Junction 3, Junction 7 and Junction 12) did not indicate significant capacity constraints that would prevent traffic from re-routing, even once growth through to 2040 had been accounted for. As such, whilst no cost-effective solution within the highway boundary has been identified for this location at this time, further testing of this junction and the wider highway network within the strategic model is likely to identify opportunities for re-routing which will likely reduce impacts in this location.

Junction 10 – St Stephens Hill / Giles Lane Mitigation

- 7.2.9. The junction capacity assessment results outlined in Section 5 indicated that Junction 10 would operate at/ above capacity (RFC of 1) in the future year of 2040 with queueing and delay increased by the Proposed Development.
- 7.2.10. A mitigation scheme has been developed to provide widened entries on both St Stephen's Hill and Canterbury Hill.
- 7.2.11. 70080896-XX-XX-TP-017 in **Appendix D** illustrates the mitigation scheme for Junction 10. **Table 34** provides a summary of the modelling results both pre and post mitigation with full results contained in **Appendix C**.

Table 34 - Junction 10 – St Stephens Hill / Giles Lane Mitigation Scheme Results

Arm Description	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
2021 Base (Pre-Mitigation)						
A – St Stephens Hill North	9.0	42.19	0.92	0.4	5.89	0.28
B – Giles Lane (Private Road)	0.0	14.64	0.03	0.0	0.0	0.0
C – St Stephens Hill South	1.9	14.78	0.67	2.0	12.79	0.67
D – Giles Lane	0.4	5.59	0.28	1.3	10.10	0.56
2040 (Pre-Mitigation)						
A – St Stephens Hill North	41.0	146.57	1.06	0.5	6.47	0.33
B – Giles Lane (Private Road)	0.0	18.50	0.04	0.0	0.0	0.0
C – St Stephens Hill South	3.1	21.26	0.77	3.3	18.46	0.77
D – Giles Lane	0.5	6.07	0.33	2.0	13.80	0.67
2040+Dev (Pre-Mitigation)						
A – St Stephens Hill North	118.3	471.45	1.23	0.7	7.53	0.43
B – Giles Lane (Private Road)	0.0	18.89	0.04	0.0	0.0	0.0
C – St Stephens Hill South	3.7	23.62	0.80	11.6	55.10	0.95
D – Giles Lane	0.5	6.29	0.33	2.7	19.07	0.74
2040+Dev (Post Mitigation)						
A – St Stephens Hill North	18.1	61.67	0.98	0.5	5.21	0.34
B – Giles Lane (Private Road)	0.1	49.36	0.11	0.0	0.0	0.00
C – St Stephens Hill South	4.5	29.37	0.83	11.6	55.10	0.95
D – Giles Lane	0.5	5.93	0.32	2.3	16.13	0.7

7.2.12. The results of the mitigation modelling indicate that the junction is expected to operate below capacity (RFC of 1) in the future year scenarios. It is therefore considered that the mitigation provides an acceptable improvement that would accommodate traffic associated with the Proposed Development.

Junction 12 – Kingsmead Road / Broad Oak Road

7.2.13. The junction capacity assessment results outlined in Section 5 indicated that Junction 12 would operate at/ above capacity (RFC of 1) in the future year of 2040 with queueing and delay increased by the Proposed Development.

7.2.14. A mitigation scheme has been developed to provide widened entries on both St Stephen's Road, Kingsmead Road and Broad Oak Road.

7.2.15. 70080896-XX-XX-TP-018 in **Appendix D** illustrates the mitigation scheme for Junction 10. **Table 35** provides a summary of the modelling results both pre and post mitigation with full results contained in **Appendix C**.

Table 35 - Junction 12 – Kingsmead Road / Broad Oak Road Mitigation Scheme Results

Arm Description	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
2021 Base (Pre Mitigation)						
A – St Stephens Hill North	1.7	12.08	0.63	1.6	12.54	0.62
B – Broad Oak Road	4.2	23.00	0.82	2.3	13.95	0.70
C – Kingsmead Road	1.7	9.67	0.63	2.7	11.45	0.73
D – St Stephens Hill South	1.3	6.27	0.56	1.7	7.82	0.63
2040						
A – St Stephens Hill North	3.4	21.60	0.78	3.3	23.88	0.78
B – Broad Oak Road	16.9	79.67	0.99	5.0	28.14	0.85
C – Kingsmead Road	2.9	14.79	0.75	5.6	21.56	0.86
D – St Stephens Hill South	2.0	8.41	0.66	3.1	12.5	0.76
2040+Dev						
A – St Stephens Hill North	13.6	72.65	0.97	7.9	50.58	0.91
B – Broad Oak Road	42.3	174.85	1.09	16.9	80.83	0.99
C – Kingsmead Road	3.3	16.33	0.78	21.7	72.17	1.00
D – St Stephens Hill South	2.4	9.99	0.71	5.1	20.50	0.85
2040+Dev (Post Mitigation)						
A – St Stephens Hill North	13.6	72.73	0.97	8.3	52.51	0.92
B – Broad Oak Road	8.4	40.50	0.92	4.6	22.61	0.83
C – Kingsmead Road	1.3	6.31	0.57	2.7	8.93	0.73
D – St Stephens Hill South	2.5	10.12	0.72	5.5	22.19	0.86

7.2.16. The results of the mitigation modelling indicate that the junction is expected to operate below capacity (RFC of 1) in the future year scenarios. It is therefore considered that the mitigation provides an acceptable improvement that would accommodate traffic associated with the Proposed Development.

Junction 13 – Broad Oak Road / Vauxhall Road

- 7.2.17. The junction capacity assessment results outlined in Section 5 indicated that Junction 13 would operate at/ above capacity (RFC of 1) in the future year of 2040 with queueing and delay increased by the Proposed Development.
- 7.2.18. A mitigation scheme has been developed to provide widened entries on Broad Oak Road east.
- 7.2.19. 70080896-XX-XX-TP-019 in **Appendix D** illustrates the mitigation scheme for Junction 10. **Table 36** provides a summary of the modelling results both pre and post mitigation with full results contained in **Appendix C**.

Table 36 - Junction 13 – Broad Oak Road / Vauxhall Road Mitigation Scheme Results

Arm Description	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
2021 Base (Pre Mitigation)						
A – Broad Oak Road West	1.4	7.95	0.59	3.0	13.46	0.75
B – Broad Oak Road East	15.5	79.53	0.98	0.4	6.38	0.27
C – Vauxhall Road	3.3	31.89	0.78	2.9	20.14	0.75
2040 (Pre Mitigation)						
A – Broad Oak Road West	2.1	10.09	0.68	6.3	25.63	0.88
B – Broad Oak Road East	72.8	305.26	1.19	0.5	7.32	0.33
C – Vauxhall Road	6.0	52.44	0.88	6.1	38.37	0.88
2040+Dev (Pre Mitigation)						
A – Broad Oak Road West	2.3	11.0	0.70	7.1	28.32	0.89
B – Broad Oak Road East	82.1	363.09	1.22	0.5	7.46	0.33
C – Vauxhall Road	6.1	52.61	0.88	8.4	50.79	0.92
2040+Dev (Post Mitigation)						
A – Broad Oak Road West	2.3	10.99	0.70	7.1	28.32	0.89
B – Broad Oak Road East	70.0	285.61	1.18	0.5	7.10	0.32
C – Vauxhall Road	6.9	58.84	0.90	8.4	50.79	0.92

- 7.2.20. The results of the mitigation modelling indicate that the junction is expected to operate at/above capacity (RFC of 1) on arm B in the future year scenario 2040+Dev. However, queueing and delay are reduced when compared to the 2040 Base scenario. As such, the mitigation scheme is considered appropriate to address the impacts of the Proposed Development.

8 Summary, Conclusion and Next Steps

8.1 Summary and Conclusion

- 8.1.1. WSP has been commissioned by the University of Kent (UoK) to provide transport and environmental advice for the development of proposals at various sites in and around their Canterbury Campus.
- 8.1.2. This Preliminary Transport Appraisal (PTA) has been prepared to supplement the information presented in the Transport Strategy and has been developed in accordance with a scope agreed with Kent County Council (KCC) as highway authority.
- 8.1.3. The Proposed Development site benefits from access by a range of modes of transport and provisional strategies have been developed to ensure that access by sustainable modes is prioritised.
- 8.1.4. The trip generation for the Proposed Development has been developed using person trip rates and split down by land use and journey purpose allowing for consideration of internalisation. No account has been made at this stage for travel planning (Mobility as a Service) which would further reduce the vehicular trip making characteristics of the site.
- 8.1.5. A highway network assessment has been developed based around a manual spreadsheet-based trip generation, distribution and assignment. The impact of the Proposed Development on the highway network has then been tested at 13 locations surrounding the site that were agreed with KCC.
- 8.1.6. The highway network assessment identified a number of locations where the existing highway network is anticipated to operate at/above capacity in the future year of 2040 and the Proposed Development was likely to increase queueing and delay.
- 8.1.7. Mitigation measures were developed at four locations which effectively reduced the impacts of the Proposed Development and improved the performance of the highway network when compared to the Do Nothing scenario.
- 8.1.8. At two locations (Junction 4 – Whitstable Road/Giles Lane and Junction 6 – Whitstable Road/London Road) a review of the junction layouts identified limited opportunities for improvements within the highway boundary. At Junction 4 it was noted that queueing and delay was limited to the Giles Lane minor arm. Traffic would likely re-distribute to the University Road junction where no capacity issues were identified,
- 8.1.9. At Junction 6 it was noted that the level crossing on St Dunstan's Street is likely to affect the level of queueing and delay that occurs in this location as well as the attractiveness of this junction for journeys within Canterbury. Whilst no specific mitigation has been proposed at this location it is likely that drivers will either re-route or re-time their journey should delays in this location increase significantly. The other junctions in the study area that could be used by re-routing traffic (Junction 3, Junction 7 and Junction 12) did not indicate significant capacity constraints that would prevent traffic from re-routing, even once growth through to

2040 had been accounted for. As such, whilst no cost-effective solution within the highway boundary has been identified for either Junction 4 or Junction 6 at this time, further testing of these junctions and the wider highway network within the strategic model is likely to identify opportunities for re-routing which will likely reduce impacts to an acceptable level.

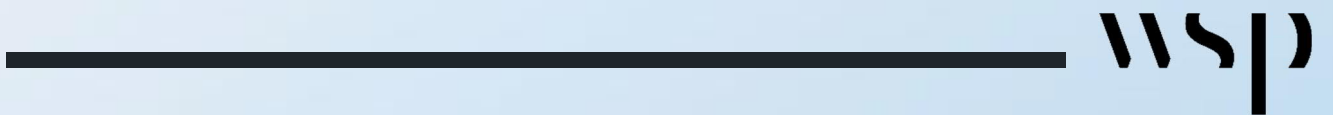
- 8.1.10. It was therefore concluded that the Proposed Development can be accommodated on the highway network and from a transport perspective following development of a number of mitigation and re-routing options together with sustainable travel planning measures, as such there are no reasons why the site should not be allocated within the forthcoming Local Plan.

8.2 Next steps

- 8.2.1. It is recommended that moving forwards as the development proposals are refined that further testing within the strategic model is undertaken to better account for the potential re-routing of existing traffic on the highway network as a result of the access strategy and further consideration is given to the proposed mitigation options, together with impacts at Junction 6.

Appendix A

TRICS Data



Filtering Summary

Land Use	03/A	RESIDENTIAL/HOUSES PRIVATELY OWNED
Selected Trip Rate Calculation Parameter Range	250-2500 DWELLS	
Actual Trip Rate Calculation Parameter Range	266-918 DWELLS	
Date Range	Minimum: 01/01/11	Maximum: 23/09/21
Parking Spaces Range	All Surveys Included	
Parking Spaces Per Dwelling Range:	Selected: 1 to 3	Actual: 0.23 to 8.75
Bedrooms Per Dwelling Range:	All Surveys Included	
Percentage of dwellings privately owned:	All Surveys Included	
Days of the week selected	Monday	1
	Tuesday	1
	Wednesday	2
	Thursday	1
Main Location Types selected	Suburban Area (PPS6 Out of Centre)	1
	Edge of Town	4
Population within 500m	All Surveys Included	
Population <1 Mile ranges selected	5,001 to 10,000	2
	10,001 to 15,000	2
	20,001 to 25,000	1
Population <5 Mile ranges selected	5,001 to 25,000	1
	25,001 to 50,000	1
	50,001 to 75,000	2
	75,001 to 100,000	1
Car Ownership <5 Mile ranges selected	0.6 to 1.0	1
	1.1 to 1.5	4
PTAL Rating	No PTAL Present	5

Calculation Reference: AUDIT-100321-211222-1258

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
 Category : A - HOUSES PRIVATELY OWNED
MULTI-MODAL TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST	
	KC KENT	1 days
	WS WEST SUSSEX	1 days
04	EAST ANGLIA	
	NF NORFOLK	2 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	NE NORTH EAST LINCOLNSHIRE	1 days

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

Primary Filtering selection:

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

Parameter: No of Dwellings
 Actual Range: 266 to 918 (units:)
 Range Selected by User: 250 to 2500 (units:)

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: Selected: 1 to 3 Actual: 0.23 to 8.75

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/11 to 23/09/21

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

Selected survey days:

Monday	1 days
Tuesday	1 days
Wednesday	2 days
Thursday	1 days

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

Selected survey types:

Manual count	5 days
Directional ATC Count	0 days

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

Selected Locations:

Suburban Area (PPS6 Out of Centre)	1
Edge of Town	4

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

Selected Location Sub Categories:

Residential Zone	3
Out of Town	1
No Sub Category	1

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

Secondary Filtering selection:

Use Class:

C3 5 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 500m Range:

All Surveys Included

Population within 1 mile:

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

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

Population within 5 miles:

5,001 to 25,000	1 days
25,001 to 50,000	1 days
50,001 to 75,000	2 days
75,001 to 100,000	1 days

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

Car ownership within 5 miles:

0.6 to 1.0	1 days
1.1 to 1.5	4 days

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

Travel Plan:

Yes	3 days
No	2 days

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

PTAL Rating:

No PTAL Present	5 days
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This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

Site(1):	KC-03-A-06	Site area:	8.00 hect
Development Name:	MIXED HOUSES & FLATS	No of Dwellings:	363
Location:	HERNE BAY	Housing density:	73
Postcode:	CT6 6DF	Total Bedrooms:	1007
Main Location Type:	Suburban Area (PPS6 Out of Centre)	Survey Date:	27/09/17
Sub-Location Type:	Residential Zone	Survey Day:	Wednesday
PTAL:	n/a	Parking Spaces:	789
Site(2):	NE-03-A-02	Site area:	12.00 hect
Development Name:	SEMI DETACHED & DETACHED	No of Dwellings:	432
Location:	SCUNTHORPE	Housing density:	133
Postcode:	DN15 8GS	Total Bedrooms:	1174
Main Location Type:	Edge of Town	Survey Date:	12/05/14
Sub-Location Type:	No Sub Category	Survey Day:	Monday
PTAL:	n/a	Parking Spaces:	432
Site(3):	NF-03-A-23	Site area:	26.43 hect
Development Name:	MIXED HOUSES & FLATS	No of Dwellings:	514
Location:	WYMONDHAM	Housing density:	27
Postcode:	NR18 9FP	Total Bedrooms:	1606
Main Location Type:	Edge of Town	Survey Date:	22/09/21
Sub-Location Type:	Out of Town	Survey Day:	Wednesday
PTAL:	n/a	Parking Spaces:	1274
Site(4):	NF-03-A-30	Site area:	11.77 hect
Development Name:	MIXED HOUSES	No of Dwellings:	266
Location:	SWAFFHAM	Housing density:	27
Postcode:	PE37 8JE	Total Bedrooms:	709
Main Location Type:	Edge of Town	Survey Date:	23/09/21
Sub-Location Type:	Residential Zone	Survey Day:	Thursday
PTAL:	n/a	Parking Spaces:	795
Site(5):	WS-03-A-11	Site area:	50.00 hect
Development Name:	MIXED HOUSES	No of Dwellings:	918
Location:	WEST HORSHAM	Housing density:	50
Postcode:	RH12 3LN	Total Bedrooms:	2865
Main Location Type:	Edge of Town	Survey Date:	02/04/19
Sub-Location Type:	Residential Zone	Survey Day:	Tuesday
PTAL:	n/a	Parking Spaces:	1894

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL TOTAL VEHICLES
 Calculation factor: 1 DWELLS
 BOLD print indicates peak (busiest) period
 Total People to Total Vehicles ratio (all time periods and directions): 1.62

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	499	0.068	5	499	0.298	5	499	0.366
08:00 - 09:00	5	499	0.125	5	499	0.387	5	499	0.512
09:00 - 10:00	5	499	0.134	5	499	0.145	5	499	0.279
10:00 - 11:00	5	499	0.106	5	499	0.135	5	499	0.241
11:00 - 12:00	5	499	0.119	5	499	0.133	5	499	0.252
12:00 - 13:00	5	499	0.136	5	499	0.126	5	499	0.262
13:00 - 14:00	5	499	0.141	5	499	0.139	5	499	0.280
14:00 - 15:00	5	499	0.143	5	499	0.177	5	499	0.320
15:00 - 16:00	5	499	0.256	5	499	0.172	5	499	0.428
16:00 - 17:00	5	499	0.294	5	499	0.167	5	499	0.461
17:00 - 18:00	5	499	0.363	5	499	0.172	5	499	0.535
18:00 - 19:00	5	499	0.313	5	499	0.185	5	499	0.498
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.198			2.236			4.434

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

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

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Parameter summary

Trip rate parameter range selected:	266 - 918 (units:)
Survey date range:	01/01/11 - 23/09/21
Number of weekdays (Monday-Friday):	5
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	2
Surveys manually removed from selection:	0

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

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL TAXIS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	499	0.002	5	499	0.002	5	499	0.004
08:00 - 09:00	5	499	0.004	5	499	0.004	5	499	0.008
09:00 - 10:00	5	499	0.003	5	499	0.001	5	499	0.004
10:00 - 11:00	5	499	0.000	5	499	0.001	5	499	0.001
11:00 - 12:00	5	499	0.001	5	499	0.001	5	499	0.002
12:00 - 13:00	5	499	0.000	5	499	0.000	5	499	0.000
13:00 - 14:00	5	499	0.000	5	499	0.000	5	499	0.000
14:00 - 15:00	5	499	0.002	5	499	0.002	5	499	0.004
15:00 - 16:00	5	499	0.004	5	499	0.002	5	499	0.006
16:00 - 17:00	5	499	0.002	5	499	0.002	5	499	0.004
17:00 - 18:00	5	499	0.000	5	499	0.000	5	499	0.000
18:00 - 19:00	5	499	0.001	5	499	0.001	5	499	0.002
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.019			0.016			0.035

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL OGVS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	499	0.000	5	499	0.000	5	499	0.000
08:00 - 09:00	5	499	0.000	5	499	0.001	5	499	0.001
09:00 - 10:00	5	499	0.001	5	499	0.001	5	499	0.002
10:00 - 11:00	5	499	0.002	5	499	0.003	5	499	0.005
11:00 - 12:00	5	499	0.002	5	499	0.002	5	499	0.004
12:00 - 13:00	5	499	0.001	5	499	0.002	5	499	0.003
13:00 - 14:00	5	499	0.000	5	499	0.000	5	499	0.000
14:00 - 15:00	5	499	0.001	5	499	0.000	5	499	0.001
15:00 - 16:00	5	499	0.001	5	499	0.000	5	499	0.001
16:00 - 17:00	5	499	0.002	5	499	0.000	5	499	0.002
17:00 - 18:00	5	499	0.000	5	499	0.001	5	499	0.001
18:00 - 19:00	5	499	0.000	5	499	0.000	5	499	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.010			0.010			0.020

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
 MULTI-MODAL PSVS
 Calculation factor: 1 DWELLS
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	499	0.000	5	499	0.000	5	499	0.000
08:00 - 09:00	5	499	0.001	5	499	0.001	5	499	0.002
09:00 - 10:00	5	499	0.000	5	499	0.000	5	499	0.000
10:00 - 11:00	5	499	0.000	5	499	0.000	5	499	0.000
11:00 - 12:00	5	499	0.000	5	499	0.000	5	499	0.000
12:00 - 13:00	5	499	0.000	5	499	0.000	5	499	0.000
13:00 - 14:00	5	499	0.000	5	499	0.000	5	499	0.000
14:00 - 15:00	5	499	0.000	5	499	0.000	5	499	0.000
15:00 - 16:00	5	499	0.000	5	499	0.000	5	499	0.000
16:00 - 17:00	5	499	0.000	5	499	0.000	5	499	0.000
17:00 - 18:00	5	499	0.000	5	499	0.000	5	499	0.000
18:00 - 19:00	5	499	0.000	5	499	0.000	5	499	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.001			0.001			0.002

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
 MULTI-MODAL CYCLISTS
 Calculation factor: 1 DWELLS
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	499	0.002	5	499	0.007	5	499	0.009
08:00 - 09:00	5	499	0.002	5	499	0.014	5	499	0.016
09:00 - 10:00	5	499	0.002	5	499	0.002	5	499	0.004
10:00 - 11:00	5	499	0.002	5	499	0.002	5	499	0.004
11:00 - 12:00	5	499	0.002	5	499	0.002	5	499	0.004
12:00 - 13:00	5	499	0.003	5	499	0.002	5	499	0.005
13:00 - 14:00	5	499	0.002	5	499	0.001	5	499	0.003
14:00 - 15:00	5	499	0.003	5	499	0.002	5	499	0.005
15:00 - 16:00	5	499	0.007	5	499	0.002	5	499	0.009
16:00 - 17:00	5	499	0.006	5	499	0.004	5	499	0.010
17:00 - 18:00	5	499	0.010	5	499	0.006	5	499	0.016
18:00 - 19:00	5	499	0.009	5	499	0.007	5	499	0.016
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.050			0.051			0.101

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
 MULTI-MODAL VEHICLE OCCUPANTS
 Calculation factor: 1 DWELLS
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	499	0.081	5	499	0.395	5	499	0.476
08:00 - 09:00	5	499	0.141	5	499	0.621	5	499	0.762
09:00 - 10:00	5	499	0.158	5	499	0.188	5	499	0.346
10:00 - 11:00	5	499	0.137	5	499	0.176	5	499	0.313
11:00 - 12:00	5	499	0.153	5	499	0.176	5	499	0.329
12:00 - 13:00	5	499	0.171	5	499	0.160	5	499	0.331
13:00 - 14:00	5	499	0.181	5	499	0.177	5	499	0.358
14:00 - 15:00	5	499	0.185	5	499	0.225	5	499	0.410
15:00 - 16:00	5	499	0.427	5	499	0.222	5	499	0.649
16:00 - 17:00	5	499	0.451	5	499	0.231	5	499	0.682
17:00 - 18:00	5	499	0.521	5	499	0.245	5	499	0.766
18:00 - 19:00	5	499	0.443	5	499	0.275	5	499	0.718
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			3.049			3.091			6.140

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL PEDESTRIANS
 Calculation factor: 1 DWELLS
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	499	0.015	5	499	0.041	5	499	0.056
08:00 - 09:00	5	499	0.030	5	499	0.111	5	499	0.141
09:00 - 10:00	5	499	0.021	5	499	0.018	5	499	0.039
10:00 - 11:00	5	499	0.019	5	499	0.021	5	499	0.040
11:00 - 12:00	5	499	0.015	5	499	0.013	5	499	0.028
12:00 - 13:00	5	499	0.018	5	499	0.016	5	499	0.034
13:00 - 14:00	5	499	0.018	5	499	0.022	5	499	0.040
14:00 - 15:00	5	499	0.031	5	499	0.030	5	499	0.061
15:00 - 16:00	5	499	0.101	5	499	0.032	5	499	0.133
16:00 - 17:00	5	499	0.039	5	499	0.019	5	499	0.058
17:00 - 18:00	5	499	0.048	5	499	0.048	5	499	0.096
18:00 - 19:00	5	499	0.048	5	499	0.050	5	499	0.098
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.403			0.421			0.824

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL BUS/TRAM PASSENGERS
 Calculation factor: 1 DWELLS
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	499	0.002	5	499	0.018	5	499	0.020
08:00 - 09:00	5	499	0.000	5	499	0.004	5	499	0.004
09:00 - 10:00	5	499	0.001	5	499	0.006	5	499	0.007
10:00 - 11:00	5	499	0.001	5	499	0.002	5	499	0.003
11:00 - 12:00	5	499	0.002	5	499	0.004	5	499	0.006
12:00 - 13:00	5	499	0.002	5	499	0.002	5	499	0.004
13:00 - 14:00	5	499	0.002	5	499	0.001	5	499	0.003
14:00 - 15:00	5	499	0.003	5	499	0.003	5	499	0.006
15:00 - 16:00	5	499	0.011	5	499	0.002	5	499	0.013
16:00 - 17:00	5	499	0.010	5	499	0.001	5	499	0.011
17:00 - 18:00	5	499	0.006	5	499	0.001	5	499	0.007
18:00 - 19:00	5	499	0.006	5	499	0.000	5	499	0.006
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.046			0.044			0.090

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL TOTAL RAIL PASSENGERS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	499	0.000	5	499	0.004	5	499	0.004
08:00 - 09:00	5	499	0.000	5	499	0.002	5	499	0.002
09:00 - 10:00	5	499	0.000	5	499	0.002	5	499	0.002
10:00 - 11:00	5	499	0.000	5	499	0.000	5	499	0.000
11:00 - 12:00	5	499	0.000	5	499	0.000	5	499	0.000
12:00 - 13:00	5	499	0.000	5	499	0.000	5	499	0.000
13:00 - 14:00	5	499	0.000	5	499	0.000	5	499	0.000
14:00 - 15:00	5	499	0.000	5	499	0.000	5	499	0.000
15:00 - 16:00	5	499	0.000	5	499	0.000	5	499	0.000
16:00 - 17:00	5	499	0.001	5	499	0.000	5	499	0.001
17:00 - 18:00	5	499	0.004	5	499	0.000	5	499	0.004
18:00 - 19:00	5	499	0.002	5	499	0.000	5	499	0.002
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.007			0.008			0.015

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL COACH PASSENGERS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	499	0.000	5	499	0.000	5	499	0.000
08:00 - 09:00	5	499	0.000	5	499	0.001	5	499	0.001
09:00 - 10:00	5	499	0.000	5	499	0.000	5	499	0.000
10:00 - 11:00	5	499	0.000	5	499	0.000	5	499	0.000
11:00 - 12:00	5	499	0.000	5	499	0.000	5	499	0.000
12:00 - 13:00	5	499	0.000	5	499	0.000	5	499	0.000
13:00 - 14:00	5	499	0.000	5	499	0.000	5	499	0.000
14:00 - 15:00	5	499	0.000	5	499	0.000	5	499	0.000
15:00 - 16:00	5	499	0.000	5	499	0.000	5	499	0.000
16:00 - 17:00	5	499	0.000	5	499	0.000	5	499	0.000
17:00 - 18:00	5	499	0.000	5	499	0.000	5	499	0.000
18:00 - 19:00	5	499	0.000	5	499	0.000	5	499	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.000			0.001			0.001

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL PUBLIC TRANSPORT USERS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	499	0.002	5	499	0.021	5	499	0.023
08:00 - 09:00	5	499	0.000	5	499	0.008	5	499	0.008
09:00 - 10:00	5	499	0.001	5	499	0.008	5	499	0.009
10:00 - 11:00	5	499	0.001	5	499	0.002	5	499	0.003
11:00 - 12:00	5	499	0.002	5	499	0.004	5	499	0.006
12:00 - 13:00	5	499	0.002	5	499	0.002	5	499	0.004
13:00 - 14:00	5	499	0.003	5	499	0.001	5	499	0.004
14:00 - 15:00	5	499	0.004	5	499	0.003	5	499	0.007
15:00 - 16:00	5	499	0.012	5	499	0.002	5	499	0.014
16:00 - 17:00	5	499	0.011	5	499	0.001	5	499	0.012
17:00 - 18:00	5	499	0.010	5	499	0.002	5	499	0.012
18:00 - 19:00	5	499	0.007	5	499	0.000	5	499	0.007
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.055			0.054			0.109

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL TOTAL PEOPLE

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Total People to Total Vehicles ratio (all time periods and directions): 1.62

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	499	0.100	5	499	0.464	5	499	0.564
08:00 - 09:00	5	499	0.173	5	499	0.754	5	499	0.927
09:00 - 10:00	5	499	0.181	5	499	0.216	5	499	0.397
10:00 - 11:00	5	499	0.159	5	499	0.202	5	499	0.361
11:00 - 12:00	5	499	0.172	5	499	0.195	5	499	0.367
12:00 - 13:00	5	499	0.194	5	499	0.181	5	499	0.375
13:00 - 14:00	5	499	0.205	5	499	0.202	5	499	0.407
14:00 - 15:00	5	499	0.223	5	499	0.260	5	499	0.483
15:00 - 16:00	5	499	0.546	5	499	0.259	5	499	0.805
16:00 - 17:00	5	499	0.507	5	499	0.255	5	499	0.762
17:00 - 18:00	5	499	0.590	5	499	0.300	5	499	0.890
18:00 - 19:00	5	499	0.507	5	499	0.333	5	499	0.840
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			3.557			3.621			7.178

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL CARS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	499	0.058	5	499	0.265	5	499	0.323
08:00 - 09:00	5	499	0.106	5	499	0.360	5	499	0.466
09:00 - 10:00	5	499	0.115	5	499	0.130	5	499	0.245
10:00 - 11:00	5	499	0.087	5	499	0.112	5	499	0.199
11:00 - 12:00	5	499	0.098	5	499	0.111	5	499	0.209
12:00 - 13:00	5	499	0.121	5	499	0.112	5	499	0.233
13:00 - 14:00	5	499	0.126	5	499	0.119	5	499	0.245
14:00 - 15:00	5	499	0.125	5	499	0.160	5	499	0.285
15:00 - 16:00	5	499	0.232	5	499	0.154	5	499	0.386
16:00 - 17:00	5	499	0.263	5	499	0.150	5	499	0.413
17:00 - 18:00	5	499	0.336	5	499	0.157	5	499	0.493
18:00 - 19:00	5	499	0.289	5	499	0.168	5	499	0.457
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.956			1.998			3.954

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
 MULTI-MODAL LGVS
 Calculation factor: 1 DWELLS
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	499	0.008	5	499	0.030	5	499	0.038
08:00 - 09:00	5	499	0.012	5	499	0.018	5	499	0.030
09:00 - 10:00	5	499	0.015	5	499	0.012	5	499	0.027
10:00 - 11:00	5	499	0.016	5	499	0.018	5	499	0.034
11:00 - 12:00	5	499	0.018	5	499	0.018	5	499	0.036
12:00 - 13:00	5	499	0.014	5	499	0.012	5	499	0.026
13:00 - 14:00	5	499	0.014	5	499	0.020	5	499	0.034
14:00 - 15:00	5	499	0.015	5	499	0.014	5	499	0.029
15:00 - 16:00	5	499	0.016	5	499	0.014	5	499	0.030
16:00 - 17:00	5	499	0.025	5	499	0.014	5	499	0.039
17:00 - 18:00	5	499	0.025	5	499	0.013	5	499	0.038
18:00 - 19:00	5	499	0.019	5	499	0.013	5	499	0.032
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.197			0.196			0.393

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
 MULTI-MODAL MOTOR CYCLES
 Calculation factor: 1 DWELLS
 BOLD print indicates peak (busiest) period

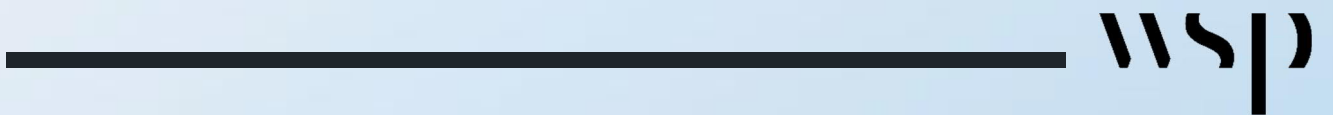
Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	499	0.000	5	499	0.001	5	499	0.001
08:00 - 09:00	5	499	0.000	5	499	0.003	5	499	0.003
09:00 - 10:00	5	499	0.000	5	499	0.000	5	499	0.000
10:00 - 11:00	5	499	0.000	5	499	0.001	5	499	0.001
11:00 - 12:00	5	499	0.000	5	499	0.001	5	499	0.001
12:00 - 13:00	5	499	0.000	5	499	0.001	5	499	0.001
13:00 - 14:00	5	499	0.000	5	499	0.000	5	499	0.000
14:00 - 15:00	5	499	0.000	5	499	0.000	5	499	0.000
15:00 - 16:00	5	499	0.002	5	499	0.001	5	499	0.003
16:00 - 17:00	5	499	0.002	5	499	0.001	5	499	0.003
17:00 - 18:00	5	499	0.002	5	499	0.001	5	499	0.003
18:00 - 19:00	5	499	0.004	5	499	0.003	5	499	0.007
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.010			0.013			0.023

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

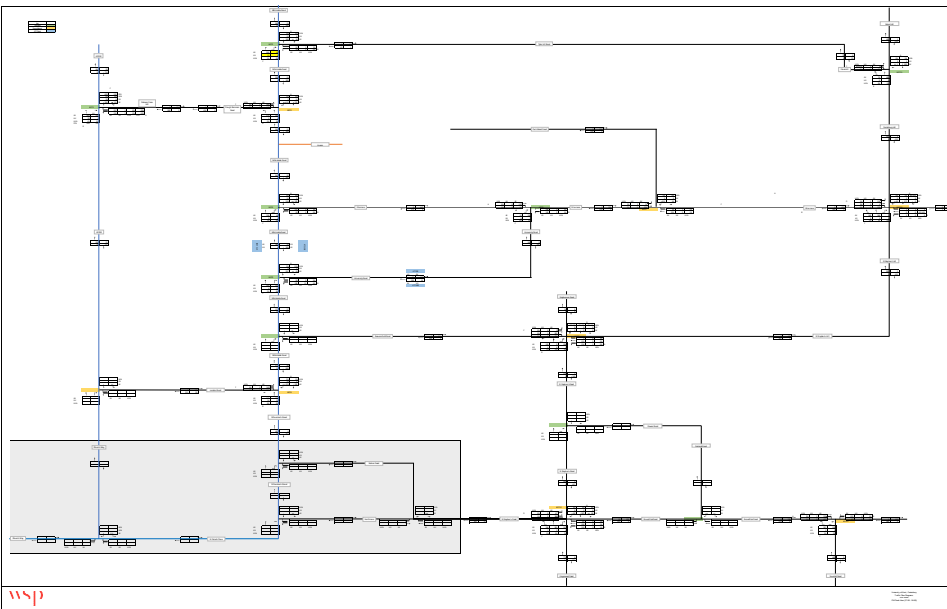
*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected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

Appendix B

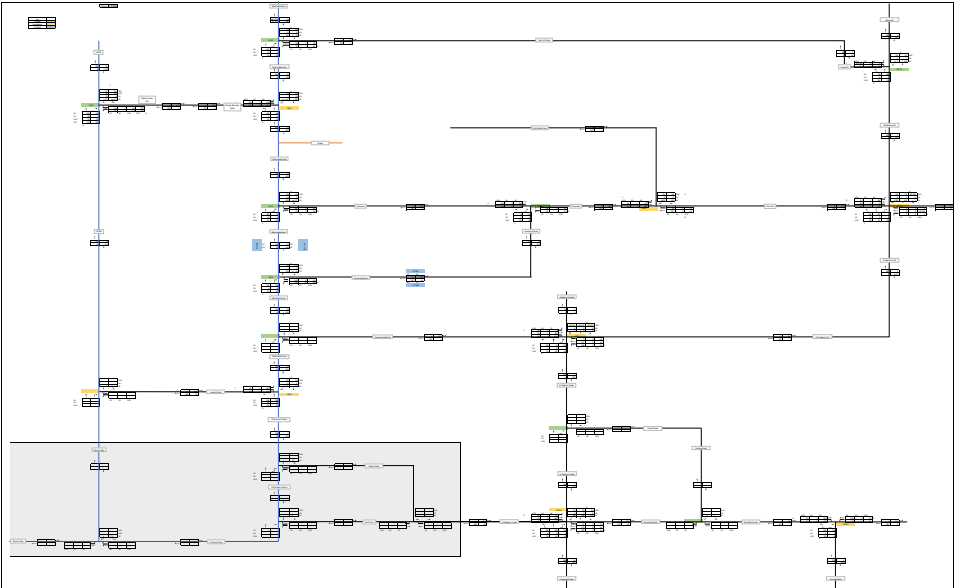
Traffic Flow Diagrams

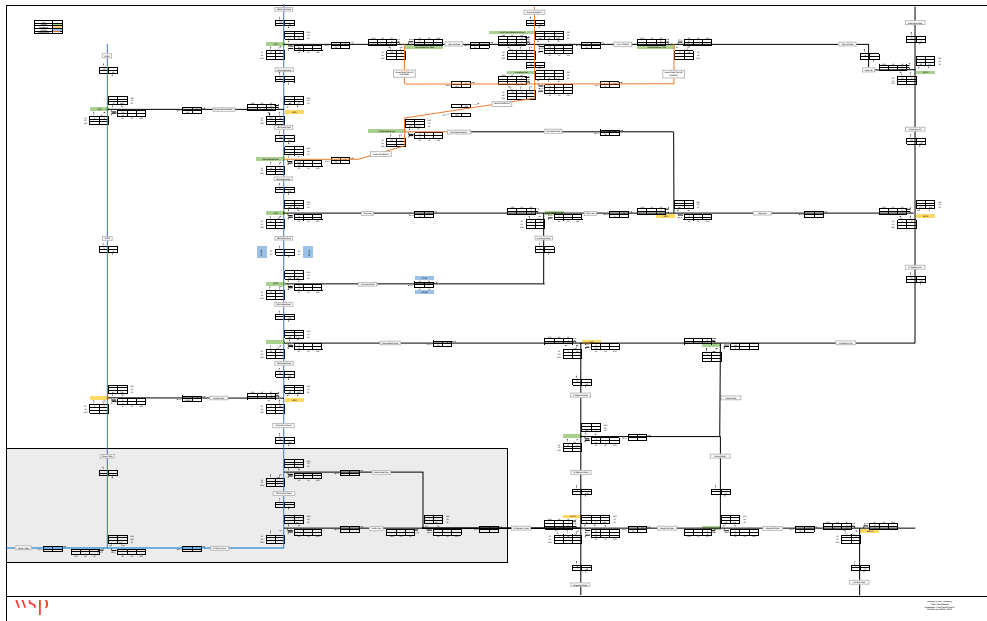


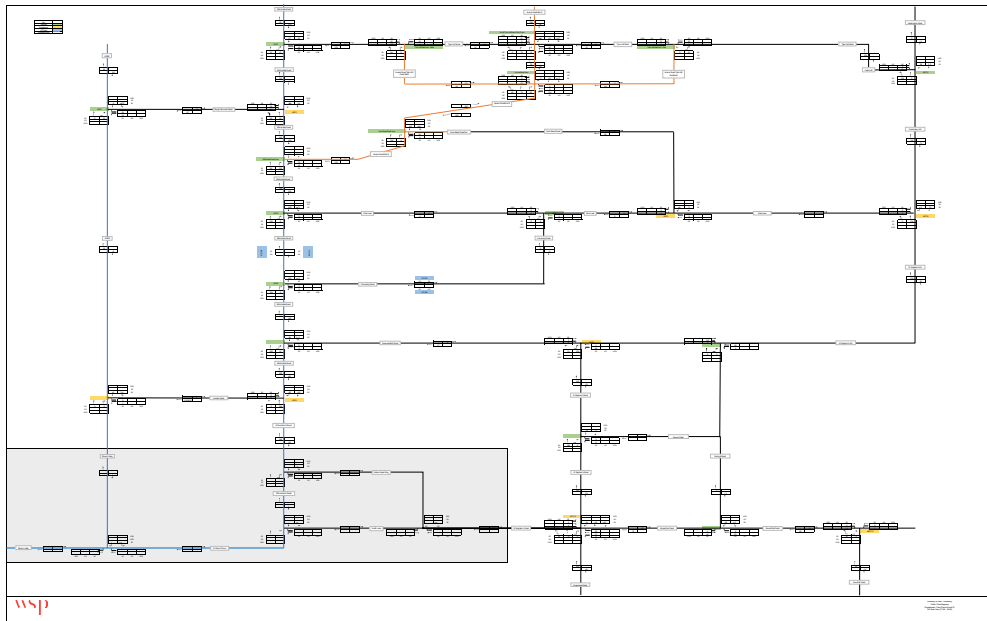


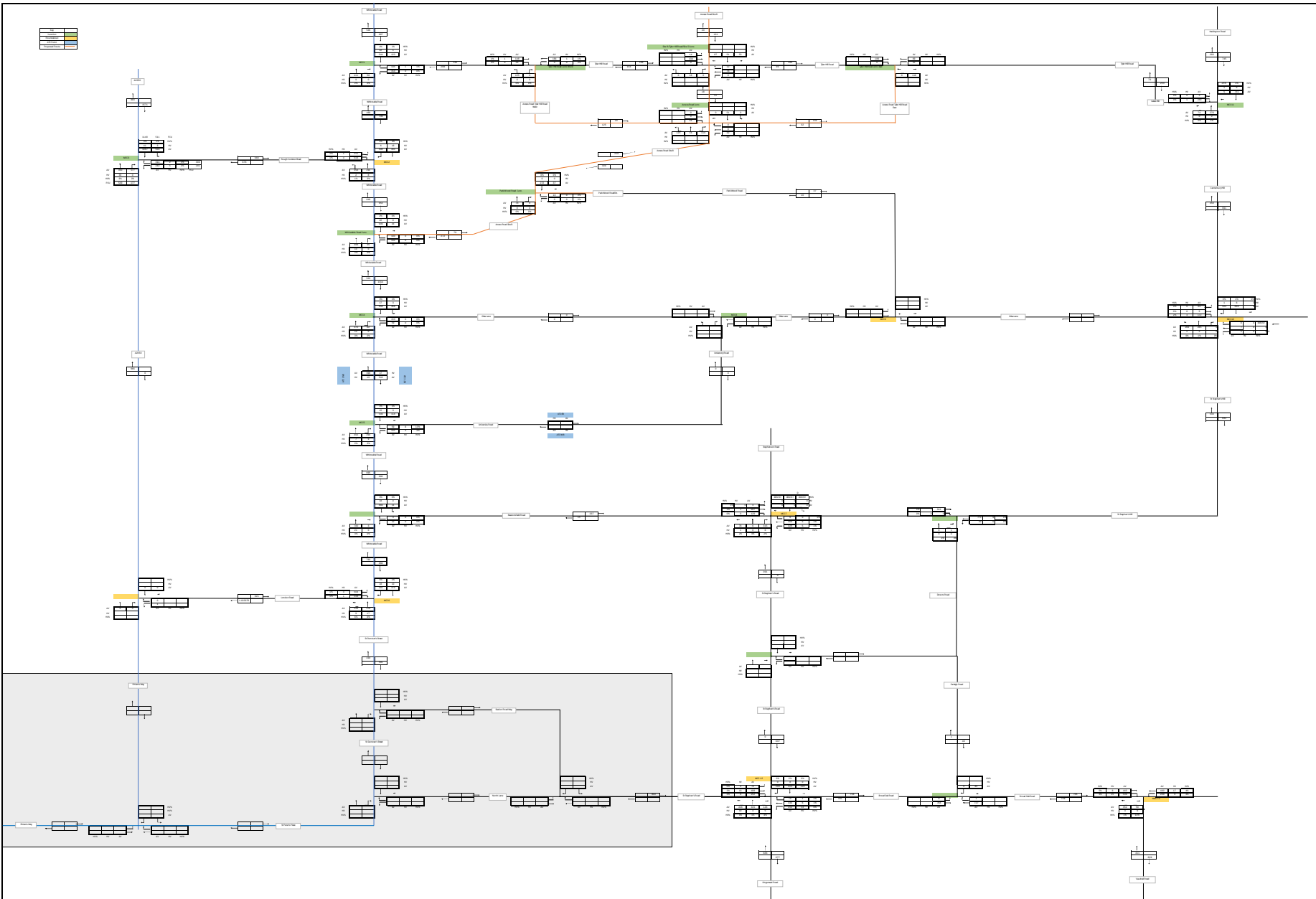








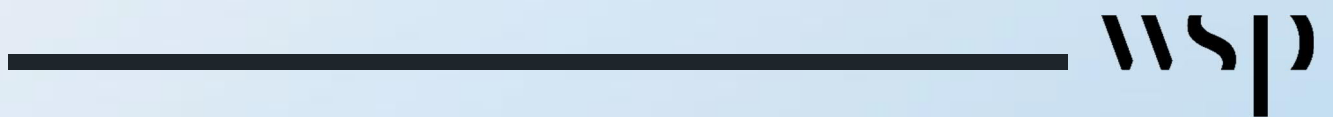






Appendix C

Junction Capacity Assessments



Junctions 10															
PICADY 10 - Priority Intersection Module															
Version: 10.0.1.1519															
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Filename: Junction 1 - A290_Tyler Hill Road.j10

Path: \\uk.wspgroup.com\central data\Projects\70080xxx\70080896 - University of Kent\03 WIP\TP Transport Planning\Junctions 10

Report generation date: 04/02/2022 09:30:07

»2021, AM
»2021, PM
»2040, AM
»2040, PM
»2040+Dev, AM
»2040+Dev, 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
	2021													
Stream B-AC	D1	0.2	11.24	0.19	B	1.00	76 %	D2	0.3	11.63	0.23	B	1.43	73 %
Stream C-AB		0.1	4.91	0.07	A		[Stream B-AC]		0.3	4.33	0.13	A		[Stream B-AC]
	2040													
Stream B-AC	D3	0.3	12.81	0.23	B	1.13	55 %	D4	0.4	13.36	0.28	B	1.63	51 %
Stream C-AB		0.2	4.89	0.09	A		[Stream B-AC]		0.4	4.27	0.16	A		[Stream B-AC]
	2040+Dev													
Stream B-AC	D5	4.4	53.44	0.84	F	11.07	-7 %	D6	1.7	28.10	0.64	D	5.78	5 %
Stream C-AB		0.4	5.22	0.17	A		[Stream B-AC]		1.7	6.94	0.48	A		[Stream B-AC]

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. Junction LOS and Junction Delay are demand-weighted averages. 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	A290/Tyler Hill Road Priority
Location	Blean
Site number	
Date	23/11/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	70080896
Enumerator	CORP\UKWGF001
Description	

Units

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

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D1	2021	AM	ONE HOUR	07:45	09:15	15	✓	✓
D2	2021	PM	ONE HOUR	16:15	17:45	15	✓	✓
D3	2040	AM	ONE HOUR	07:45	09:15	15	✓	✓
D4	2040	PM	ONE HOUR	16:15	17:45	15	✓	✓
D5	2040+Dev	AM	ONE HOUR	07:45	09:15	15	✓	✓
D6	2040+Dev	PM	ONE HOUR	16:15	17:45	15	✓	✓

Analysis Set Details

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

2021, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D1 - 2021, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		1.00	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	76	Stream B-AC	1.00	A

Arms

Arms

Arm	Name	Description	Arm type
A	A290 North		Major
B	Tyler Hill Road		Minor
C	A290 South		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	7.03			235.0	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.95	46	19

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	549	0.096	0.242	0.152	0.346
B-C	696	0.102	0.257	-	-
C-B	710	0.263	0.263	-	-

The slopes and intercepts shown above include custom intercept adjustments only.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D1	2021	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 (%)
A		ONE HOUR	✓	558	100.000
B		ONE HOUR	✓	67	100.000
C		ONE HOUR	✓	365	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
From	A	0	88	470
	B	41	0	28
	C	336	29	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
From	A	0	1	4
	B	2	0	0
	C	2	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-AC	0.19	11.24	0.2	1.1	B	67	67
C-AB	0.07	4.91	0.1	0.9	A	51	51
C-A						314	314
A-B						88	88
A-C						470	470

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	60	15	431	0.140	60	0.1	0.2	9.698	A
C-AB	43	11	777	0.055	43	0.1	0.1	4.896	A
C-A	285	71			285				
A-B	79	20			79				
A-C	423	106			423				

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	74	18	394	0.187	74	0.2	0.2	11.218	B
C-AB	60	15	799	0.075	59	0.1	0.1	4.865	A
C-A	342	86			342				
A-B	97	24			97				
A-C	517	129			517				

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	74	18	394	0.187	74	0.2	0.2	11.237	B
C-AB	60	15	799	0.075	60	0.1	0.1	4.872	A
C-A	342	86			342				
A-B	97	24			97				
A-C	517	129			517				

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	60	15	431	0.140	60	0.2	0.2	9.722	A
C-AB	43	11	778	0.055	43	0.1	0.1	4.907	A
C-A	285	71			285				
A-B	79	20			79				
A-C	423	106			423				

Queue Variation Results for each time segment

08:00 - 08:15

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.16	0.00	0.00	0.16	0.16			N/A	N/A
C-AB	0.09	0.03	0.25	0.45	0.48			N/A	N/A

08:15 - 08:30

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.23	0.03	0.26	0.46	0.49			N/A	N/A
C-AB	0.13	0.03	0.27	0.48	0.89			N/A	N/A

08:30 - 08:45

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.23	0.03	0.28	0.63	1.07			N/A	N/A
C-AB	0.13	0.00	0.00	0.13	0.13			N/A	N/A

08:45 - 09:00

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.16	0.00	0.00	0.16	0.16			N/A	N/A
C-AB	0.09	0.00	0.00	0.09	0.09			N/A	N/A

2021, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D2 - 2021, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		1.43	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	73	Stream B-AC	1.43	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)	Results for central hour only	Run automatically
D2	2021	PM	ONE HOUR	16:15	17:45	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	344	100.000
B		ONE HOUR	✓	83	100.000
C		ONE HOUR	✓	556	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
From		A	B	C
	A	0	36	308
	B	57	0	26
	C	508	48	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
From		A	B	C
	A	0	0	4
	B	2	0	0
	C	2	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-AC	0.23	11.63	0.3	1.4	B	83	83
C-AB	0.13	4.33	0.3	1.5	A	105	105
C-A						451	451
A-B						36	36
A-C						308	308

Main Results for each time segment

16:30 - 16:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	75	19	435	0.172	74	0.2	0.2	9.979	A
C-AB	86	21	921	0.093	86	0.1	0.2	4.312	A
C-A	414	103			414				
A-B	32	8			32				
A-C	277	69			277				

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	91	23	401	0.228	91	0.2	0.3	11.601	B
C-AB	125	31	974	0.128	124	0.2	0.3	4.238	A
C-A	487	122			487				
A-B	40	10			40				
A-C	339	85			339				

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	91	23	401	0.228	91	0.3	0.3	11.630	B
C-AB	125	31	974	0.128	125	0.3	0.3	4.244	A
C-A	487	122			487				
A-B	40	10			40				
A-C	339	85			339				

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	75	19	435	0.172	75	0.3	0.2	10.011	B
C-AB	86	22	921	0.094	87	0.3	0.2	4.326	A
C-A	414	103			414				
A-B	32	8			32				
A-C	277	69			277				

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Queue Variation Results for each time segment

16:30 - 16:45

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.20	0.00	0.00	0.20	0.20			N/A	N/A
C-AB	0.19	0.00	0.00	0.19	0.19			N/A	N/A

16:45 - 17:00

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.29	0.03	0.26	0.46	0.49			N/A	N/A
C-AB	0.31	0.03	0.27	0.49	1.48			N/A	N/A

17:00 - 17:15

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.29	0.03	0.31	1.04	1.35			N/A	N/A
C-AB	0.31	0.00	0.00	0.31	0.31			N/A	N/A

17:15 - 17:30

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.21	0.00	0.00	0.21	0.21			N/A	N/A
C-AB	0.19	0.00	0.00	0.19	0.19			N/A	N/A

2040, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D3 - 2040, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		1.13	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	55	Stream B-AC	1.13	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)	Results for central hour only	Run automatically
D3	2040	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 (%)
A		ONE HOUR	✓	636	100.000
B		ONE HOUR	✓	77	100.000
C		ONE HOUR	✓	416	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
	A	B	C	
From	A	0	100	536
	B	47	0	30
	C	383	33	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	A	B	C	
From	A	0	1	4
	B	2	0	0
	C	2	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-AC	0.23	12.81	0.3	1.4	B	77	77
C-AB	0.09	4.89	0.2	1.2	A	64	64
C-A						352	352
A-B						100	100
A-C						536	536

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	69	17	408	0.169	69	0.2	0.2	10.599	B
C-AB	53	13	791	0.067	53	0.1	0.1	4.877	A
C-A	321	80			321				
A-B	90	22			90				
A-C	482	120			482				

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	85	21	386	0.232	84	0.2	0.3	12.773	B
C-AB	75	19	817	0.092	75	0.1	0.2	4.849	A
C-A	383	96			383				
A-B	110	28			110				
A-C	590	148			590				

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	85	21	386	0.232	85	0.3	0.3	12.811	B
C-AB	75	19	817	0.092	75	0.2	0.2	4.858	A
C-A	383	96			383				
A-B	110	28			110				
A-C	590	148			590				

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	69	17	408	0.170	70	0.3	0.2	10.639	B
C-AB	53	13	791	0.067	53	0.2	0.1	4.890	A
C-A	321	80			321				
A-B	90	22			90				
A-C	482	120			482				

Queue Variation Results for each time segment

08:00 - 08:15

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.20	0.00	0.00	0.20	0.20			N/A	N/A
C-AB	0.11	0.03	0.25	0.46	0.48			N/A	N/A

08:15 - 08:30

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.30	0.03	0.26	0.46	0.49			N/A	N/A
C-AB	0.18	0.03	0.27	0.49	1.16			N/A	N/A

08:30 - 08:45

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.30	0.03	0.31	1.06	1.37			N/A	N/A
C-AB	0.18	0.00	0.00	0.18	0.18			N/A	N/A

08:45 - 09:00

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.21	0.00	0.00	0.21	0.21			N/A	N/A
C-AB	0.12	0.00	0.00	0.12	0.12			N/A	N/A

2040, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D4 - 2040, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		1.63	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	51	Stream B-AC	1.63	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)	Results for central hour only	Run automatically
D4	2040	PM	ONE HOUR	16:15	17:45	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	394	100.000
B		ONE HOUR	✓	95	100.000
C		ONE HOUR	✓	637	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
From		A	B	C
	A	0	41	353
	B	65	0	30
	C	582	55	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
From		A	B	C
	A	0	0	4
	B	2	0	0
	C	2	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-AC	0.28	13.36	0.4	1.5	B	95	95
C-AB	0.16	4.27	0.4	1.1	A	137	137
C-A						500	500
A-B						41	41
A-C						353	353

Main Results for each time segment

16:30 - 16:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	85	21	414	0.207	85	0.2	0.3	10.954	B
C-AB	110	27	955	0.115	109	0.2	0.3	4.257	A
C-A	463	116			463				
A-B	37	9			37				
A-C	317	79			317				

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	105	26	374	0.280	104	0.3	0.4	13.312	B
C-AB	164	41	1018	0.161	164	0.3	0.4	4.217	A
C-A	537	134			537				
A-B	45	11			45				
A-C	389	97			389				

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	105	26	374	0.280	105	0.4	0.4	13.364	B
C-AB	165	41	1018	0.162	165	0.4	0.4	4.224	A
C-A	537	134			537				
A-B	45	11			45				
A-C	389	97			389				

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	85	21	413	0.207	86	0.4	0.3	11.012	B
C-AB	110	28	956	0.115	111	0.4	0.3	4.274	A
C-A	462	116			462				
A-B	37	9			37				
A-C	317	79			317				

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Queue Variation Results for each time segment

16:30 - 16:45

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.26	0.00	0.00	0.26	0.26			N/A	N/A
C-AB	0.26	0.00	0.00	0.26	0.26			N/A	N/A

16:45 - 17:00

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.38	0.03	0.26	0.46	0.49			N/A	N/A
C-AB	0.42	0.03	0.27	0.49	1.11			N/A	N/A

17:00 - 17:15

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.38	0.03	0.31	1.27	1.48			N/A	N/A
C-AB	0.43	0.00	0.00	0.43	0.43			N/A	N/A

17:15 - 17:30

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.26	0.00	0.00	0.26	0.26			N/A	N/A
C-AB	0.27	0.00	0.00	0.27	0.27			N/A	N/A

2040+Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D5 - 2040+Dev, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		11.07	B

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	-7	Stream B-AC	11.07	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)	Results for central hour only	Run automatically
D5	2040+Dev	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 (%)
A		ONE HOUR	✓	667	100.000
B		ONE HOUR	✓	289	100.000
C		ONE HOUR	✓	469	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
From		A	B	C
	A	0	123	544
	B	135	0	154
	C	411	58	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
From		A	B	C
	A	0	1	4
	B	1	0	0
	C	2	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-AC	0.84	53.44	4.4	23.7	F	289	289
C-AB	0.17	5.22	0.4	1.3	A	119	119
C-A						350	350
A-B						123	123
A-C						544	544

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	280	65	426	0.610	257	0.9	1.5	21.072	C
C-AB	97	24	802	0.121	97	0.2	0.3	5.104	A
C-A	325	81			325				
A-B	111	28			111				
A-C	489	122			489				

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	318	80	380	0.837	308	1.5	4.0	44.959	E
C-AB	141	35	832	0.169	140	0.3	0.4	5.205	A
C-A	376	94			376				
A-B	135	34			135				
A-C	599	150			599				

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	318	80	380	0.837	316	4.0	4.4	53.437	F
C-AB	141	35	833	0.169	141	0.4	0.4	5.215	A
C-A	375	94			375				
A-B	135	34			135				
A-C	599	150			599				

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	260	65	426	0.610	271	4.4	1.7	24.672	C
C-AB	97	24	803	0.121	98	0.4	0.3	5.125	A
C-A	324	81			324				
A-B	111	28			111				
A-C	489	122			489				

Queue Variation Results for each time segment

08:00 - 08:15

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.48	0.09	1.12	2.92	3.93			N/A	N/A
C-AB	0.25	0.00	0.00	0.25	0.25			N/A	N/A

08:15 - 08:30

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	3.95	0.05	0.50	11.23	18.90			N/A	N/A
C-AB	0.40	0.03	0.27	0.48	1.31			N/A	N/A

08:30 - 08:45

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	4.40	0.04	0.38	11.14	23.74			N/A	N/A
C-AB	0.40	0.03	0.30	0.90	1.20			N/A	N/A

08:45 - 09:00

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.86	0.04	0.40	4.42	7.83			N/A	N/A
C-AB	0.26	0.00	0.00	0.26	0.26			N/A	N/A

2040+Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D6 - 2040+Dev, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		5.78	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	5	Stream B-AC	5.78	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)	Results for central hour only	Run automatically
D6	2040+Dev	PM	ONE HOUR	16:15	17:45	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	508	100.000
B		ONE HOUR	✓	205	100.000
C		ONE HOUR	✓	748	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
	A	B	C	
From	A	0	128	380
	B	111	0	94
	C	596	152	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	A	B	C	
From	A	0	0	4
	B	1	0	0
	C	2	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-AC	0.64	28.10	1.7	8.0	D	205	205
C-AB	0.48	6.94	1.7	8.7	A	402	402
C-A						346	346
A-B						128	128
A-C						380	380

Main Results for each time segment

16:30 - 16:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	184	46	404	0.456	183	0.5	0.8	16.200	C
C-AB	318	79	945	0.336	316	0.6	0.9	5.739	A
C-A	355	89			355				
A-B	115	29			115				
A-C	342	85			342				

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	226	56	353	0.639	222	0.8	1.6	26.799	D
C-AB	484	121	1008	0.480	481	0.9	1.7	6.848	A
C-A	340	85			340				
A-B	141	35			141				
A-C	418	105			418				

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	226	56	353	0.640	225	1.6	1.7	28.101	D
C-AB	486	121	1010	0.481	486	1.7	1.7	6.942	A
C-A	338	84			338				
A-B	141	35			141				
A-C	418	105			418				

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	184	46	403	0.457	188	1.7	0.9	16.929	C
C-AB	320	80	947	0.338	323	1.7	0.9	5.834	A
C-A	353	88			353				
A-B	115	29			115				
A-C	342	85			342				

Queue Variation Results for each time segment

16:30 - 16:45

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.81	0.14	0.91	1.42	1.49			N/A	N/A
C-AB	0.87	0.55	1.00	1.40	1.45			N/A	N/A

16:45 - 17:00

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.64	0.03	0.30	2.23	7.98			N/A	N/A
C-AB	1.66	0.03	0.27	1.66	3.22			N/A	N/A

17:00 - 17:15

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.70	0.03	0.30	1.79	7.81			N/A	N/A
C-AB	1.70	0.04	0.35	4.19	8.73			N/A	N/A

17:15 - 17:30

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.87	0.05	0.50	1.78	2.58			N/A	N/A
C-AB	0.92	0.55	1.00	1.40	1.45			N/A	N/A

Junctions 10													
ARCADY 10 - Roundabout Module													
Version: 10.0.1.1519													
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Filename: Junction 2 - A290_Rough Common Road.j10

Path: \\uk.wspgroup.com\central data\Projects\70080xxx\70080896 - University of Kent\03 WIP\TP Transport Planning\Junctions 10

Report generation date: 04/02/2022 09:36:18

»2021, AM
»2021, PM
»2040, AM
»2040, PM
»2040+Dev, AM
»2040+Dev, 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
	2021													
Arm B	D1	1.6	12.26	0.62	B	38.51	-10 % [Arm C]	D2	3.1	18.35	0.76	C	14.74	14 % [Arm B]
Arm C		14.0	79.80	0.97	F				2.2	18.10	0.69	C		
Arm A		2.2	14.10	0.70	B				0.6	5.71	0.39	A		
	2040													
Arm B	D3	2.5	17.10	0.72	C	109.02	-21 % [Arm C]	D4	6.6	35.84	0.88	E	26.44	0 % [Arm B]
Arm C		54.9	255.72	1.14	F				4.2	31.84	0.82	D		
Arm A		3.8	21.29	0.80	C				0.8	6.44	0.45	A		
	2040+Dev													
Arm B	D5	17.1	87.92	0.99	F	223.35	-27 % [Arm C]	D6	49.9	193.51	1.10	F	189.10	-23 % [Arm C]
Arm C		93.4	513.49	1.25	F				56.4	335.88	1.16	F		
Arm A		13.1	61.39	0.96	F				1.4	8.78	0.58	A		

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages. 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	A290/Rough Common Road
Location	Rough Common
Site number	
Date	23/11/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	70080896
Enumerator	CORP\UKWGF001
Description	

Units

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

Analysis Options

Mini-roundabout model	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
JUNCTIONS 9	5.75	✓				✓	Delay	0.85	36.00	20.00		500

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D1	2021	AM	ONE HOUR	07:45	09:15	15	✓	✓
D2	2021	PM	ONE HOUR	16:15	17:45	15	✓	✓
D3	2040	AM	ONE HOUR	07:45	09:15	15		✓
D4	2040	PM	ONE HOUR	16:15	17:45	15	✓	✓
D5	2040+Dev	AM	ONE HOUR	07:45	09:15	15	✓	✓
D6	2040+Dev	PM	ONE HOUR	16:15	17:45	15	✓	✓

Analysis Set Details

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

2021, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D1 - 2021, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout		B, C, A	38.51	E

Junction Network

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Daylight	Dry		-10	Arm C	38.51	E

Arms

Arms

Arm	Name	Description
B	A290 Whitstable Road South	
C	Rough Common Road	
A	A290 Whitstable Road North	

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
B	3.70	3.35	4.10	3.1	12.00	9.50	0.0	✓
C	3.45	3.20	4.00	1.0	14.00	10.40	0.0	✓
A	3.30	3.25	4.00	9.8	16.35	17.70	0.0	✓

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
B	0.522	912
C	0.510	809
A	0.620	1159

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D1	2021	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 (%)
B		ONE HOUR	✓	430	100.000
C		ONE HOUR	✓	599	100.000
A		ONE HOUR	✓	532	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
	B	C	A	
From	B	0	215	215
	C	426	0	173
	A	310	222	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	B	C	A	
From	B	0	1	3
	C	1	0	1
	A	5	2	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B	0.62	12.26	1.6	3.5	B	430	430
C	0.97	79.80	14.0	57.0	F	599	599
A	0.70	14.10	2.2	8.2	B	532	532

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B	387	97	199	790	0.489	385	657	0.7	0.9	8.868	A
C	538	135	193	700	0.769	533	392	1.6	3.0	20.782	C
A	478	120	379	888	0.538	477	347	0.8	1.1	8.708	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B	473	118	243	767	0.617	471	788	0.9	1.6	12.043	B
C	660	165	235	678	0.972	629	478	3.0	10.7	53.613	F
A	588	146	447	847	0.691	582	417	1.1	2.1	13.357	B

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B	473	118	244	767	0.618	473	801	1.6	1.6	12.283	B
C	660	165	237	678	0.973	646	481	10.7	14.0	79.800	F
A	586	146	460	840	0.697	585	423	2.1	2.2	14.101	B

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B	387	97	201	789	0.490	389	693	1.6	1.0	9.052	A
C	538	135	194	699	0.770	580	396	14.0	3.7	38.718	E
A	478	120	412	868	0.551	482	362	2.2	1.3	9.413	A

Queue Variation Results for each time segment

08:00 - 08:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B	0.94	0.11	0.94	1.35	1.73			N/A	N/A
C	3.04	0.08	1.48	7.61	10.86			N/A	N/A
A	1.14	0.08	0.95	2.00	2.79			N/A	N/A

08:15 - 08:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B	1.56	0.03	0.28	1.56	3.52			N/A	N/A
C	10.67	0.19	5.12	27.22	37.84			N/A	N/A
A	2.14	0.03	0.29	2.14	8.17			N/A	N/A

08:30 - 08:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B	1.59	0.03	0.27	1.59	3.14			N/A	N/A
C	14.00	0.12	4.71	38.80	57.03			N/A	N/A
A	2.24	0.03	0.28	2.24	5.43			N/A	N/A

08:45 - 09:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B	0.96	0.08	0.87	1.70	2.12			N/A	N/A
C	3.73	0.04	0.43	10.33	19.11			N/A	N/A
A	1.25	0.07	0.89	2.62	3.62			N/A	N/A

2021, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D2 - 2021, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout		B, C, A	14.74	B

Junction Network

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Daylight	Dry		14	Arm B	14.74	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)	Results for central hour only	Run automatically
D2	2021	PM	ONE HOUR	16:15	17:45	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 (%)
B		ONE HOUR	✓	563	100.000
C		ONE HOUR	✓	401	100.000
A		ONE HOUR	✓	385	100.000

Origin-Destination Data

Demand (Veh/hr)

	To		
	B	C	A
From	B	0	270
	C	135	0
	A	219	146

Vehicle Mix

Heavy Vehicle Percentages

	To		
	B	C	A
From	B	0	0
	C	0	0
	A	5	1

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B	0.76	18.35	3.1	15.1	C	563	563
C	0.69	18.10	2.2	9.5	C	401	401
A	0.39	5.71	0.6	2.7	A	385	385

Main Results for each time segment

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B	508	127	131	830	0.610	504	317	1.0	1.5	10.974	B
C	380	90	262	671	0.537	359	373	0.8	1.1	11.484	B
A	328	82	121	1048	0.313	328	500	0.3	0.5	4.991	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B	620	155	160	815	0.761	614	388	1.5	3.0	17.457	C
C	442	110	320	641	0.689	438	455	1.1	2.1	17.391	C
A	402	100	147	1033	0.389	401	610	0.5	0.6	5.696	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B	620	155	161	815	0.761	619	390	3.0	3.1	18.348	C
C	442	110	322	639	0.691	441	458	2.1	2.2	18.105	C
A	402	100	149	1032	0.389	402	615	0.6	0.6	5.714	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B	508	127	132	830	0.610	512	320	3.1	1.6	11.526	B
C	380	90	266	669	0.539	364	377	2.2	1.2	11.969	B
A	328	82	123	1047	0.313	329	508	0.6	0.5	5.014	A

Queue Variation Results for each time segment

16:30 - 16:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B	1.52	0.08	1.04	3.23	4.49			N/A	N/A
C	1.13	0.10	1.01	1.87	2.48			N/A	N/A
A	0.45	0.00	0.00	0.45	0.45			N/A	N/A

16:45 - 17:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B	2.95	0.03	0.32	4.73	15.11			N/A	N/A
C	2.09	0.03	0.30	2.09	9.47			N/A	N/A
A	0.63	0.03	0.25	0.63	0.63			N/A	N/A

17:00 - 17:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B	3.06	0.03	0.29	3.06	10.35			N/A	N/A
C	2.16	0.03	0.28	2.16	6.88			N/A	N/A
A	0.63	0.03	0.29	1.03	2.68			N/A	N/A

17:15 - 17:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B	1.61	0.05	0.51	4.10	6.38			N/A	N/A
C	1.20	0.06	0.69	2.69	3.86			N/A	N/A
A	0.46	0.00	0.00	0.46	0.46			N/A	N/A

2040, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout		B, C, A	109.02	F

Junction Network

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Daylight	Dry		-21	Arm C	109.02	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
D3	2040	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 (%)
B		ONE HOUR	✓	490	100.000
C		ONE HOUR	✓	683	100.000
A		ONE HOUR	✓	607	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		B	C	A
From	B	0	245	245
	C	488	0	197
	A	354	253	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		B	C	A
From	B	0	1	3
	C	1	0	1
	A	5	2	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B	0.72	17.10	2.5	11.2	C	450	674
C	1.14	255.72	54.9	100.1	F	627	940
A	0.80	21.29	3.8	19.3	C	557	835

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B	369	92	189	796	0.464	365	623	0.0	0.8	8.307	A
C	514	129	183	706	0.729	504	372	0.0	2.5	17.122	C
A	457	114	359	901	0.507	453	328	0.0	1.0	7.971	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B	440	110	226	776	0.568	439	743	0.8	1.3	10.620	B
C	614	154	219	687	0.894	599	446	2.5	6.2	36.130	E
A	546	136	426	880	0.635	543	392	1.0	1.7	11.265	B

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B	540	135	275	750	0.719	535	848	1.3	2.4	16.372	C
C	752	188	267	662	1.137	651	543	6.2	31.5	120.946	F
A	668	167	463	838	0.798	661	455	1.7	3.6	19.537	C

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B	540	135	278	749	0.720	539	858	2.4	2.5	17.098	C
C	752	188	270	660	1.139	658	548	31.5	54.9	247.492	F
A	668	167	468	835	0.801	667	459	3.6	3.8	21.293	C

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B	440	110	230	774	0.569	445	801	2.5	1.4	11.094	B
C	614	154	223	685	0.896	673	453	54.9	40.2	255.717	F
A	546	136	479	828	0.659	553	417	3.8	2.0	13.386	B

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B	369	92	192	794	0.465	371	739	1.4	0.9	8.545	A
C	514	129	185	704	0.730	662	377	40.2	3.4	110.270	F
A	457	114	471	833	0.549	460	376	2.0	1.2	9.730	A

Queue Variation Results for each time segment

07:45 - 08:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B	0.85	0.55	1.00	1.40	1.45			N/A	N/A
C	2.50	0.27	1.55	4.70	5.91			N/A	N/A
A	1.01	0.55	1.00	1.40	1.45			N/A	N/A

08:00 - 08:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B	1.28	0.08	1.02	2.46	3.25			N/A	N/A
C	6.19	0.20	3.31	14.74	19.93			N/A	N/A
A	1.68	0.07	1.01	3.85	5.48			N/A	N/A

08:15 - 08:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B	2.41	0.03	0.30	2.70	11.24			N/A	N/A
C	31.47	9.64	28.18	52.92	61.83			N/A	N/A
A	3.58	0.03	0.34	7.54	19.30			N/A	N/A

08:30 - 08:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B	2.49	0.03	0.28	2.49	7.48			N/A	N/A
C	54.91	21.14	50.80	87.31	100.07			N/A	N/A
A	3.79	0.03	0.30	3.79	15.83			N/A	N/A

08:45 - 09:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B	1.36	0.05	0.67	3.19	4.72			N/A	N/A
C	40.24	14.34	36.80	65.20	75.23			N/A	N/A
A	2.01	0.05	0.66	5.32	8.35			N/A	N/A

09:00 - 09:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B	0.88	0.04	0.39	2.07	3.50			N/A	N/A
C	3.38	0.03	0.33	6.19	17.83			N/A	N/A
A	1.24	0.04	0.38	3.17	5.74			N/A	N/A

2040, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D4 - 2040, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout		B, C, A	26.44	D

Junction Network

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Daylight	Dry		0	Arm B	26.44	D

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)	Results for central hour only	Run automatically
D4	2040	PM	ONE HOUR	16:15	17:45	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 (%)
B		ONE HOUR	✓	645	100.000
C		ONE HOUR	✓	460	100.000
A		ONE HOUR	✓	418	100.000

Origin-Destination Data

Demand (Veh/hr)

	To		
	B	C	A
From	B	0	309
	C	155	0
	A	251	167

Vehicle Mix

Heavy Vehicle Percentages

	To		
	B	C	A
From	B	0	0
	C	0	0
	A	5	1

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B	0.88	35.84	6.6	36.3	E	645	645
C	0.82	31.84	4.2	22.0	D	460	460
A	0.45	6.44	0.8	2.4	A	418	418

Main Results for each time segment

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B	580	145	150	820	0.707	576	364	1.4	2.3	14.525	B
C	414	103	300	651	0.835	411	426	1.0	1.7	14.827	B
A	376	94	138	1038	0.362	375	573	0.4	0.6	5.428	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B	710	178	183	803	0.885	695	443	2.3	6.0	30.052	D
C	506	127	362	618	0.819	498	517	1.7	3.9	27.918	D
A	460	115	168	1020	0.451	459	692	0.6	0.8	6.403	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B	710	178	184	802	0.885	708	447	6.0	6.6	35.840	E
C	506	127	369	615	0.823	505	523	3.9	4.2	31.837	D
A	460	115	170	1019	0.452	460	703	0.8	0.8	6.443	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B	580	145	151	820	0.707	596	369	6.6	2.5	17.130	C
C	414	103	311	646	0.641	423	436	4.2	1.9	16.800	C
A	376	94	143	1035	0.363	377	591	0.8	0.6	5.475	A

Queue Variation Results for each time segment

16:30 - 16:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B	2.29	0.07	1.15	5.69	8.22			N/A	N/A
C	1.67	0.08	1.11	3.67	5.02			N/A	N/A
A	0.56	0.55	1.00	1.40	1.45			N/A	N/A

16:45 - 17:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B	5.98	0.05	0.53	17.18	29.86			N/A	N/A
C	3.88	0.04	0.39	10.27	20.67			N/A	N/A
A	0.81	0.03	0.26	0.81	0.81			N/A	N/A

17:00 - 17:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B	6.62	0.04	0.37	15.66	36.34			N/A	N/A
C	4.23	0.03	0.33	7.13	22.01			N/A	N/A
A	0.82	0.03	0.28	0.82	2.45			N/A	N/A

17:15 - 17:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B	2.55	0.04	0.42	6.99	12.59			N/A	N/A
C	1.86	0.04	0.44	5.00	8.42			N/A	N/A
A	0.57	0.55	1.00	1.40	1.45			N/A	N/A

2040+Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D5 - 2040+Dev, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout		B, C, A	223.35	F

Junction Network

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Daylight	Dry		-27	Arm C	223.35	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)	Results for central hour only	Run automatically
D5	2040+Dev	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 (%)
B		ONE HOUR	✓	649	100.000
C		ONE HOUR	✓	727	100.000
A		ONE HOUR	✓	739	100.000

Origin-Destination Data

Demand (Veh/hr)

	To		
	B	C	A
From	B	0	358
	C	516	0
	A	431	308

Vehicle Mix

Heavy Vehicle Percentages

	To		
	B	C	A
From	B	0	1
	C	1	0
	A	4	2

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B	0.99	87.92	17.1	62.8	F	649	649
C	1.25	513.49	93.4	151.7	F	727	727
A	0.96	61.39	13.1	59.9	F	739	739

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B	583	146	274	752	0.776	577	825	1.6	3.2	19.951	C
C	654	163	259	666	0.981	622	593	3.4	11.4	57.834	F
A	664	166	441	856	0.776	658	439	1.6	3.2	17.645	C

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B	715	179	327	724	0.987	678	911	3.2	12.2	55.263	F
C	800	200	304	642	1.246	639	701	11.4	51.8	193.308	F
A	814	203	453	848	0.959	784	490	3.2	10.5	43.433	E

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B	715	179	335	720	0.992	695	921	12.2	17.1	87.920	F
C	800	200	312	639	1.253	638	718	51.8	92.4	414.861	F
A	814	203	453	849	0.959	803	497	10.5	13.1	61.386	F

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B	583	146	292	742	0.786	635	869	17.1	4.2	42.587	E
C	654	163	285	653	1.002	649	642	92.4	93.4	513.492	F
A	664	166	461	844	0.787	700	473	13.1	4.1	29.520	D

Queue Variation Results for each time segment

08:00 - 08:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B	3.17	0.08	1.45	8.06	11.66			N/A	N/A
C	11.38	0.30	6.37	27.67	37.42			N/A	N/A
A	3.20	0.08	1.42	8.24	11.96			N/A	N/A

08:15 - 08:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B	12.19	0.28	6.65	30.05	40.89			N/A	N/A
C	51.76	22.50	48.53	78.93	89.35			N/A	N/A
A	10.51	0.13	3.95	28.36	40.93			N/A	N/A

08:30 - 08:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B	17.09	0.22	7.96	44.74	62.77			N/A	N/A
C	92.36	51.22	89.07	128.96	142.07			N/A	N/A
A	13.11	0.08	2.40	38.12	59.93			N/A	N/A

08:45 - 09:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B	4.17	0.05	0.46	11.77	20.97			N/A	N/A
C	93.43	46.84	89.24	136.03	151.73			N/A	N/A
A	4.09	0.04	0.44	11.44	20.91			N/A	N/A

2040+Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D6 - 2040+Dev, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout		B, C, A	189.10	F

Junction Network

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Daylight	Dry		-23	Arm C	189.10	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)	Results for central hour only	Run automatically
D6	2040+Dev	PM	ONE HOUR	16:15	17:45	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 (%)
B		ONE HOUR	✓	786	100.000
C		ONE HOUR	✓	623	100.000
A		ONE HOUR	✓	509	100.000

Origin-Destination Data

Demand (Veh/hr)

	To		
	B	C	A
From	B	0	368
	C	265	0
	A	314	195

Vehicle Mix

Heavy Vehicle Percentages

	To		
	B	C	A
From	B	0	0
	C	0	0
	A	5	1

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B	1.10	193.51	49.9	99.2	F	786	786
C	1.16	335.88	56.4	100.1	F	623	623
A	0.58	8.78	1.4	1.7	A	509	509

Main Results for each time segment

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B	707	177	175	807	0.876	694	513	2.4	5.6	28.881	D
C	580	140	369	615	0.911	543	500	2.5	6.7	42.332	E
A	458	114	231	982	0.466	457	681	0.6	0.9	6.842	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B	865	216	214	787	1.100	771	593	5.6	29.2	96.788	F
C	686	171	410	593	1.156	585	575	6.7	32.0	137.108	F
A	560	140	249	971	0.577	559	746	0.9	1.3	8.683	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B	865	216	215	786	1.101	783	596	29.2	49.9	193.511	F
C	686	171	416	590	1.162	588	581	32.0	56.4	284.451	F
A	560	140	250	970	0.578	560	754	1.3	1.4	8.779	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B	707	177	176	806	0.876	790	529	49.9	28.9	182.490	F
C	580	140	420	588	0.953	578	546	56.4	52.0	335.881	F
A	458	114	246	973	0.470	459	752	1.4	0.9	7.033	A

Queue Variation Results for each time segment

16:30 - 16:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B	5.65	0.15	2.65	13.94	19.29			N/A	N/A
C	6.71	0.19	3.47	16.31	22.24			N/A	N/A
A	0.86	0.12	0.91	1.46	1.46			N/A	N/A

16:45 - 17:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B	29.21	7.06	25.37	51.99	61.87			N/A	N/A
C	32.03	10.29	28.86	53.23	61.95			N/A	N/A
A	1.33	0.03	0.27	1.33	1.33			N/A	N/A

17:00 - 17:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B	49.92	15.26	44.88	84.77	99.18			N/A	N/A
C	56.42	23.16	52.60	87.87	100.09			N/A	N/A
A	1.35	0.03	0.27	1.35	1.68			N/A	N/A

17:15 - 17:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B	28.95	6.67	24.98	52.04	62.12			N/A	N/A
C	52.02	18.25	47.58	85.05	98.35			N/A	N/A
A	0.90	0.12	0.93	1.15	1.61			N/A	N/A

Junctions 10															
ARCADY 10 - Roundabout Module															
Version: 10.0.1.1519															
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Filename: Junction 2 - A290_Rough Common Road MITGATION V3.j10

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Report generation date: 04/02/2022 13:49:34

»2040+Dev, AM

»2040+Dev, 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
	2040+Dev													
Arm B	D5	3.4	17.69	0.78	C	37.35	-5 % [Arm A]	D6	6.3	27.88	0.88	D	22.33	3 % [Arm B]
Arm C		7.8	37.49	0.90	E				4.9	27.35	0.84	D		
Arm A		11.5	54.27	0.95	F				1.2	7.97	0.55	A		

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages. 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	A290/Rough Common Road
Location	Rough Common
Site number	
Date	23/11/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	70080896
Enumerator	CORP\UKWGF001
Description	

Units

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

Analysis Options

Mini-roundabout model	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
JUNCTIONS 9	5.75	✓				✓	Delay	0.85	36.00	20.00		500

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D5	2040+Dev	AM	ONE HOUR	07:45	09:15	15	✓	✓
D6	2040+Dev	PM	ONE HOUR	16:15	17:45	15	✓	✓

Analysis Set Details

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

2040+Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D5 - 2040+Dev, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout		B, C, A	37.35	E

Junction Network

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Daylight	Dry		-5	Arm A	37.35	E

Arms

Arms

Arm	Name	Description
B	A290 Whitstable Road South	
C	Rough Common Road	
A	A290 Whitstable Road North	

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
B	3.62	3.49	6.25	8.7	13.77	9.75	0.0	✓
C	3.73	3.18	6.34	15.3	14.00	10.61	0.0	✓
A	3.00	2.92	6.00	21.4	17.55	13.15	0.0	✓

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
B	0.563	1126
C	0.573	1083
A	0.578	1215

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D5	2040+Dev	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 (%)
B		ONE HOUR	✓	649	100.000
C		ONE HOUR	✓	727	100.000
A		ONE HOUR	✓	739	100.000

Origin-Destination Data

Demand (Veh/hr)

	To		
	B	C	A
From	B	0	358
	C	516	0
	A	431	308

Vehicle Mix

Heavy Vehicle Percentages

	To		
	B	C	A
From	B	0	1
	C	1	0
	A	4	2

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B	0.78	17.69	3.4	16.6	C	649	649
C	0.90	37.49	7.8	42.6	E	727	727
A	0.95	54.27	11.5	56.0	F	739	739

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B	583	146	275	950	0.614	581	846	1.0	1.6	9.706	A
C	654	163	261	920	0.710	650	596	1.3	2.3	13.099	B
A	664	166	461	917	0.724	660	449	1.3	2.5	13.747	B

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B	715	179	328	920	0.777	708	1014	1.6	3.2	16.473	C
C	800	200	317	887	0.902	782	718	2.3	6.9	30.140	D
A	814	203	555	864	0.942	787	544	2.5	9.2	37.946	E

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B	715	179	335	916	0.780	714	1034	3.2	3.4	17.694	C
C	800	200	320	888	0.904	797	729	6.9	7.8	37.495	E
A	814	203	565	858	0.948	804	551	9.2	11.5	54.288	F

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B	583	146	291	941	0.620	590	888	3.4	1.7	10.470	B
C	654	163	265	918	0.712	674	617	7.8	2.6	15.893	C
A	664	166	479	907	0.732	699	460	11.5	2.9	19.762	C

Queue Variation Results for each time segment

08:00 - 08:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B	1.55	0.07	0.94	3.54	4.97			N/A	N/A
C	2.34	0.06	1.01	5.99	8.92			N/A	N/A
A	2.50	0.06	0.96	6.57	9.90			N/A	N/A

08:15 - 08:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B	3.23	0.03	0.32	5.25	16.59			N/A	N/A
C	6.86	0.06	0.94	19.91	33.42			N/A	N/A
A	9.17	0.09	2.48	25.70	38.59			N/A	N/A

08:30 - 08:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B	3.39	0.03	0.29	3.39	11.79			N/A	N/A
C	7.79	0.04	0.40	20.11	42.56			N/A	N/A
A	11.55	0.06	1.13	33.91	56.02			N/A	N/A

08:45 - 09:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B	1.68	0.05	0.57	4.30	6.63			N/A	N/A
C	2.60	0.04	0.42	7.12	12.93			N/A	N/A
A	2.91	0.04	0.41	7.96	14.73			N/A	N/A

2040+Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D6 - 2040+Dev, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout		B, C, A	22.33	C

Junction Network

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Daylight	Dry		3	Arm B	22.33	C

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)	Results for central hour only	Run automatically
D6	2040+Dev	PM	ONE HOUR	16:15	17:45	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 (%)
B		ONE HOUR	✓	786	100.000
C		ONE HOUR	✓	623	100.000
A		ONE HOUR	✓	509	100.000

Origin-Destination Data

Demand (Veh/hr)

	To		
	B	C	A
From	B	0	368
	C	265	0
	A	314	195

Vehicle Mix

Heavy Vehicle Percentages

	To		
	B	C	A
From	B	0	0
	C	0	0
	A	5	1

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B	0.88	27.88	6.3	33.9	D	786	786
C	0.84	27.35	4.9	25.3	D	623	623
A	0.55	7.97	1.2	1.8	A	509	509

Main Results for each time segment

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B	707	177	175	1010	0.700	703	519	1.3	2.2	11.582	B
C	580	140	374	863	0.649	557	504	1.1	1.8	11.671	B
A	458	114	237	1042	0.439	457	694	0.6	0.8	6.141	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B	865	216	214	988	0.876	851	632	2.2	5.8	24.042	C
C	686	171	453	816	0.840	675	613	1.8	4.5	23.810	C
A	560	140	287	1014	0.553	559	840	0.8	1.2	7.875	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B	865	216	215	988	0.876	863	637	5.8	6.3	27.877	D
C	686	171	459	812	0.844	684	619	4.5	4.9	27.355	D
A	560	140	291	1012	0.554	560	852	1.2	1.2	7.971	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B	707	177	176	1010	0.700	722	527	6.3	2.4	13.147	B
C	580	140	384	857	0.654	572	514	4.9	2.0	13.132	B
A	458	114	243	1039	0.441	459	713	1.2	0.8	6.235	A

Queue Variation Results for each time segment

16:30 - 16:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B	2.24	0.06	0.96	5.75	8.58			N/A	N/A
C	1.79	0.06	0.94	4.32	6.27			N/A	N/A
A	0.77	0.12	0.88	1.41	1.48			N/A	N/A

16:45 - 17:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B	5.82	0.04	0.44	16.15	30.54			N/A	N/A
C	4.53	0.04	0.39	11.88	24.34			N/A	N/A
A	1.21	0.03	0.26	1.21	1.21			N/A	N/A

17:00 - 17:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B	6.32	0.03	0.34	12.05	33.92			N/A	N/A
C	4.93	0.03	0.32	7.82	25.29			N/A	N/A
A	1.23	0.03	0.27	1.23	1.79			N/A	N/A

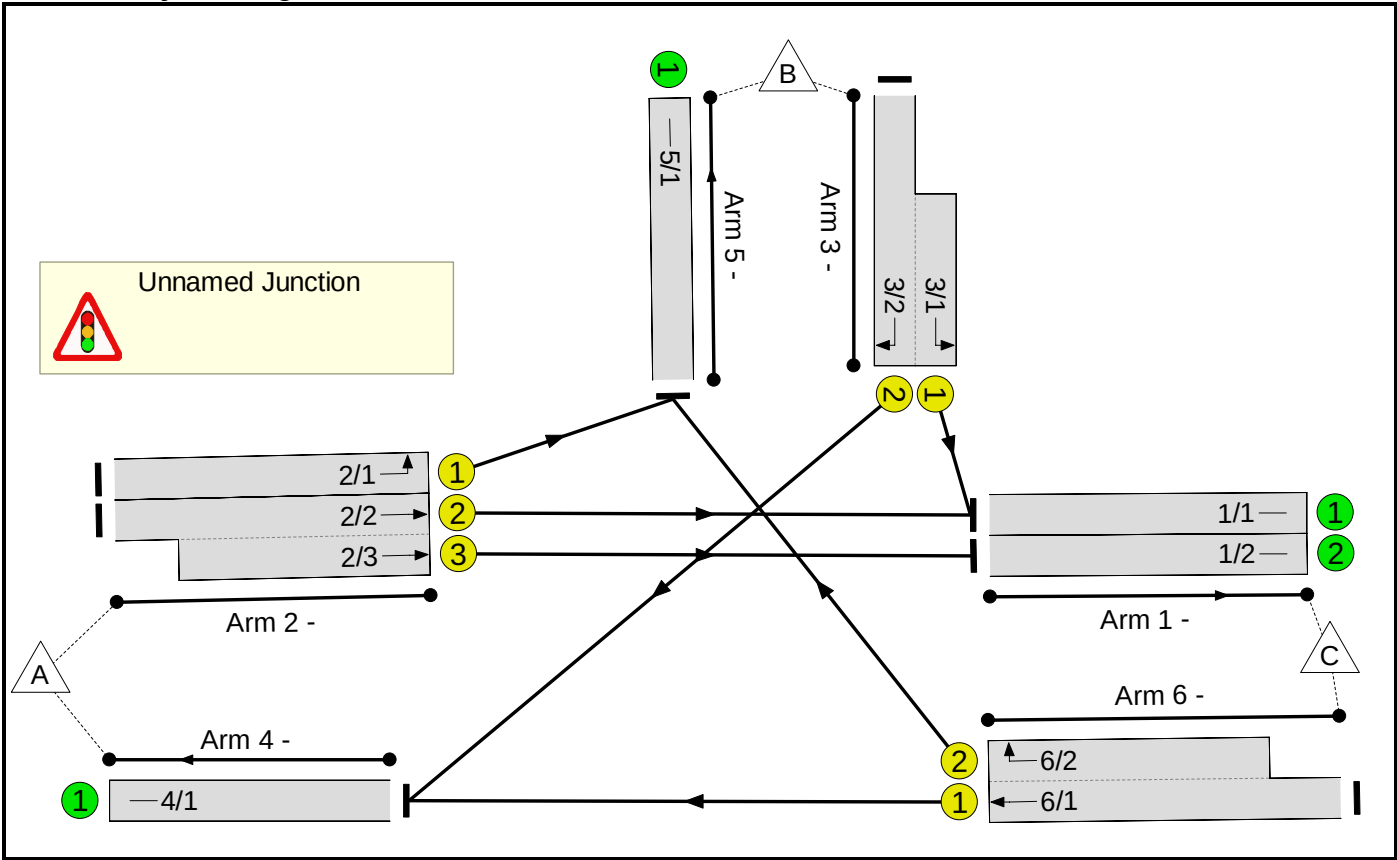
17:15 - 17:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B	2.43	0.04	0.43	6.69	11.75			N/A	N/A
C	1.96	0.04	0.44	5.31	8.95			N/A	N/A
A	0.80	0.13	0.90	1.42	1.48			N/A	N/A

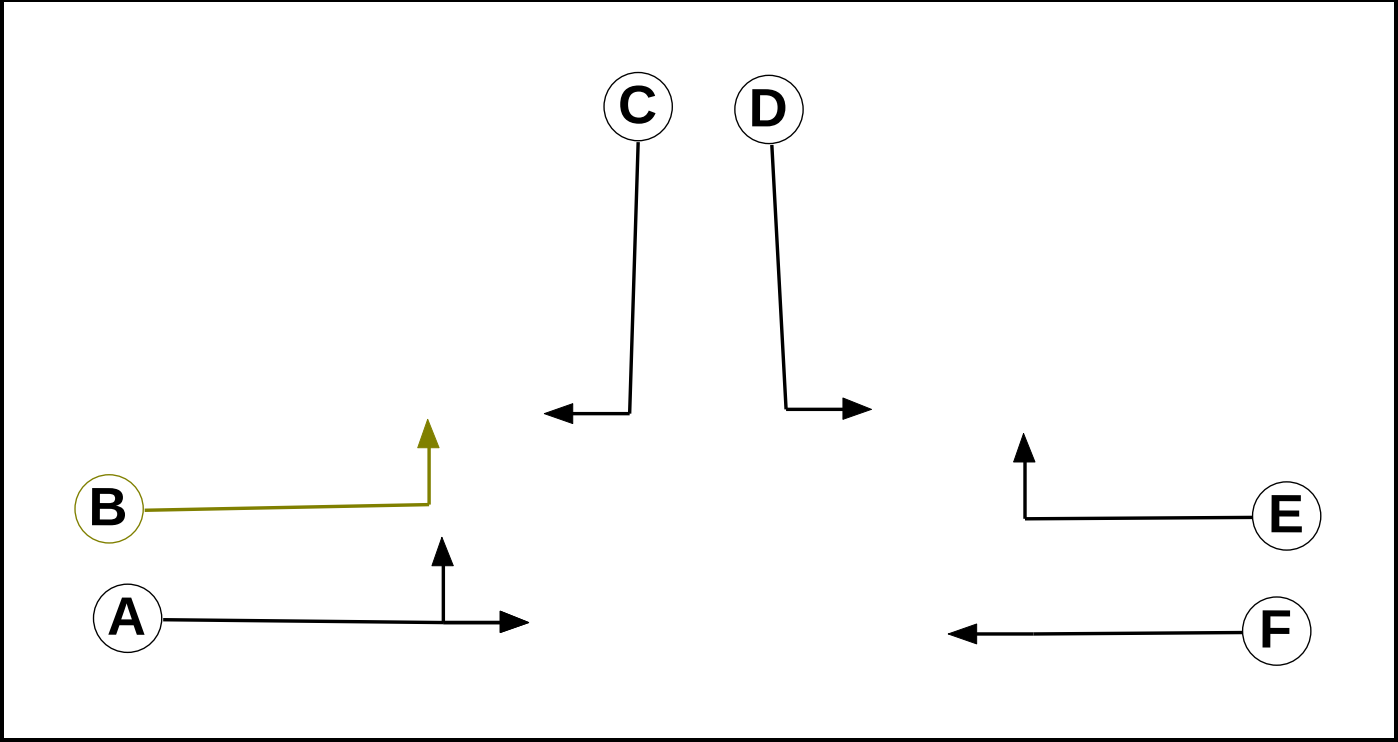
User and Project Details

Project:	
Title:	
Location:	
Additional detail:	
File name:	A2050_Rough Common Road_Rev0.2.lsg3x
Author:	
Company:	
Address:	

Network Layout Diagram



Phase Diagram



Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		7	7
B	Filter	A	4	0
C	Traffic		7	7
D	Traffic		7	7
E	Traffic		7	7
F	Traffic		7	7

Full Input Data And Results

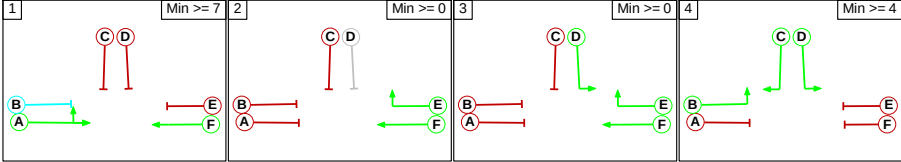
Phase Intergreens Matrix

		Starting Phase					
Terminating Phase		A	B	C	D	E	F
	A	-	-	6	6	5	-
	B	-	-	-	-	5	-
	C	5	-	-	-	5	5
	D	5	-	-	-	-	-
	E	6	8	5	-	-	-
	F	-	-	5	-	-	-

Phases in Stage

Stage No.	Phases in Stage
1	A F
2	E F
3	D E F
4	B C D

Stage Diagram



Phase Delays

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

Prohibited Stage Change

		To Stage			
From Stage		1	2	3	4
	1	-	5	6	6
	2	6	-	2	8
	3	6	0	-	8
	4	5	X	X	-

Full Input Data And Results

Give-Way Lane Input Data

Junction: Unnamed Junction
There are no Opposed Lanes in this Junction

Lane Input Data

Junction: Unnamed Junction												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1	U		2	3	60.0	Inf	-	-	-	-	-	-
1/2	U		2	3	60.0	Inf	-	-	-	-	-	-
2/1	U	A B	2	3	14.8	Geom	-	5.00	0.00	Y	Arm 5 Left	18.90
2/2	U	A	2	3	60.0	Geom	-	4.20	0.00	N	Arm 1 Ahead	Inf
2/3	U	A	2	3	11.3	Geom	-	3.40	0.00	N	Arm 1 Ahead	Inf
3/1	U	D	2	3	6.3	Geom	-	5.00	0.00	Y	Arm 1 Left	26.60
3/2	U	C	2	3	60.0	Geom	-	3.50	0.00	N	Arm 4 Right	17.90
4/1	U		2	3	60.0	Inf	-	-	-	-	-	-
5/1	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1	U	F	2	3	60.0	Geom	-	3.40	0.00	Y	Arm 4 Ahead	Inf
6/2	U	E	2	3	19.1	Geom	-	3.10	0.00	N	Arm 5 Right	13.50

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: '2021 Base AM'	08:00	09:00	01:00	
2: '2021 Base PM'	16:30	17:30	01:00	
3: '2040 AM'	08:00	09:00	01:00	
4: '2040 PM'	16:30	17:30	01:00	
5: '2040+Dev AM'	08:00	09:00	01:00	
6: '2040+Dev PM'	16:30	17:30	01:00	

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

Desired Flow :

Origin	Destination				
		A	B	C	Tot.
	A	0	417	1007	1424
	B	233	0	225	458
	C	481	147	0	628
	Tot.	714	564	1232	2510

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 1: 2021 Base AM
Junction: Unnamed Junction	
1/1	738
1/2	494
2/1	417
2/2 (with short)	1007(In) 513(Out)
2/3 (short)	494
3/1 (short)	225
3/2 (with short)	458(In) 233(Out)
4/1	714
5/1	564
6/1 (with short)	628(In) 481(Out)
6/2 (short)	147

Lane Saturation Flows

Junction: Unnamed Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1	Infinite Saturation Flow						Inf	Inf
1/2	Infinite Saturation Flow						Inf	Inf
2/1	5.00	0.00	Y	Arm 5 Left	18.90	100.0 %	1959	1959
2/2	4.20	0.00	N	Arm 1 Ahead	Inf	100.0 %	2175	2175
2/3	3.40	0.00	N	Arm 1 Ahead	Inf	100.0 %	2095	2095
3/1	5.00	0.00	Y	Arm 1 Left	26.60	100.0 %	2002	2002
3/2	3.50	0.00	N	Arm 4 Right	17.90	100.0 %	1942	1942
4/1	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	3.40	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1955	1955
6/2	3.10	0.00	N	Arm 5 Right	13.50	100.0 %	1859	1859

Full Input Data And Results

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

Traffic Flows, Desired

Desired Flow :

Origin	Destination				
		A	B	C	Tot.
	A	0	132	626	758
	B	259	0	133	392
	C	654	232	0	886
	Tot.	913	364	759	2036

Traffic Lane Flows

Lane	Scenario 2: 2021 Base PM
Junction: Unnamed Junction	
1/1	452
1/2	307
2/1	132
2/2 (with short)	626(In) 319(Out)
2/3 (short)	307
3/1 (short)	133
3/2 (with short)	392(In) 259(Out)
4/1	913
5/1	364
6/1 (with short)	886(In) 654(Out)
6/2 (short)	232

Lane Saturation Flows

Junction: Unnamed Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1	Infinite Saturation Flow						Inf	Inf
1/2	Infinite Saturation Flow						Inf	Inf
2/1	5.00	0.00	Y	Arm 5 Left	18.90	100.0 %	1959	1959
2/2	4.20	0.00	N	Arm 1 Ahead	Inf	100.0 %	2175	2175
2/3	3.40	0.00	N	Arm 1 Ahead	Inf	100.0 %	2095	2095
3/1	5.00	0.00	Y	Arm 1 Left	26.60	100.0 %	2002	2002
3/2	3.50	0.00	N	Arm 4 Right	17.90	100.0 %	1942	1942
4/1	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	3.40	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1955	1955
6/2	3.10	0.00	N	Arm 5 Right	13.50	100.0 %	1859	1859

Scenario 3: '2040 AM' (FG3: '2040 AM', Plan 1: 'Network Control Plan 1')
Traffic Flows, Desired
Desired Flow :

Origin	Destination				
		A	B	C	Tot.
	A	0	476	1149	1625
	B	266	0	257	523
	C	549	168	0	717
	Tot.	815	644	1406	2865

Traffic Lane Flows

Lane	Scenario 3: 2040 AM
Junction: Unnamed Junction	
1/1	842
1/2	564
2/1	476
2/2 (with short)	1149(In) 585(Out)
2/3 (short)	564
3/1 (short)	257
3/2 (with short)	523(In) 266(Out)
4/1	815
5/1	644
6/1 (with short)	717(In) 549(Out)
6/2 (short)	168

Lane Saturation Flows

Junction: Unnamed Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1	Infinite Saturation Flow						Inf	Inf
1/2	Infinite Saturation Flow						Inf	Inf
2/1	5.00	0.00	Y	Arm 5 Left	18.90	100.0 %	1959	1959
2/2	4.20	0.00	N	Arm 1 Ahead	Inf	100.0 %	2175	2175
2/3	3.40	0.00	N	Arm 1 Ahead	Inf	100.0 %	2095	2095
3/1	5.00	0.00	Y	Arm 1 Left	26.60	100.0 %	2002	2002
3/2	3.50	0.00	N	Arm 4 Right	17.90	100.0 %	1942	1942
4/1	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	3.40	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1955	1955
6/2	3.10	0.00	N	Arm 5 Right	13.50	100.0 %	1859	1859

Scenario 4: '2040 PM' (FG4: '2040 PM', Plan 1: 'Network Control Plan 1')**Traffic Flows, Desired****Desired Flow :**

	Destination				
		A	B	C	Tot.
Origin	A	0	151	717	868
	B	297	0	152	449
	C	749	266	0	1015
	Tot.	1046	417	869	2332

Traffic Lane Flows

Lane	Scenario 4: 2040 PM
Junction: Unnamed Junction	
1/1	517
1/2	352
2/1	151
2/2 (with short)	717(In) 365(Out)
2/3 (short)	352
3/1 (short)	152
3/2 (with short)	449(In) 297(Out)
4/1	1046
5/1	417
6/1 (with short)	1015(In) 749(Out)
6/2 (short)	266

Lane Saturation Flows

Junction: Unnamed Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1	Infinite Saturation Flow						Inf	Inf
1/2	Infinite Saturation Flow						Inf	Inf
2/1	5.00	0.00	Y	Arm 5 Left	18.90	100.0 %	1959	1959
2/2	4.20	0.00	N	Arm 1 Ahead	Inf	100.0 %	2175	2175
2/3	3.40	0.00	N	Arm 1 Ahead	Inf	100.0 %	2095	2095
3/1	5.00	0.00	Y	Arm 1 Left	26.60	100.0 %	2002	2002
3/2	3.50	0.00	N	Arm 4 Right	17.90	100.0 %	1942	1942
4/1	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	3.40	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1955	1955
6/2	3.10	0.00	N	Arm 5 Right	13.50	100.0 %	1859	1859

Full Input Data And Results

Scenario 5: '2040+Dev AM' (FG5: '2040+Dev AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

Origin	Destination				
		A	B	C	Tot.
	A	0	511	1149	1660
	B	399	0	291	690
	C	549	177	0	726
	Tot.	948	688	1440	3076

Traffic Lane Flows

Lane	Scenario 5: 2040+Dev AM
Junction: Unnamed Junction	
1/1	876
1/2	564
2/1	511
2/2 (with short)	1149(In) 585(Out)
2/3 (short)	564
3/1 (short)	291
3/2 (with short)	690(In) 399(Out)
4/1	948
5/1	688
6/1 (with short)	726(In) 549(Out)
6/2 (short)	177

Lane Saturation Flows

Junction: Unnamed Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1	Infinite Saturation Flow						Inf	Inf
1/2	Infinite Saturation Flow						Inf	Inf
2/1	5.00	0.00	Y	Arm 5 Left	18.90	100.0 %	1959	1959
2/2	4.20	0.00	N	Arm 1 Ahead	Inf	100.0 %	2175	2175
2/3	3.40	0.00	N	Arm 1 Ahead	Inf	100.0 %	2095	2095
3/1	5.00	0.00	Y	Arm 1 Left	26.60	100.0 %	2002	2002
3/2	3.50	0.00	N	Arm 4 Right	17.90	100.0 %	1942	1942
4/1	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	3.40	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1955	1955
6/2	3.10	0.00	N	Arm 5 Right	13.50	100.0 %	1859	1859

Scenario 6: '2040+Dev PM' (FG6: '2040+Dev PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

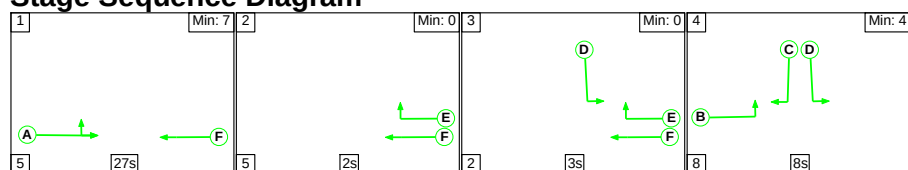
Origin	Destination				
		A	B	C	Tot.
	A	0	282	717	999
	B	366	0	170	536
	C	749	299	0	1048
	Tot.	1115	581	887	2583

Traffic Lane Flows

Lane	Scenario 6: 2040+Dev PM
Junction: Unnamed Junction	
1/1	535
1/2	352
2/1	282
2/2 (with short)	717(In) 365(Out)
2/3 (short)	352
3/1 (short)	170
3/2 (with short)	536(In) 366(Out)
4/1	1115
5/1	581
6/1 (with short)	1048(In) 749(Out)
6/2 (short)	299

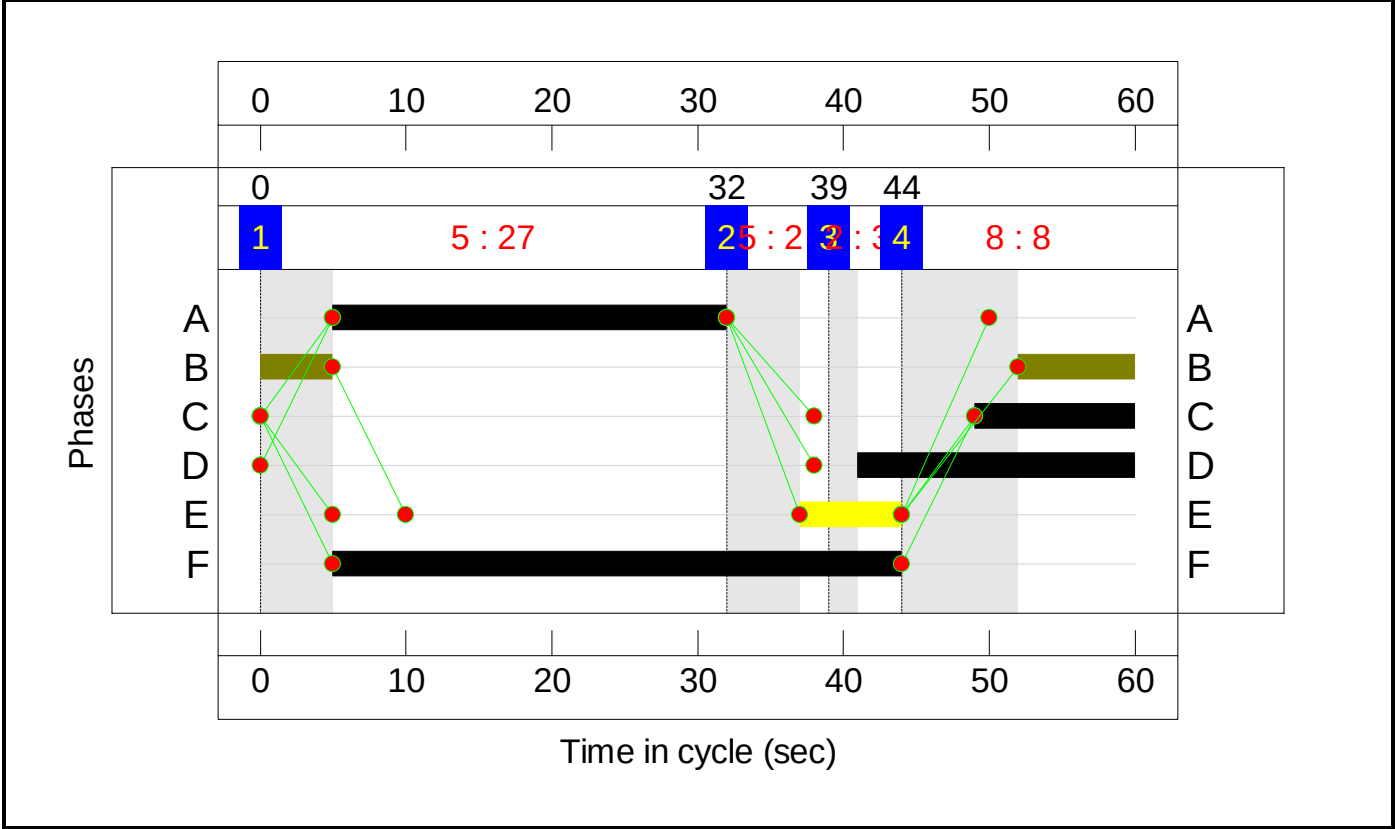
Lane Saturation Flows

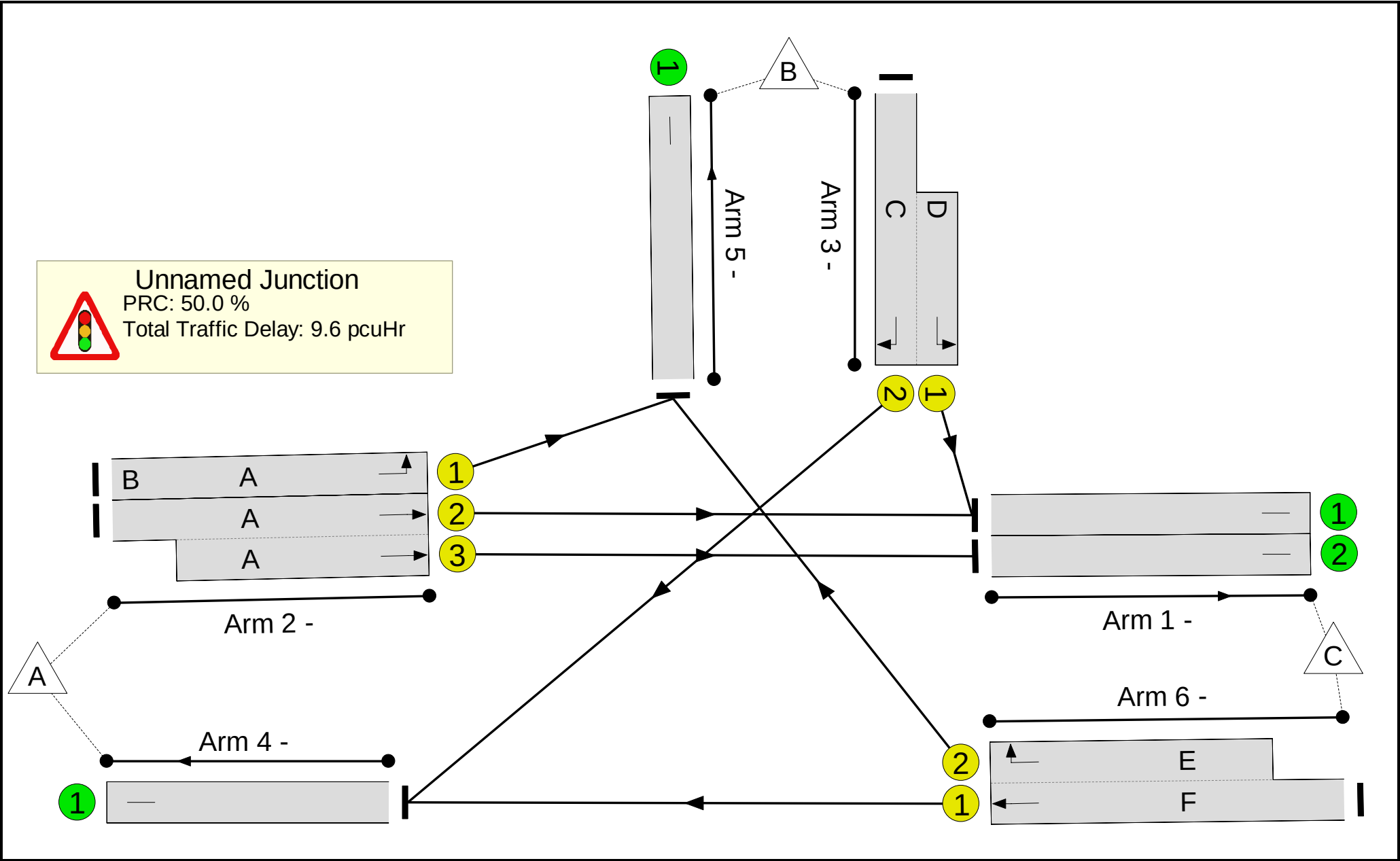
Junction: Unnamed Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1	Infinite Saturation Flow						Inf	Inf
1/2	Infinite Saturation Flow						Inf	Inf
2/1	5.00	0.00	Y	Arm 5 Left	18.90	100.0 %	1959	1959
2/2	4.20	0.00	N	Arm 1 Ahead	Inf	100.0 %	2175	2175
2/3	3.40	0.00	N	Arm 1 Ahead	Inf	100.0 %	2095	2095
3/1	5.00	0.00	Y	Arm 1 Left	26.60	100.0 %	2002	2002
3/2	3.50	0.00	N	Arm 4 Right	17.90	100.0 %	1942	1942
4/1	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	3.40	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1955	1955
6/2	3.10	0.00	N	Arm 5 Right	13.50	100.0 %	1859	1859

Scenario 1: '2021 Base AM' (FG1: '2021 Base AM', Plan 1: 'Network Control Plan 1')**Stage Sequence Diagram****Stage Timings**

Stage	1	2	3	4
Duration	27	2	3	8
Change Point	0	32	39	44

Signal Timings Diagram





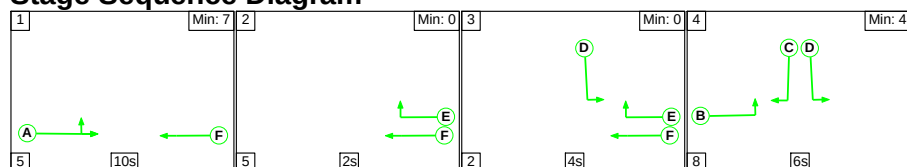
Network Results

Network Results

Full Input Data And Results

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

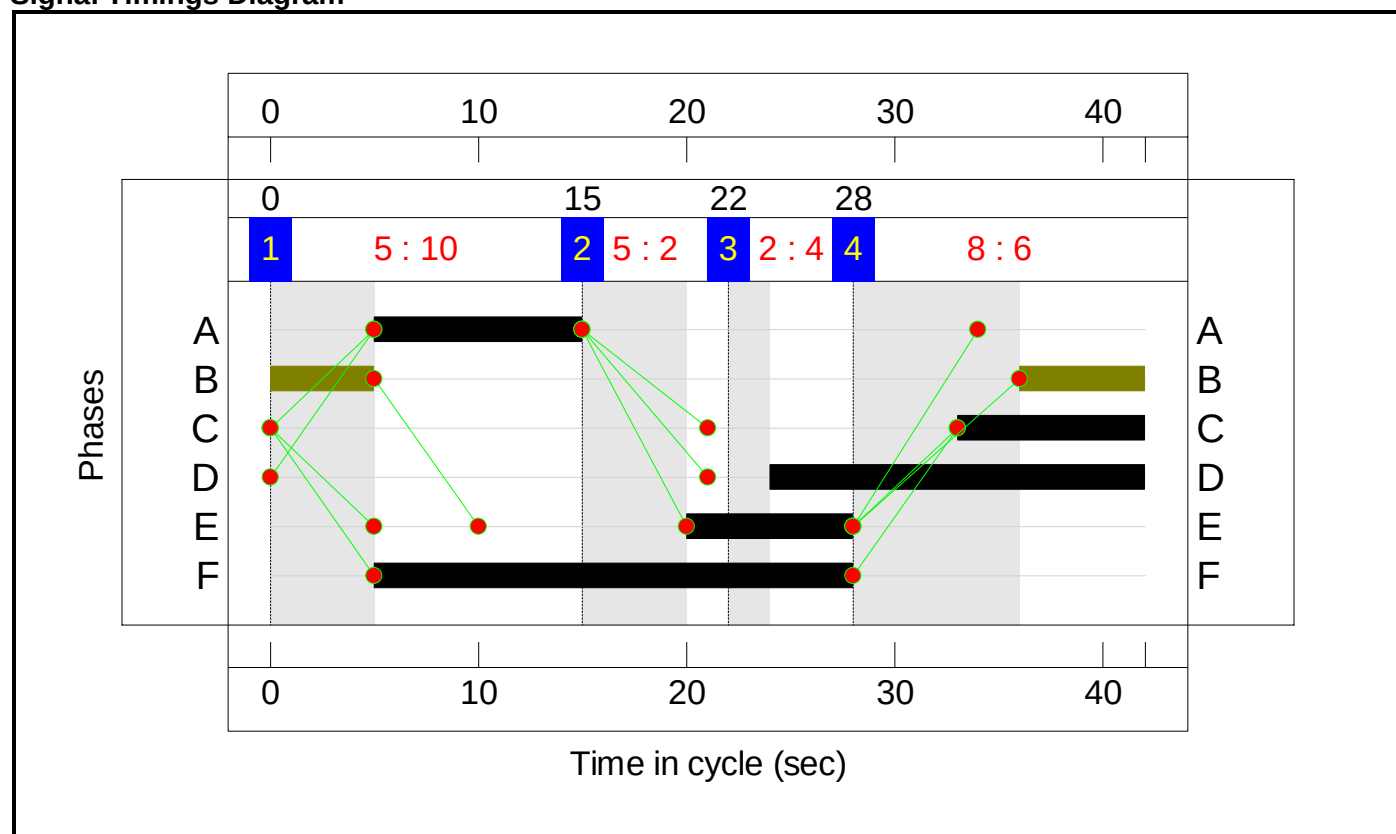
Stage Sequence Diagram

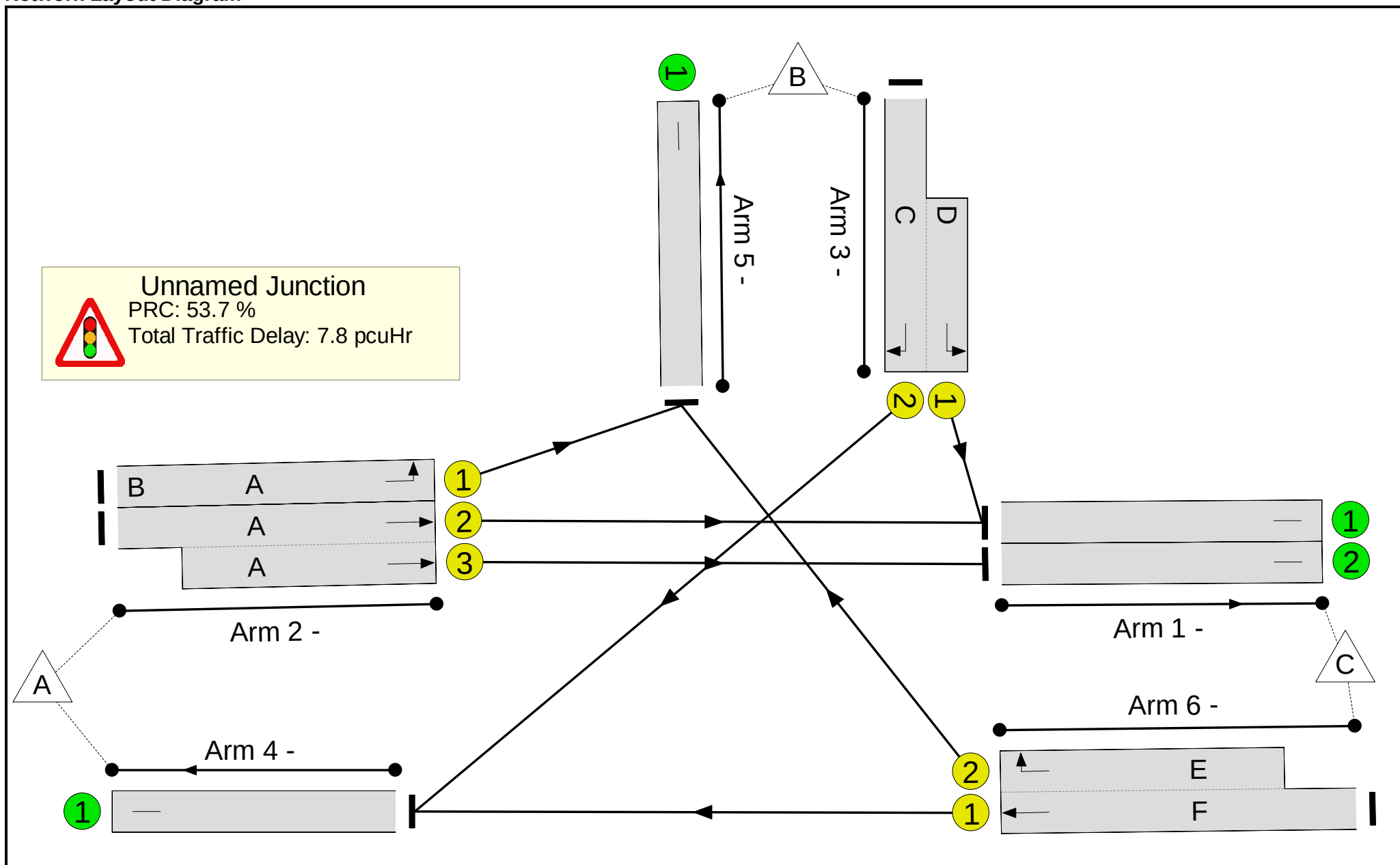


Stage Timings

Stage	1	2	3	4
Duration	10	2	4	6
Change Point	0	15	22	28

Signal Timings Diagram



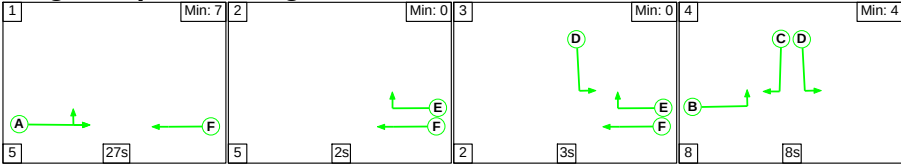


Network Results		
Item	Lane Description	Lane Type
Network	-	
Unnamed Junction	-	
1/1		
1/2		
2/1	Left	
2/2+2/3	Ahead	
3/2+3/1	Left Right	
4/1		
5/1		
6/1+6/2	Ahead Right	
Item	Arriving (pcu)	Leaving (pcu)
Network	-	
Unnamed Junction	-	
1/1	452	
1/2	307	
2/1	132	
2/2+2/3	626	
3/2+3/1	392	
4/1	913	
5/1	364	
6/1+6/2	886	

Network Results

[illegible]

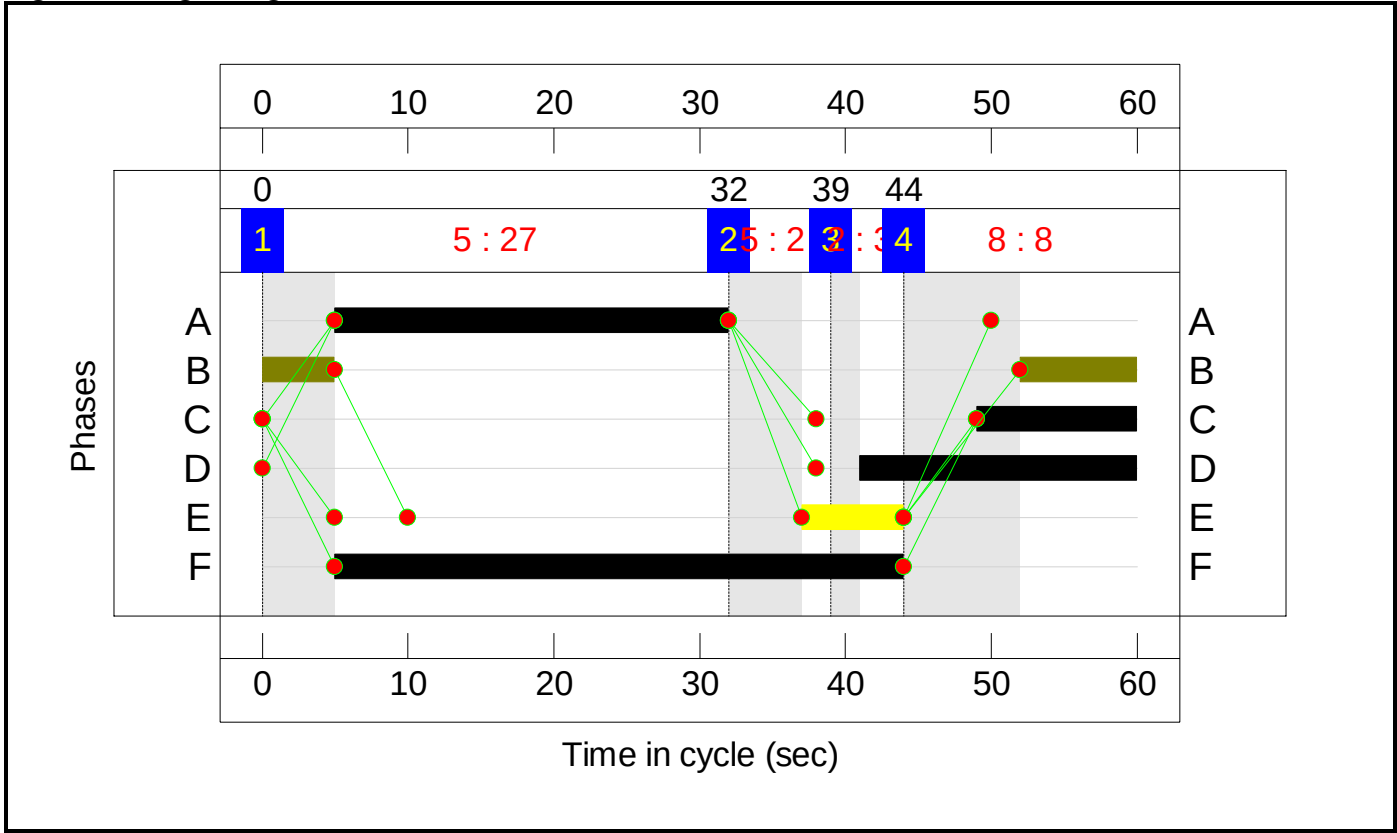
Stage Sequence Diagram

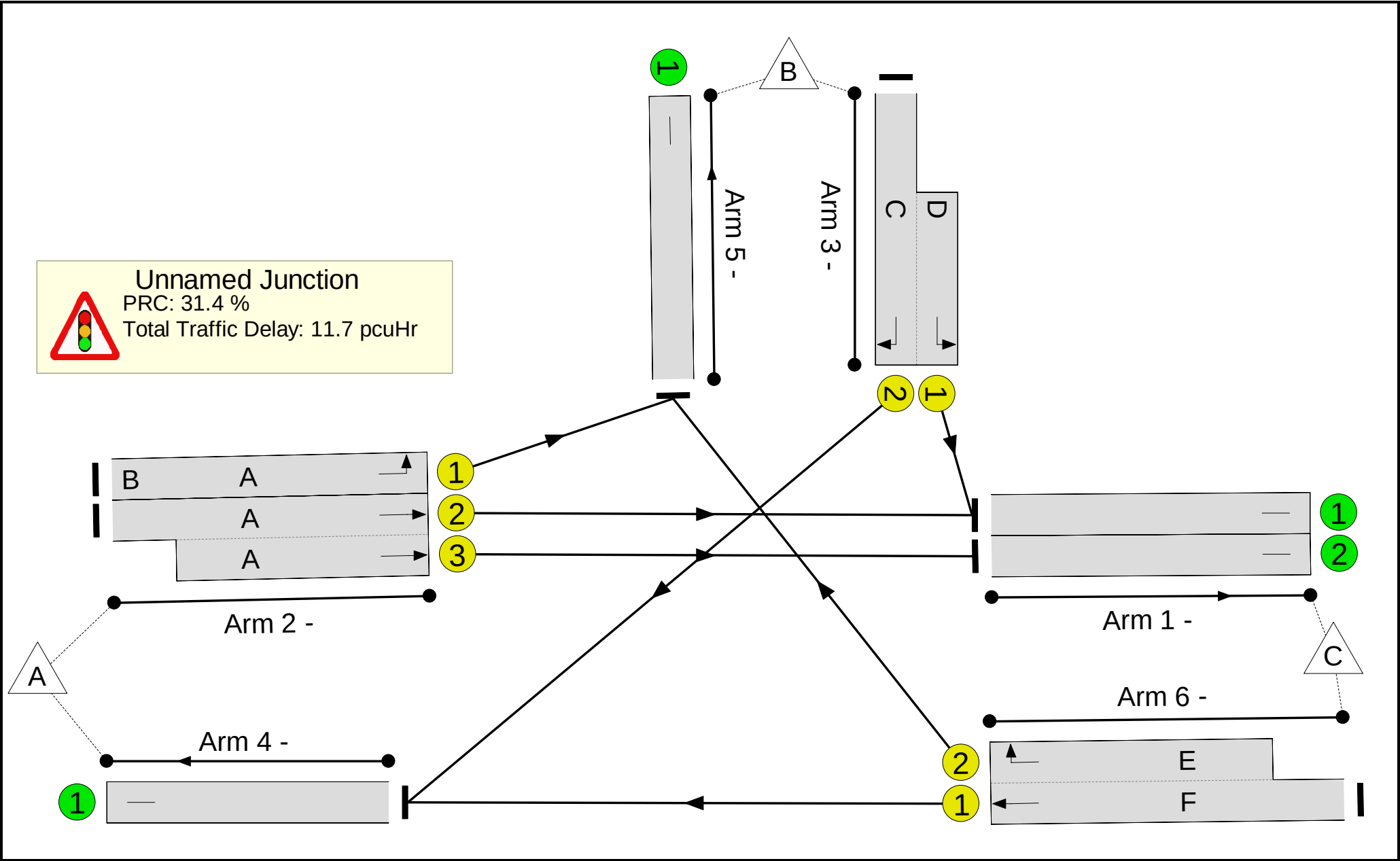


Stage Timings

Stage	1	2	3	4
Duration	27	2	3	8
Change Point	0	32	39	44

Signal Timings Diagram





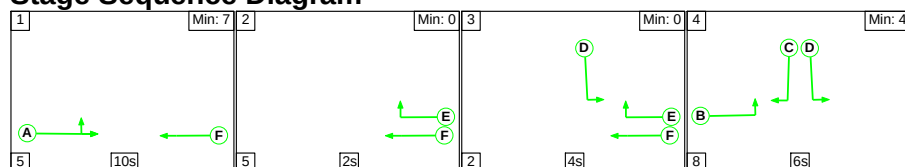
Network Results													
Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	68.5%
Unnamed Junction	-	-	N/A	-	-		-	-	-	-	-	-	68.5%
1/1		U	N/A	N/A	-		-	-	-	842	Inf	Inf	0.0%
1/2		U	N/A	N/A	-		-	-	-	564	Inf	Inf	0.0%
2/1	Left	U	N/A	N/A	A	B	1	40	13	476	1959	1339	35.6%
2/2+2/3	Ahead	U	N/A	N/A	A		1	27	-	1149	2175:2095	856+825	68.3 : 68.3%
3/2+3/1	Left Right	U	N/A	N/A	C D		1	11:19	-	523	1942:2002	388+375	68.5 : 68.5%
4/1		U	N/A	N/A	-		-	-	-	815	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	644	Inf	Inf	0.0%
6/1+6/2	Ahead Right	U	N/A	N/A	F E		1	39:7	-	717	1955:1859	1267+248	43.3 : 67.8%
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	0	0	0	8.9	2.9	0.0	11.7	-	-	-	-
Unnamed Junction	-	-	0	0	0	8.9	2.9	0.0	11.7	-	-	-	-
1/1	842	842	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
1/2	564	564	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
2/1	476	476	-	-	-	0.5	0.3	-	0.8	6.1	3.3	0.3	3.6
2/2+2/3	1149	1149	-	-	-	3.7	1.1	-	4.8	15.0	7.0	1.1	8.1
3/2+3/1	523	523	-	-	-	2.7	1.1	-	3.8	26.3	4.1	1.1	5.1
4/1	815	815	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	644	644	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1+6/2	717	717	-	-	-	1.9	0.4	-	2.3	11.6	4.1	0.4	4.6
C1 PRC for Signalled Lanes (%): 31.4 PRC Over All Lanes (%): 31.4 Total Delay for Signalled Lanes (pcuHr): 11.73 Total Delay Over All Lanes(pcuHr): 11.73 Cycle Time (s): 60													

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	68.5%
Unnamed Junction	-	-	N/A	-	-		-	-	-	-	-	-	68.5%
1/1		U	N/A	N/A	-		-	-	-	842	Inf	Inf	0.0%
1/2		U	N/A	N/A	-		-	-	-	564	Inf	Inf	0.0%
2/1	Left	U	N/A	N/A	A	B	1	40	13	476	1959	1339	35.6%
2/2+2/3	Ahead	U	N/A	N/A	A		1	27	-	1149	2175:2095	856+825	68.3 : 68.3%
3/2+3/1	Left Right	U	N/A	N/A	C D		1	11:19	-	523	1942:2002	388+375	68.5 : 68.5%
4/1		U	N/A	N/A	-		-	-	-	815	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	644	Inf	Inf	0.0%
6/1+6/2	Ahead Right	U	N/A	N/A	F E		1	39:7	-	717	1955:1859	1267+248	43.3 : 67.8%
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	0	0	0	8.9	2.9	0.0	11.7	-	-	-	-
Unnamed Junction	-	-	0	0	0	8.9	2.9	0.0	11.7	-	-	-	-
1/1	842	842	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
1/2	564	564	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
2/1	476	476	-	-	-	0.5	0.3	-	0.8	6.1	3.3	0.3	3.6
2/2+2/3	1149	1149	-	-	-	3.7	1.1	-	4.8	15.0	7.0	1.1	8.1
3/2+3/1	523	523	-	-	-	2.7	1.1	-	3.8	26.3	4.1	1.1	5.1
4/1	815	815	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	644	644	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1+6/2	717	717	-	-	-	1.9	0.4	-	2.3	11.6	4.1	0.4	4.6
C1 PRC for Signalled Lanes (%): 31.4 Total Delay for Signalled Lanes (pcuHr): 11.73 Cycle Time (s): 60 PRC Over All Lanes (%): 31.4 Total Delay Over All Lanes(pcuHr): 11.73													

Full Input Data And Results

Scenario 4: '2040 PM' (FG4: '2040 PM', Plan 1: 'Network Control Plan 1')

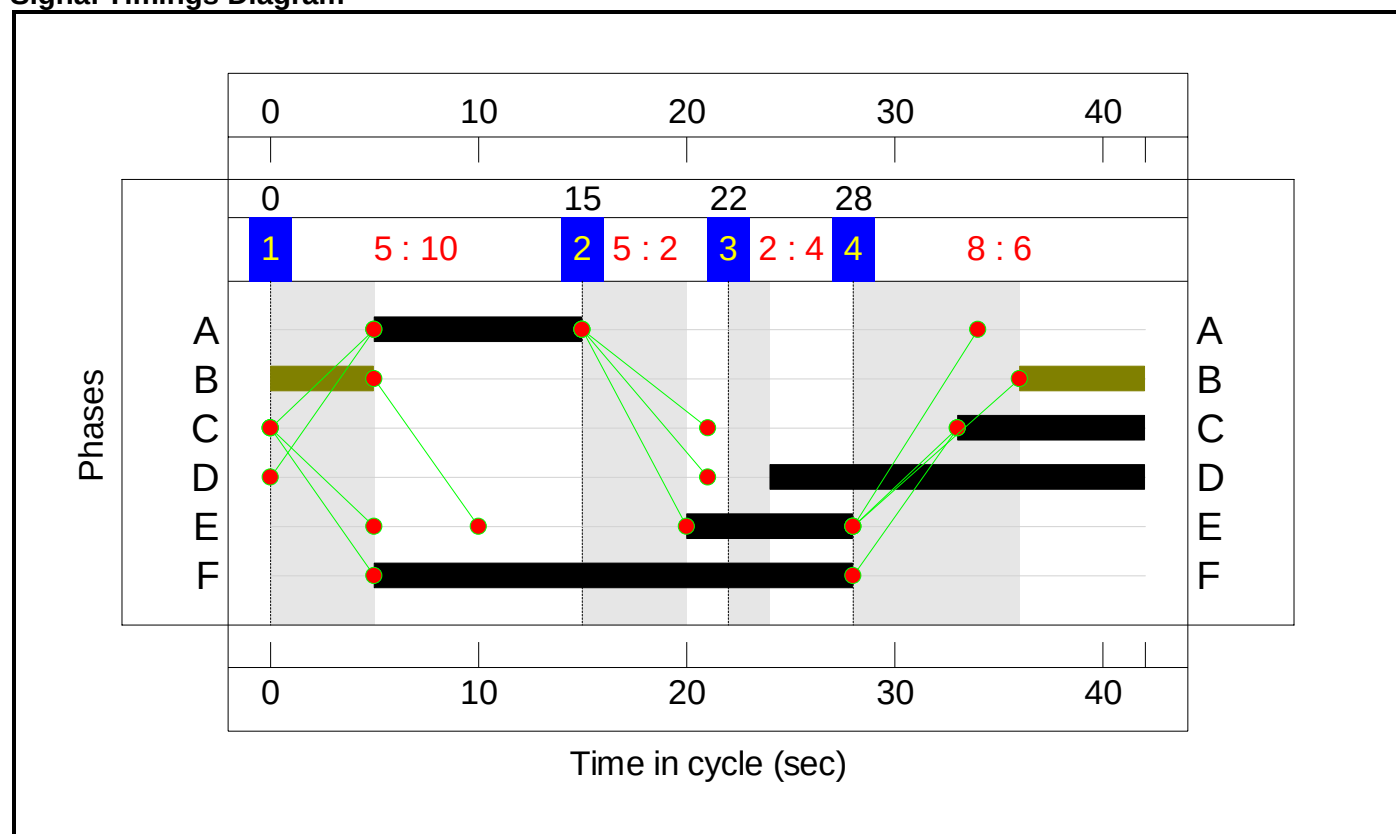
Stage Sequence Diagram

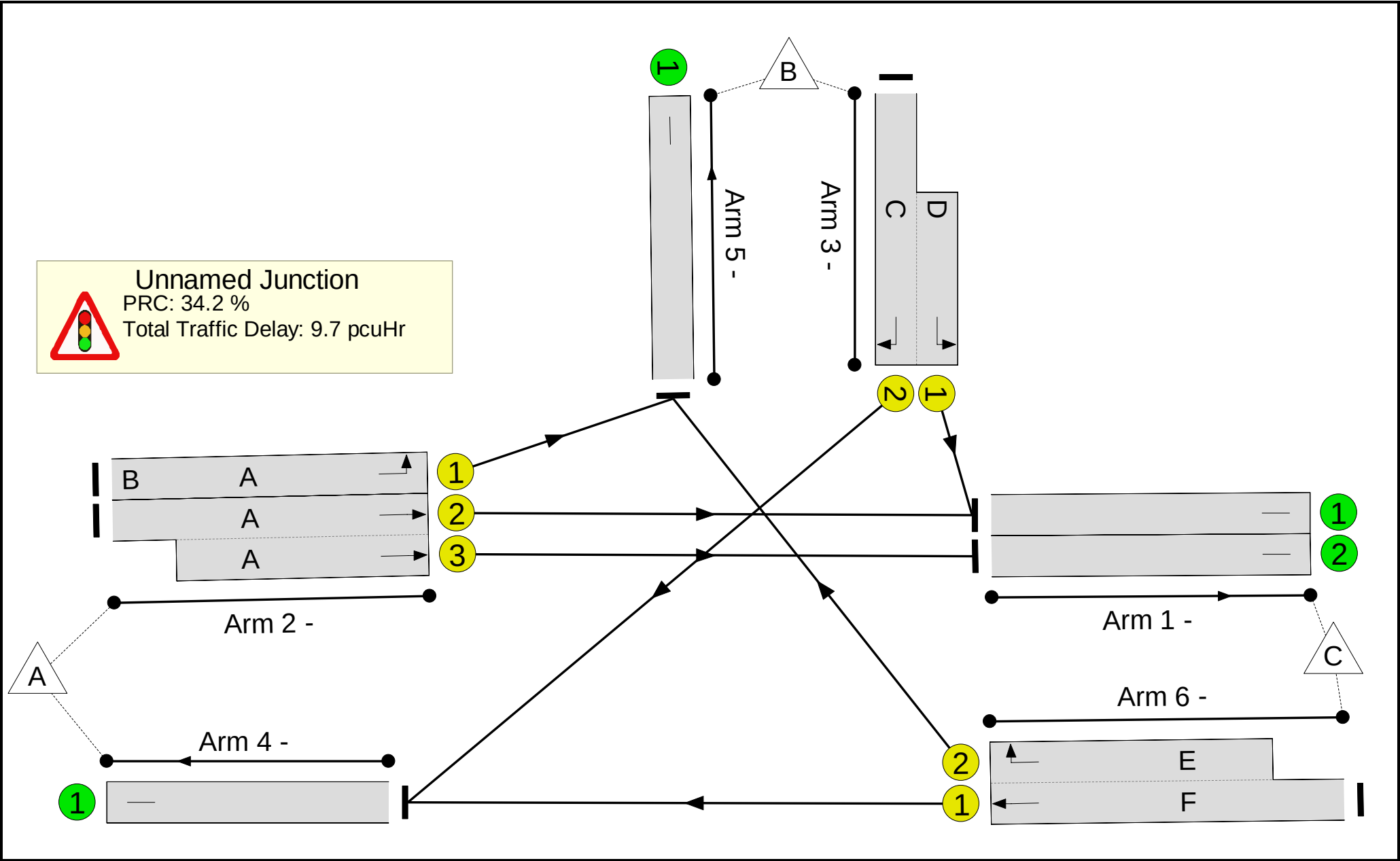


Stage Timings

Stage	1	2	3	4
Duration	10	2	4	6
Change Point	0	15	22	28

Signal Timings Diagram





Full Input Data And Results

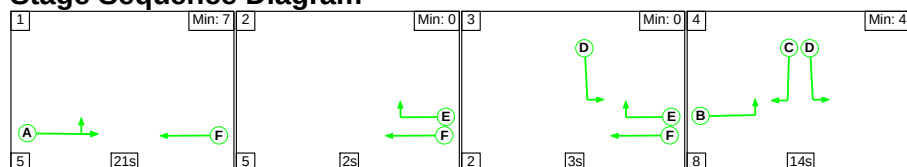
Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	67.0%
Unnamed Junction	-	-	N/A	-	-		-	-	-	-	-	-	67.0%
1/1		U	N/A	N/A	-		-	-	-	517	Inf	Inf	0.0%
1/2		U	N/A	N/A	-		-	-	-	352	Inf	Inf	0.0%
2/1	Left	U	N/A	N/A	A	B	1	21	11	151	1959	1026	14.7%
2/2+2/3	Ahead	U	N/A	N/A	A		1	10	-	717	2175:2095	570+549	64.1 : 64.2%
3/2+3/1	Left Right	U	N/A	N/A	C D		1	9:18	-	449	1942:2002	462+237	64.2 : 64.2%
4/1		U	N/A	N/A	-		-	-	-	1046	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	417	Inf	Inf	0.0%
6/1+6/2	Ahead Right	U	N/A	N/A	F E		1	23:8	-	1015	1955:1859	1117+398	67.0 : 66.8%
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	0	0	0	6.9	2.9	0.0	9.7	-	-	-	-
Unnamed Junction	-	-	0	0	0	6.9	2.9	0.0	9.7	-	-	-	-
1/1	517	517	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
1/2	352	352	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
2/1	151	151	-	-	-	0.2	0.1	-	0.3	7.2	0.9	0.1	1.0
2/2+2/3	717	717	-	-	-	2.7	0.9	-	3.6	18.2	3.8	0.9	4.6
3/2+3/1	449	449	-	-	-	1.5	0.9	-	2.4	19.0	3.1	0.9	3.9
4/1	1046	1046	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	417	417	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1+6/2	1015	1015	-	-	-	2.4	1.0	-	3.4	12.2	6.0	1.0	7.0
C1 PRC for Signalled Lanes (%): 34.2 Total Delay for Signalled Lanes (pcuHr): 9.73 Cycle Time (s): 42 PRC Over All Lanes (%): 34.2 Total Delay Over All Lanes(pcuHr): 9.73													

Full Input Data And Results

Scenario 5: '2040+Dev AM' (FG5: '2040+Dev AM', Plan 1: 'Network Control Plan 1')

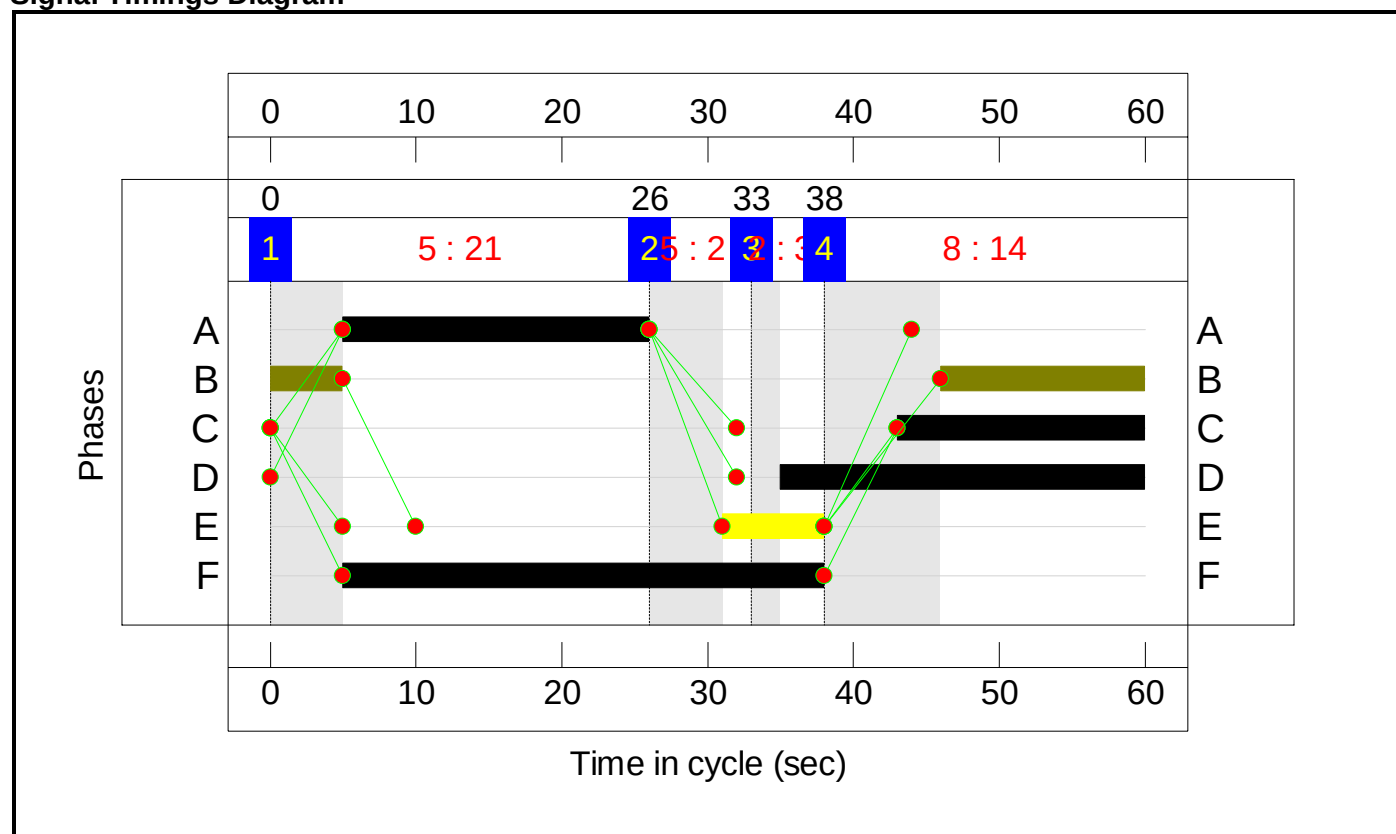
Stage Sequence Diagram

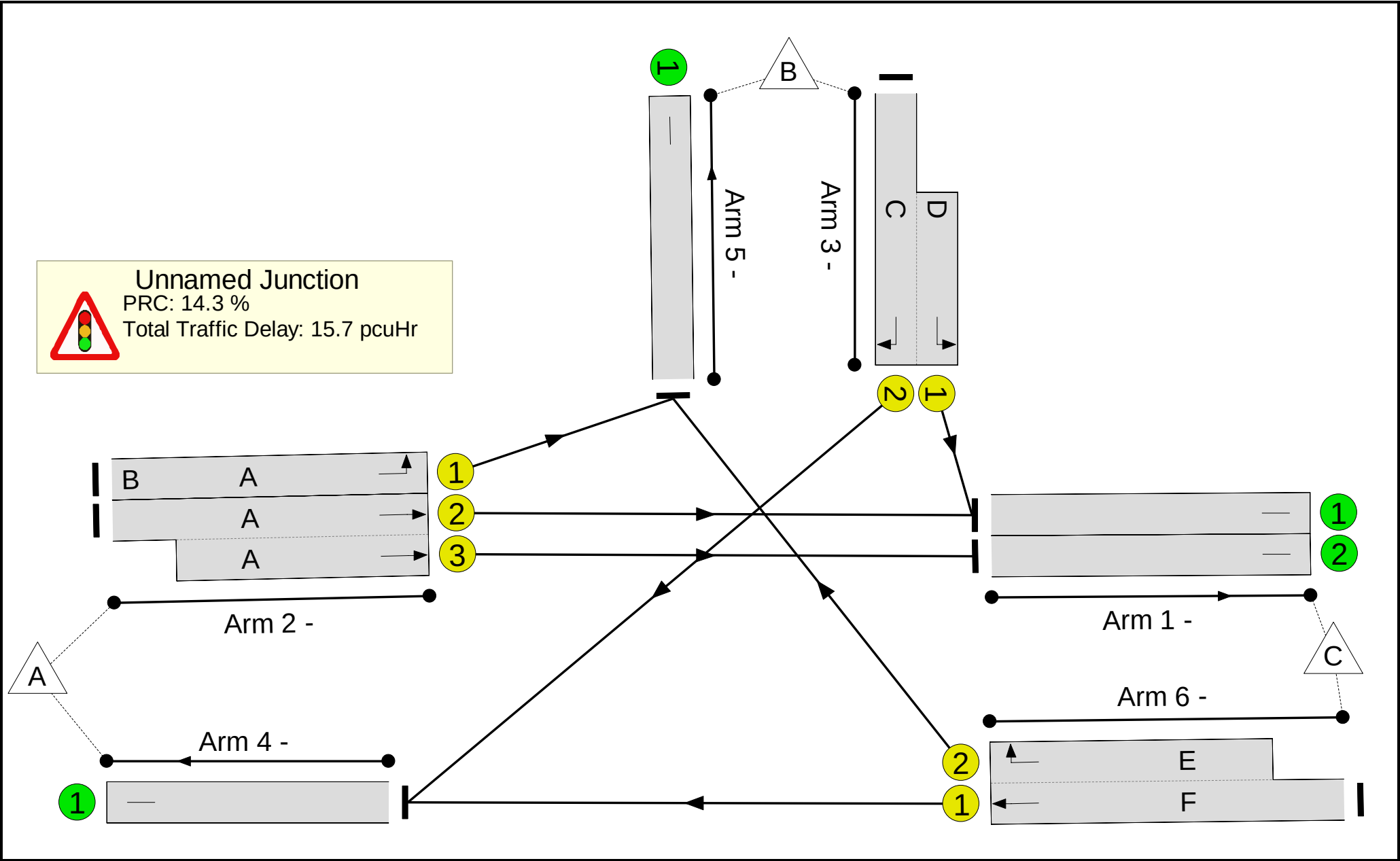


Stage Timings

Stage	1	2	3	4
Duration	21	2	3	14
Change Point	0	26	33	38

Signal Timings Diagram

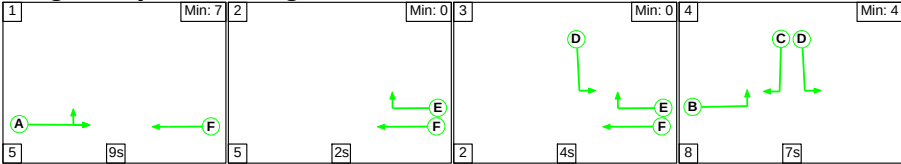




Network Results

Network Results

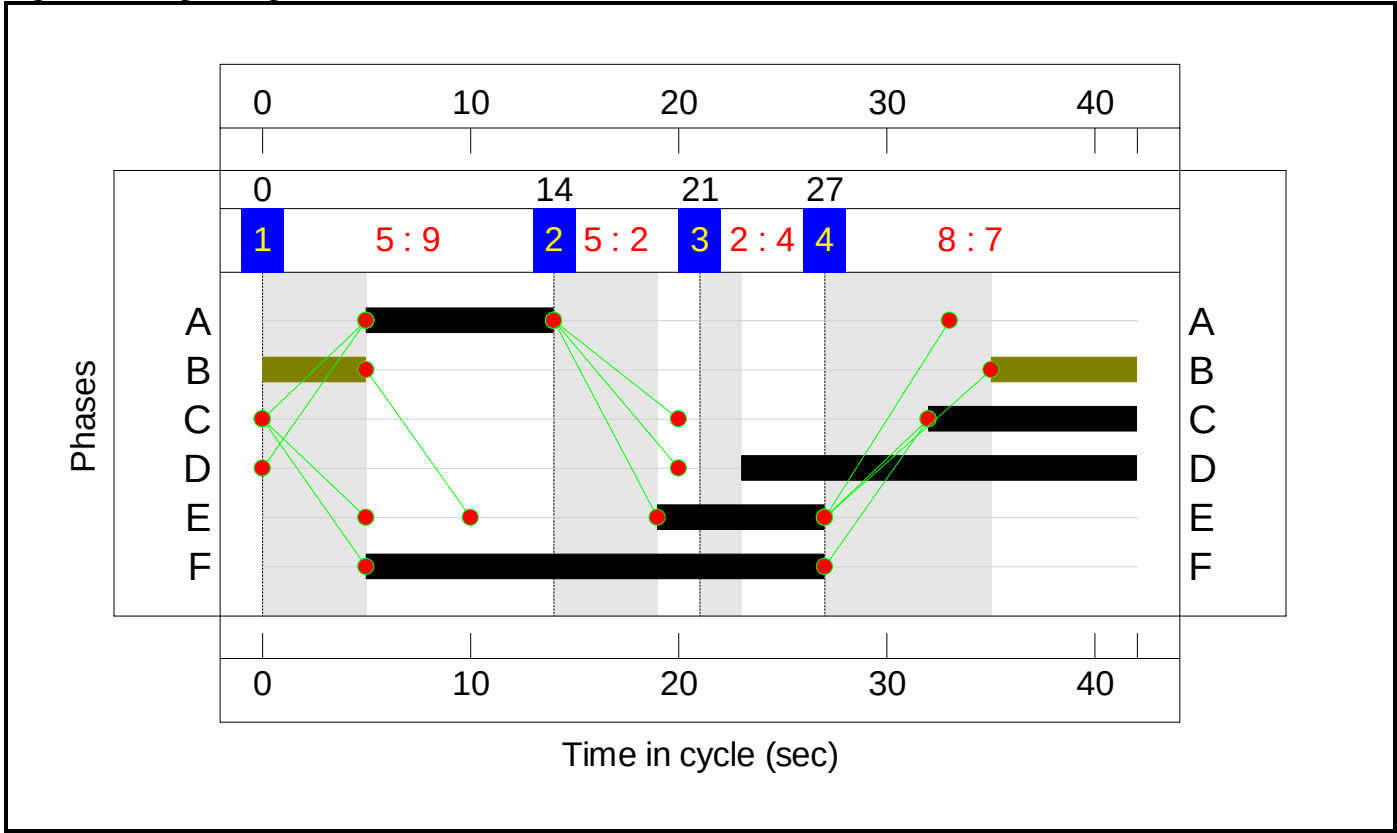
Stage Sequence Diagram

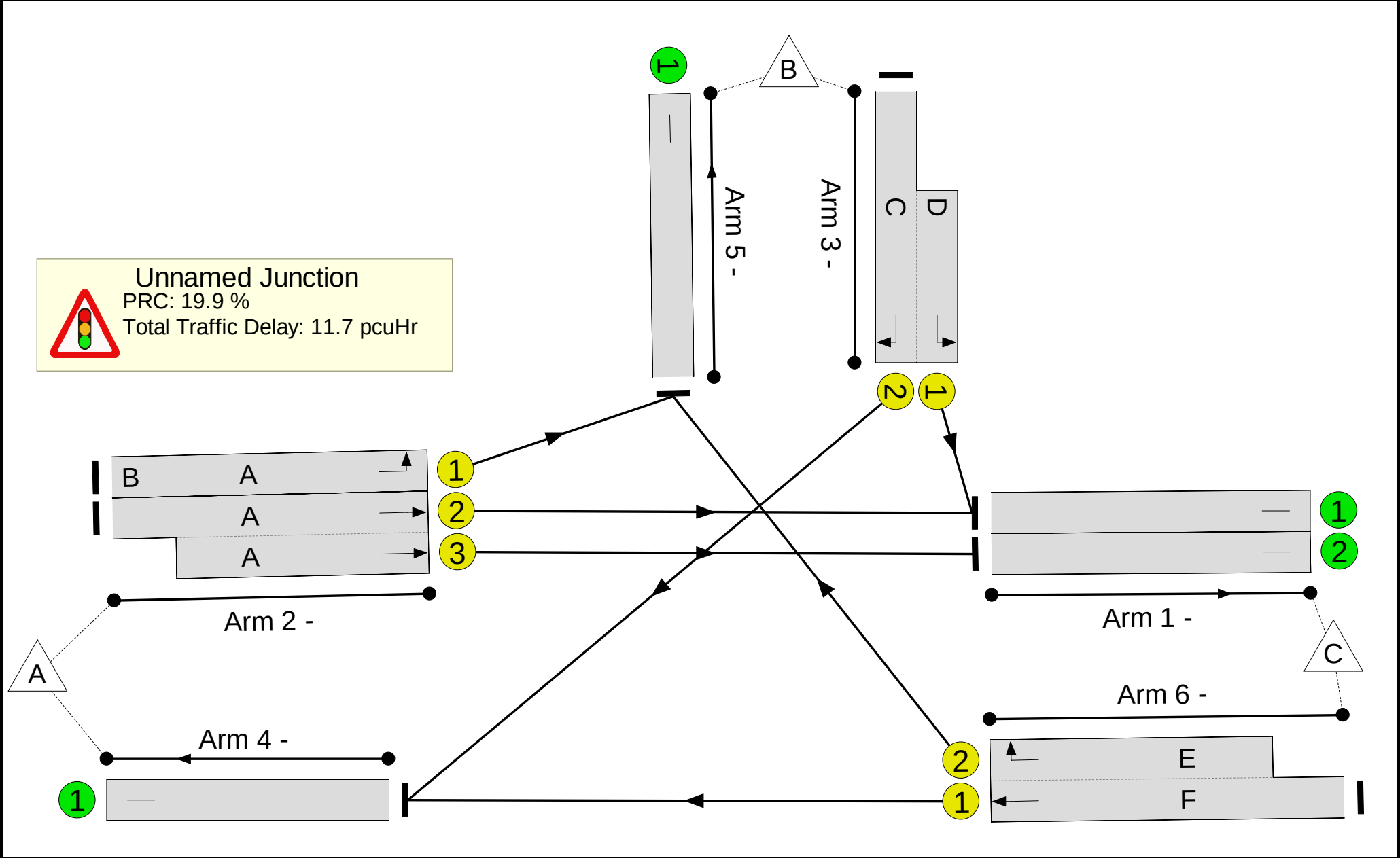


Stage Timings

Stage	1	2	3	4
Duration	9	2	4	7
Change Point	0	14	21	27

Signal Timings Diagram





Network Results

Network Results

Junctions 10													
PICADY 10 - Priority Intersection Module													
Version: 10.0.1.1519													
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Filename: Junction 4 - A290_Giles Lane.j10

Path: \\uk.wspgroup.com\central data\Projects\70080xxx\70080896 - University of Kent\03 WIP\TP Transport Planning\Junctions 10

Report generation date: 03/02/2022 12:39:59

»2021, AM
»2021, PM
»2040, AM
»2040, PM
»2040+Dev, AM
»2040+Dev, 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
	2021													
Stream B-AC	D1	1.7	30.07	0.63	D	5.04	5 %	D2	3.5	45.44	0.80	E	12.40	-6 %
Stream C-AB		0.4	6.68	0.21	A		[Stream B-AC]		0.2	5.08	0.11	A		[Stream B-AC]
	2040													
Stream B-AC	D3	3.3	54.64	0.79	F	8.72	-8 %	D4	10.3	114.12	0.97	F	30.62	-18 %
Stream C-AB		0.6	7.07	0.26	A		[Stream B-AC]		0.3	5.05	0.14	A		[Stream B-AC]
	2040+Dev													
Stream B-AC	D5	9.3	150.48	0.98	F	19.52	-19 %	D6	27.4	280.95	1.14	F	59.81	-26 %
Stream C-AB		0.9	7.56	0.31	A		[Stream B-AC]		0.5	4.55	0.18	A		[Stream B-AC]

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. Junction LOS and Junction Delay are demand-weighted averages. 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	A290/Giles Lane
Location	University of Kent
Site number	
Date	23/11/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	70080896
Enumerator	CORP\UKWGF001
Description	

Units

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

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D1	2021	AM	ONE HOUR	07:45	09:15	15	✓	✓
D2	2021	PM	ONE HOUR	16:15	17:45	15	✓	✓
D3	2040	AM	ONE HOUR	07:45	09:15	15	✓	✓
D4	2040	PM	ONE HOUR	16:15	17:45	15	✓	✓
D5	2040+Dev	AM	ONE HOUR	07:45	09:15	15	✓	✓
D6	2040+Dev	PM	ONE HOUR	16:15	17:45	15	✓	✓

Analysis Set Details

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

2021, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D1 - 2021, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		5.04	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	5	Stream B-AC	5.04	A

Arms

Arms

Arm	Name	Description	Arm type
A	A290 Whitstable Road West		Major
B	Giles Lane		Minor
C	A290 Whitstable Road East		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	6.90			139.2	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	2.78	18	17

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	481	0.085	0.214	0.134	0.305
B-C	621	0.091	0.230	-	-
C-B	655	0.244	0.244	-	-

The slopes and intercepts shown above include custom intercept adjustments only.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D1	2021	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 (%)
A		ONE HOUR	✓	712	100.000
B		ONE HOUR	✓	188	100.000
C		ONE HOUR	✓	350	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
	A	B	C	
From	A	0	312	400
	B	134	0	52
	C	278	72	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	A	B	C	
From	A	0	1	4
	B	0	0	0
	C	3	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-AC	0.63	30.07	1.7	7.9	D	188	188
C-AB	0.21	6.68	0.4	1.4	A	124	124
C-A						226	226
A-B						312	312
A-C						400	400

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	167	42	359	0.465	166	0.6	0.8	18.516	C
C-AB	103	26	674	0.153	103	0.2	0.3	6.305	A
C-A	211	53			211				
A-B	280	70			280				
A-C	360	90			360				

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	205	51	324	0.633	202	0.8	1.6	28.814	D
C-AB	144	36	684	0.210	143	0.3	0.4	6.653	A
C-A	241	60			241				
A-B	344	86			344				
A-C	440	110			440				

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	205	51	324	0.633	205	1.6	1.7	30.075	D
C-AB	144	36	685	0.211	144	0.4	0.4	6.676	A
C-A	241	60			241				
A-B	344	86			344				
A-C	440	110			440				

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	167	42	359	0.466	170	1.7	0.9	19.341	C
C-AB	104	26	674	0.154	104	0.4	0.3	6.340	A
C-A	211	53			211				
A-B	280	70			280				
A-C	360	90			360				

Queue Variation Results for each time segment

08:00 - 08:15

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.84	0.18	0.94	1.43	1.49			N/A	N/A
C-AB	0.28	0.00	0.00	0.28	0.28			N/A	N/A

08:15 - 08:30

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.59	0.03	0.31	2.35	7.90			N/A	N/A
C-AB	0.44	0.03	0.26	0.47	0.52			N/A	N/A

08:30 - 08:45

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.65	0.03	0.30	1.76	7.59			N/A	N/A
C-AB	0.44	0.04	0.38	1.22	1.36			N/A	N/A

08:45 - 09:00

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.90	0.05	0.50	1.87	2.75			N/A	N/A
C-AB	0.29	0.00	0.00	0.29	0.29			N/A	N/A

2021, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D2 - 2021, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		12.40	B

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	-8	Stream B-AC	12.40	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)	Results for central hour only	Run automatically
D2	2021	PM	ONE HOUR	16:15	17:45	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	351	100.000
B		ONE HOUR	✓	271	100.000
C		ONE HOUR	✓	381	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
From		A	B	C
	A	0	102	249
	B	211	0	60
	C	336	45	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
From		A	B	C
	A	0	0	5
	B	0	0	0
	C	3	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-AC	0.80	45.44	3.5	19.1	E	271	271
C-AB	0.11	5.08	0.2	1.2	A	79	79
C-A						302	302
A-B						102	102
A-C						249	249

Main Results for each time segment

16:30 - 16:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	244	61	399	0.611	241	0.9	1.5	22.553	C
C-AB	66	17	778	0.085	66	0.1	0.2	5.059	A
C-A	276	69			276				
A-B	92	23			92				
A-C	224	56			224				

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	298	75	374	0.798	291	1.5	3.3	40.324	E
C-AB	92	23	809	0.113	91	0.2	0.2	5.013	A
C-A	328	82			328				
A-B	112	28			112				
A-C	274	69			274				

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	298	75	374	0.798	297	3.3	3.5	45.443	E
C-AB	92	23	809	0.113	92	0.2	0.2	5.022	A
C-A	328	82			328				
A-B	112	28			112				
A-C	274	69			274				

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	244	61	399	0.611	251	3.5	1.7	25.493	D
C-AB	66	17	778	0.085	67	0.2	0.2	5.076	A
C-A	276	69			276				
A-B	92	23			92				
A-C	224	56			224				

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Queue Variation Results for each time segment

16:30 - 16:45

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.48	0.11	1.20	2.75	3.60			N/A	N/A
C-AB	0.16	0.03	0.25	0.45	0.48			N/A	N/A

16:45 - 17:00

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	3.26	0.04	0.42	9.01	16.52			N/A	N/A
C-AB	0.23	0.03	0.27	0.49	1.24			N/A	N/A

17:00 - 17:15

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	3.54	0.03	0.34	7.45	19.09			N/A	N/A
C-AB	0.24	0.00	0.00	0.24	0.24			N/A	N/A

17:15 - 17:30

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.67	0.04	0.42	4.46	7.63			N/A	N/A
C-AB	0.17	0.00	0.00	0.17	0.17			N/A	N/A

2040, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D3 - 2040, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		8.72	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	-8	Stream B-AC	8.72	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)	Results for central hour only	Run automatically
D3	2040	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 (%)
A		ONE HOUR	✓	813	100.000
B		ONE HOUR	✓	212	100.000
C		ONE HOUR	✓	399	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
From		A	B	C
	A	0	356	457
	B	153	0	59
	C	317	82	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
From		A	B	C
	A	0	1	4
	B	0	0	0
	C	3	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-AC	0.79	54.64	3.3	17.8	F	212	212
C-AB	0.26	7.07	0.6	1.5	A	155	155
C-A						244	244
A-B						356	356
A-C						457	457

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	191	48	337	0.566	189	0.7	1.2	23.974	C
C-AB	127	32	680	0.187	127	0.3	0.4	6.509	A
C-A	231	58			231				
A-B	320	80			320				
A-C	411	103			411				

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	233	58	296	0.789	226	1.2	3.0	47.552	E
C-AB	183	46	694	0.263	182	0.4	0.6	7.033	A
C-A	257	64			257				
A-B	392	98			392				
A-C	503	126			503				

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	233	58	296	0.790	232	3.0	3.3	54.640	F
C-AB	183	46	695	0.264	183	0.6	0.6	7.065	A
C-A	256	64			256				
A-B	392	98			392				
A-C	503	126			503				

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	191	48	337	0.566	198	3.3	1.4	27.304	D
C-AB	128	32	681	0.188	129	0.6	0.4	6.563	A
C-A	231	58			231				
A-B	320	80			320				
A-C	411	103			411				

Queue Variation Results for each time segment

08:00 - 08:15

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.23	0.11	1.08	2.00	2.72			N/A	N/A
C-AB	0.37	0.00	0.00	0.37	0.37			N/A	N/A

08:15 - 08:30

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	3.02	0.04	0.44	8.41	14.83			N/A	N/A
C-AB	0.62	0.03	0.26	0.62	0.65			N/A	N/A

08:30 - 08:45

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	3.31	0.04	0.36	7.80	17.78			N/A	N/A
C-AB	0.63	0.05	0.47	1.46	1.48			N/A	N/A

08:45 - 09:00

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.38	0.04	0.41	3.63	6.18			N/A	N/A
C-AB	0.39	0.00	0.00	0.39	0.39			N/A	N/A

2040, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D4 - 2040, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		30.62	D

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	-18	Stream B-AC	30.62	D

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)	Results for central hour only	Run automatically
D4	2040	PM	ONE HOUR	16:15	17:45	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	402	100.000
B		ONE HOUR	✓	311	100.000
C		ONE HOUR	✓	437	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
From		A	B	C
	A	0	117	285
	B	242	0	69
	C	385	52	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
From		A	B	C
	A	0	0	5
	B	0	0	0
	C	3	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-AC	0.97	114.12	10.3	40.0	F	311	311
C-AB	0.14	5.05	0.3	1.3	A	100	100
C-A						337	337
A-B						117	117
A-C						285	285

Main Results for each time segment

16:30 - 16:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	280	70	383	0.731	275	1.3	2.4	32.158	D
C-AB	83	21	798	0.104	83	0.2	0.2	5.032	A
C-A	310	78			310				
A-B	105	26			105				
A-C	256	64			256				

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	342	86	354	0.967	321	2.4	7.8	78.198	F
C-AB	117	29	835	0.140	116	0.2	0.3	5.006	A
C-A	364	91			364				
A-B	129	32			129				
A-C	314	78			314				

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	342	86	354	0.967	333	7.8	10.3	114.117	F
C-AB	117	29	835	0.140	117	0.3	0.3	5.019	A
C-A	364	91			364				
A-B	129	32			129				
A-C	314	78			314				

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	280	70	383	0.731	308	10.3	3.1	58.096	F
C-AB	83	21	798	0.104	83	0.3	0.2	5.052	A
C-A	310	77			310				
A-B	105	26			105				
A-C	256	64			256				

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Queue Variation Results for each time segment

16:30 - 16:45

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	2.42	0.11	1.03	5.40	7.34			N/A	N/A
C-AB	0.21	0.00	0.00	0.21	0.21			N/A	N/A

16:45 - 17:00

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	7.83	0.20	4.04	19.18	26.21			N/A	N/A
C-AB	0.31	0.03	0.27	0.49	1.30			N/A	N/A

17:00 - 17:15

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	10.30	0.13	3.88	27.76	40.04			N/A	N/A
C-AB	0.31	0.00	0.00	0.31	0.31			N/A	N/A

17:15 - 17:30

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	3.13	0.04	0.42	8.62	15.81			N/A	N/A
C-AB	0.21	0.00	0.00	0.21	0.21			N/A	N/A

2040+Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D5 - 2040+Dev, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		19.52	C

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	-19	Stream B-AC	19.52	C

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)	Results for central hour only	Run automatically
D5	2040+Dev	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 (%)
A		ONE HOUR	✓	1014	100.000
B		ONE HOUR	✓	212	100.000
C		ONE HOUR	✓	452	100.000

Origin-Destination Data

Demand (Veh/hr)

	To		
	A	B	C
From	A	0	358
	B	153	0
	C	370	82

Vehicle Mix

Heavy Vehicle Percentages

	To		
	A	B	C
From	A	0	1
	B	0	0
	C	3	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-AC	0.98	150.48	9.3	33.1	F	212	212
C-AB	0.31	7.56	0.9	2.6	A	182	182
C-A						270	270
A-B						356	356
A-C						658	658

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	191	48	291	0.655	187	0.9	1.7	33.654	D
C-AB	145	36	680	0.213	144	0.3	0.5	6.725	A
C-A	261	65			261				
A-B	320	80			320				
A-C	592	148			592				

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	233	58	239	0.978	213	1.7	6.8	99.349	F
C-AB	219	55	698	0.313	217	0.5	0.9	7.499	A
C-A	279	70			279				
A-B	392	98			392				
A-C	724	181			724				

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	233	58	238	0.979	223	6.8	9.3	150.482	F
C-AB	219	55	699	0.314	219	0.9	0.9	7.561	A
C-A	278	70			278				
A-B	392	98			392				
A-C	724	181			724				

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	191	48	291	0.656	219	9.3	2.2	62.463	F
C-AB	146	36	681	0.214	147	0.9	0.5	6.801	A
C-A	260	65			260				
A-B	320	80			320				
A-C	592	148			592				

Queue Variation Results for each time segment

08:00 - 08:15

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.72	0.08	1.17	3.72	5.06			N/A	N/A
C-AB	0.48	0.00	0.00	0.48	0.48			N/A	N/A

08:15 - 08:30

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	6.82	0.25	3.87	15.95	21.36			N/A	N/A
C-AB	0.88	0.03	0.27	0.88	1.47			N/A	N/A

08:30 - 08:45

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	9.34	0.18	4.41	23.81	33.15			N/A	N/A
C-AB	0.89	0.05	0.57	1.79	2.56			N/A	N/A

08:45 - 09:00

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	2.16	0.04	0.38	5.65	10.99			N/A	N/A
C-AB	0.50	0.50	1.00	1.40	1.45			N/A	N/A

2040+Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D6 - 2040+Dev, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		59.81	F

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	-26	Stream B-AC	59.81	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)	Results for central hour only	Run automatically
D6	2040+Dev	PM	ONE HOUR	16:15	17:45	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	507	100.000
B		ONE HOUR	✓	311	100.000
C		ONE HOUR	✓	636	100.000

Origin-Destination Data

Demand (Veh/hr)

	To		
	A	B	C
From	A	0	117
	B	242	0
	C	584	52

Vehicle Mix

Heavy Vehicle Percentages

	To		
	A	B	C
From	A	0	0
	B	0	0
	C	1	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-AC	1.14	280.95	27.4	56.8	F	311	311
C-AB	0.18	4.55	0.5	1.5	A	141	141
C-A						495	495
A-B						117	117
A-C						390	390

Main Results for each time segment

16:30 - 16:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	280	70	340	0.821	272	1.6	3.6	47.458	E
C-AB	112	28	907	0.123	111	0.2	0.3	4.526	A
C-A	460	115			460				
A-B	105	26			105				
A-C	351	88			351				

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	342	86	302	1.135	291	3.6	16.4	151.023	F
C-AB	170	43	973	0.175	169	0.3	0.5	4.486	A
C-A	530	133			530				
A-B	129	32			129				
A-C	429	107			429				

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	342	86	302	1.135	299	16.4	27.4	280.946	F
C-AB	170	43	973	0.175	170	0.5	0.5	4.495	A
C-A	530	132			530				
A-B	129	32			129				
A-C	429	107			429				

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	280	70	340	0.822	328	27.4	15.2	238.683	F
C-AB	112	28	907	0.123	113	0.5	0.3	4.546	A
C-A	460	115			460				
A-B	105	26			105				
A-C	351	88			351				

Queue Variation Results for each time segment

16:30 - 16:45

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	3.60	0.13	1.73	8.39	11.42			N/A	N/A
C-AB	0.29	0.00	0.00	0.29	0.29			N/A	N/A

16:45 - 17:00

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	16.45	3.34	13.87	29.73	35.68			N/A	N/A
C-AB	0.50	0.03	0.27	0.50	1.49			N/A	N/A

17:00 - 17:15

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	27.41	7.08	23.99	47.96	56.77			N/A	N/A
C-AB	0.50	0.05	0.48	1.29	1.40			N/A	N/A

17:15 - 17:30

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	15.23	1.41	11.67	30.89	38.59			N/A	N/A
C-AB	0.30	0.00	0.00	0.30	0.30			N/A	N/A

Junctions 10															
PICADY 10 - Priority Intersection Module															
Version: 10.0.1.1519															
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Filename: Junction 5 - A290_University Road.j10

Path: \\uk.wspgroup.com\central data\Projects\70080xxx\70080896 - University of Kent\03 WIP\TP Transport Planning\Junctions 10

Report generation date: 03/02/2022 12:42:41

»2021, AM
»2021, PM
»2040, AM
»2040, PM
»2040+Dev, AM
»2040+Dev, 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
	2021													
Stream B-C	D1	0.3	8.64	0.23	A	5.04	29 % [Stream B-A]	D2	0.7	11.88	0.41	B	5.15	28 % [Stream B-A]
Stream B-A		0.3	19.40	0.24	C				0.5	17.29	0.32	C		
Stream C-AB		1.2	13.25	0.53	B				0.3	9.06	0.25	A		
	2040													
Stream B-C	D3	0.4	9.83	0.28	A	6.29	13 % [Stream B-A]	D4	1.0	15.46	0.51	C	6.49	12 % [Stream B-A]
Stream B-A		0.4	24.81	0.31	C				0.7	23.05	0.42	C		
Stream C-AB		1.9	15.88	0.63	C				0.4	9.78	0.30	A		
	2040+Dev													
Stream B-C	D5	0.5	12.78	0.34	B	7.39	-3 % [Stream B-A]	D6	1.4	21.07	0.59	C	7.18	-1 % [Stream B-A]
Stream B-A		0.7	40.12	0.42	E				1.1	37.10	0.54	E		
Stream C-AB		2.9	19.77	0.70	C				0.5	10.32	0.32	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. Junction LOS and Junction Delay are demand-weighted averages. 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	23/11/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	CORP\UKWGF001
Description	

Units

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

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	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	35.00	20.00		500

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D1	2021	AM	ONE HOUR	07:45	09:15	15	✓	✓
D2	2021	PM	ONE HOUR	16:15	17:45	15	✓	✓
D3	2040	AM	ONE HOUR	07:45	09:15	15	✓	✓
D4	2040	PM	ONE HOUR	16:15	17:45	15	✓	✓
D5	2040+Dev	AM	ONE HOUR	07:45	09:15	15	✓	✓
D6	2040+Dev	PM	ONE HOUR	16:15	17:45	15	✓	✓

Analysis Set Details

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

2021, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	Arm B - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Demand Sets	D1 - 2021, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		5.04	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	29	Stream B-A	5.04	A

Arms

Arms

Arm	Name	Description	Arm type
A	A290 St Thomas Hill North		Major
B	University Road		Minor
C	A290 St Thomas Hill South		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Width for right-turn storage (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	6.55		✓	2.33	137.0	✓	3.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B	One lane plus flare	10.00	4.80	3.50	3.50	3.50	✓	1.00	54	24

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	522	0.093	0.236	0.148	0.336
B-C	710	0.106	0.267	-	-
C-B	662	0.250	0.250	-	-

The slopes and intercepts shown above include custom intercept adjustments only.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D1	2021	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 (%)
A		ONE HOUR	✓	407	100.000
B		ONE HOUR	✓	167	100.000
C		ONE HOUR	✓	563	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
From	A	0	103	304
	B	52	0	115
	C	306	257	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
From	A	0	3	4
	B	13	0	3
	C	2	3	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.23	8.64	0.3	1.4	A	115	115
B-A	0.24	19.40	0.3	1.4	C	52	52
C-AB	0.53	13.25	1.2	4.5	B	276	276
C-A						287	287
A-B						103	103
A-C						304	304

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	103	26	577	0.179	103	0.2	0.2	7.591	A
B-A	47	12	285	0.164	47	0.1	0.2	15.109	C
C-AB	240	60	573	0.420	239	0.5	0.7	10.784	B
C-A	266	66			266				
A-B	93	23			93				
A-C	273	68			273				

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	127	32	544	0.233	126	0.2	0.3	8.616	A
B-A	57	14	243	0.235	57	0.2	0.3	19.260	C
C-AB	312	78	584	0.534	310	0.7	1.2	13.079	B
C-A	308	77			308				
A-B	113	28			113				
A-C	335	84			335				

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	127	32	543	0.233	127	0.3	0.3	8.643	A
B-A	57	14	243	0.236	57	0.3	0.3	19.396	C
C-AB	312	78	584	0.534	312	1.2	1.2	13.253	B
C-A	308	77			308				
A-B	113	28			113				
A-C	335	84			335				

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	103	26	576	0.179	104	0.3	0.2	7.623	A
B-A	47	12	284	0.165	47	0.3	0.2	15.238	C
C-AB	240	60	572	0.420	242	1.2	0.8	10.965	B
C-A	266	66			266				
A-B	93	23			93				
A-C	273	68			273				

Queue Variation Results for each time segment

08:00 - 08:15

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.22	0.00	0.00	0.22	0.22			N/A	N/A
B-A	0.19	0.00	0.00	0.19	0.19			N/A	N/A
C-AB	0.73	0.26	0.95	1.39	1.45			N/A	N/A

08:15 - 08:30

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.30	0.03	0.26	0.46	0.49			N/A	N/A
B-A	0.30	0.03	0.26	0.47	0.49			N/A	N/A
C-AB	1.21	0.03	0.27	1.21	2.11			N/A	N/A

08:30 - 08:45

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.30	0.03	0.31	1.06	1.36			N/A	N/A
B-A	0.30	0.03	0.31	1.08	1.39			N/A	N/A
C-AB	1.24	0.03	0.28	1.24	4.54			N/A	N/A

08:45 - 09:00

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.22	0.00	0.00	0.22	0.22			N/A	N/A
B-A	0.20	0.00	0.00	0.20	0.20			N/A	N/A
C-AB	0.77	0.08	0.81	1.24	1.24			N/A	N/A

2021, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	Arm B - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Demand Sets	D2 - 2021, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		5.15	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	28	Stream B-A	5.15	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)	Results for central hour only	Run automatically
D2	2021	PM	ONE HOUR	16:15	17:45	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	327	100.000
B		ONE HOUR	✓	286	100.000
C		ONE HOUR	✓	377	100.000

Origin-Destination Data

Demand (Veh/hr)

	To		
	A	B	C
From	A	0	40
	B	91	0
	C	255	122

Vehicle Mix

Heavy Vehicle Percentages

From	To			
	A	B	C	
	A	0	13	2
	B	5	0	6
	C	2	8	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.41	11.88	0.7	3.1	B	195	195
B-A	0.32	17.29	0.5	2.0	C	91	91
C-AB	0.25	9.06	0.3	1.1	A	123	123
C-A						254	254
A-B						40	40
A-C						287	287

Main Results for each time segment

16:30 - 16:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	175	44	557	0.315	175	0.3	0.5	9.415	A
B-A	82	20	350	0.234	81	0.2	0.3	13.392	B
C-AB	110	28	545	0.202	110	0.2	0.3	8.264	A
C-A	229	57			229				
A-B	36	9			36				
A-C	258	65			258				

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	215	54	518	0.414	214	0.5	0.7	11.780	B
B-A	100	25	309	0.324	100	0.3	0.5	17.147	C
C-AB	136	34	533	0.255	136	0.3	0.3	9.046	A
C-A	279	70			279				
A-B	44	11			44				
A-C	316	79			316				

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	215	54	518	0.415	215	0.7	0.7	11.880	B
B-A	100	25	308	0.325	100	0.5	0.5	17.287	C
C-AB	136	34	533	0.255	136	0.3	0.3	9.062	A
C-A	279	70			279				
A-B	44	11			44				
A-C	316	79			316				

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	175	44	556	0.315	176	0.7	0.5	9.510	A
B-A	82	20	350	0.234	82	0.5	0.3	13.512	B
C-AB	110	28	545	0.202	111	0.3	0.3	8.287	A
C-A	229	57			229				
A-B	36	9			36				
A-C	258	65			258				

Queue Variation Results for each time segment

16:30 - 16:45

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.45	0.00	0.00	0.45	0.45			N/A	N/A
B-A	0.30	0.00	0.00	0.30	0.30			N/A	N/A
C-AB	0.25	0.00	0.00	0.25	0.25			N/A	N/A

16:45 - 17:00

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.69	0.03	0.26	0.69	0.69			N/A	N/A
B-A	0.47	0.03	0.26	0.47	0.49			N/A	N/A
C-AB	0.34	0.03	0.26	0.46	0.49			N/A	N/A

17:00 - 17:15

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.70	0.03	0.29	1.23	3.09			N/A	N/A
B-A	0.47	0.03	0.31	1.40	2.01			N/A	N/A
C-AB	0.34	0.03	0.31	1.09	1.09			N/A	N/A

17:15 - 17:30

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.47	0.04	0.39	1.22	1.36			N/A	N/A
B-A	0.31	0.00	0.00	0.31	0.31			N/A	N/A
C-AB	0.26	0.00	0.00	0.26	0.26			N/A	N/A

2040, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	Arm B - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Demand Sets	D3 - 2040, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		6.29	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	13	Stream B-A	6.29	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)	Results for central hour only	Run automatically
D3	2040	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 (%)
A		ONE HOUR	✓	465	100.000
B		ONE HOUR	✓	190	100.000
C		ONE HOUR	✓	642	100.000

Origin-Destination Data

Demand (Veh/hr)

	To		
	A	B	C
From	A	0	118
	B	59	0
	C	349	293

Vehicle Mix

Heavy Vehicle Percentages

From	To			
	A	B	C	
	A	0	3	4
	B	13	0	3
	C	2	3	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.28	9.83	0.4	1.5	A	131	131
B-A	0.31	24.81	0.4	1.7	C	59	59
C-AB	0.63	15.88	1.9	8.3	C	334	334
C-A						308	308
A-B						118	118
A-C						347	347

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	118	29	557	0.211	118	0.2	0.3	8.179	A
B-A	53	13	259	0.205	53	0.2	0.3	17.446	C
C-AB	283	71	577	0.490	281	0.7	1.0	12.149	B
C-A	294	74			294				
A-B	106	27			106				
A-C	312	78			312				

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	144	36	512	0.282	144	0.3	0.4	9.768	A
B-A	65	16	211	0.308	64	0.3	0.4	24.437	C
C-AB	385	96	613	0.628	381	1.0	1.9	15.446	C
C-A	322	81			322				
A-B	130	32			130				
A-C	382	96			382				

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	144	36	510	0.283	144	0.4	0.4	9.832	A
B-A	65	16	210	0.309	65	0.4	0.4	24.812	C
C-AB	385	96	613	0.628	385	1.9	1.9	15.881	C
C-A	322	81			322				
A-B	130	32			130				
A-C	382	96			382				

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	118	29	556	0.212	118	0.4	0.3	8.235	A
B-A	53	13	257	0.208	54	0.4	0.3	17.726	C
C-AB	283	71	576	0.490	286	1.9	1.1	12.558	B
C-A	294	74			294				
A-B	106	27			106				
A-C	312	78			312				

Queue Variation Results for each time segment

08:00 - 08:15

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.26	0.00	0.00	0.26	0.26			N/A	N/A
B-A	0.25	0.00	0.00	0.25	0.25			N/A	N/A
C-AB	1.00	0.17	1.00	1.37	1.72			N/A	N/A

08:15 - 08:30

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.39	0.03	0.26	0.46	0.49			N/A	N/A
B-A	0.43	0.03	0.26	0.47	0.50			N/A	N/A
C-AB	1.87	0.03	0.30	1.87	8.32			N/A	N/A

08:30 - 08:45

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.39	0.03	0.31	1.28	1.50			N/A	N/A
B-A	0.44	0.03	0.32	1.37	1.75			N/A	N/A
C-AB	1.94	0.03	0.29	1.94	7.80			N/A	N/A

08:45 - 09:00

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.27	0.00	0.00	0.27	0.27			N/A	N/A
B-A	0.27	0.03	0.25	0.45	0.48			N/A	N/A
C-AB	1.07	0.07	0.86	1.93	2.70			N/A	N/A

2040, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	Arm B - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Demand Sets	D4 - 2040, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		6.49	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	12	Stream B-A	6.49	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)	Results for central hour only	Run automatically
D4	2040	PM	ONE HOUR	16:15	17:45	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	375	100.000
B		ONE HOUR	✓	327	100.000
C		ONE HOUR	✓	432	100.000

Origin-Destination Data

Demand (Veh/hr)

	To		
	A	B	C
From	A	0	46
	B	104	0
	C	292	140

Vehicle Mix

Heavy Vehicle Percentages

From	To		
	A	B	C
	0	13	2
	5	0	6
C	2	8	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.51	15.46	1.0	4.1	C	223	223
B-A	0.42	23.05	0.7	3.5	C	104	104
C-AB	0.30	9.78	0.4	1.8	A	142	142
C-A						290	290
A-B						46	46
A-C						329	329

Main Results for each time segment

16:30 - 16:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	200	50	533	0.376	200	0.4	0.6	10.780	B
B-A	93	23	324	0.289	93	0.3	0.4	15.561	C
C-AB	127	32	537	0.236	127	0.2	0.3	8.766	A
C-A	281	65			281				
A-B	41	10			41				
A-C	296	74			296				

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	246	61	480	0.512	244	0.6	1.0	15.141	C
B-A	115	29	271	0.422	113	0.4	0.7	22.589	C
C-AB	158	39	526	0.300	157	0.3	0.4	9.759	A
C-A	318	80			318				
A-B	51	13			51				
A-C	362	91			362				

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	246	61	478	0.514	245	1.0	1.0	15.459	C
B-A	115	29	270	0.423	114	0.7	0.7	23.053	C
C-AB	158	39	526	0.300	158	0.4	0.4	9.783	A
C-A	318	80			318				
A-B	51	13			51				
A-C	362	91			362				

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	200	50	531	0.377	202	1.0	0.6	10.994	B
B-A	93	23	323	0.290	95	0.7	0.4	15.854	C
C-AB	127	32	537	0.237	127	0.4	0.3	8.799	A
C-A	261	65			261				
A-B	41	10			41				
A-C	296	74			296				

Queue Variation Results for each time segment

16:30 - 16:45

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.59	0.12	0.87	1.37	1.44			N/A	N/A
B-A	0.40	0.00	0.00	0.40	0.40			N/A	N/A
C-AB	0.31	0.00	0.00	0.31	0.31			N/A	N/A

16:45 - 17:00

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	1.01	0.03	0.27	1.01	1.45			N/A	N/A
B-A	0.70	0.03	0.26	0.70	0.90			N/A	N/A
C-AB	0.43	0.03	0.26	0.46	0.49			N/A	N/A

17:00 - 17:15

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	1.04	0.03	0.29	1.13	4.12			N/A	N/A
B-A	0.72	0.03	0.30	1.21	3.49			N/A	N/A
C-AB	0.43	0.03	0.31	1.33	1.82			N/A	N/A

17:15 - 17:30

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.62	0.06	0.66	1.35	1.44			N/A	N/A
B-A	0.42	0.03	0.34	1.13	1.31			N/A	N/A
C-AB	0.32	0.00	0.00	0.32	0.32			N/A	N/A

2040+Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	Arm B - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Demand Sets	D5 - 2040+Dev, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		7.39	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	-3	Stream B-A	7.39	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)	Results for central hour only	Run automatically
D5	2040+Dev	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 (%)
A		ONE HOUR	✓	667	100.000
B		ONE HOUR	✓	190	100.000
C		ONE HOUR	✓	695	100.000

Origin-Destination Data

Demand (Veh/hr)

	To		
	A	B	C
From	A	0	118
	B	59	0
	C	402	293

Vehicle Mix

Heavy Vehicle Percentages

From	To			
	A	B	C	
	A	0	3	2
	B	13	0	3
	C	2	3	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.34	12.78	0.5	2.2	B	131	131
B-A	0.42	40.12	0.7	3.2	E	59	59
C-AB	0.70	19.77	2.9	14.7	C	383	383
C-A						332	332
A-B						118	118
A-C						549	549

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	118	29	504	0.233	117	0.2	0.3	9.294	A
B-A	53	13	215	0.247	53	0.2	0.3	22.162	C
C-AB	294	74	552	0.533	292	0.8	1.2	13.823	B
C-A	331	83			331				
A-B	106	27			106				
A-C	494	123			494				

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	144	36	430	0.335	143	0.3	0.5	12.522	B
B-A	65	16	156	0.417	64	0.3	0.7	38.439	E
C-AB	433	108	618	0.700	427	1.2	2.7	18.679	C
C-A	333	83			333				
A-B	130	32			130				
A-C	604	151			604				

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	144	36	426	0.339	144	0.5	0.5	12.783	B
B-A	65	16	154	0.421	65	0.7	0.7	40.116	E
C-AB	433	108	617	0.701	432	2.7	2.9	19.770	C
C-A	333	83			333				
A-B	130	32			130				
A-C	604	151			604				

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	118	29	501	0.235	119	0.5	0.3	9.427	A
B-A	53	13	213	0.250	54	0.7	0.3	22.968	C
C-AB	294	74	551	0.534	301	2.9	1.3	14.732	B
C-A	331	83			331				
A-B	106	27			106				
A-C	494	123			494				

Queue Variation Results for each time segment

08:00 - 08:15

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.30	0.00	0.00	0.30	0.30			N/A	N/A
B-A	0.32	0.00	0.00	0.32	0.32			N/A	N/A
C-AB	1.22	0.13	1.10	1.91	2.51			N/A	N/A

08:15 - 08:30

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.49	0.03	0.26	0.49	0.49			N/A	N/A
B-A	0.67	0.03	0.27	0.67	1.58			N/A	N/A
C-AB	2.74	0.03	0.34	6.01	14.69			N/A	N/A

08:30 - 08:45

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.51	0.03	0.31	1.45	2.21			N/A	N/A
B-A	0.70	0.03	0.33	1.55	3.22			N/A	N/A
C-AB	2.91	0.03	0.31	4.19	14.51			N/A	N/A

08:45 - 09:00

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.31	0.00	0.00	0.31	0.31			N/A	N/A
B-A	0.34	0.03	0.30	0.88	1.19			N/A	N/A
C-AB	1.34	0.06	0.79	2.97	4.33			N/A	N/A

2040+Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	Arm B - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Demand Sets	D6 - 2040+Dev, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		7.18	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	-1	Stream B-A	7.18	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)	Results for central hour only	Run automatically
D6	2040+Dev	PM	ONE HOUR	16:15	17:45	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	480	100.000
B		ONE HOUR	✓	327	100.000
C		ONE HOUR	✓	631	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
From		A	B	C
	A	0	46	434
	B	104	0	223
	C	491	140	0

Vehicle Mix

Heavy Vehicle Percentages

From	To		
	A	B	C
	0	13	1
	5	0	6
C	1	8	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.59	21.07	1.4	6.1	C	223	223
B-A	0.54	37.10	1.1	5.8	E	104	104
C-AB	0.32	10.32	0.5	2.1	B	145	145
C-A						486	486
A-B						46	46
A-C						434	434

Main Results for each time segment

16:30 - 16:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	200	50	499	0.402	200	0.4	0.7	11.998	B
B-A	93	23	277	0.337	93	0.3	0.5	19.431	C
C-AB	128	32	520	0.246	128	0.2	0.3	9.180	A
C-A	439	110			439				
A-B	41	10			41				
A-C	390	98			390				

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	246	61	420	0.584	243	0.7	1.3	19.973	C
B-A	115	29	213	0.539	112	0.5	1.1	35.046	E
C-AB	161	40	510	0.316	161	0.3	0.5	10.288	B
C-A	534	133			534				
A-B	51	13			51				
A-C	478	119			478				

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	246	61	416	0.591	245	1.3	1.4	21.072	C
B-A	115	29	211	0.543	114	1.1	1.1	37.102	E
C-AB	161	40	510	0.316	161	0.5	0.5	10.321	B
C-A	534	133			534				
A-B	51	13			51				
A-C	478	119			478				

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	200	50	495	0.405	203	1.4	0.7	12.487	B
B-A	93	23	276	0.339	98	1.1	0.5	20.258	C
C-AB	128	32	519	0.247	129	0.5	0.3	9.214	A
C-A	439	110			439				
A-B	41	10			41				
A-C	390	98			390				

Queue Variation Results for each time segment

16:30 - 16:45

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.66	0.11	0.85	1.37	1.44			N/A	N/A
B-A	0.49	0.00	0.00	0.49	0.49			N/A	N/A
C-AB	0.33	0.00	0.00	0.33	0.33			N/A	N/A

16:45 - 17:00

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	1.34	0.03	0.28	1.34	4.56			N/A	N/A
B-A	1.08	0.03	0.29	1.27	4.50			N/A	N/A
C-AB	0.47	0.03	0.26	0.47	0.49			N/A	N/A

17:00 - 17:15

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	1.40	0.03	0.29	1.40	6.14			N/A	N/A
B-A	1.13	0.03	0.31	2.15	5.78			N/A	N/A
C-AB	0.48	0.03	0.31	1.40	2.06			N/A	N/A

17:15 - 17:30

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.70	0.05	0.60	1.48	1.52			N/A	N/A
B-A	0.53	0.04	0.43	1.34	1.47			N/A	N/A
C-AB	0.34	0.00	0.00	0.34	0.34			N/A	N/A

Junctions 10													
ARCADY 10 - Roundabout Module													
Version: 10.0.1.1519													
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Filename: Junction 6 - Whitsable Road_London Road Mini Roundabout.j10

Path: \\uk.wspgroup.com\central data\Projects\70080xxx\70080896 - University of Kent\03 WIP\TP Transport Planning\Junctions 10

Report generation date: 03/02/2022 13:31:57

»2021, AM
»2021, PM
»2040, AM
»2040, PM
»2040+Dev, AM
»2040+Dev, 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
	2021													
Arm A	D1	3.0	16.87	0.75	C	21.51	0 % [Arm C]	D2	2.9	16.71	0.75	C	17.09	11 % [Arm C]
Arm B		1.0	9.77	0.49	A				1.6	12.74	0.61	B		
Arm C		5.3	34.16	0.86	D				3.0	21.49	0.76	C		
	2040													
Arm A	D3	5.9	30.13	0.87	D	50.94	-12 % [Arm C]	D4	5.9	31.04	0.87	D	32.67	-4 % [Arm C]
Arm B		1.5	13.47	0.60	B				3.0	21.94	0.76	C		
Arm C		18.3	98.10	1.00	F				6.9	44.39	0.89	E		
	2040+Dev													
Arm A	D5	53.2	187.75	1.10	F	131.21	-18 % [Arm A]	D6	18.0	78.81	0.99	F	102.92	-15 % [Arm C]
Arm B		1.8	14.13	0.65	B				22.8	111.15	1.03	F		
Arm C		26.1	133.73	1.04	F				21.4	127.25	1.03	F		

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages. 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	10/01/2022
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	CORP\UKWGF001
Description	

Units

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

Analysis Options

Mini-roundabout model	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
JUNCTIONS 9	5.75	✓				✓	Delay	0.85	38.00	20.00		500

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D1	2021	AM	ONE HOUR	07:45	09:15	15	✓	✓
D2	2021	PM	ONE HOUR	16:15	17:45	15	✓	✓
D3	2040	AM	ONE HOUR	07:45	09:15	15	✓	✓
D4	2040	PM	ONE HOUR	16:15	17:45	15	✓	✓
D5	2040+Dev	AM	ONE HOUR	07:45	09:15	15	✓	✓
D6	2040+Dev	PM	ONE HOUR	16:15	17:45	15	✓	✓

Analysis Set Details

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

2021, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D1 - 2021, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout		A, B, C	21.51	C

Junction Network

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	Normal/unknown		0	Arm C	21.51	C

Arms

Arms

Arm	Name	Description
A	Whitstable Road	
B	St. Dunstons Street	
C	London Road	

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
A	3.20	2.90	4.45	10.5	15.70	15.90	0.0	
B	4.00	3.10	5.15	15.3	15.80	13.60	0.0	
C	3.05	2.98	4.90	2.0	10.80	7.20	0.0	✓

Zebra Crossings

Arm	Space between crossing and junction entry (Zebra) (PCU)	Vehicles queueing on exit (Zebra) (PCU)	Central Refuge	Crossing data type	Crossing length (entry side) (m)	Crossing time (entry side) (s)	Crossing length (exit side) (m)	Crossing time (exit side) (s)
C	1.00	1.00	✓	Distance	4.00	2.88	4.00	2.88

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A	0.685	977
B	0.681	1108
C	0.497	827

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D1	2021	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 (%)
A		ONE HOUR	✓	591	100.000
B		ONE HOUR	✓	324	100.000
C		ONE HOUR	✓	544	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A		
B		
C	[ONEHOUR]	90.00

Origin-Destination Data

Demand (Veh/hr)

	To		
	A	B	C
From	A	0	248
	B	198	0
	C	442	102

Vehicle Mix

Heavy Vehicle Percentages

	To		
	A	B	C
From	A	0	4
	B	8	0
	C	1	1

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	0.75	18.87	3.0	14.0	C	591	591
B	0.49	9.77	1.0	3.3	A	324	324
C	0.88	34.16	5.3	29.0	D	544	544

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	531	133	91		876	0.607	529	572	1.0	1.5	10.319	B
B	291	73	307		793	0.367	291	313	0.4	0.6	7.161	A
C	489	122	178	80.91	721	0.678	486	420	1.2	2.0	15.101	C

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	651	163	110		864	0.753	645	694	1.5	2.9	16.078	C
B	357	89	375		728	0.490	355	381	0.6	0.9	9.626	A
C	599	150	217	99.09	699	0.857	587	513	2.0	4.9	29.549	D

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	651	163	112		863	0.754	650	703	2.9	3.0	16.873	C
B	357	89	377		725	0.492	357	385	0.9	1.0	9.769	A
C	599	150	218	99.09	699	0.857	597	516	4.9	5.3	34.159	D

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	531	133	94		874	0.608	537	586	3.0	1.6	10.837	B
B	291	73	312		789	0.369	293	319	1.0	0.6	7.278	A
C	489	122	179	80.91	720	0.679	502	425	5.3	2.2	17.294	C

Queue Variation Results for each time segment

08:00 - 08:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1.50	0.07	1.03	3.20	4.45			N/A	N/A
B	0.57	0.10	0.82	1.36	1.43			N/A	N/A
C	2.01	0.07	1.16	4.74	6.71			N/A	N/A

08:15 - 08:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	2.86	0.03	0.31	3.89	14.02			N/A	N/A
B	0.94	0.03	0.26	0.94	0.94			N/A	N/A
C	4.90	0.04	0.45	13.74	25.23			N/A	N/A

08:30 - 08:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	2.96	0.03	0.28	2.96	8.95			N/A	N/A
B	0.96	0.03	0.28	0.96	3.27			N/A	N/A
C	5.35	0.03	0.35	11.01	29.00			N/A	N/A

08:45 - 09:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1.59	0.05	0.60	3.98	6.08			N/A	N/A
B	0.59	0.08	0.76	1.35	1.43			N/A	N/A
C	2.22	0.04	0.42	6.05	10.66			N/A	N/A

2021, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D2 - 2021, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout		A, B, C	17.09	C

Junction Network

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	Normal/unknown		11	Arm C	17.09	C

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)	Results for central hour only	Run automatically
D2	2021	PM	ONE HOUR	16:15	17:45	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	580	100.000
B		ONE HOUR	✓	407	100.000
C		ONE HOUR	✓	475	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A		
B		
C	[ONEHOUR]	60.00

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
	A	0	251	329
	B	225	0	182
From	C	349	126	0

Vehicle Mix

Heavy Vehicle Percentages

From	To		
	A	B	C
	0	2	5
	5	0	8
C	1	1	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	0.75	16.71	2.9	13.5	C	580	580
B	0.61	12.74	1.6	4.0	B	407	407
C	0.76	21.49	3.0	15.2	C	475	475

Main Results for each time segment

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	521	130	113		889	0.600	519	514	1.0	1.5	10.227	B
B	386	91	295		800	0.457	385	338	0.6	0.8	8.252	A
C	427	107	202	53.94	713	0.599	425	458	0.9	1.4	12.414	B

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	639	160	137		854	0.748	633	626	1.5	2.8	15.961	C
B	448	112	359		733	0.611	445	411	0.8	1.5	12.398	B
C	523	131	246	66.06	689	0.759	517	558	1.4	2.9	20.241	C

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	639	160	139		853	0.749	638	632	2.8	2.9	16.711	C
B	448	112	362		730	0.614	448	415	1.5	1.6	12.744	B
C	523	131	248	66.06	689	0.759	522	562	2.9	3.0	21.495	C

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	521	130	115		888	0.601	527	522	2.9	1.5	10.707	B
B	386	91	299		796	0.460	389	343	1.6	0.9	8.479	A
C	427	107	204	53.94	712	0.600	433	464	3.0	1.5	13.165	B

16:30 - 16:45 16:45 - 17:00 17:00 - 17:15 17:15 - 17:30

Queue Variation Results for each time segment

16:30 - 16:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1.46	0.08	1.02	3.03	4.24			N/A	N/A
B	0.83	0.10	0.88	1.41	1.41			N/A	N/A
C	1.45	0.08	1.07	2.91	3.94			N/A	N/A

16:45 - 17:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	2.78	0.03	0.31	3.65	13.50			N/A	N/A
B	1.52	0.03	0.27	1.52	3.34			N/A	N/A
C	2.89	0.03	0.33	5.39	15.25			N/A	N/A

17:00 - 17:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	2.88	0.03	0.28	2.88	8.57			N/A	N/A
B	1.56	0.03	0.28	1.56	4.02			N/A	N/A
C	3.01	0.03	0.29	3.01	11.84			N/A	N/A

17:15 - 17:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1.55	0.05	0.61	3.84	5.82			N/A	N/A
B	0.86	0.07	0.81	1.39	1.80			N/A	N/A
C	1.55	0.05	0.49	3.95	6.20			N/A	N/A

2040, AM

Data Errors and Warnings

Severity	Area	Item	Description
Last Run	Last Run	Arm B - Capacity	Pedestrian Crossing causes blocking on previous arm due to traffic queing to leave the junction in 2 timesegment(s).
Warning	Demand Sets	D3 - 2040, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout		A, B, C	50.94	F

Junction Network

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	Normal/unknown		-12	Arm C	50.94	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)	Results for central hour only	Run automatically
D3	2040	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 (%)
A		ONE HOUR	✓	674	100.000
B		ONE HOUR	✓	370	100.000
C		ONE HOUR	✓	620	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A		
B		
C	[ONEHOUR]	90.00

Origin-Destination Data

Demand (Veh/hr)

	To		
	A	B	C
From	A	0	283
	B	226	0
	C	504	116

Vehicle Mix

Heavy Vehicle Percentages

From	To		
	A	B	C
	0	4	5
	8	0	6
C	1	1	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	0.87	30.13	5.9	31.5	D	674	674
B	0.80	13.47	1.5	4.5	B	370	370
C	1.00	98.10	18.3	63.2	F	620	620

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	606	151	103		888	0.698	602	650	1.3	2.2	13.358	B
B	333	83	349		753	0.442	332	356	0.5	0.8	8.514	A
C	557	139	203	80.91	708	0.787	551	479	1.7	3.3	22.034	C

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	742	186	120		857	0.866	730	771	2.2	5.3	25.939	D
B	407	102	423		680	0.599	405	427	0.8	1.4	12.968	B
C	683	171	247	99.09	683	0.999	644	581	3.3	13.0	61.211	F

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	742	186	124		855	0.868	740	788	5.3	5.9	30.134	D
B	407	102	429		674	0.604	407	434	1.4	1.5	13.472	B
C	683	171	249	99.09	682	1.000	661	588	13.0	18.3	98.102	F

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	606	151	115		881	0.704	619	704	5.9	2.5	15.653	C
B	333	83	359		745	0.447	335	375	1.5	0.8	8.851	A
C	557	139	205	80.91	707	0.789	614	490	18.3	4.3	49.634	E

Queue Variation Results for each time segment

08:00 - 08:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	2.21	0.07	1.11	5.46	7.89			N/A	N/A
B	0.78	0.10	0.86	1.42	1.49			N/A	N/A
C	3.34	0.09	1.12	8.43	12.01			N/A	N/A

08:15 - 08:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	5.34	0.04	0.44	14.80	27.91			N/A	N/A
B	1.45	0.03	0.27	1.45	3.05			N/A	N/A
C	13.04	0.43	7.87	30.87	41.15			N/A	N/A

08:30 - 08:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	5.85	0.03	0.34	11.35	31.47			N/A	N/A
B	1.49	0.03	0.28	1.49	4.47			N/A	N/A
C	18.34	0.33	9.85	46.13	63.17			N/A	N/A

08:45 - 09:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	2.50	0.04	0.44	6.88	11.87			N/A	N/A
B	0.82	0.07	0.79	1.19	1.68			N/A	N/A
C	4.31	0.04	0.44	12.08	21.97			N/A	N/A

2040, PM

Data Errors and Warnings

Severity	Area	Item	Description
Last Run	Last Run	Arm B - Capacity	Pedestrian Crossing causes blocking on previous arm due to traffic queing to leave the junction in 2 timesegment(s).
Warning	Demand Sets	D4 - 2040, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout		A, B, C	32.67	D

Junction Network

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	Normal/unknown		-4	Arm C	32.67	D

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)	Results for central hour only	Run automatically
D4	2040	PM	ONE HOUR	16:15	17:45	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	664	100.000
B		ONE HOUR	✓	466	100.000
C		ONE HOUR	✓	544	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A		
B		
C	[ONEHOUR]	60.00

Origin-Destination Data

Demand (Veh/hr)

	To		
	A	B	C
From	A	0	287
	B	258	0
	C	400	144

Vehicle Mix

Heavy Vehicle Percentages

From	To			
	A	B	C	
	A	0	2	5
	B	5	0	8
	C	1	1	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	0.87	31.04	5.9	32.1	D	664	664
B	0.76	21.94	3.0	14.7	C	466	466
C	0.89	44.39	6.9	37.4	E	544	544

Main Results for each time segment

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	597	149	128		859	0.695	593	588	1.3	2.2	13.367	B
B	419	105	337		758	0.553	417	385	0.7	1.2	10.515	B
C	489	122	231	53.94	698	0.701	485	523	1.3	2.2	16.645	C

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	731	183	155		842	0.868	718	710	2.2	5.4	26.560	D
B	513	128	408		681	0.753	507	465	1.2	2.8	19.940	C
C	599	150	281	66.06	672	0.892	584	634	2.2	6.0	35.789	E

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	731	183	158		840	0.870	729	722	5.4	5.9	31.042	D
B	513	128	414		675	0.760	512	473	2.8	3.0	21.936	C
C	599	150	284	66.06	670	0.894	596	643	6.0	6.9	44.386	E

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	597	149	134		856	0.698	611	608	5.9	2.4	15.477	C
B	419	105	347		748	0.560	426	398	3.0	1.3	11.396	B
C	489	122	236	53.94	695	0.703	507	537	6.9	2.5	20.567	C

Queue Variation Results for each time segment

16:30 - 16:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	2.18	0.07	1.09	5.38	7.79			N/A	N/A
B	1.21	0.07	0.91	2.42	3.28			N/A	N/A
C	2.21	0.08	1.20	5.34	7.62			N/A	N/A

16:45 - 17:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	5.40	0.04	0.44	15.06	28.00			N/A	N/A
B	2.81	0.03	0.32	5.04	14.73			N/A	N/A
C	6.03	0.06	1.00	17.42	28.69			N/A	N/A

17:00 - 17:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	5.93	0.03	0.35	11.95	32.12			N/A	N/A
B	3.00	0.03	0.30	3.00	12.82			N/A	N/A
C	6.88	0.04	0.41	18.28	37.37			N/A	N/A

17:15 - 17:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	2.42	0.04	0.43	6.66	11.62			N/A	N/A
B	1.31	0.05	0.50	3.17	4.84			N/A	N/A
C	2.52	0.04	0.42	6.89	12.49			N/A	N/A

2040+Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D5 - 2040+Dev, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout		A, B, C	131.21	F

Junction Network

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	Normal/unknown		-18	Arm A	131.21	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)	Results for central hour only	Run automatically
D5	2040+Dev	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 (%)
A		ONE HOUR	✓	885	100.000
B		ONE HOUR	✓	420	100.000
C		ONE HOUR	✓	620	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A		
B		
C	[ONEHOUR]	90.00

Origin-Destination Data

Demand (Veh/hr)

	To			
	A	B	C	
	A	0	474	391
	B	276	0	144
From	C	504	116	0

Vehicle Mix

Heavy Vehicle Percentages

From	To		
	A	B	C
	0	2	5
	6	0	6
	1	1	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	1.10	187.75	53.2	105.2	F	865	865
B	0.65	14.13	1.8	5.4	B	420	420
C	1.04	133.73	26.1	70.6	F	620	620

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	778	194	103		879	0.885	784	694	2.6	6.1	28.214	D
B	378	94	345		766	0.493	376	521	0.6	1.0	9.209	A
C	557	139	247	80.91	687	0.812	550	474	1.8	3.8	24.880	C

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	952	238	118		889	1.096	853	814	6.1	30.9	92.740	F
B	462	116	388		721	0.641	459	585	1.0	1.7	13.603	B
C	683	171	302	99.09	658	1.038	630	543	3.8	16.9	75.822	F

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	952	238	121		867	1.098	863	829	30.9	53.2	186.889	F
B	462	116	390		716	0.645	462	594	1.7	1.8	14.130	B
C	683	171	304	99.09	657	1.040	646	549	16.9	26.1	133.727	F

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	778	194	120		868	0.896	852	770	53.2	34.7	187.754	F
B	378	94	385		731	0.517	380	586	1.8	1.1	10.344	B
C	557	139	250	80.91	685	0.813	639	515	26.1	5.6	85.766	F

Queue Variation Results for each time segment

08:00 - 08:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	6.09	0.16	2.94	14.99	20.67			N/A	N/A
B	0.95	0.10	0.93	1.47	1.82			N/A	N/A
C	3.78	0.10	1.42	9.51	13.49			N/A	N/A

08:15 - 08:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	30.94	7.53	26.90	55.03	65.45			N/A	N/A
B	1.72	0.03	0.28	1.72	5.40			N/A	N/A
C	16.89	1.14	12.45	35.63	45.11			N/A	N/A

08:30 - 08:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	53.21	16.53	47.95	90.04	105.21			N/A	N/A
B	1.78	0.03	0.28	1.78	4.52			N/A	N/A
C	26.09	1.95	19.40	55.65	70.58			N/A	N/A

08:45 - 09:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	34.66	10.16	30.91	59.15	69.40			N/A	N/A
B	1.09	0.08	0.92	1.92	2.63			N/A	N/A
C	5.59	0.05	0.68	16.08	27.28			N/A	N/A

2040+Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Last Run	Last Run	Arm B - Capacity	Pedestrian Crossing causes blocking on previous arm due to traffic queing to leave the junction in 2 timesegment(s).
Warning	Demand Sets	D6 - 2040+Dev, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout		A, B, C	102.92	F

Junction Network

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	Normal/unknown		-15	Arm C	102.92	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)	Results for central hour only	Run automatically
D6	2040+Dev	PM	ONE HOUR	16:15	17:45	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	764	100.000
B		ONE HOUR	✓	654	100.000
C		ONE HOUR	✓	544	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A		
B		
C	[ONEHOUR]	60.00

Origin-Destination Data

Demand (Veh/hr)

	To		
	A	B	C
From	A	0	387
	B	446	0
	C	400	144

Vehicle Mix

Heavy Vehicle Percentages

From	To			
	A	B	C	
	A	0	1	5
	B	2	0	8
	C	1	1	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	0.99	78.81	18.0	68.1	F	764	764
B	1.03	111.15	22.8	68.5	F	654	654
C	1.03	127.25	21.4	62.9	F	544	544

Main Results for each time segment

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	687	172	128		886	0.793	680	751	1.8	3.5	18.709	C
B	588	147	336		777	0.757	582	472	1.4	2.9	17.936	C
C	489	122	397	53.94	618	0.791	482	521	1.6	3.4	25.185	D

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	841	210	147		853	0.988	803	889	3.5	13.1	50.438	F
B	720	180	396		712	1.012	674	554	2.9	14.4	61.839	F
C	599	150	460	66.06	587	1.021	556	610	3.4	14.0	73.655	F

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	841	210	151		851	0.989	822	887	13.1	18.0	78.806	F
B	720	180	406		702	1.026	687	567	14.4	22.8	111.153	F
C	599	150	468	66.06	582	1.029	569	624	14.0	21.4	127.247	F

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	687	172	145		854	0.804	740	855	18.0	4.7	39.618	E
B	588	147	385		743	0.791	661	520	22.8	4.5	58.630	F
C	489	122	451	53.94	591	0.827	550	575	21.4	6.3	89.283	F

Queue Variation Results for each time segment

16:30 - 16:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	3.50	0.08	1.03	9.04	13.13			N/A	N/A
B	2.88	0.07	1.15	7.60	11.34			N/A	N/A
C	3.36	0.09	1.24	8.34	11.79			N/A	N/A

16:45 - 17:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	13.11	0.27	6.96	32.75	44.83			N/A	N/A
B	14.44	0.70	9.41	33.01	43.25			N/A	N/A
C	14.01	0.90	9.58	31.00	40.07			N/A	N/A

17:00 - 17:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	17.96	0.19	7.76	47.92	68.11			N/A	N/A
B	22.79	1.10	15.14	52.38	68.54			N/A	N/A
C	21.41	1.21	14.59	48.38	62.86			N/A	N/A

17:15 - 17:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	4.67	0.05	0.48	13.30	23.28			N/A	N/A
B	4.45	0.05	0.64	12.73	21.28			N/A	N/A
C	6.26	0.08	1.33	17.58	26.87			N/A	N/A

Junctions 10													
ARCADY 10 - Roundabout Module													
Version: 10.0.1.1519													
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Filename: Junction 7- St Stephens Hill_Beaconsfield Road.j10

Path: \\uk.wspgroup.com\central data\Projects\70080xxx\70080896 - University of Kent\03 WIP\TP Transport Planning\Junctions 10

Report generation date: 03/02/2022 13:33:28

»2021, AM
»2021, PM
»2040, AM
»2040, PM
»2040+Dev, AM
»2040+Dev, 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
	2021													
Arm A	D1	1.5	8.83	0.60	A	8.80	46 % [Arm A]	D2	0.6	5.55	0.37	A	7.54	48 % [Arm C]
Arm B		0.8	7.96	0.43	A				0.8	7.09	0.45	A		
Arm C		0.8	9.66	0.46	A				1.0	10.34	0.50	B		
	2040													
Arm A	D3	2.2	11.65	0.70	B	11.14	27 % [Arm A]	D4	0.7	6.18	0.43	A	9.01	30 % [Arm C]
Arm B		1.0	9.56	0.51	A				1.1	8.25	0.52	A		
Arm C		1.2	11.88	0.54	B				1.4	13.12	0.59	B		
	2040+Dev													
Arm A	D5	3.9	17.99	0.80	C	14.99	12 % [Arm A]	D6	1.0	7.15	0.50	A	12.86	11 % [Arm C]
Arm B		1.3	10.82	0.57	B				2.2	12.76	0.69	B		
Arm C		1.4	13.40	0.58	B				2.2	20.38	0.70	C		

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages. 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	10/01/2022
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	CORP\UKWGF001
Description	

Units

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

Analysis Options

Mini-roundabout model	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
JUNCTIONS 9	5.75	✓				✓	Delay	0.85	38.00	20.00		500

Demand Set Summary

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D1	2021	AM	Trips to Zone D diverted to other zones	ONE HOUR	07:45	09:15	15	✓	✓
D2	2021	PM	Trips to Zone D diverted to other zones	ONE HOUR	16:15	17:45	15	✓	✓
D3	2040	AM	Trips to Zone D diverted to other zones	ONE HOUR	07:45	09:15	15	✓	✓
D4	2040	PM	Trips to Zone D diverted to other zones	ONE HOUR	16:15	17:45	15	✓	✓
D5	2040+Dev	AM	Trips to Zone D diverted to other zones	ONE HOUR	07:45	09:15	15	✓	✓
D6	2040+Dev	PM	Trips to Zone D diverted to other zones	ONE HOUR	16:15	17:45	15	✓	✓

Analysis Set Details

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

2021, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D1 - 2021, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	St Stephens Hill, Beaconsfield Road, Stephenson Road Mini Roundabout	Mini-roundabout		A, B, C	8.80	A

Junction Network

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	Normal/unknown		48	Arm A	8.80	A

Arms

Arms

Arm	Name	Description
A	St Stephens Hill (North)	
B	St Stephens Hill (South)	
C	Beaconsfield Road	

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare half-length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
A	3.65	3.65	5.70	8.6	16.70	14.90	0.0	
B	4.40	2.93	5.25	6.1	14.55	11.20	0.0	
C	3.45	3.45	4.00	8.6	8.95	6.80	0.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A	0.683	1117
B	0.631	1004
C	0.625	867

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D1	2021	AM	Trips to Zone D diverted to other zones	ONE HOUR	07:45	09:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	560	100.000
B		ONE HOUR	✓	315	100.000
C		ONE HOUR	✓	288	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
	A	B	C	
From	A	0	294	266
	B	246	0	69
	C	184	104	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	A	B	C	
From	A	0	1	2
	B	2	0	2
	C	1	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	0.60	8.83	1.5	1.8	A	560	560
B	0.43	7.96	0.8	2.9	A	315	315
C	0.46	9.66	0.8	3.0	A	288	288

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	503	126	93	1038	0.485	502	386	0.7	0.9	6.702	A
B	283	71	239	833	0.340	283	357	0.4	0.5	6.532	A
C	259	65	221	721	0.359	258	301	0.4	0.6	7.766	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	617	154	114	1024	0.602	614	472	0.9	1.5	8.733	A
B	347	87	292	800	0.434	346	437	0.5	0.8	7.913	A
C	317	79	270	690	0.460	316	368	0.6	0.8	9.595	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	617	154	114	1024	0.602	617	473	1.5	1.5	8.828	A
B	347	87	293	799	0.434	347	438	0.8	0.8	7.957	A
C	317	79	271	690	0.460	317	369	0.8	0.8	9.664	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	503	128	94	1038	0.485	506	388	1.5	1.0	6.788	A
B	283	71	240	832	0.340	284	359	0.8	0.5	6.577	A
C	259	65	222	720	0.359	260	302	0.8	0.6	7.837	A

Queue Variation Results for each time segment

08:00 - 08:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.93	0.10	0.92	1.38	1.76			N/A	N/A
B	0.51	0.51	1.00	1.40	1.45			N/A	N/A
C	0.55	0.55	1.00	1.40	1.45			N/A	N/A

08:15 - 08:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1.48	0.03	0.27	1.48	1.48			N/A	N/A
B	0.75	0.03	0.26	0.75	0.75			N/A	N/A
C	0.83	0.03	0.26	0.83	0.83			N/A	N/A

08:30 - 08:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1.49	0.03	0.27	1.49	1.61			N/A	N/A
B	0.76	0.03	0.28	0.82	2.87			N/A	N/A
C	0.84	0.03	0.28	0.84	2.97			N/A	N/A

08:45 - 09:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.96	0.10	0.94	1.45	1.81			N/A	N/A
B	0.52	0.52	1.00	1.40	1.45			N/A	N/A
C	0.57	0.07	0.73	1.35	1.42			N/A	N/A

2021, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D2 - 2021, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	St Stephens Hill, Beaconsfield Road, Stephenson Road Mini Roundabout	Mini-roundabout		A, B, C	7.54	A

Junction Network

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	Normal/unknown		48	Arm C	7.54	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D2	2021	PM	Trips to Zone D diverted to other zones	ONE HOUR	16:15	17:45	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	347	100.000
B		ONE HOUR	✓	376	100.000
C		ONE HOUR	✓	311	100.000

Origin-Destination Data

Demand (Veh/hr)

	To		
	A	B	C
From	A	0	236
	B	256	0
	C	205	106

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	0	2
	B	0	0	1
From	C	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	0.37	5.55	0.6	2.6	A	347	347
B	0.45	7.09	0.8	2.5	A	376	376
C	0.50	10.34	1.0	3.0	B	311	311

Main Results for each time segment

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	312	78	95	1046	0.298	312	414	0.3	0.4	4.901	A
B	338	85	100	936	0.361	337	307	0.4	0.6	6.006	A
C	280	70	230	723	0.387	279	207	0.5	0.6	8.082	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	382	96	116	1031	0.370	381	506	0.4	0.6	5.532	A
B	414	103	122	922	0.449	413	376	0.6	0.8	7.061	A
C	342	86	281	691	0.496	341	254	0.6	1.0	10.251	B

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	382	96	117	1031	0.371	382	508	0.6	0.6	5.546	A
B	414	103	122	922	0.449	414	377	0.8	0.8	7.066	A
C	342	86	282	690	0.496	342	254	1.0	1.0	10.340	B

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	312	78	96	1045	0.298	313	416	0.6	0.4	4.917	A
B	338	85	100	936	0.361	339	308	0.8	0.6	6.036	A
C	280	70	231	722	0.387	281	208	1.0	0.6	8.180	A

Source: TRL Junctions 10, 10.0.1.1519, 03/02/2022 13:33:51

Queue Variation Results for each time segment

16:30 - 16:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.42	0.00	0.00	0.42	0.42			N/A	N/A
B	0.56	0.55	1.00	1.40	1.45			N/A	N/A
C	0.62	0.15	0.90	1.38	1.44			N/A	N/A

16:45 - 17:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.58	0.03	0.25	0.58	0.58			N/A	N/A
B	0.80	0.03	0.26	0.80	0.80			N/A	N/A
C	0.96	0.03	0.26	0.96	0.96			N/A	N/A

17:00 - 17:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.59	0.03	0.29	1.18	2.64			N/A	N/A
B	0.81	0.03	0.28	0.81	2.53			N/A	N/A
C	0.97	0.03	0.28	0.97	2.96			N/A	N/A

17:15 - 17:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.43	0.00	0.00	0.43	0.43			N/A	N/A
B	0.57	0.10	0.83	1.37	1.43			N/A	N/A
C	0.64	0.08	0.79	1.36	1.43			N/A	N/A

2040, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D3 - 2040, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	St Stephens Hill, Beaconsfield Road, Stephenson Road Mini Roundabout	Mini-roundabout		A, B, C	11.14	B

Junction Network

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	Normal/unknown		27	Arm A	11.14	B

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D3	2040	AM	Trips to Zone D diverted to other zones	ONE HOUR	07:45	09:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	640	100.000
B		ONE HOUR	✓	380	100.000
C		ONE HOUR	✓	329	100.000

Origin-Destination Data

Demand (Veh/hr)

	To		
	A	B	C
From	A	0	336
	B	281	0
	C	210	119

Vehicle Mix

Heavy Vehicle Percentages

	To			
	A	B	C	
	A	0	1	2
	B	2	0	2
From	C	1	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	0.70	11.65	2.2	7.3	B	640	640
B	0.51	9.56	1.0	2.8	A	360	360
C	0.54	11.88	1.2	3.2	B	329	329

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	575	144	107	1029	0.559	574	440	0.8	1.2	7.877	A
B	324	81	273	812	0.399	323	408	0.5	0.7	7.351	A
C	296	74	252	701	0.422	295	343	0.5	0.7	8.838	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	705	176	130	1013	0.695	701	538	1.2	2.2	11.377	B
B	396	99	333	774	0.512	395	498	0.7	1.0	9.462	A
C	362	91	308	666	0.544	360	420	0.7	1.2	11.714	B

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	705	176	131	1013	0.696	704	541	2.2	2.2	11.650	B
B	396	99	335	773	0.513	396	501	1.0	1.0	9.560	A
C	362	91	309	665	0.545	362	422	1.2	1.2	11.876	B

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	575	144	108	1029	0.559	579	444	2.2	1.3	8.073	A
B	324	81	275	810	0.399	325	412	1.0	0.7	7.440	A
C	296	74	254	700	0.422	298	346	1.2	0.7	8.975	A

Modelled Period: 08:00 - 09:00

Queue Variation Results for each time segment

08:00 - 08:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1.24	0.08	0.96	2.46	3.31			N/A	N/A
B	0.65	0.14	0.89	1.38	1.44			N/A	N/A
C	0.72	0.15	0.90	1.38	1.44			N/A	N/A

08:15 - 08:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	2.19	0.03	0.28	2.19	7.26			N/A	N/A
B	1.03	0.03	0.26	1.03	1.03			N/A	N/A
C	1.16	0.03	0.27	1.16	1.42			N/A	N/A

08:30 - 08:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	2.24	0.03	0.27	2.24	3.41			N/A	N/A
B	1.04	0.03	0.28	1.04	2.78			N/A	N/A
C	1.18	0.03	0.28	1.18	3.22			N/A	N/A

08:45 - 09:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1.29	0.07	0.89	2.74	3.81			N/A	N/A
B	0.67	0.10	0.83	1.37	1.44			N/A	N/A
C	0.74	0.08	0.80	1.42	1.50			N/A	N/A

2040, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D4 - 2040, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	St Stephens Hill, Beaconsfield Road, Stephenson Road Mini Roundabout	Mini-roundabout		A, B, C	9.01	A

Junction Network

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	Normal/unknown		30	Arm C	9.01	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D4	2040	PM	Trips to Zone D diverted to other zones	ONE HOUR	16:15	17:45	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	397	100.000
B		ONE HOUR	✓	431	100.000
C		ONE HOUR	✓	355	100.000

Origin-Destination Data

Demand (Veh/hr)

	To		
	A	B	C
From	A	0	270
	B	293	0
	C	234	121

Vehicle Mix

Heavy Vehicle Percentages

	To		
	A	B	C
	A	0	0
	B	0	0
	C	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	0.43	6.18	0.7	2.6	A	397	397
B	0.52	8.25	1.1	2.0	A	431	431
C	0.59	13.12	1.4	3.6	B	355	355

Main Results for each time segment

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	357	89	108	1037	0.344	356	473	0.4	0.5	5.289	A
B	387	97	114	927	0.418	387	351	0.5	0.7	6.650	A
C	319	80	263	702	0.454	318	238	0.6	0.8	9.348	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	437	109	132	1020	0.428	436	578	0.5	0.7	6.154	A
B	475	119	140	911	0.521	473	429	0.7	1.1	8.195	A
C	391	98	322	666	0.587	389	291	0.8	1.4	12.894	B

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	437	109	133	1020	0.429	437	580	0.7	0.7	6.176	A
B	475	119	140	911	0.521	475	430	1.1	1.1	8.253	A
C	391	98	323	665	0.588	391	292	1.4	1.4	13.117	B

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	357	89	110	1036	0.345	358	476	0.7	0.5	5.316	A
B	387	97	114	927	0.418	389	353	1.1	0.7	6.707	A
C	319	80	264	701	0.455	321	239	1.4	0.9	9.529	A

Results for the 17:15 - 17:30 time segment are shown in the table below.

Queue Variation Results for each time segment

16:30 - 16:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.52	0.52	1.00	1.40	1.45			N/A	N/A
B	0.71	0.14	0.90	1.38	1.44			N/A	N/A
C	0.82	0.13	0.91	1.43	1.50			N/A	N/A

16:45 - 17:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.74	0.03	0.26	0.74	0.74			N/A	N/A
B	1.07	0.03	0.26	1.07	1.07			N/A	N/A
C	1.38	0.03	0.27	1.38	2.69			N/A	N/A

17:00 - 17:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.75	0.03	0.28	0.75	2.60			N/A	N/A
B	1.08	0.03	0.27	1.08	2.03			N/A	N/A
C	1.40	0.03	0.28	1.40	3.62			N/A	N/A

17:15 - 17:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.53	0.53	1.00	1.40	1.45			N/A	N/A
B	0.73	0.13	0.88	1.39	1.45			N/A	N/A
C	0.85	0.07	0.81	1.31	1.75			N/A	N/A

2040+Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D5 - 2040+Dev, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	St Stephens Hill, Beaconsfield Road, Stephenson Road Mini Roundabout	Mini-roundabout		A, B, C	14.99	B

Junction Network

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	Normal/unknown		12	Arm A	14.99	B

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D5	2040+Dev	AM	Trips to Zone D diverted to other zones	ONE HOUR	07:45	09:15	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	738	100.000
B		ONE HOUR	✓	397	100.000
C		ONE HOUR	✓	339	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
	A	B	C	
From	A	0	426	312
	B	315	0	82
	C	210	129	0

Vehicle Mix

Heavy Vehicle Percentages

From	To		
	A	B	C
	0	1	1
	2	0	2
	1	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	0.80	17.99	3.9	20.0	C	738	738
B	0.57	10.82	1.3	2.9	B	397	397
C	0.58	13.40	1.4	3.7	B	339	339

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	663	166	116	1028	0.645	661	471	1.1	1.8	9.732	A
B	357	89	279	809	0.441	356	497	0.5	0.8	7.924	A
C	305	76	282	682	0.447	304	353	0.6	0.8	9.487	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	813	203	141	1011	0.804	805	575	1.8	3.8	16.827	C
B	437	109	340	771	0.567	435	606	0.8	1.3	10.643	B
C	373	93	345	643	0.581	371	430	0.8	1.3	13.152	B

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	813	203	142	1010	0.804	812	578	3.8	3.9	17.989	C
B	437	109	343	769	0.568	437	611	1.3	1.3	10.823	B
C	373	93	347	642	0.582	373	434	1.3	1.4	13.398	B

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	663	166	117	1027	0.646	672	475	3.9	1.9	10.339	B
B	357	89	284	806	0.443	359	504	1.3	0.8	8.076	A
C	305	76	285	681	0.448	307	358	1.4	0.8	9.684	A

08:00 08:15 08:30 08:45 09:00 09:15 09:30 09:45 10:00 10:15 10:30 10:45 11:00 11:15 11:30 11:45 12:00 12:15 12:30 12:45 13:00 13:15 13:30 13:45 14:00 14:15 14:30 14:45 15:00 15:15 15:30 15:45 16:00 16:15 16:30 16:45 17:00 17:15 17:30 17:45 18:00 18:15 18:30 18:45 19:00 19:15 19:30 19:45 20:00 20:15 20:30 20:45 21:00 21:15 21:30 21:45 22:00 22:15 22:30 22:45 23:00 23:15 23:30 23:45 24:00

Queue Variation Results for each time segment

08:00 - 08:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1.77	0.06	0.93	4.27	6.19			N/A	N/A
B	0.78	0.13	0.89	1.41	1.47			N/A	N/A
C	0.79	0.14	0.90	1.41	1.48			N/A	N/A

08:15 - 08:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	3.75	0.03	0.33	7.11	19.97			N/A	N/A
B	1.27	0.03	0.27	1.27	1.27			N/A	N/A
C	1.34	0.03	0.27	1.34	2.56			N/A	N/A

08:30 - 08:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	3.92	0.03	0.29	3.92	14.48			N/A	N/A
B	1.30	0.03	0.27	1.30	2.87			N/A	N/A
C	1.37	0.03	0.28	1.37	3.75			N/A	N/A

08:45 - 09:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1.88	0.05	0.48	4.97	7.96			N/A	N/A
B	0.81	0.09	0.85	1.40	1.40			N/A	N/A
C	0.83	0.07	0.80	1.20	1.68			N/A	N/A

2040+Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D6 - 2040+Dev, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	St Stephens Hill, Beaconsfield Road, Stephenson Road Mini Roundabout	Mini-roundabout		A, B, C	12.88	B

Junction Network

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	Normal/unknown		11	Arm C	12.88	B

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D6	2040+Dev	PM	Trips to Zone D diverted to other zones	ONE HOUR	16:15	17:45	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	466	100.000
B		ONE HOUR	✓	570	100.000
C		ONE HOUR	✓	384	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
	A	B	C	
From	A	0	336	130
	B	422	0	148
	C	237	127	0

Vehicle Mix

Heavy Vehicle Percentages

From	To		
	A	B	C
	0	0	2
	0	0	1

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	0.50	7.15	1.0	1.9	A	466	466
B	0.69	12.76	2.2	7.6	B	570	570
C	0.70	20.38	2.2	10.1	C	364	364

Main Results for each time segment

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	419	105	114	1034	0.405	418	590	0.5	0.7	5.841	A
B	512	128	117	926	0.553	511	415	0.8	1.2	8.638	A
C	327	82	378	630	0.519	326	249	0.7	1.1	11.766	B

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	513	128	138	1017	0.504	512	720	0.7	1.0	7.103	A
B	628	157	143	909	0.690	624	507	1.2	2.1	12.451	B
C	401	100	462	578	0.693	397	305	1.1	2.1	19.394	C

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	513	128	140	1016	0.505	513	725	1.0	1.0	7.153	A
B	628	157	143	909	0.690	627	510	2.1	2.2	12.758	B
C	401	100	464	576	0.695	400	306	2.1	2.2	20.379	C

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	419	105	116	1033	0.406	420	598	1.0	0.7	5.892	A
B	512	128	117	926	0.554	516	419	2.2	1.3	8.867	A
C	327	82	382	628	0.521	332	251	2.2	1.1	12.324	B

16:30 16:45 16:45 17:00 17:00 17:15 17:15 17:30

Queue Variation Results for each time segment

16:30 - 16:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.67	0.13	0.89	1.38	1.44			N/A	N/A
B	1.21	0.08	0.98	2.27	2.97			N/A	N/A
C	1.05	0.09	0.96	1.74	2.14			N/A	N/A

16:45 - 17:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1.00	0.03	0.26	1.00	1.00			N/A	N/A
B	2.14	0.03	0.29	2.14	7.63			N/A	N/A
C	2.12	0.03	0.30	2.62	10.09			N/A	N/A

17:00 - 17:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1.01	0.03	0.27	1.01	1.92			N/A	N/A
B	2.18	0.03	0.27	2.18	3.97			N/A	N/A
C	2.20	0.03	0.29	2.20	8.27			N/A	N/A

17:15 - 17:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.69	0.16	0.91	1.38	1.44			N/A	N/A
B	1.27	0.06	0.85	2.71	3.78			N/A	N/A
C	1.12	0.05	0.81	2.51	3.65			N/A	N/A

Junctions 10													
ARCADY 10 - Roundabout Module													
Version: 10.0.1.1519													
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Filename: Junction 10 - St Stephen's Hill_Giles Lane Mini Roundabout.j10

Path: \\uk.wspgroup.com\central data\Projects\70080xxx\70080896 - University of Kent\03 WIP\TP Transport Planning\Junctions 10

Report generation date: 03/02/2022 14:41:45

»2021, AM
»2021, PM
»2040, AM
»2040, PM
»2040+Dev, AM
»2040+Dev, 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
	2021													
Arm A	D1	9.0	42.19	0.92	E	27.73	-3 % [Arm A]	D2	0.4	5.89	0.28	A	10.52	31 % [Arm C]
Arm B		0.0	14.64	0.03	B				0.0	0.00	0.00	A		
Arm C		1.9	14.78	0.67	B				2.0	12.79	0.67	B		
Arm D		0.4	5.59	0.28	A				1.3	10.10	0.56	B		
	2040													
Arm A	D3	41.0	146.57	1.06	F	84.84	-15 % [Arm A]	D4	0.5	6.47	0.33	A	14.52	14 % [Arm C]
Arm B		0.0	18.50	0.04	C				0.0	0.00	0.00	A		
Arm C		3.1	21.26	0.77	C				3.3	18.46	0.77	C		
Arm D		0.5	6.07	0.33	A				2.0	13.80	0.67	B		
	2040+Dev													
Arm A	D5	118.3	471.45	1.23	F	268.44	-25 % [Arm A]	D6	0.7	7.53	0.43	A	33.95	-6 % [Arm C]
Arm B		0.0	18.89	0.04	C				0.0	0.00	0.00	A		
Arm C		3.7	23.62	0.80	C				11.6	55.10	0.95	F		
Arm D		0.5	6.29	0.33	A				2.7	19.07	0.74	C		

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages. 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	St Stephens Hill/Giles Lane Mini Roundabout
Location	
Site number	
Date	17/01/2022
Version	
Status	
Identifier	
Client	
Jobnumber	
Enumerator	CORP\UKWGF001
Description	

Units

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

Analysis Options

Mini-roundabout model	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
JUNCTIONS 9	5.75	✓				✓	Delay	0.85	38.00	20.00		500

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D1	2021	AM	ONE HOUR	07:45	09:15	15	✓	✓
D2	2021	PM	ONE HOUR	16:15	17:45	15	✓	✓
D3	2040	AM	ONE HOUR	07:45	09:15	15	✓	✓
D4	2040	PM	ONE HOUR	16:15	17:45	15	✓	✓
D5	2040+Dev	AM	ONE HOUR	07:45	09:15	15	✓	✓
D6	2040+Dev	PM	ONE HOUR	16:15	17:45	15	✓	✓

Analysis Set Details

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

2021, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout		Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms A and C have 83% of the total flow for the roundabout for one or more time segments]
Warning	Demand Sets	D1 - 2021, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout		A, B, C, D	27.73	D

Junction Network

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	Normal/unknown		-3	Arm A	27.73	D

Arms

Arms

Arm	Name	Description
A	St Stephen's Hill (north)	
B	Giles Lane (Private Road)	
C	St Stephen's Hill (south)	
D	Giles Lane	

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
A	3.55	3.03	4.50	3.2	9.60	5.20	0.0	✓
B	3.30	3.30	10.00	1.1	12.90	8.99	0.0	
C	3.65	3.50	4.70	1.5	14.80	12.99	0.0	✓
D	3.45	3.45	5.05	1.8	15.15	10.10	0.0	✓

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A	0.503	892
B	0.615	885
C	0.520	892
D	0.514	1023

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

Arm Capacity Adjustments

Arm	Type	Reason	Direct capacity adjustment (PCU/hr)
A	Direct	To match observed queue	100

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)	Results for central hour only	Run automatically
D1	2021	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 (%)
A		ONE HOUR	✓	751	100.000
B		ONE HOUR	✓	7	100.000
C		ONE HOUR	✓	438	100.000
D		ONE HOUR	✓	229	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A	B	C	D
From	A	0	2	467	282
	B	0	0	1	6
	C	201	1	0	238
	D	74	4	151	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	0	1	0
	B	0	0	0	0
	C	1	0	0	0
	D	0	0	2	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	0.92	42.19	9.0	48.4	E	751	751
B	0.03	14.64	0.0	0.5	B	7	7
C	0.67	14.78	1.9	6.8	B	438	438
D	0.28	5.59	0.4	1.5	A	229	229

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	675	169	140	915	0.738	671	247	1.5	2.7	14.461	B
B	6	2	804	366	0.017	6	6	0.0	0.0	10.001	B
C	394	98	257	755	0.521	392	553	0.7	1.1	9.885	A
D	206	51	181	917	0.225	206	469	0.2	0.3	5.060	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	827	207	171	899	0.920	806	301	2.7	7.8	33.090	D
B	8	2	970	264	0.029	8	8	0.0	0.0	14.069	B
C	482	121	309	728	0.662	479	668	1.1	1.9	14.280	B
D	252	63	221	896	0.281	252	567	0.3	0.4	5.580	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	827	207	172	899	0.920	822	303	7.8	9.0	42.191	E
B	8	2	988	254	0.030	8	8	0.0	0.0	14.643	B
C	482	121	315	725	0.665	482	679	1.9	1.9	14.779	B
D	252	63	222	896	0.281	252	575	0.4	0.4	5.592	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	675	169	141	915	0.738	699	249	9.0	3.0	18.330	C
B	6	2	833	348	0.018	6	6	0.0	0.0	10.531	B
C	394	98	268	750	0.525	397	572	1.9	1.1	10.301	B
D	206	51	183	916	0.225	206	482	0.4	0.3	5.077	A

Queue Variation Results for each time segment

08:00 - 08:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	2.66	0.07	1.16	6.85	10.10			N/A	N/A
B	0.02	0.02	0.25	0.45	0.48			N/A	N/A
C	1.07	0.10	0.98	1.75	2.13			N/A	N/A
D	0.29	0.00	0.00	0.29	0.29			N/A	N/A

08:15 - 08:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	7.85	0.07	1.02	22.70	36.27			N/A	N/A
B	0.03	0.00	0.00	0.03	0.03			N/A	N/A
C	1.88	0.03	0.29	1.88	6.84			N/A	N/A
D	0.39	0.03	0.25	0.46	0.48			N/A	N/A

08:30 - 08:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	9.05	0.05	0.46	25.23	48.38			N/A	N/A
B	0.03	0.00	0.00	0.03	0.03			N/A	N/A
C	1.93	0.03	0.28	1.93	4.81			N/A	N/A
D	0.39	0.03	0.31	1.28	1.49			N/A	N/A

08:45 - 09:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	3.00	0.04	0.42	8.23	15.14			N/A	N/A
B	0.02	0.00	0.00	0.02	0.02			N/A	N/A
C	1.13	0.06	0.83	2.27	3.10			N/A	N/A
D	0.29	0.00	0.00	0.29	0.29			N/A	N/A

2021, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout		Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms C and D have 80% of the total flow for the roundabout for one or more time segments]
Warning	Demand Sets	D2 - 2021, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout		A, B, C, D	10.52	B

Junction Network

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	Normal/unknown		31	Arm C	10.52	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)	Results for central hour only	Run automatically
D2	2021	PM	ONE HOUR	16:15	17:45	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	220	100.000
B		ONE HOUR	✓	2	100.000
C		ONE HOUR	✓	525	100.000
D		ONE HOUR	✓	413	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A	B	C	D
From	A	0	0	172	48
	B	1	0	1	0
	C	364	1	0	160
	D	174	1	238	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
		A	B	C	D
	A	0	0	1	0
	B	0	0	0	0
	C	1	0	0	0
	D	1	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	0.28	5.89	0.4	1.5	A	220	220
B	0.00	0.00	0.0	~1	A	0	0
C	0.67	12.79	2.0	6.6	B	525	525
D	0.56	10.10	1.3	2.6	B	413	413

Main Results for each time segment

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	198	49	215	877	0.225	198	482	0.2	0.3	5.295	A
B	0	0	411	611	0.000	0	2	0.0	0.0	0.000	A
C	472	118	43	884	0.546	471	368	0.8	1.2	9.116	A
D	371	93	327	850	0.437	370	186	0.5	0.8	7.499	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	242	61	263	853	0.284	242	589	0.3	0.4	5.883	A
B	0	0	503	555	0.000	0	2	0.0	0.0	0.000	A
C	578	145	53	859	0.673	575	450	1.2	2.0	12.525	B
D	455	114	400	812	0.560	453	228	0.8	1.2	9.968	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	242	61	264	853	0.284	242	592	0.4	0.4	5.895	A
B	0	0	504	554	0.000	0	2	0.0	0.0	0.000	A
C	578	145	53	859	0.673	578	451	2.0	2.0	12.790	B
D	455	114	402	811	0.561	455	229	1.2	1.3	10.099	B

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	198	49	217	876	0.226	198	487	0.4	0.3	5.312	A
B	0	0	413	610	0.000	0	2	0.0	0.0	0.000	A
C	472	118	43	864	0.546	475	370	2.0	1.2	9.332	A
D	371	93	330	848	0.438	373	188	1.3	0.8	7.614	A

Queue Variation Results for each time segment
16:30 - 16:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.29	0.00	0.00	0.29	0.29			N/A	N/A
B	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C	1.18	0.09	1.01	1.99	2.74			N/A	N/A
D	0.77	0.13	0.89	1.40	1.46			N/A	N/A

16:45 - 17:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.39	0.03	0.25	0.46	0.48			N/A	N/A
B	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C	1.98	0.03	0.28	1.98	6.62			N/A	N/A
D	1.24	0.03	0.27	1.24	1.25			N/A	N/A

17:00 - 17:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.39	0.03	0.31	1.29	1.53			N/A	N/A
B	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C	2.02	0.03	0.27	2.02	3.56			N/A	N/A
D	1.26	0.03	0.27	1.26	2.64			N/A	N/A

17:15 - 17:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.29	0.00	0.00	0.29	0.29			N/A	N/A
B	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C	1.23	0.07	0.87	2.57	3.56			N/A	N/A
D	0.79	0.10	0.85	1.20	1.20			N/A	N/A

2040, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout		Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms A and C have 83% of the total flow for the roundabout for one or more time segments][Arms A and D have 88% of the total flow for the roundabout for one or more time segments]
Warning	Demand Sets	D3 - 2040, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout		A, B, C, D	84.84	F

Junction Network

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	Normal/unknown		-15	Arm A	84.84	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)	Results for central hour only	Run automatically
D3	2040	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 (%)
A		ONE HOUR	✓	857	100.000
B		ONE HOUR	✓	8	100.000
C		ONE HOUR	✓	499	100.000
D		ONE HOUR	✓	261	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
	A	B	C	D	
From	A	0	2	533	322
	B	0	0	7	1
	C	229	1	0	269
	D	84	5	172	0

Vehicle Mix

Heavy Vehicle Percentages

From	To				
	A	B	C	D	
	A	0	0	1	0
	B	0	0	0	0
	C	1	0	0	0
	D	0	0	2	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	1.08	146.57	41.0	93.8	F	857	857
B	0.04	18.50	0.0	0.5	C	8	8
C	0.77	21.26	3.1	15.7	C	499	499
D	0.33	6.07	0.5	2.2	A	261	261

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	770	193	160	905	0.851	760	280	2.3	4.9	23.221	C
B	7	2	912	299	0.024	7	7	0.0	0.0	12.324	B
C	449	112	286	740	0.806	446	633	0.9	1.5	12.168	B
D	235	59	206	904	0.259	234	527	0.3	0.3	5.371	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	944	236	196	887	1.064	883	342	4.9	25.0	76.769	F
B	9	2	1050	214	0.041	9	9	0.0	0.0	17.569	C
C	549	137	326	720	0.763	544	734	1.5	3.0	19.774	C
D	287	72	251	881	0.326	287	619	0.3	0.5	6.051	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	944	236	196	886	1.065	880	344	25.0	41.0	146.569	F
B	9	2	1067	203	0.043	9	9	0.0	0.0	18.495	C
C	549	137	332	717	0.767	549	744	3.0	3.1	21.257	C
D	287	72	253	880	0.327	287	627	0.5	0.5	6.073	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	770	193	160	905	0.852	883	284	41.0	12.8	115.780	F
B	7	2	1036	223	0.032	7	7	0.0	0.0	16.700	C
C	449	112	333	716	0.626	454	710	3.1	1.7	14.017	B
D	235	59	209	902	0.260	235	577	0.5	0.4	5.398	A

Queue Variation Results for each time segment

08:00 - 08:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	4.92	0.11	1.89	12.62	17.91			N/A	N/A
B	0.02	0.02	0.25	0.45	0.48			N/A	N/A
C	1.49	0.08	1.07	3.05	4.20			N/A	N/A
D	0.35	0.00	0.00	0.35	0.35			N/A	N/A

08:15 - 08:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	24.96	3.81	20.37	48.31	59.14			N/A	N/A
B	0.04	0.03	0.25	0.45	0.48			N/A	N/A
C	2.96	0.03	0.33	5.51	15.65			N/A	N/A
D	0.48	0.03	0.25	0.48	0.48			N/A	N/A

08:30 - 08:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	40.97	7.80	34.56	77.26	93.57			N/A	N/A
B	0.04	0.00	0.00	0.04	0.04			N/A	N/A
C	3.12	0.03	0.29	3.12	12.28			N/A	N/A
D	0.48	0.03	0.30	1.35	2.15			N/A	N/A

08:45 - 09:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	12.84	0.27	6.88	31.91	43.59			N/A	N/A
B	0.03	0.00	0.00	0.03	0.03			N/A	N/A
C	1.74	0.05	0.68	4.42	6.69			N/A	N/A
D	0.35	0.00	0.00	0.35	0.35			N/A	N/A

2040, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout		Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms C and D have 80% of the total flow for the roundabout for one or more time segments]
Warning	Demand Sets	D4 - 2040, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout		A, B, C, D	14.52	B

Junction Network

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	Normal/unknown		14	Arm C	14.52	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)	Results for central hour only	Run automatically
D4	2040	PM	ONE HOUR	16:15	17:45	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	252	100.000
B		ONE HOUR	✓	2	100.000
C		ONE HOUR	✓	601	100.000
D		ONE HOUR	✓	473	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A	B	C	D
From	A	0	0	197	55
	B	1	0	1	0
	C	417	1	0	183
	D	199	1	273	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
	A	B	C	D	
	A	0	0	1	0
	B	0	0	0	0
	C	1	0	0	0
	D	1	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	0.33	6.47	0.5	2.2	A	252	252
B	0.00	0.00	0.0	~1	A	0	0
C	0.77	18.46	3.3	16.5	C	601	601
D	0.67	13.80	2.0	6.6	B	473	473

Main Results for each time segment

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	227	57	246	862	0.263	226	552	0.3	0.4	5.662	A
B	0	0	471	574	0.000	0	2	0.0	0.0	0.000	A
C	540	135	49	861	0.628	538	421	1.1	1.6	11.075	B
D	425	106	374	825	0.515	424	213	0.7	1.0	8.938	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	277	69	301	835	0.332	277	673	0.4	0.5	6.448	A
B	0	0	575	510	0.000	0	2	0.0	0.0	0.000	A
C	662	165	60	855	0.774	656	515	1.6	3.2	17.517	C
D	521	130	456	783	0.665	517	260	1.0	1.9	13.384	B

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	277	69	303	834	0.333	277	678	0.5	0.5	6.472	A
B	0	0	578	508	0.000	0	2	0.0	0.0	0.000	A
C	662	165	61	855	0.774	661	517	3.2	3.3	18.461	C
D	521	130	460	781	0.667	521	262	1.9	2.0	13.805	B

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17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	227	57	249	860	0.283	227	560	0.5	0.4	5.689	A
B	0	0	474	572	0.000	0	2	0.0	0.0	0.000	A
C	540	135	50	861	0.628	546	425	3.3	1.7	11.672	B
D	425	106	380	822	0.517	429	216	2.0	1.1	9.226	A

Queue Variation Results for each time segment

16:30 - 16:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.35	0.00	0.00	0.35	0.35			N/A	N/A
B	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C	1.63	0.07	1.06	3.63	5.00			N/A	N/A
D	1.04	0.09	0.95	1.75	2.18			N/A	N/A

16:45 - 17:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.49	0.03	0.25	0.49	0.49			N/A	N/A
B	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C	3.16	0.03	0.32	5.43	16.46			N/A	N/A
D	1.90	0.03	0.28	1.90	6.58			N/A	N/A

17:00 - 17:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.50	0.03	0.30	1.35	2.24			N/A	N/A
B	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C	3.28	0.03	0.29	3.28	11.34			N/A	N/A
D	1.95	0.03	0.28	1.95	4.60			N/A	N/A

17:15 - 17:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.36	0.00	0.00	0.36	0.36			N/A	N/A
B	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C	1.74	0.05	0.49	4.56	7.13			N/A	N/A
D	1.09	0.07	0.82	2.10	2.91			N/A	N/A

2040+Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout		Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms A and C have 84% of the total flow for the roundabout for one or more time segments][Arms A and D have 69% of the total flow for the roundabout for one or more time segments]
Warning	Demand Sets	D5 - 2040+Dev, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout		A, B, C, D	288.44	F

Junction Network

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	Normal/unknown		-25	Arm A	288.44	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)	Results for central hour only	Run automatically
D5	2040+Dev	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 (%)
A		ONE HOUR	✓	993	100.000
B		ONE HOUR	✓	8	100.000
C		ONE HOUR	✓	535	100.000
D		ONE HOUR	✓	261	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
	A	B	C	D	
From	A	0	2	689	322
	B	0	0	7	1
	C	265	1	0	269
	D	84	5	172	0

Vehicle Mix

Heavy Vehicle Percentages

From	To				
	A	B	C	D	
	A	0	0	1	0
	B	0	0	0	0
	C	1	0	0	0
	D	0	0	2	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	1.23	471.45	118.3	186.6	F	993	993
B	0.04	18.89	0.0	0.5	C	8	8
C	0.80	23.62	3.7	19.0	C	535	535
D	0.33	6.29	0.5	2.3	A	261	261

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	893	223	160	904	0.987	854	312	3.9	13.7	49.845	E
B	7	2	1006	241	0.030	7	7	0.0	0.0	15.406	C
C	481	120	278	744	0.646	478	736	1.1	1.8	13.398	B
D	235	59	238	888	0.264	234	518	0.3	0.4	5.506	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	1093	273	196	886	1.234	883	381	13.7	66.3	175.205	F
B	9	2	1070	201	0.044	9	8	0.0	0.0	18.692	C
C	589	147	287	739	0.797	582	791	1.8	3.5	21.924	C
D	287	72	289	861	0.334	287	580	0.4	0.5	6.258	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	1093	273	196	886	1.234	885	384	66.3	118.3	381.554	F
B	9	2	1073	199	0.044	9	8	0.0	0.0	18.894	C
C	589	147	288	739	0.797	588	794	3.5	3.7	23.625	C
D	287	72	293	860	0.334	287	584	0.5	0.5	6.288	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	893	223	160	904	0.987	896	317	118.3	117.4	471.452	F
B	7	2	1050	214	0.034	7	7	0.0	0.0	17.405	C
C	481	120	292	737	0.653	488	765	3.7	2.0	14.828	B
D	235	59	243	885	0.265	235	537	0.5	0.4	5.541	A

Queue Variation Results for each time segment

08:00 - 08:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	13.66	0.36	7.87	33.09	44.57			N/A	N/A
B	0.03	0.03	0.25	0.45	0.48			N/A	N/A
C	1.76	0.08	1.15	3.86	5.37			N/A	N/A
D	0.36	0.00	0.00	0.36	0.36			N/A	N/A

08:15 - 08:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	66.33	31.19	62.83	98.70	110.87			N/A	N/A
B	0.04	0.03	0.25	0.46	0.48			N/A	N/A
C	3.52	0.03	0.35	7.94	19.03			N/A	N/A
D	0.50	0.03	0.25	0.50	0.50			N/A	N/A

08:30 - 08:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	118.31	68.98	114.72	161.88	177.24			N/A	N/A
B	0.05	0.00	0.00	0.05	0.05			N/A	N/A
C	3.70	0.03	0.30	3.70	16.21			N/A	N/A
D	0.50	0.03	0.30	1.35	2.26			N/A	N/A

08:45 - 09:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	117.38	61.55	112.73	168.15	186.61			N/A	N/A
B	0.04	0.00	0.00	0.04	0.04			N/A	N/A
C	1.96	0.05	0.47	5.27	8.60			N/A	N/A
D	0.36	0.00	0.00	0.36	0.36			N/A	N/A

2040+Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout		Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms A and C have 69% of the total flow for the roundabout for one or more time segments][Arms C and D have 78% of the total flow for the roundabout for one or more time segments]
Warning	Demand Sets	D6 - 2040+Dev, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout		A, B, C, D	33.95	D

Junction Network

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	Normal/unknown		-6	Arm C	33.95	D

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)	Results for central hour only	Run automatically
D6	2040+Dev	PM	ONE HOUR	16:15	17:45	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	323	100.000
B		ONE HOUR	✓	2	100.000
C		ONE HOUR	✓	735	100.000
D		ONE HOUR	✓	473	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
	A	B	C	D	
From	A	0	0	268	55
	B	1	0	1	0
	C	551	1	0	183
	D	199	1	273	0

Vehicle Mix

Heavy Vehicle Percentages

From	To				
	A	B	C	D	
	A	0	0	1	0
	B	0	0	0	0
	C	1	0	0	0
	D	1	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	0.43	7.53	0.7	2.8	A	323	323
B	0.00	0.00	0.0	~1	A	0	0
C	0.95	55.10	11.6	56.4	F	735	735
D	0.74	19.07	2.7	12.3	C	473	473

Main Results for each time segment

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	290	73	246	861	0.337	290	669	0.4	0.5	6.293	A
B	0	0	534	535	0.000	0	2	0.0	0.0	0.000	A
C	661	165	49	860	0.768	655	485	1.7	3.1	17.106	C
D	425	106	492	764	0.556	423	213	0.8	1.2	10.506	B

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	356	89	300	835	0.426	355	804	0.5	0.7	7.487	A
B	0	0	652	462	0.000	0	2	0.0	0.0	0.000	A
C	809	202	60	855	0.947	783	592	3.1	9.6	40.322	E
D	521	130	588	715	0.729	516	255	1.2	2.5	17.649	C

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	356	89	302	833	0.427	356	819	0.7	0.7	7.534	A
B	0	0	656	460	0.000	0	2	0.0	0.0	0.000	A
C	809	202	61	854	0.947	801	595	9.6	11.6	55.102	F
D	521	130	602	708	0.736	520	260	2.5	2.7	19.072	C

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	290	73	250	859	0.338	291	701	0.7	0.5	6.348	A
B	0	0	540	532	0.000	0	2	0.0	0.0	0.000	A
C	661	165	50	860	0.768	693	490	11.6	3.6	24.723	C
D	425	106	520	750	0.567	430	222	2.7	1.3	11.458	B

Queue Variation Results for each time segment
16:30 - 16:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.50	0.50	1.00	1.40	1.45			N/A	N/A
B	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C	3.07	0.08	1.39	7.87	11.43			N/A	N/A
D	1.22	0.08	0.97	2.35	3.10			N/A	N/A

16:45 - 17:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.73	0.03	0.26	0.73	0.73			N/A	N/A
B	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C	9.56	0.10	2.87	26.54	39.38			N/A	N/A
D	2.51	0.03	0.31	3.40	12.29			N/A	N/A

17:00 - 17:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.74	0.03	0.28	0.82	2.81			N/A	N/A
B	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C	11.63	0.06	1.14	34.14	56.42			N/A	N/A
D	2.66	0.03	0.29	2.66	9.67			N/A	N/A

17:15 - 17:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.52	0.52	1.00	1.40	1.45			N/A	N/A
B	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C	3.60	0.04	0.42	9.94	18.41			N/A	N/A
D	1.35	0.06	0.68	3.14	4.66			N/A	N/A

Junctions 10															
ARCADY 10 - Roundabout Module															
Version: 10.0.1.1519															
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Filename: Junction 10 - St Stephen's Hill_Giles Lane Mini Roundabout MITIGATION.j10

Path: \\uk.wspgroup.com\central data\Projects\70080xxx\70080896 - University of Kent\03 WIP\TP Transport Planning\Junctions 10

Report generation date: 04/02/2022 17:15:48

»2040+Dev, AM

»2040+Dev, 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
2040+Dev														
Arm A	D5	18.1	81.67	0.98	F	43.88	-8 % [Arm A]	D6	0.5	5.21	0.34	A	32.55	-8 % [Arm C]
Arm B		0.1	49.38	0.11	E				0.0	0.00	0.00	A		
Arm C		4.5	29.37	0.83	D				11.6	55.10	0.95	F		
Arm D		0.5	5.93	0.32	A				2.3	16.13	0.70	C		

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages. 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	St Stephens Hill/Giles Lane Mini Roundabout
Location	
Site number	
Date	17/01/2022
Version	
Status	
Identifier	
Client	
Jobnumber	
Enumerator	CORP\UKWGF001
Description	

Units

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

Analysis Options

Mini-roundabout model	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
JUNCTIONS 9	5.75	✓				✓	Delay	0.85	36.00	20.00		500

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D5	2040+Dev	AM	ONE HOUR	07:45	09:15	15	✓	✓
D6	2040+Dev	PM	ONE HOUR	16:15	17:45	15	✓	✓

Analysis Set Details

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

2040+Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout		Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms A and C have 84% of the total flow for the roundabout for one or more time segments][Arms A and D have 69% of the total flow for the roundabout for one or more time segments]
Warning	Demand Sets	D5 - 2040+Dev, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout		A, B, C, D	43.88	E

Junction Network

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	Normal/unknown		-6	Arm A	43.88	E

Arms

Arms

Arm	Name	Description
A	St Stephen's Hill (north)	
B	Giles Lane (Private Road)	
C	St Stephen's Hill (south)	
D	Giles Lane	

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
A	3.55	3.03	6.24	16.4	8.05	5.20	0.0	
B	3.30	3.30	10.00	1.1	12.90	8.99	0.0	
C	3.65	3.50	4.70	1.5	14.80	12.99	0.0	✓
D	3.45	3.45	5.05	1.8	15.15	10.10	0.0	✓

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A	0.666	1157
B	0.615	885
C	0.520	892
D	0.514	1058

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

Arm Capacity Adjustments

Arm	Type	Reason	Direct capacity adjustment (PCU/hr)
A	Direct	To match observed queue	100

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)	Results for central hour only	Run automatically
D5	2040+Dev	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 (%)
A		ONE HOUR	✓	993	100.000
B		ONE HOUR	✓	8	100.000
C		ONE HOUR	✓	535	100.000
D		ONE HOUR	✓	261	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A	B	C	D
From	A	0	2	669	322
	B	0	0	7	1
	C	265	1	0	269
	D	84	5	172	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	0	1	0
	B	0	0	0	0
	C	1	0	0	0
	D	0	0	2	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	0.98	61.67	18.1	75.3	F	993	993
B	0.11	49.36	0.1	0.5	E	8	8
C	0.83	29.37	4.5	23.3	D	535	535
D	0.32	5.93	0.5	2.1	A	261	261

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	893	223	160	1141	0.782	886	312	1.8	3.4	13.786	B
B	7	2	1039	221	0.033	7	7	0.0	0.0	16.853	C
C	481	120	288	739	0.651	478	758	1.1	1.8	13.663	B
D	235	59	238	923	0.254	234	529	0.3	0.3	5.228	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	1093	273	196	1117	0.979	1052	379	3.4	13.8	40.444	E
B	9	2	1239	97	0.091	9	9	0.0	0.1	40.679	E
C	589	147	342	711	0.829	580	905	1.8	4.2	25.693	D
D	287	72	288	897	0.320	287	634	0.3	0.5	5.897	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	1093	273	196	1117	0.979	1076	383	13.8	18.1	61.671	F
B	9	2	1263	82	0.108	9	9	0.1	0.1	49.362	E
C	589	147	350	707	0.833	588	922	4.2	4.5	29.370	D
D	287	72	292	895	0.321	287	645	0.5	0.5	5.926	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	893	223	160	1141	0.783	949	319	18.1	3.9	23.307	C
B	7	2	1102	181	0.040	7	7	0.1	0.0	20.735	C
C	481	120	309	728	0.661	491	801	4.5	2.0	15.767	C
D	235	59	244	919	0.255	235	556	0.5	0.3	5.267	A

Queue Variation Results for each time segment

08:00 - 08:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	3.37	0.06	1.14	9.12	13.89			N/A	N/A
B	0.03	0.03	0.25	0.45	0.48			N/A	N/A
C	1.79	0.07	1.09	4.08	5.78			N/A	N/A
D	0.34	0.00	0.00	0.34	0.34			N/A	N/A

08:15 - 08:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	13.77	0.20	6.37	35.89	50.35			N/A	N/A
B	0.10	0.03	0.26	0.47	0.54			N/A	N/A
C	4.16	0.04	0.39	10.91	22.31			N/A	N/A
D	0.47	0.03	0.25	0.47	0.48			N/A	N/A

08:30 - 08:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	18.08	0.13	5.77	50.76	75.31			N/A	N/A
B	0.12	0.03	0.25	0.45	0.48			N/A	N/A
C	4.54	0.03	0.32	7.27	23.34			N/A	N/A
D	0.47	0.03	0.30	1.36	2.05			N/A	N/A

08:45 - 09:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	3.90	0.04	0.42	10.69	20.11			N/A	N/A
B	0.04	0.00	0.00	0.04	0.04			N/A	N/A
C	2.03	0.05	0.45	5.52	9.15			N/A	N/A
D	0.35	0.00	0.00	0.35	0.35			N/A	N/A

2040+Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout		Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms A and C have 69% of the total flow for the roundabout for one or more time segments][Arms C and D have 78% of the total flow for the roundabout for one or more time segments]
Warning	Demand Sets	D6 - 2040+Dev, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout		A, B, C, D	32.55	D

Junction Network

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	Normal/unknown		-6	Arm C	32.55	D

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)	Results for central hour only	Run automatically
D6	2040+Dev	PM	ONE HOUR	16:15	17:45	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	323	100.000
B		ONE HOUR	✓	2	100.000
C		ONE HOUR	✓	735	100.000
D		ONE HOUR	✓	473	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
	A	B	C	D	
From	A	0	0	268	55
	B	1	0	1	0
	C	551	1	0	183
	D	199	1	273	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
		A	B	C	D
	A	0	0	1	0
	B	0	0	0	0
	C	1	0	0	0
	D	1	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	0.34	5.21	0.5	2.3	A	323	323
B	0.00	0.00	0.0	~1	A	0	0
C	0.95	55.10	11.6	56.4	F	735	735
D	0.70	16.13	2.3	9.2	C	473	473

Main Results for each time segment

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	290	73	246	1084	0.268	290	670	0.3	0.4	4.531	A
B	0	0	535	535	0.000	0	2	0.0	0.0	0.000	A
C	661	165	49	860	0.768	655	485	1.7	3.1	17.107	C
D	425	106	492	799	0.532	424	213	0.7	1.1	9.545	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	356	89	300	1048	0.339	355	805	0.4	0.5	5.187	A
B	0	0	653	462	0.000	0	2	0.0	0.0	0.000	A
C	809	202	60	855	0.947	783	593	3.1	9.6	40.330	E
D	521	130	588	750	0.695	517	255	1.1	2.2	15.180	C

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	356	89	303	1047	0.340	356	819	0.5	0.5	5.206	A
B	0	0	656	460	0.000	0	2	0.0	0.0	0.000	A
C	809	202	61	854	0.947	801	595	9.6	11.6	55.101	F
D	521	130	602	743	0.701	520	260	2.2	2.3	16.127	C

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17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	290	73	250	1082	0.288	291	700	0.5	0.4	4.554	A
B	0	0	539	532	0.000	0	2	0.0	0.0	0.000	A
C	661	165	50	860	0.768	693	489	11.6	3.6	24.718	C
D	425	106	520	785	0.542	429	222	2.3	1.2	10.249	B

Queue Variation Results for each time segment
16:30 - 16:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.36	0.00	0.00	0.36	0.36			N/A	N/A
B	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C	3.07	0.08	1.39	7.87	11.43			N/A	N/A
D	1.11	0.08	0.95	1.93	2.63			N/A	N/A

16:45 - 17:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.51	0.03	0.25	0.51	0.51			N/A	N/A
B	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C	9.57	0.10	2.87	26.54	39.38			N/A	N/A
D	2.16	0.03	0.29	2.16	9.17			N/A	N/A

17:00 - 17:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.51	0.03	0.30	1.36	2.35			N/A	N/A
B	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C	11.63	0.06	1.14	34.15	56.42			N/A	N/A
D	2.27	0.03	0.28	2.27	6.77			N/A	N/A

17:15 - 17:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.37	0.00	0.00	0.37	0.37			N/A	N/A
B	0.00	0.00	0.00	0.00	0.00			N/A	N/A
C	3.60	0.04	0.42	9.94	18.40			N/A	N/A
D	1.21	0.06	0.80	2.60	3.66			N/A	N/A

Junctions 10															
PICADY 10 - Priority Intersection Module															
Version: 10.0.1.1519															
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Report generation date: 03/02/2022 14:56:30

»2021, AM
»2021, PM
»2040, AM
»2040, PM
»2040+Dev, AM
»2040+Dev, 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
	2021													
Stream B-C	D1	0.0	6.44	0.01	A	1.66	41 % [Stream B-A]	D2	0.0	0.00	0.00	A	0.35	116 % [Stream B-A]
Stream B-A		0.5	16.46	0.33	C				0.1	11.25	0.07	B		
Stream C-AB		0.0	4.13	0.02	A				0.0	5.68	0.00	A		
	2040													
Stream B-C	D3	0.0	6.96	0.01	A	2.03	24 % [Stream B-A]	D4	0.0	0.00	0.00	A	0.37	88 % [Stream B-A]
Stream B-A		0.7	20.20	0.41	C				0.1	12.29	0.09	B		
Stream C-AB		0.0	3.89	0.02	A				0.0	5.65	0.00	A		
	2040+Dev													
Stream B-C	D5	0.2	310.42	0.24	F	18.72	-16 % [Stream B-A]	D6	0.0	0.00	0.00	A	1.61	32 % [Stream B-A]
Stream B-A		6.9	97.36	0.92	F				0.5	17.94	0.35	C		
Stream C-AB		0.0	3.91	0.02	A				0.0	5.90	0.00	A		

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages. 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	Calais Hill / Wood Hill / Canterbury Hill – Roundabout junction
Location	Tyler Hill
Site number	
Date	28/11/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	70080896
Enumerator	CORP\UKWGF001
Description	

Units

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

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D1	2021	AM	ONE HOUR	07:45	09:15	15	✓	✓
D2	2021	PM	ONE HOUR	16:15	17:45	15	✓	✓
D3	2040	AM	ONE HOUR	07:45	09:15	15	✓	✓
D4	2040	PM	ONE HOUR	16:15	17:45	15	✓	✓
D5	2040+Dev	AM	ONE HOUR	07:45	09:15	15	✓	✓
D6	2040+Dev	PM	ONE HOUR	16:15	17:45	15	✓	✓

Analysis Set Details

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

2021, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Minor arm visibility to right	Arm B - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Major arm width	Arm C - Major arm geometry	For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m.
Warning	Demand Sets	D1 - 2021, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		1.66	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	41	Stream B-A	1.66	A

Arms

Arms

Arm	Name	Description	Arm type
A	Canterbury Hill		Major
B	Calais Hill		Minor
C	Wood Hill		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	5.40			94.3	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B	One lane plus flare	9.30	3.55	2.70	2.60	2.60	✓	1.00	23	21

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	510	0.095	0.240	0.151	0.343
B-C	720	0.114	0.288	-	-
C-B	629	0.250	0.250	-	-

The slopes and intercepts shown above include custom intercept adjustments only.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D1	2021	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 (%)
A		ONE HOUR	✓	276	100.000
B		ONE HOUR	✓	102	100.000
C		ONE HOUR	✓	653	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
From		A	B	C
	A	0	34	242
	B	99	0	3
	C	649	4	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
From		A	B	C
	A	0	0	1
	B	1	0	0
	C	1	25	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.01	6.44	0.0	0.5	A	3	3
B-A	0.33	16.46	0.5	2.2	C	99	99
C-AB	0.02	4.13	0.0	0.5	A	13	13
C-A						640	640
A-B						34	34
A-C						242	242

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	3	0.67	603	0.004	3	0.0	0.0	5.991	A
B-A	89	22	360	0.247	89	0.2	0.3	13.240	B
C-AB	11	3	888	0.012	11	0.0	0.0	4.125	A
C-A	577	144			577				
A-B	31	8			31				
A-C	218	54			218				

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	3	0.83	563	0.006	3	0.0	0.0	6.431	A
B-A	109	27	328	0.333	108	0.3	0.5	16.362	C
C-AB	16	4	979	0.017	16	0.0	0.0	3.761	A
C-A	703	176			703				
A-B	37	9			37				
A-C	266	67			266				

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	3	0.83	562	0.006	3	0.0	0.0	6.439	A
B-A	109	27	328	0.333	109	0.5	0.5	16.456	C
C-AB	16	4	979	0.017	16	0.0	0.0	3.737	A
C-A	703	176			703				
A-B	37	9			37				
A-C	266	67			266				

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	3	0.67	603	0.004	3	0.0	0.0	5.999	A
B-A	89	22	360	0.247	90	0.5	0.3	13.336	B
C-AB	11	3	888	0.012	11	0.0	0.0	4.062	A
C-A	577	144			577				
A-B	31	8			31				
A-C	218	54			218				

Queue Variation Results for each time segment

08:00 - 08:15

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.25	0.45	0.48			N/A	N/A
B-A	0.32	0.00	0.00	0.32	0.32			N/A	N/A
C-AB	0.01	0.01	0.25	0.45	0.48			N/A	N/A

08:15 - 08:30

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.01	0.00	0.00	0.01	0.01			N/A	N/A
B-A	0.49	0.03	0.26	0.49	0.49			N/A	N/A
C-AB	0.02	0.00	0.00	0.02	0.02			N/A	N/A

08:30 - 08:45

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.01	0.00	0.00	0.01	0.01			N/A	N/A
B-A	0.49	0.03	0.31	1.39	2.20			N/A	N/A
C-AB	0.02	0.00	0.00	0.02	0.02			N/A	N/A

08:45 - 09:00

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.00	0.00	0.00			N/A	N/A
B-A	0.33	0.00	0.00	0.33	0.33			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

2021, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Minor arm visibility to right	Arm B - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Major arm width	Arm C - Major arm geometry	For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m.
Warning	Demand Sets	D2 - 2021, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		0.35	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	116	Stream B-A	0.35	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)	Results for central hour only	Run automatically
D2	2021	PM	ONE HOUR	16:15	17:45	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	537	100.000
B		ONE HOUR	✓	23	100.000
C		ONE HOUR	✓	201	100.000

Origin-Destination Data

Demand (Veh/hr)

	To		
	A	B	C
From	A	0	78
	B	23	0
	C	200	1

Vehicle Mix

Heavy Vehicle Percentages

From	To			
	A	B	C	
	A	0	0	1
	B	0	0	0
	C	1	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.00	0.00	0.0	~1	A	0	0
B-A	0.07	11.25	0.1	0.5	B	23	23
C-AB	0.00	5.68	0.0	0.5	A	1	1
C-A						200	200
A-B						78	78
A-C						459	459

Main Results for each time segment

16:30 - 16:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	0	0	584	0.000	0	0.0	0.0	0.000	A
B-A	21	5	376	0.055	21	0.0	0.1	10.142	B
C-AB	1	0.31	636	0.002	1	0.0	0.0	5.673	A
C-A	179	45			179				
A-B	70	18			70				
A-C	413	103			413				

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	0	0	553	0.000	0	0.0	0.0	0.000	A
B-A	25	6	345	0.073	25	0.1	0.1	11.244	B
C-AB	2	0.42	641	0.003	2	0.0	0.0	5.633	A
C-A	220	55			220				
A-B	86	21			86				
A-C	505	126			505				

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	0	0	553	0.000	0	0.0	0.0	0.000	A
B-A	25	6	345	0.073	25	0.1	0.1	11.248	B
C-AB	2	0.42	641	0.003	2	0.0	0.0	5.634	A
C-A	220	55			220				
A-B	86	21			86				
A-C	505	126			505				

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	0	0	584	0.000	0	0.0	0.0	0.000	A
B-A	21	5	376	0.055	21	0.1	0.1	10.149	B
C-AB	1	0.31	636	0.002	1	0.0	0.0	5.677	A
C-A	179	45			179				
A-B	70	18			70				
A-C	413	103			413				

Queue Variation Results for each time segment

16:30 - 16:45

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.00	0.00	0.00			N/A	N/A
B-A	0.06	0.03	0.25	0.45	0.48			N/A	N/A
C-AB	0.00	0.00	0.25	0.45	0.48			N/A	N/A

16:45 - 17:00

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.00	0.00	0.00			N/A	N/A
B-A	0.08	0.03	0.26	0.47	0.49			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

17:00 - 17:15

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.00	0.00	0.00			N/A	N/A
B-A	0.08	0.03	0.25	0.45	0.48			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

17:15 - 17:30

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.00	0.00	0.00			N/A	N/A
B-A	0.06	0.00	0.00	0.06	0.06			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

2040, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Minor arm visibility to right	Arm B - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Major arm width	Arm C - Major arm geometry	For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m.
Warning	Demand Sets	D3 - 2040, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		2.03	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	24	Stream B-A	2.03	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)	Results for central hour only	Run automatically
D3	2040	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 (%)
A		ONE HOUR	✓	315	100.000
B		ONE HOUR	✓	116	100.000
C		ONE HOUR	✓	746	100.000

Origin-Destination Data

Demand (Veh/hr)

	To		
	A	B	C
From	A	0	39
	B	113	0
	C	741	5

Vehicle Mix

Heavy Vehicle Percentages

From	To			
	A	B	C	
	A	0	0	1
	B	1	0	0
	C	1	25	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.01	6.96	0.0	0.5	A	3	3
B-A	0.41	20.20	0.7	3.3	C	113	113
C-AB	0.02	3.89	0.0	0.5	A	20	20
C-A						726	726
A-B						39	39
A-C						276	276

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	3	0.67	579	0.005	3	0.0	0.0	6.243	A
B-A	102	25	340	0.299	101	0.3	0.4	15.064	C
C-AB	15	4	945	0.016	15	0.0	0.0	3.892	A
C-A	655	164			655				
A-B	35	9			35				
A-C	248	62			248				

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	3	0.83	522	0.006	3	0.0	0.0	6.944	A
B-A	124	31	302	0.411	123	0.4	0.7	19.987	C
C-AB	25	6	1051	0.024	25	0.0	0.0	3.529	A
C-A	797	199			797				
A-B	43	11			43				
A-C	304	76			304				

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	3	0.83	520	0.006	3	0.0	0.0	6.964	A
B-A	124	31	302	0.411	124	0.7	0.7	20.203	C
C-AB	25	6	1051	0.024	25	0.0	0.0	3.510	A
C-A	797	199			797				
A-B	43	11			43				
A-C	304	76			304				

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	3	0.67	578	0.005	3	0.0	0.0	6.261	A
B-A	102	25	340	0.299	103	0.7	0.4	15.256	C
C-AB	15	4	946	0.016	15	0.0	0.0	3.833	A
C-A	655	164			655				
A-B	35	9			35				
A-C	248	62			248				

Queue Variation Results for each time segment

08:00 - 08:15

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.25	0.45	0.48			N/A	N/A
B-A	0.42	0.00	0.00	0.42	0.42			N/A	N/A
C-AB	0.02	0.02	0.25	0.45	0.48			N/A	N/A

08:15 - 08:30

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.01	0.00	0.00	0.01	0.01			N/A	N/A
B-A	0.67	0.03	0.26	0.67	0.67			N/A	N/A
C-AB	0.03	0.00	0.00	0.03	0.03			N/A	N/A

08:30 - 08:45

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.01	0.00	0.00	0.01	0.01			N/A	N/A
B-A	0.69	0.03	0.30	1.48	3.28			N/A	N/A
C-AB	0.03	0.00	0.00	0.03	0.03			N/A	N/A

08:45 - 09:00

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.00	0.00	0.00			N/A	N/A
B-A	0.44	0.04	0.36	1.17	1.34			N/A	N/A
C-AB	0.02	0.00	0.00	0.02	0.02			N/A	N/A

2040, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Minor arm visibility to right	Arm B - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Major arm width	Arm C - Major arm geometry	For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m.
Warning	Demand Sets	D4 - 2040, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		0.37	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	88	Stream B-A	0.37	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D4	2040	PM	ONE HOUR	16:15	17:45	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	615	100.000
B		ONE HOUR	✓	26	100.000
C		ONE HOUR	✓	230	100.000

Origin-Destination Data

Demand (Veh/hr)

	To		
	A	B	C
From	A	0	89
	B	26	0
	C	229	1

Vehicle Mix

Heavy Vehicle Percentages

From	To			
	A	B	C	
	A	0	0	1
	B	0	0	0
	C	1	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.00	0.00	0.0	~1	A	0	0
B-A	0.09	12.29	0.1	0.5	B	26	26
C-AB	0.00	5.65	0.0	0.5	A	2	2
C-A						228	228
A-B						89	89
A-C						526	526

Main Results for each time segment

16:30 - 16:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	0	0	564	0.000	0	0.0	0.0	0.000	A
B-A	23	6	356	0.066	23	0.1	0.1	10.816	B
C-AB	1	0.33	639	0.002	1	0.0	0.0	5.647	A
C-A	205	51			205				
A-B	80	20			80				
A-C	473	118			473				

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	0	0	529	0.000	0	0.0	0.0	0.000	A
B-A	29	7	321	0.089	29	0.1	0.1	12.285	B
C-AB	2	0.45	645	0.003	2	0.0	0.0	5.592	A
C-A	251	63			251				
A-B	98	24			98				
A-C	579	145			579				

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	0	0	529	0.000	0	0.0	0.0	0.000	A
B-A	29	7	321	0.089	29	0.1	0.1	12.292	B
C-AB	2	0.45	645	0.003	2	0.0	0.0	5.596	A
C-A	251	63			251				
A-B	98	24			98				
A-C	579	145			579				

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	0	0	564	0.000	0	0.0	0.0	0.000	A
B-A	23	6	356	0.066	23	0.1	0.1	10.828	B
C-AB	1	0.33	639	0.002	1	0.0	0.0	5.650	A
C-A	205	51			205				
A-B	80	20			80				
A-C	473	118			473				

Queue Variation Results for each time segment

16:30 - 16:45

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.00	0.00	0.00			N/A	N/A
B-A	0.07	0.03	0.25	0.45	0.48			N/A	N/A
C-AB	0.00	0.00	0.25	0.45	0.48			N/A	N/A

16:45 - 17:00

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.00	0.00	0.00			N/A	N/A
B-A	0.10	0.03	0.26	0.47	0.50			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

17:00 - 17:15

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.00	0.00	0.00			N/A	N/A
B-A	0.10	0.03	0.25	0.45	0.48			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

17:15 - 17:30

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.00	0.00	0.00			N/A	N/A
B-A	0.07	0.00	0.00	0.07	0.07			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

2040+Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Minor arm visibility to right	Arm B - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Major arm width	Arm C - Major arm geometry	For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m.
Warning	Demand Sets	D5 - 2040+Dev, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		18.72	C

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	-16	Stream B-A	18.72	C

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)	Results for central hour only	Run automatically
D5	2040+Dev	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 (%)
A		ONE HOUR	✓	350	100.000
B		ONE HOUR	✓	252	100.000
C		ONE HOUR	✓	746	100.000

Origin-Destination Data

Demand (Veh/hr)

From	To		
	A	B	C
	A	0	74
	B	249	0
	C	741	5

Vehicle Mix

Heavy Vehicle Percentages

From	To			
	A	B	C	
	A	0	0	1
	B	1	0	0
	C	1	25	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.24	310.42	0.2	0.5	F	3	3
B-A	0.92	97.36	6.9	31.3	F	249	249
C-AB	0.02	3.91	0.0	0.5	A	20	20
C-A						726	726
A-B						74	74
A-C						276	276

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	3	0.67	368	0.007	3	0.0	0.0	9.847	A
B-A	224	56	337	0.665	221	1.0	1.8	30.197	D
C-AB	15	4	942	0.016	15	0.0	0.0	3.910	A
C-A	655	164			655				
A-B	67	17			67				
A-C	248	62			248				

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	3	0.83	81	0.041	3	0.0	0.0	46.004	E
B-A	274	69	299	0.918	259	1.8	5.6	72.052	F
C-AB	25	6	1047	0.024	25	0.0	0.0	3.545	A
C-A	796	199			796				
A-B	81	20			81				
A-C	304	76			304				

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	3	0.83	14	0.240	3	0.0	0.2	310.424	F
B-A	274	69	299	0.918	269	5.6	6.9	97.359	F
C-AB	25	6	1047	0.024	25	0.0	0.0	3.523	A
C-A	796	199			796				
A-B	81	20			81				
A-C	304	76			304				

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	3	0.67	306	0.009	4	0.2	0.0	11.939	B
B-A	224	56	337	0.665	243	6.9	2.2	43.743	E
C-AB	15	4	942	0.016	15	0.0	0.0	3.848	A
C-A	655	164			655				
A-B	67	17			67				
A-C	248	62			248				

Queue Variation Results for each time segment

08:00 - 08:15

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.01	0.01	0.25	0.45	0.48			N/A	N/A
B-A	1.82	0.10	1.28	3.79	5.07			N/A	N/A
C-AB	0.02	0.02	0.25	0.45	0.48			N/A	N/A

08:15 - 08:30

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.04	0.00	0.00	0.04	0.04			N/A	N/A
B-A	5.61	0.10	1.99	14.72	21.17			N/A	N/A
C-AB	0.03	0.00	0.00	0.03	0.03			N/A	N/A

08:30 - 08:45

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.22	0.00	0.00	0.22	0.22			N/A	N/A
B-A	6.90	0.07	1.49	19.79	31.30			N/A	N/A
C-AB	0.03	0.00	0.00	0.03	0.03			N/A	N/A

08:45 - 09:00

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.01	0.00	0.00	0.01	0.01			N/A	N/A
B-A	2.20	0.04	0.39	5.86	10.98			N/A	N/A
C-AB	0.02	0.00	0.00	0.02	0.02			N/A	N/A

2040+Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Minor arm visibility to right	Arm B - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Major arm width	Arm C - Major arm geometry	For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m.
Warning	Demand Sets	D6 - 2040+Dev, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		1.61	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	32	Stream B-A	1.61	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)	Results for central hour only	Run automatically
D6	2040+Dev	PM	ONE HOUR	16:15	17:45	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	750	100.000
B		ONE HOUR	✓	97	100.000
C		ONE HOUR	✓	230	100.000

Origin-Destination Data

Demand (Veh/hr)

	To		
	A	B	C
From	A	0	224
	B	97	0
	C	229	1

Vehicle Mix

Heavy Vehicle Percentages

From	To		
	A	B	C
	0	0	1
	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.00	0.00	0.0	~1	A	0	0
B-A	0.35	17.94	0.5	2.4	C	97	97
C-AB	0.00	5.90	0.0	0.5	A	2	2
C-A						228	228
A-B						224	224
A-C						526	526

Main Results for each time segment

16:30 - 16:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	0	0	524	0.000	0	0.0	0.0	0.000	A
B-A	87	22	345	0.253	87	0.2	0.3	13.951	B
C-AB	1	0.34	612	0.002	1	0.0	0.0	5.895	A
C-A	205	51			205				
A-B	201	50			201				
A-C	473	118			473				

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	0	0	478	0.000	0	0.0	0.0	0.000	A
B-A	107	27	307	0.347	106	0.3	0.5	17.816	C
C-AB	2	0.47	613	0.003	2	0.0	0.0	5.884	A
C-A	251	63			251				
A-B	247	62			247				
A-C	579	145			579				

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	0	0	478	0.000	0	0.0	0.0	0.000	A
B-A	107	27	307	0.347	107	0.5	0.5	17.940	C
C-AB	2	0.47	613	0.003	2	0.0	0.0	5.888	A
C-A	251	63			251				
A-B	247	62			247				
A-C	579	145			579				

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	0	0	524	0.000	0	0.0	0.0	0.000	A
B-A	87	22	345	0.253	88	0.5	0.3	14.070	B
C-AB	1	0.34	612	0.002	1	0.0	0.0	5.902	A
C-A	205	51			205				
A-B	201	50			201				
A-C	473	118			473				

Queue Variation Results for each time segment

16:30 - 16:45

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.00	0.00	0.00			N/A	N/A
B-A	0.33	0.00	0.00	0.33	0.33			N/A	N/A
C-AB	0.00	0.00	0.25	0.45	0.48			N/A	N/A

16:45 - 17:00

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.00	0.00	0.00			N/A	N/A
B-A	0.52	0.03	0.26	0.52	0.52			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

17:00 - 17:15

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.00	0.00	0.00			N/A	N/A
B-A	0.52	0.03	0.31	1.43	2.41			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

17:15 - 17:30

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.00	0.00	0.00			N/A	N/A
B-A	0.35	0.03	0.25	0.46	0.48			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

Junctions 10													
ARCADY 10 - Roundabout Module													
Version: 10.0.1.1519													
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Report generation date: 03/02/2022 17:03:03

»2021, AM
»2021, PM
»2040, AM
»2040, PM
»2040+Dev, AM
»2040+Dev, 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
	2021													
Arm A	D1	1.7	12.08	0.63	B	12.71	6 % [Arm B]	D2	1.6	12.54	0.62	B	11.12	18 % [Arm B]
Arm B		4.2	23.00	0.82	C				2.3	13.95	0.70	B		
Arm C		1.7	9.67	0.63	A				2.7	11.45	0.73	B		
Arm D		1.3	6.27	0.56	A				1.7	7.82	0.63	A		
	2040													
Arm A	D3	3.4	21.60	0.78	C	31.54	-7 % [Arm B]	D4	3.3	23.88	0.78	C	20.75	3 % [Arm B]
Arm B		16.9	79.67	0.99	F				5.0	28.14	0.85	D		
Arm C		2.9	14.79	0.75	B				5.6	21.56	0.86	C		
Arm D		2.0	8.41	0.66	A				3.1	12.50	0.76	B		
	2040+Dev													
Arm A	D5	13.6	72.65	0.97	F	67.36	-14 % [Arm B]	D6	7.9	50.58	0.91	F	56.09	-8 % [Arm B]
Arm B		42.3	174.85	1.09	F				16.9	80.83	0.99	F		
Arm C		3.3	16.33	0.78	C				21.7	72.17	1.00	F		
Arm D		2.4	9.99	0.71	A				5.1	20.50	0.85	C		

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages. 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	B2248 / Kingsmead Road / Broad Oak Road / St Stephens Road – Roundabout junction
Location	Canterbury
Site number	
Date	28/11/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	70080896
Enumerator	CORP\UKWGF001
Description	

Units

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

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2021	AM	ONE HOUR	08:00	09:30	15	✓
D2	2021	PM	ONE HOUR	17:00	18:30	15	✓
D3	2040	AM	ONE HOUR	08:00	09:30	15	✓
D4	2040	PM	ONE HOUR	17:00	18:30	15	✓
D5	2040+Dev	AM	ONE HOUR	08:00	09:30	15	✓
D6	2040+Dev	PM	ONE HOUR	17:00	18:30	15	✓

Analysis Set Details

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

2021, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C, D	12.71	B

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	6	Arm B	12.71	B

Arms

Arms

Arm	Name	Description	No give-way line
A	St Stephens Road North		
B	Broad Oak Road		
C	Kingsmead Road		
D	St Stephens Road South		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
A	3.28	6.20	8.6	15.2	32.3	59.0		
B	3.25	6.35	5.5	18.2	32.3	54.0		
C	3.25	6.65	5.7	21.4	32.3	21.5		
D	3.08	6.30	19.1	21.9	32.3	12.0		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A	0.528	1252
B	0.527	1203
C	0.601	1383
D	0.670	1671

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2021	AM	ONE HOUR	08:00	09:30	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	464	100.000
B		ONE HOUR	✓	622	100.000
C		ONE HOUR	✓	577	100.000
D		ONE HOUR	✓	674	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
	A	B	C	D	
From	A	0	83	294	87
	B	51	0	186	385
	C	258	110	0	209
	D	63	413	198	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
	A	B	C	D	
From	A	0	0	2	0
	B	2	0	6	1
	C	1	4	0	4
	D	0	3	4	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	0.63	12.08	1.7	3.9	B	426	639
B	0.82	23.00	4.2	21.3	C	571	856
C	0.63	9.67	1.7	2.5	A	529	794
D	0.56	6.27	1.3	1.5	A	618	928

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	349	87	540	945	0.370	347	278	0.0	0.6	5.996	A
B	468	117	433	945	0.495	464	454	0.0	1.0	7.427	A
C	434	109	391	1116	0.389	432	507	0.0	0.6	5.242	A
D	507	127	314	1414	0.359	505	509	0.0	0.6	3.952	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	417	104	647	887	0.470	416	334	0.6	0.9	7.616	A
B	559	140	519	900	0.621	557	544	1.0	1.6	10.402	B
C	519	130	468	1070	0.485	518	608	0.6	0.9	6.497	A
D	606	151	376	1373	0.441	605	610	0.6	0.8	4.683	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	511	128	792	810	0.631	508	407	0.9	1.7	11.806	B
B	685	171	634	840	0.816	675	665	1.6	3.9	20.822	C
C	635	159	569	1011	0.628	632	741	0.9	1.6	9.436	A
D	742	186	459	1318	0.563	740	742	0.8	1.3	6.211	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	511	128	794	808	0.632	511	409	1.7	1.7	12.081	B
B	685	171	637	838	0.817	684	667	3.9	4.2	23.000	C
C	635	159	575	1007	0.631	635	746	1.6	1.7	9.668	A
D	742	186	461	1316	0.564	742	749	1.3	1.3	6.271	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	417	104	650	886	0.471	420	337	1.7	0.9	7.785	A
B	559	140	524	898	0.623	569	547	4.2	1.7	11.259	B
C	519	130	478	1065	0.487	522	615	1.7	1.0	6.661	A
D	606	151	379	1370	0.442	608	620	1.3	0.8	4.734	A

09:15 - 09:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	349	87	544	943	0.370	351	281	0.9	0.6	6.089	A
B	468	117	437	943	0.496	471	457	1.7	1.0	7.666	A
C	434	109	396	1113	0.390	436	512	1.0	0.6	5.324	A
D	507	127	316	1412	0.359	508	515	0.8	0.6	3.969	A

Queue Variation Results for each time segment

08:00 - 08:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.58	0.55	1.00	1.40	1.45			N/A	N/A
B	0.97	0.55	1.00	1.40	1.45			N/A	N/A
C	0.63	0.55	1.00	1.40	1.45			N/A	N/A
D	0.56	0.55	1.00	1.40	1.45			N/A	N/A

Link 10 - 10.0.1.1519

08:15 - 08:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.87	0.09	0.87	1.25	1.69			N/A	N/A
B	1.59	0.06	0.87	3.76	5.45			N/A	N/A
C	0.93	0.08	0.88	1.50	1.86			N/A	N/A
D	0.78	0.09	0.84	1.24	1.24			N/A	N/A

08:30 - 08:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1.65	0.03	0.28	1.65	3.87			N/A	N/A
B	3.94	0.04	0.36	9.17	21.34			N/A	N/A
C	1.65	0.03	0.27	1.65	2.37			N/A	N/A
D	1.27	0.03	0.26	1.27	1.27			N/A	N/A

08:45 - 09:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1.69	0.03	0.28	1.69	3.91			N/A	N/A
B	4.18	0.03	0.31	4.49	19.34			N/A	N/A
C	1.68	0.03	0.27	1.68	2.45			N/A	N/A
D	1.28	0.03	0.27	1.28	1.28			N/A	N/A

09:00 - 09:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.90	0.07	0.82	1.53	1.91			N/A	N/A
B	1.70	0.05	0.45	4.53	7.41			N/A	N/A
C	0.96	0.09	0.91	1.56	1.90			N/A	N/A
D	0.80	0.19	0.93	1.40	1.46			N/A	N/A

09:15 - 09:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.59	0.04	0.43	1.46	1.56			N/A	N/A
B	1.00	0.03	0.33	2.31	4.92			N/A	N/A
C	0.65	0.05	0.48	1.48	1.55			N/A	N/A
D	0.56	0.05	0.58	1.32	1.41			N/A	N/A

2021, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C, D	11.12	B

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	18	Arm B	11.12	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
D2	2021	PM	ONE HOUR	17:00	18:30	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	417	100.000
B		ONE HOUR	✓	541	100.000
C		ONE HOUR	✓	774	100.000
D		ONE HOUR	✓	718	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A	B	C	D
From	A	0	96	263	58
	B	81	0	310	150
	C	261	197	0	316
	D	67	398	253	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	0	1	0
	B	1	0	1	3
	C	1	3	0	2
	D	0	1	2	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	0.62	12.54	1.6	4.3	B	383	574
B	0.70	13.95	2.3	8.6	B	496	745
C	0.73	11.45	2.7	9.6	B	710	1085
D	0.63	7.82	1.7	2.0	A	659	988

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	314	78	635	905	0.347	312	306	0.0	0.5	6.048	A
B	407	102	430	959	0.425	404	517	0.0	0.7	6.456	A
C	583	146	216	1227	0.475	579	618	0.0	0.9	5.527	A
D	541	135	403	1378	0.392	538	392	0.0	0.6	4.271	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	375	94	761	838	0.447	374	367	0.5	0.8	7.735	A
B	486	122	515	914	0.532	485	620	0.7	1.1	8.348	A
C	696	174	259	1201	0.579	694	741	0.9	1.4	7.072	A
D	645	161	483	1325	0.487	644	470	0.6	0.9	5.281	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	459	115	930	748	0.614	456	448	0.8	1.5	12.219	B
B	596	149	629	855	0.697	591	757	1.1	2.2	13.458	B
C	852	213	316	1167	0.730	847	904	1.4	2.6	11.085	B
D	791	198	590	1253	0.631	788	573	0.9	1.7	7.690	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	459	115	934	746	0.616	459	450	1.5	1.6	12.538	B
B	596	149	632	853	0.698	595	761	2.2	2.3	13.950	B
C	852	213	318	1166	0.731	852	909	2.6	2.7	11.448	B
D	791	198	593	1251	0.632	790	577	1.7	1.7	7.821	A

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	375	94	766	835	0.449	378	370	1.6	0.8	7.924	A
B	488	122	519	912	0.533	491	625	2.3	1.2	8.630	A
C	696	174	262	1199	0.580	701	748	2.7	1.4	7.293	A
D	645	161	488	1321	0.489	648	475	1.7	1.0	5.374	A

18:15 - 18:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	314	78	640	903	0.348	315	309	0.8	0.5	6.139	A
B	407	102	433	957	0.426	409	522	1.2	0.7	6.586	A
C	583	146	218	1226	0.475	585	624	1.4	0.9	5.633	A
D	541	135	407	1376	0.393	542	396	1.0	0.7	4.322	A

Queue Variation Results for each time segment

17:00 - 17:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.53	0.53	1.00	1.40	1.45			N/A	N/A
B	0.73	0.55	1.00	1.40	1.45			N/A	N/A
C	0.89	0.55	1.00	1.40	1.45			N/A	N/A
D	0.64	0.55	1.00	1.40	1.45			N/A	N/A

17:15 - 17:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.80	0.09	0.85	1.32	1.32			N/A	N/A
B	1.11	0.08	0.91	1.99	2.78			N/A	N/A
C	1.35	0.06	0.84	2.96	4.25			N/A	N/A
D	0.94	0.07	0.84	1.63	1.98			N/A	N/A

17:30 - 17:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1.54	0.03	0.27	1.54	3.29			N/A	N/A
B	2.20	0.03	0.29	2.20	8.60			N/A	N/A
C	2.59	0.03	0.29	2.59	9.63			N/A	N/A
D	1.67	0.03	0.27	1.67	1.67			N/A	N/A

17:45 - 18:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1.57	0.03	0.28	1.57	4.27			N/A	N/A
B	2.26	0.03	0.28	2.26	5.54			N/A	N/A
C	2.65	0.03	0.27	2.65	4.24			N/A	N/A
D	1.70	0.03	0.27	1.70	1.70			N/A	N/A

18:00 - 18:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.83	0.07	0.79	1.25	1.71			N/A	N/A
B	1.16	0.06	0.78	2.47	3.47			N/A	N/A
C	1.41	0.06	0.88	3.14	4.52			N/A	N/A
D	0.97	0.11	0.95	1.46	1.81			N/A	N/A

18:15 - 18:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.54	0.04	0.41	1.22	1.22			N/A	N/A
B	0.75	0.04	0.40	1.69	2.65			N/A	N/A
C	0.92	0.04	0.42	2.14	3.46			N/A	N/A
D	0.65	0.05	0.52	1.41	1.41			N/A	N/A

2040, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C, D	31.54	D

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	-7	Arm B	31.54	D

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2040	AM	ONE HOUR	08:00	09:30	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	530	100.000
B		ONE HOUR	✓	709	100.000
C		ONE HOUR	✓	659	100.000
D		ONE HOUR	✓	769	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A	B	C	D
From	A	0	95	336	99
	B	58	0	212	439
	C	294	126	0	239
	D	72	471	226	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	0	2	0
	B	2	0	6	1
	C	1	4	0	4
	D	0	3	4	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	0.78	21.60	3.4	17.1	C	486	730
B	0.99	79.67	16.9	64.4	F	651	976
C	0.75	14.79	2.9	12.4	B	605	907
D	0.66	8.41	2.0	2.8	A	706	1058

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	399	100	616	904	0.441	396	317	0.0	0.8	7.043	A
B	534	133	494	913	0.584	528	518	0.0	1.4	9.225	A
C	496	124	444	1084	0.457	493	578	0.0	0.8	6.051	A
D	579	145	357	1385	0.418	576	580	0.0	0.7	4.436	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	476	119	738	838	0.568	474	380	0.8	1.3	9.837	A
B	637	159	592	862	0.740	632	621	1.4	2.7	15.331	C
C	592	148	532	1033	0.574	590	693	0.8	1.3	8.103	A
D	691	173	428	1338	0.517	690	694	0.7	1.1	5.544	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	584	146	902	750	0.778	576	461	1.3	3.2	19.859	C
B	781	195	721	794	0.983	742	757	2.7	12.2	49.831	E
C	726	181	628	976	0.743	720	835	1.3	2.7	13.759	B
D	847	212	520	1277	0.663	843	828	1.1	1.9	8.227	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	584	146	906	748	0.780	583	465	3.2	3.4	21.598	C
B	781	195	727	791	0.987	762	762	12.2	16.9	79.667	F
C	726	181	643	967	0.750	725	846	2.7	2.9	14.790	B
D	847	212	524	1274	0.664	847	844	1.9	2.0	8.412	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	476	119	744	835	0.570	484	389	3.4	1.4	10.486	B
B	637	159	602	857	0.744	692	627	16.9	3.1	27.837	D
C	592	148	576	1007	0.588	598	718	2.9	1.5	8.929	A
D	691	173	438	1332	0.519	695	736	2.0	1.1	5.684	A

09:15 - 09:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	399	100	621	901	0.443	401	321	1.4	0.8	7.231	A
B	534	133	500	910	0.588	541	523	3.1	1.5	9.904	A
C	496	124	454	1079	0.460	499	587	1.5	0.9	6.231	A
D	579	145	362	1382	0.419	580	590	1.1	0.7	4.499	A

Queue Variation Results for each time segment

08:00 - 08:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.78	0.55	1.00	1.40	1.45			N/A	N/A
B	1.37	0.54	1.27	1.82	1.98			N/A	N/A
C	0.83	0.55	1.00	1.40	1.45			N/A	N/A
D	0.71	0.55	1.00	1.40	1.45			N/A	N/A

08:15 - 08:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1.29	0.06	0.84	2.77	3.88			N/A	N/A
B	2.67	0.06	0.99	7.08	10.75			N/A	N/A
C	1.32	0.06	0.86	2.85	3.97			N/A	N/A
D	1.06	0.07	0.83	1.95	2.75			N/A	N/A

08:30 - 08:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	3.19	0.03	0.33	6.37	17.08			N/A	N/A
B	12.22	0.24	6.33	30.66	42.11			N/A	N/A
C	2.74	0.03	0.30	2.74	12.36			N/A	N/A
D	1.92	0.03	0.27	1.92	2.81			N/A	N/A

08:45 - 09:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	3.36	0.03	0.30	3.36	14.57			N/A	N/A
B	16.88	0.18	7.12	45.20	64.44			N/A	N/A
C	2.89	0.03	0.28	2.89	8.06			N/A	N/A
D	1.95	0.03	0.27	1.95	1.95			N/A	N/A

09:00 - 09:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1.36	0.05	0.47	3.43	5.36			N/A	N/A
B	3.15	0.04	0.40	8.45	16.33			N/A	N/A
C	1.46	0.06	0.83	3.39	4.86			N/A	N/A
D	1.09	0.09	0.98	1.83	2.38			N/A	N/A

09:15 - 09:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.81	0.03	0.34	1.88	3.72			N/A	N/A
B	1.45	0.03	0.29	1.45	6.42			N/A	N/A
C	0.86	0.04	0.38	2.03	3.55			N/A	N/A
D	0.73	0.05	0.49	1.33	1.86			N/A	N/A

2040, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C, D	20.75	C

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	3	Arm B	20.75	C

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2040	PM	ONE HOUR	17:00	18:30	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	477	100.000
B		ONE HOUR	✓	620	100.000
C		ONE HOUR	✓	887	100.000
D		ONE HOUR	✓	823	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A	B	C	D
From	A	0	110	301	68
	B	93	0	355	172
	C	299	228	0	362
	D	77	458	290	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	0	1	0
	B	1	0	1	3
	C	1	3	0	2
	D	0	1	2	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	0.78	23.88	3.3	16.8	C	438	657
B	0.85	28.14	5.0	26.3	D	569	853
C	0.86	21.56	5.6	28.0	C	814	1221
D	0.76	12.50	3.1	12.6	B	755	1133

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	359	90	727	856	0.420	356	351	0.0	0.7	7.167	A
B	467	117	491	927	0.504	463	592	0.0	1.0	7.695	A
C	668	167	247	1208	0.553	663	707	0.0	1.2	6.544	A
D	620	155	462	1339	0.463	616	448	0.0	0.9	4.958	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	429	107	871	779	0.550	427	420	0.7	1.2	10.165	B
B	557	139	588	876	0.637	555	710	1.0	1.7	11.113	B
C	797	199	296	1179	0.676	794	847	1.2	2.0	9.276	A
D	740	185	553	1277	0.579	738	537	0.9	1.4	6.645	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	525	131	1061	678	0.775	517	510	1.2	3.1	21.526	C
B	683	171	715	809	0.844	671	863	1.7	4.6	24.256	C
C	977	244	358	1142	0.856	964	1028	2.0	5.2	19.045	C
D	906	227	671	1198	0.756	900	651	1.4	2.9	11.821	B

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	525	131	1069	673	0.780	524	516	3.1	3.3	23.877	C
B	683	171	723	805	0.848	681	871	4.6	5.0	28.136	D
C	977	244	364	1138	0.858	975	1040	5.2	5.6	21.561	C
D	906	227	679	1193	0.760	906	659	2.9	3.1	12.498	B

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	429	107	883	773	0.555	437	429	3.3	1.3	10.977	B
B	557	139	599	870	0.641	570	721	5.0	1.8	12.484	B
C	797	199	304	1174	0.679	811	885	5.6	2.2	10.257	B
D	740	185	565	1269	0.583	746	550	3.1	1.4	6.989	A

18:15 - 18:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	359	90	735	852	0.422	361	355	1.3	0.7	7.370	A
B	467	117	497	924	0.505	470	599	1.8	1.0	7.989	A
C	668	167	251	1206	0.554	671	716	2.2	1.3	6.778	A
D	620	155	468	1335	0.464	622	454	1.4	0.9	5.063	A

Queue Variation Results for each time segment

17:00 - 17:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.71	0.55	1.00	1.40	1.45			N/A	N/A
B	1.00	0.55	1.00	1.40	1.45			N/A	N/A
C	1.22	0.56	1.06	1.22	1.53			N/A	N/A
D	0.85	0.55	1.00	1.40	1.45			N/A	N/A

17:15 - 17:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1.20	0.06	0.83	2.51	3.49			N/A	N/A
B	1.70	0.06	0.85	4.09	5.99			N/A	N/A
C	2.03	0.06	0.74	5.28	8.05			N/A	N/A
D	1.35	0.06	0.70	3.15	4.66			N/A	N/A

17:30 - 17:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	3.12	0.03	0.34	6.56	16.77			N/A	N/A
B	4.61	0.04	0.40	12.27	24.71			N/A	N/A
C	5.17	0.04	0.38	12.81	28.03			N/A	N/A
D	2.95	0.03	0.30	2.95	12.57			N/A	N/A

17:45 - 18:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	3.33	0.03	0.30	3.61	15.44			N/A	N/A
B	5.04	0.03	0.33	8.60	26.33			N/A	N/A
C	5.56	0.03	0.31	6.85	26.69			N/A	N/A
D	3.06	0.03	0.28	3.06	6.84			N/A	N/A

18:00 - 18:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1.28	0.05	0.46	3.17	4.94			N/A	N/A
B	1.85	0.04	0.43	4.96	8.45			N/A	N/A
C	2.18	0.05	0.45	5.96	10.05			N/A	N/A
D	1.42	0.06	0.78	3.30	4.79			N/A	N/A

18:15 - 18:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.74	0.03	0.33	1.68	3.39			N/A	N/A
B	1.04	0.03	0.32	2.15	5.20			N/A	N/A
C	1.26	0.03	0.33	2.83	6.42			N/A	N/A
D	0.88	0.04	0.38	2.07	3.60			N/A	N/A

2040+Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C, D	67.36	F

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	-14	Arm B	67.36	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
D5	2040+Dev	AM	ONE HOUR	08:00	09:30	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	637	100.000
B		ONE HOUR	✓	730	100.000
C		ONE HOUR	✓	687	100.000
D		ONE HOUR	✓	813	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A	B	C	D
From	A	0	120	413	104
	B	74	0	212	444
	C	315	126	0	246
	D	73	488	252	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	0	2	0
	B	2	0	6	1
	C	1	4	0	4
	D	0	3	3	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	0.97	72.65	13.6	57.2	F	585	877
B	1.09	174.85	42.3	89.5	F	670	1005
C	0.78	16.33	3.3	15.7	C	630	946
D	0.71	9.99	2.4	6.9	A	746	1119

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	480	120	648	887	0.540	475	345	0.0	1.2	8.635	A
B	550	137	574	872	0.630	543	549	0.0	1.6	10.725	B
C	517	129	463	1074	0.482	514	654	0.0	0.9	6.386	A
D	612	153	385	1371	0.447	609	592	0.0	0.8	4.706	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	573	143	777	819	0.700	568	413	1.2	2.2	14.149	B
B	656	164	687	813	0.807	648	658	1.6	3.7	20.783	C
C	618	154	553	1021	0.605	615	783	0.9	1.5	8.826	A
D	731	183	461	1320	0.554	729	707	0.8	1.2	6.075	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	701	175	948	726	0.966	669	497	2.2	10.3	47.454	E
B	804	201	819	744	1.080	723	798	3.7	23.9	84.900	F
C	756	189	622	980	0.772	750	920	1.5	3.2	15.226	C
D	895	224	555	1258	0.712	890	817	1.2	2.4	9.680	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	701	175	953	724	0.969	688	501	10.3	13.6	72.650	F
B	804	201	836	735	1.093	730	805	23.9	42.3	174.853	F
C	756	189	631	975	0.776	756	936	3.2	3.3	16.333	C
D	895	224	559	1255	0.713	895	827	2.4	2.4	9.990	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	573	143	784	815	0.703	617	430	13.6	2.5	21.830	C
B	656	164	729	792	0.829	773	672	42.3	13.0	134.855	F
C	618	154	649	964	0.641	624	853	3.3	1.8	10.766	B
D	731	183	479	1308	0.559	735	794	2.4	1.3	6.334	A

09:15 - 09:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	480	120	654	884	0.542	485	354	2.5	1.2	9.123	A
B	550	137	584	867	0.634	595	555	13.0	1.8	15.319	C
C	517	129	501	1051	0.492	521	677	1.8	1.0	6.830	A
D	612	153	394	1364	0.449	614	627	1.3	0.8	4.812	A

Queue Variation Results for each time segment

08:00 - 08:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1.15	0.53	1.10	1.47	1.75			N/A	N/A
B	1.65	0.20	1.40	2.79	3.53			N/A	N/A
C	0.92	0.55	1.00	1.40	1.45			N/A	N/A
D	0.80	0.55	1.00	1.40	1.45			N/A	N/A

08:15 - 08:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	2.22	0.06	0.79	5.83	8.92			N/A	N/A
B	3.75	0.07	1.43	9.98	14.80			N/A	N/A
C	1.50	0.06	0.88	3.44	4.88			N/A	N/A
D	1.22	0.06	0.78	2.66	3.76			N/A	N/A

08:30 - 08:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	10.28	0.16	4.50	26.88	37.95			N/A	N/A
B	23.95	4.24	19.93	45.12	54.76			N/A	N/A
C	3.16	0.03	0.31	4.52	15.71			N/A	N/A
D	2.38	0.03	0.28	2.38	6.95			N/A	N/A

08:45 - 09:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	13.58	0.11	3.95	38.26	57.24			N/A	N/A
B	42.29	10.56	37.00	75.31	89.49			N/A	N/A
C	3.32	0.03	0.29	3.32	10.65			N/A	N/A
D	2.44	0.03	0.27	2.44	3.02			N/A	N/A

09:00 - 09:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	2.51	0.04	0.38	6.57	13.05			N/A	N/A
B	13.04	0.77	8.75	29.16	37.88			N/A	N/A
C	1.84	0.06	0.97	4.46	6.46			N/A	N/A
D	1.29	0.07	0.95	2.62	3.57			N/A	N/A

09:15 - 09:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1.21	0.03	0.29	1.43	5.18			N/A	N/A
B	1.79	0.03	0.28	1.79	6.35			N/A	N/A
C	0.98	0.04	0.37	2.44	4.38			N/A	N/A
D	0.82	0.04	0.43	1.81	2.77			N/A	N/A

2040+Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C, D	56.09	F

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	-8	Arm B	56.09	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
D6	2040+Dev	PM	ONE HOUR	17:00	18:30	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	551	100.000
B		ONE HOUR	✓	696	100.000
C		ONE HOUR	✓	989	100.000
D		ONE HOUR	✓	850	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A	B	C	D
From	A	0	141	341	69
	B	152	0	355	189
	C	375	226	0	388
	D	81	465	304	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	0	1	0
	B	1	0	1	3
	C	1	3	0	2
	D	0	1	2	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	0.91	50.58	7.9	41.3	F	506	758
B	0.99	80.83	16.9	64.0	F	639	958
C	1.00	72.17	21.7	79.7	F	908	1381
D	0.85	20.50	5.1	25.1	C	780	1170

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	415	104	744	847	0.490	411	454	0.0	0.9	8.186	A
B	524	131	533	905	0.579	519	622	0.0	1.3	9.200	A
C	745	188	306	1174	0.634	738	746	0.0	1.7	8.130	A
D	640	160	562	1272	0.503	636	482	0.0	1.0	5.623	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	495	124	890	769	0.644	492	543	0.9	1.7	12.856	B
B	626	156	638	849	0.737	621	744	1.3	2.6	15.377	C
C	889	222	366	1138	0.781	882	893	1.7	3.3	13.728	B
D	764	191	672	1198	0.638	761	576	1.0	1.7	8.184	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	607	152	1074	671	0.904	588	642	1.7	6.5	36.997	E
B	766	192	768	781	0.981	729	894	2.6	11.9	49.703	E
C	1089	272	431	1099	0.991	1041	1066	3.3	15.2	43.776	E
D	936	234	792	1117	0.838	924	680	1.7	4.6	17.679	C

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	607	152	1088	663	0.914	601	655	6.5	7.9	50.584	F
B	766	192	781	774	0.990	746	908	11.9	16.9	80.827	F
C	1089	272	441	1093	0.996	1063	1087	15.2	21.7	72.175	F
D	936	234	809	1106	0.846	934	695	4.6	5.1	20.499	C

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	495	124	922	752	0.659	519	588	7.9	2.0	16.885	C
B	626	156	864	836	0.748	680	777	16.9	3.2	29.479	D
C	889	222	398	1119	0.795	959	946	21.7	4.3	29.587	D
D	764	191	731	1158	0.680	776	626	5.1	2.0	9.712	A

18:15 - 18:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	415	104	755	841	0.493	419	463	2.0	1.0	8.604	A
B	524	131	542	900	0.582	531	632	3.2	1.4	9.937	A
C	745	186	313	1170	0.636	754	760	4.3	1.8	8.863	A
D	640	160	574	1264	0.506	644	493	2.0	1.0	5.842	A

Queue Variation Results for each time segment

17:00 - 17:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.94	0.55	1.00	1.40	1.46			N/A	N/A
B	1.34	0.53	1.25	1.79	1.95			N/A	N/A
C	1.69	0.53	1.06	2.50	2.90			N/A	N/A
D	1.00	0.55	1.00	1.40	1.45			N/A	N/A

17:15 - 17:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1.74	0.06	0.75	4.37	6.55			N/A	N/A
B	2.63	0.06	0.99	6.95	10.55			N/A	N/A
C	3.35	0.06	1.08	9.12	13.98			N/A	N/A
D	1.72	0.05	0.59	4.42	6.78			N/A	N/A

17:30 - 17:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	6.52	0.06	1.36	18.73	29.84			N/A	N/A
B	11.92	0.23	6.05	30.09	41.49			N/A	N/A
C	15.21	0.30	8.20	38.00	51.94			N/A	N/A
D	4.60	0.04	0.36	10.47	25.08			N/A	N/A

17:45 - 18:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	7.95	0.05	0.48	22.65	41.35			N/A	N/A
B	16.89	0.19	7.29	45.02	63.97			N/A	N/A
C	21.66	0.25	10.24	56.81	79.65			N/A	N/A
D	5.07	0.03	0.31	5.53	23.54			N/A	N/A

18:00 - 18:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	2.02	0.04	0.40	5.45	9.85			N/A	N/A
B	3.23	0.04	0.41	8.83	16.51			N/A	N/A
C	4.27	0.05	0.46	12.06	21.55			N/A	N/A
D	1.99	0.05	0.53	5.30	8.34			N/A	N/A

18:15 - 18:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.99	0.03	0.30	1.23	4.70			N/A	N/A
B	1.43	0.03	0.29	1.43	6.29			N/A	N/A
C	1.79	0.03	0.30	1.93	8.30			N/A	N/A
D	1.04	0.03	0.33	2.31	5.19			N/A	N/A

Junctions 10															
ARCADY 10 - Roundabout Module															
Version: 10.0.1.1519															
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Filename: Junction 12 - Kingsmead Road_Broad Oak Road MITIGATION.j10
 Path: \\uk.wspgroup.com\central data\Projects\70080xxx\70080896 - University of Kent\03 WIP\TP Transport Planning\Junctions 10
 Report generation date: 04/02/2022 17:17:34

»2040+Dev, AM
 »2040+Dev, 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
	2040+Dev													
Arm A	D5	13.6	72.73	0.97	F	30.73	-6 % [Arm A]	D6	8.3	52.51	0.92	F	23.39	-4 % [Arm A]
Arm B		8.4	40.50	0.92	E				4.6	22.61	0.83	C		
Arm C		1.3	6.31	0.57	A				2.7	8.93	0.73	A		
Arm D		2.5	10.12	0.72	B				5.5	22.19	0.88	C		

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages. 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	B2248 / Kingsmead Road / Broad Oak Road / St Stephens Road – Roundabout junction
Location	Canterbury
Site number	
Date	26/11/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	70080896
Enumerator	CORP\UKWGF001
Description	

Units

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

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	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

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
D5	2040+Dev	AM	ONE HOUR	08:00	09:30	15	✓
D6	2040+Dev	PM	ONE HOUR	17:00	18:30	15	✓

Analysis Set Details

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

2040+Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C, D	30.73	D

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	-6	Arm A	30.73	D

Arms

Arms

Arm	Name	Description	No give-way line
A	St Stephens Road North		
B	Broad Oak Road		
C	Kingsmead Road		
D	St Stephens Road South		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
A	3.28	6.20	8.6	15.2	32.4	59.0		
B	3.25	7.15	10.1	18.2	32.4	54.0		
C	3.25	7.12	25.9	21.4	32.4	21.5		
D	3.08	6.30	19.1	21.9	32.4	12.0		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A	0.528	1252
B	0.563	1381
C	0.693	1836
D	0.670	1671

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2040+Dev	AM	ONE HOUR	08:00	09:30	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	637	100.000
B		ONE HOUR	✓	730	100.000
C		ONE HOUR	✓	687	100.000
D		ONE HOUR	✓	813	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
	A	B	C	D	
From	A	0	120	413	104
	B	74	0	212	444
	C	315	126	0	246
	D	73	488	252	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
	A	B	C	D	
From	A	0	0	2	0
	B	2	0	6	1
	C	1	4	0	4
	D	0	3	3	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	0.97	72.73	13.6	57.3	F	585	877
B	0.92	40.50	8.4	45.6	E	670	1005
C	0.57	6.31	1.3	1.5	A	630	946
D	0.72	10.12	2.5	7.3	B	746	1119

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	480	120	649	887	0.540	475	346	0.0	1.2	8.636	A
B	550	137	574	1024	0.536	545	549	0.0	1.1	7.440	A
C	517	129	464	1472	0.351	515	655	0.0	0.5	3.753	A
D	612	153	386	1370	0.447	609	593	0.0	0.8	4.711	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	573	143	777	819	0.700	568	414	1.2	2.2	14.152	B
B	656	164	687	961	0.683	653	658	1.1	2.1	11.524	B
C	618	154	556	1410	0.438	617	784	0.5	0.8	4.532	A
D	731	183	462	1319	0.554	729	710	0.8	1.2	6.083	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	701	175	949	726	0.966	669	505	2.2	10.3	47.563	E
B	804	201	819	887	0.906	784	799	2.1	7.0	30.307	D
C	756	189	665	1335	0.567	754	937	0.8	1.3	6.175	A
D	895	224	564	1252	0.715	890	856	1.2	2.4	9.831	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	701	175	953	724	0.969	688	508	10.3	13.6	72.727	F
B	804	201	836	878	0.916	798	806	7.0	8.4	40.498	E
C	756	189	679	1326	0.570	756	955	1.3	1.3	6.314	A
D	895	224	566	1250	0.716	895	869	2.4	2.5	10.123	B

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	573	143	783	815	0.703	617	419	13.6	2.5	21.801	C
B	656	164	729	938	0.700	680	671	8.4	2.4	15.143	C
C	618	154	583	1391	0.444	620	826	1.3	0.8	4.679	A
D	731	183	467	1316	0.555	736	736	2.5	1.3	6.253	A

09:15 - 09:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	480	120	654	885	0.542	485	349	2.5	1.2	9.114	A
B	550	137	584	1019	0.539	555	555	2.4	1.2	7.830	A
C	517	129	473	1467	0.353	518	666	0.8	0.5	3.802	A
D	612	153	389	1368	0.447	614	602	1.3	0.8	4.787	A

Queue Variation Results for each time segment

08:00 - 08:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1.15	0.53	1.10	1.47	1.75			N/A	N/A
B	1.14	0.55	1.06	1.14	1.54			N/A	N/A
C	0.54	0.54	1.00	1.40	1.45			N/A	N/A
D	0.80	0.55	1.00	1.40	1.45			N/A	N/A

08:15 - 08:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	2.22	0.06	0.78	5.83	8.92			N/A	N/A
B	2.07	0.06	0.76	5.41	8.24			N/A	N/A
C	0.77	0.08	0.82	1.23	1.23			N/A	N/A
D	1.22	0.06	0.77	2.68	3.79			N/A	N/A

08:30 - 08:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	10.31	0.16	4.53	26.92	37.98			N/A	N/A
B	7.02	0.06	1.07	20.39	33.82			N/A	N/A
C	1.29	0.03	0.26	1.29	1.29			N/A	N/A
D	2.42	0.03	0.28	2.42	7.35			N/A	N/A

08:45 - 09:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	13.59	0.11	3.96	38.29	57.26			N/A	N/A
B	8.45	0.04	0.44	23.15	45.62			N/A	N/A
C	1.31	0.03	0.27	1.31	1.37			N/A	N/A
D	2.47	0.03	0.27	2.47	3.22			N/A	N/A

09:00 - 09:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	2.51	0.04	0.38	6.55	13.04			N/A	N/A
B	2.44	0.04	0.43	6.71	11.74			N/A	N/A
C	0.81	0.21	0.94	1.40	1.46			N/A	N/A
D	1.27	0.07	0.92	2.62	3.60			N/A	N/A

09:15 - 09:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1.21	0.03	0.29	1.42	5.16			N/A	N/A
B	1.19	0.03	0.30	1.81	5.90			N/A	N/A
C	0.55	0.05	0.54	1.31	1.41			N/A	N/A
D	0.82	0.04	0.43	1.81	2.79			N/A	N/A

2040+Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C, D	23.39	C

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	-4	Arm A	23.39	C

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2040+Dev	PM	ONE HOUR	17:00	18:30	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	551	100.000
B		ONE HOUR	✓	696	100.000
C		ONE HOUR	✓	989	100.000
D		ONE HOUR	✓	850	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A	B	C	D
From	A	0	141	341	69
	B	152	0	355	189
	C	375	226	0	388
	D	81	465	304	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	0	1	0
	B	1	0	1	3
	C	1	3	0	2
	D	0	1	2	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	0.92	52.51	8.3	42.5	F	506	758
B	0.83	22.61	4.6	22.8	C	639	958
C	0.73	8.93	2.7	7.1	A	908	1361
D	0.86	22.19	5.5	27.6	C	780	1170

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	415	104	745	847	0.490	411	455	0.0	0.9	8.192	A
B	524	131	533	1060	0.494	520	622	0.0	1.0	6.623	A
C	745	186	306	1590	0.468	741	747	0.0	0.9	4.222	A
D	640	160	564	1271	0.504	636	483	0.0	1.0	5.636	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	495	124	891	768	0.645	492	545	0.9	1.7	12.877	B
B	626	156	638	1001	0.625	623	745	1.0	1.6	9.460	A
C	889	222	367	1548	0.574	887	895	0.9	1.3	5.429	A
D	764	191	675	1196	0.639	761	579	1.0	1.7	8.225	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	607	152	1082	667	0.910	587	664	1.7	6.8	38.137	E
B	766	192	766	929	0.825	756	902	1.6	4.2	19.731	C
C	1089	272	444	1495	0.728	1084	1079	1.3	2.6	8.647	A
D	936	234	824	1096	0.854	922	704	1.7	5.1	19.385	C

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	607	152	1094	660	0.919	601	669	6.8	8.3	52.511	F
B	766	192	781	921	0.832	765	914	4.2	4.6	22.614	C
C	1089	272	450	1491	0.730	1089	1096	2.6	2.7	8.934	A
D	936	234	829	1093	0.856	934	710	5.1	5.5	22.188	C

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	495	124	909	759	0.652	521	552	8.3	2.0	16.536	C
B	626	156	666	986	0.635	637	764	4.6	1.8	10.633	B
C	889	222	377	1541	0.577	894	925	2.7	1.4	5.607	A
D	764	191	682	1191	0.642	779	589	5.5	1.8	9.021	A

18:15 - 18:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	415	104	752	843	0.492	419	459	2.0	1.0	8.566	A
B	524	131	542	1055	0.497	527	630	1.8	1.0	6.857	A
C	745	186	311	1587	0.469	747	758	1.4	0.9	4.292	A
D	640	160	569	1268	0.505	643	488	1.8	1.0	5.796	A

Queue Variation Results for each time segment

17:00 - 17:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.94	0.55	1.00	1.41	1.46			N/A	N/A
B	0.96	0.55	1.00	1.40	1.45			N/A	N/A
C	0.87	0.55	1.00	1.40	1.45			N/A	N/A
D	1.00	0.55	1.00	1.40	1.45			N/A	N/A

17:15 - 17:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1.75	0.06	0.73	4.40	6.61			N/A	N/A
B	1.62	0.06	0.77	3.94	5.87			N/A	N/A
C	1.33	0.05	0.66	3.09	4.61			N/A	N/A
D	1.73	0.05	0.51	4.49	6.96			N/A	N/A

17:30 - 17:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	6.76	0.07	1.05	19.32	30.33			N/A	N/A
B	4.19	0.04	0.36	9.74	22.76			N/A	N/A
C	2.59	0.03	0.28	2.59	7.06			N/A	N/A
D	5.09	0.04	0.38	12.74	27.56			N/A	N/A

17:45 - 18:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	8.25	0.05	0.53	23.78	42.50			N/A	N/A
B	4.58	0.03	0.31	5.33	21.63			N/A	N/A
C	2.65	0.03	0.27	2.65	2.65			N/A	N/A
D	5.48	0.03	0.32	7.37	26.86			N/A	N/A

18:00 - 18:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1.96	0.04	0.39	5.21	9.72			N/A	N/A
B	1.79	0.05	0.47	4.76	7.68			N/A	N/A
C	1.38	0.07	0.99	2.86	3.91			N/A	N/A
D	1.84	0.04	0.44	4.93	8.31			N/A	N/A

18:15 - 18:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.99	0.03	0.30	1.13	4.61			N/A	N/A
B	1.00	0.03	0.33	2.25	4.94			N/A	N/A
C	0.89	0.04	0.44	1.96	3.03			N/A	N/A
D	1.03	0.03	0.32	2.10	5.18			N/A	N/A

Junctions 10

ARCADY 10 - Roundabout Module

Version: 10.0.1.1519

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Filename: Junction 13 - Broad Oak Road_Vauxhall Road.j10

Path: \\uk.wspgroup.com\central data\Projects\70080xxx\70080896 - University of Kent\03 WIP\TP Transport Planning\Junctions 10

Report generation date: 04/02/2022 17:19:44

»2021, AM
»2021, PM
»2040, AM
»2040, PM
»2040+Dev, AM
»2040+Dev, 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
	2021													
Arm A	D1	1.4	7.95	0.59	A	42.58	-8 % [Arm B]	D2	3.0	13.46	0.75	B	14.81	13 % [Arm C]
Arm B		15.5	79.53	0.98	F				0.4	6.38	0.27	A		
Arm C		3.3	31.89	0.78	D				2.9	20.14	0.75	C		
	2040													
Arm A	D3	2.1	10.09	0.68	B	140.57	-19 % [Arm B]	D4	6.3	25.63	0.88	D	27.54	-2 % [Arm C]
Arm B		72.8	305.26	1.19	F				0.5	7.32	0.33	A		
Arm C		6.0	52.44	0.88	F				6.1	38.37	0.88	E		
	2040+Dev													
Arm A	D5	2.3	11.00	0.70	B	162.06	-21 % [Arm B]	D6	7.1	28.32	0.89	D	33.46	-5 % [Arm C]
Arm B		82.1	363.09	1.22	F				0.5	7.46	0.33	A		
Arm C		6.1	52.61	0.88	F				8.4	50.79	0.92	F		

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages. 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	17/01/2022
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	CORP\UKWGF001
Description	

Units

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

Analysis Options

Mini-roundabout model	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
JUNCTIONS ₉	5.75	✓				✓	Delay	0.85	38.00	20.00		500

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2021	AM	ONE HOUR	08:00	09:30	15	✓
D2	2021	PM	ONE HOUR	16:30	18:00	15	✓
D3	2040	AM	ONE HOUR	08:00	09:30	15	✓
D4	2040	PM	ONE HOUR	16:30	18:00	15	✓
D5	2040+Dev	AM	ONE HOUR	08:00	09:30	15	✓
D6	2040+Dev	PM	ONE HOUR	16:30	18:00	15	✓

Analysis Set Details

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

2021, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Broad Oak/Vauxhall Road Mini Roundabout	Mini-roundabout		A, B, C	42.58	E

Junction Network

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	Normal/unknown		-8	Arm B	42.58	E

Arms

Arms

Arm	Name	Description
A	Broad Oak Road (West)	
B	Broad Oak Road (East)	
C	Vauxhall Road	

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
A	3.30	3.20	4.50	18.4	17.90	18.20	0.0	✓
B	3.05	2.95	4.55	3.9	15.30	12.50	0.0	
C	3.80	3.70	3.80	1.8	17.80	12.50	0.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A	0.650	1186
B	0.622	831
C	0.627	806

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

Arm Capacity Adjustments

Arm	Type	Reason	Direct capacity adjustment (PCU/hr)
B	Direct		250

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2021	AM	ONE HOUR	08:00	09:30	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	594	100.000
B		ONE HOUR	✓	657	100.000
C		ONE HOUR	✓	354	100.000

Origin-Destination Data

Demand (Veh/hr)

From	To			
	A	B	C	
	A	0	145	449
	B	421	0	238
	C	302	52	0

Vehicle Mix

Heavy Vehicle Percentages

From	To			
	A	B	C	
	A	0	5	3
	B	4	0	3
	C	1	10	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	0.59	7.95	1.4	1.7	A	545	818
B	0.98	79.53	15.5	60.8	F	603	904
C	0.78	31.89	3.3	16.5	D	325	487

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	447	112	39	1119	0.400	445	538	0.0	0.7	5.315	A
B	495	124	336	836	0.592	489	147	0.0	1.4	10.228	B
C	287	87	313	588	0.453	263	512	0.0	0.8	10.973	B

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	534	133	46	1114	0.479	533	645	0.7	0.9	6.186	A
B	591	148	403	794	0.744	585	177	1.4	2.7	16.813	C
C	318	80	375	549	0.580	316	613	0.8	1.3	15.338	C

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	654	164	56	1107	0.591	652	768	0.9	1.4	7.873	A
B	723	181	493	739	0.979	688	215	2.7	11.5	51.373	F
C	390	97	441	507	0.769	383	740	1.3	2.9	27.749	D

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	654	164	57	1107	0.591	654	785	1.4	1.4	7.949	A
B	723	181	494	738	0.980	708	217	11.5	15.5	79.529	F
C	390	97	453	499	0.781	388	749	2.9	3.3	31.885	D

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	534	133	48	1113	0.480	536	687	1.4	0.9	6.258	A
B	591	148	405	793	0.745	640	179	15.5	3.2	29.397	D
C	318	80	410	527	0.804	325	635	3.3	1.6	18.389	C

09:15 - 09:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	447	112	40	1119	0.400	448	551	0.9	0.7	5.376	A
B	495	124	339	834	0.593	501	149	3.2	1.5	11.031	B
C	267	67	321	583	0.457	269	519	1.6	0.9	11.579	B

Queue Variation Results for each time segment

08:00 - 08:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.66	0.55	1.00	1.40	1.45			N/A	N/A
B	1.41	0.55	1.31	1.83	1.98			N/A	N/A
C	0.81	0.55	1.00	1.40	1.45			N/A	N/A

08:15 - 08:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.91	0.10	0.91	1.31	1.71			N/A	N/A
B	2.71	0.07	1.12	7.06	10.53			N/A	N/A
C	1.33	0.09	1.06	2.55	3.36			N/A	N/A

08:30 - 08:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1.41	0.03	0.27	1.41	1.41			N/A	N/A
B	11.53	0.22	5.82	29.11	40.16			N/A	N/A
C	2.95	0.04	0.36	7.01	15.72			N/A	N/A

08:45 - 09:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1.43	0.03	0.27	1.43	1.43			N/A	N/A
B	15.46	0.15	5.90	42.08	60.82			N/A	N/A
C	3.27	0.03	0.32	4.88	16.45			N/A	N/A

09:00 - 09:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.93	0.12	0.95	1.28	1.68			N/A	N/A
B	3.18	0.04	0.40	8.54	16.50			N/A	N/A
C	1.60	0.05	0.51	4.04	6.29			N/A	N/A

09:15 - 09:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.67	0.06	0.64	1.15	1.15			N/A	N/A
B	1.50	0.03	0.30	1.58	6.85			N/A	N/A
C	0.86	0.03	0.34	1.97	3.98			N/A	N/A

2021, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout		Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms A and C have 88% of the total flow for the roundabout for one or more time segments]
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Broad Oak/Vauxhall Road Mini Roundabout	Mini-roundabout		A, B, C	14.81	B

Junction Network

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	Normal/unknown		13	Arm C	14.81	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
D2	2021	PM	ONE HOUR	16:30	18:00	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	745	100.000
B		ONE HOUR	✓	188	100.000
C		ONE HOUR	✓	485	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
From		A	B	C
	A	0	318	427
	B	121	0	67
	C	357	128	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
From		A	B	C
	A	0	0	1
	B	3	0	0
	C	1	2	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	0.75	13.46	3.0	13.0	B	684	1025
B	0.27	6.38	0.4	1.2	A	173	259
C	0.75	20.14	2.9	14.4	C	445	668

Main Results for each time segment

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	581	140	95	1116	0.502	557	357	0.0	1.0	6.390	A
B	142	35	319	884	0.164	141	333	0.0	0.2	4.971	A
C	385	91	91	738	0.495	381	389	0.0	1.0	9.455	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	670	167	115	1104	0.607	668	428	1.0	1.5	8.216	A
B	169	42	383	825	0.205	169	400	0.2	0.3	5.484	A
C	438	109	109	727	0.600	434	443	1.0	1.5	12.207	B

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	820	205	140	1087	0.754	815	522	1.5	2.9	12.940	B
B	207	52	467	773	0.268	207	487	0.3	0.4	6.350	A
C	534	133	133	711	0.751	529	541	1.5	2.8	19.149	C

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	820	205	141	1088	0.755	820	526	2.9	3.0	13.462	B
B	207	52	470	771	0.268	207	491	0.4	0.4	6.378	A
C	534	133	133	711	0.751	534	544	2.8	2.9	20.144	C

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	670	167	116	1103	0.607	675	434	3.0	1.6	8.535	A
B	169	42	387	822	0.206	169	405	0.4	0.3	5.519	A
C	438	109	109	727	0.600	441	447	2.9	1.5	12.849	B

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	561	140	97	1115	0.503	563	362	1.6	1.0	6.543	A
B	142	35	323	862	0.164	142	337	0.3	0.2	5.002	A
C	365	91	91	738	0.495	367	373	1.5	1.0	9.773	A

Queue Variation Results for each time segment

16:30 - 16:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1.00	0.55	1.00	1.40	1.45			N/A	N/A
B	0.19	0.00	0.00	0.19	0.19			N/A	N/A
C	0.96	0.55	1.00	1.40	1.45			N/A	N/A

16:45 - 17:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1.51	0.06	0.90	3.46	4.90			N/A	N/A
B	0.26	0.00	0.00	0.26	0.26			N/A	N/A
C	1.45	0.08	1.08	2.90	3.92			N/A	N/A

17:00 - 17:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	2.91	0.03	0.30	2.91	12.99			N/A	N/A
B	0.36	0.03	0.25	0.46	0.48			N/A	N/A
C	2.79	0.03	0.32	4.73	14.44			N/A	N/A

17:15 - 17:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	2.99	0.03	0.28	2.99	6.61			N/A	N/A
B	0.36	0.03	0.32	1.17	1.17			N/A	N/A
C	2.89	0.03	0.29	2.89	10.50			N/A	N/A

17:30 - 17:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1.58	0.06	0.73	3.86	5.76			N/A	N/A
B	0.26	0.00	0.00	0.26	0.26			N/A	N/A
C	1.55	0.05	0.50	3.92	6.09			N/A	N/A

17:45 - 18:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1.03	0.04	0.40	2.56	4.28			N/A	N/A
B	0.20	0.00	0.00	0.20	0.20			N/A	N/A
C	1.00	0.04	0.38	2.50	4.38			N/A	N/A

2040, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Broad Oak/Vauxhall Road Mini Roundabout	Mini-roundabout		A, B, C	140.57	F

Junction Network

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	Normal/unknown		-19	Arm B	140.57	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
D3	2040	AM	ONE HOUR	08:00	09:30	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	677	100.000
B		ONE HOUR	✓	749	100.000
C		ONE HOUR	✓	404	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
	From A	0	165	512
	From B	480	0	289
	From C	345	59	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	From A	0	5	3
	From B	4	0	3
	From C	1	10	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	0.68	10.09	2.1	4.9	B	621	932
B	1.19	305.26	72.8	119.5	F	687	1031
C	0.88	52.44	6.0	32.5	F	371	558

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	510	127	44	1116	0.457	506	612	0.0	0.8	5.875	A
B	564	141	383	807	0.699	555	167	0.0	2.2	13.866	B
C	304	76	356	561	0.542	300	582	0.0	1.1	13.536	B

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	609	152	52	1110	0.548	607	729	0.8	1.2	7.138	A
B	673	168	459	760	0.886	658	200	2.2	6.0	31.599	D
C	363	91	422	519	0.700	359	696	1.1	2.2	21.943	C

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	745	186	63	1102	0.676	742	810	1.2	2.0	9.696	A
B	825	206	561	697	1.184	688	244	6.0	40.1	135.998	F
C	445	111	441	507	0.878	433	808	2.2	5.2	42.538	E

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	745	186	65	1102	0.677	745	822	2.0	2.1	10.093	B
B	825	206	564	695	1.186	694	246	40.1	72.8	296.502	F
C	445	111	445	505	0.882	442	813	5.2	6.0	52.437	F

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	609	152	55	1108	0.549	612	798	2.1	1.2	7.296	A
B	673	168	463	757	0.889	747	204	72.8	54.3	305.256	F
C	363	91	479	483	0.752	374	731	6.0	3.4	35.468	E

09:15 - 09:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	510	127	45	1115	0.457	511	758	1.2	0.9	5.978	A
B	564	141	387	804	0.701	769	170	54.3	3.0	128.758	F
C	304	76	493	474	0.642	310	663	3.4	1.9	22.707	C

Queue Variation Results for each time segment

08:00 - 08:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.83	0.55	1.00	1.40	1.45			N/A	N/A
B	2.21	0.12	1.04	4.63	6.13			N/A	N/A
C	1.14	0.55	1.04	1.27	1.27			N/A	N/A

08:15 - 08:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1.19	0.08	0.95	2.29	3.00			N/A	N/A
B	5.98	0.14	2.70	15.00	20.91			N/A	N/A
C	2.16	0.09	1.36	4.84	6.67			N/A	N/A

08:30 - 08:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	2.02	0.03	0.28	2.02	4.95			N/A	N/A
B	40.08	15.77	37.08	62.98	72.01			N/A	N/A
C	5.24	0.06	1.02	14.96	24.24			N/A	N/A

08:45 - 09:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	2.06	0.03	0.27	2.06	2.15			N/A	N/A
B	72.78	35.50	69.23	106.85	119.52			N/A	N/A
C	6.02	0.04	0.41	16.16	32.47			N/A	N/A

09:00 - 09:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1.24	0.08	0.96	2.43	3.26			N/A	N/A
B	54.34	26.84	51.66	79.15	88.40			N/A	N/A
C	3.37	0.05	0.48	9.51	16.04			N/A	N/A

09:15 - 09:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.85	0.05	0.48	1.77	2.58			N/A	N/A
B	2.98	0.03	0.30	3.04	13.63			N/A	N/A
C	1.90	0.04	0.39	5.02	9.40			N/A	N/A

2040, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout		Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms A and C have 86% of the total flow for the roundabout for one or more time segments]
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Broad Oak/Vauxhall Road Mini Roundabout	Mini-roundabout		A, B, C	27.54	D

Junction Network

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	Normal/unknown		-2	Arm C	27.54	D

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2040	PM	ONE HOUR	16:30	18:00	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	853	100.000
B		ONE HOUR	✓	216	100.000
C		ONE HOUR	✓	556	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
From		A	B	C
	A	0	364	489
	B	139	0	77
	C	409	147	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
From		A	B	C
	A	0	0	1
	B	3	0	0
	C	1	2	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	0.88	25.63	6.3	33.2	D	783	1174
B	0.33	7.32	0.5	2.1	A	198	297
C	0.88	38.37	6.1	33.4	E	510	765

Main Results for each time segment

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	642	161	109	1107	0.580	637	408	0.0	1.4	7.568	A
B	163	41	365	836	0.195	162	381	0.0	0.2	5.331	A
C	419	105	104	730	0.574	413	423	0.0	1.3	11.205	B

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	767	192	131	1093	0.702	763	490	1.4	2.3	10.800	B
B	194	49	438	791	0.245	194	457	0.2	0.3	6.023	A
C	500	125	125	717	0.698	496	507	1.3	2.2	16.079	C

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	939	235	158	1075	0.874	925	593	2.3	5.8	22.150	C
B	238	59	530	734	0.324	237	553	0.3	0.5	7.235	A
C	612	153	153	699	0.876	599	615	2.2	5.5	32.334	D

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	939	235	161	1073	0.875	937	602	5.8	6.3	25.629	D
B	238	59	537	730	0.326	238	561	0.5	0.5	7.315	A
C	612	153	153	699	0.876	610	622	5.5	6.1	38.372	E

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	767	192	136	1090	0.704	782	504	6.3	2.5	12.248	B
B	194	49	448	785	0.248	195	470	0.5	0.3	6.111	A
C	500	125	125	716	0.698	514	518	6.1	2.4	18.980	C

Source: Junctions 10 (10.0.1.1519)

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	642	161	112	1106	0.581	646	416	2.5	1.4	7.910	A
B	163	41	371	832	0.195	163	388	0.3	0.2	5.381	A
C	419	105	105	729	0.574	423	429	2.4	1.4	11.907	B

Queue Variation Results for each time segment

16:30 - 16:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1.35	0.57	1.20	1.66	1.83			N/A	N/A
B	0.24	0.00	0.00	0.24	0.24			N/A	N/A
C	1.31	0.56	1.12	1.50	1.75			N/A	N/A

16:45 - 17:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	2.27	0.06	0.90	5.88	8.86			N/A	N/A
B	0.32	0.00	0.00	0.32	0.32			N/A	N/A
C	2.18	0.08	1.21	5.22	7.42			N/A	N/A

17:00 - 17:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	5.81	0.04	0.42	15.83	31.02			N/A	N/A
B	0.47	0.03	0.25	0.47	0.48			N/A	N/A
C	5.51	0.05	0.50	15.81	27.38			N/A	N/A

17:15 - 17:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	6.32	0.03	0.33	10.98	33.21			N/A	N/A
B	0.48	0.03	0.31	1.40	2.08			N/A	N/A
C	6.11	0.04	0.37	14.50	33.45			N/A	N/A

17:30 - 17:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	2.47	0.04	0.44	6.80	11.79			N/A	N/A
B	0.33	0.00	0.00	0.33	0.33			N/A	N/A
C	2.44	0.04	0.42	6.70	12.01			N/A	N/A

17:45 - 18:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1.41	0.03	0.33	3.06	7.27			N/A	N/A
B	0.24	0.00	0.00	0.24	0.24			N/A	N/A
C	1.39	0.03	0.33	2.93	7.14			N/A	N/A

2040+Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Broad Oak/Vauxhall Road Mini Roundabout	Mini-roundabout		A, B, C	162.06	F

Junction Network

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	Normal/unknown		-21	Arm B	162.06	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
D5	2040+Dev	AM	ONE HOUR	08:00	09:30	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	704	100.000
B		ONE HOUR	✓	749	100.000
C		ONE HOUR	✓	411	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
From		A	B	C
	A	0	165	539
	B	480	0	289
	C	352	59	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
From		A	B	C
	A	0	5	3
	B	4	0	3
	C	1	10	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	0.70	11.00	2.3	7.3	B	646	989
B	1.22	363.09	82.1	129.0	F	687	1031
C	0.88	52.61	6.1	33.1	F	377	566

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	530	133	44	1116	0.475	526	616	0.0	0.9	6.069	A
B	564	141	403	794	0.710	555	167	0.0	2.3	14.518	B
C	309	77	355	562	0.551	305	602	0.0	1.2	13.775	B

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	633	158	52	1110	0.570	631	733	0.9	1.3	7.492	A
B	673	168	483	745	0.904	656	200	2.3	6.7	35.024	E
C	369	92	420	520	0.710	365	719	1.2	2.3	22.588	C

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	775	194	63	1103	0.703	771	808	1.3	2.3	10.732	B
B	825	206	590	678	1.215	672	244	6.7	44.9	153.480	F
C	453	113	431	514	0.881	440	832	2.3	5.4	42.912	E

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	775	194	65	1102	0.704	775	818	2.3	2.3	11.000	B
B	825	206	593	677	1.219	676	246	44.9	82.1	341.125	F
C	453	113	433	512	0.884	449	836	5.4	6.1	52.609	F

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	633	158	55	1109	0.571	637	796	2.3	1.4	7.692	A
B	673	168	488	742	0.907	733	204	82.1	67.1	363.087	F
C	369	92	470	489	0.756	380	751	6.1	3.4	35.728	E

09:15 - 09:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	530	133	45	1115	0.475	532	770	1.4	0.9	6.189	A
B	564	141	407	792	0.712	780	170	67.1	13.1	190.892	F
C	309	77	500	469	0.659	315	687	3.4	2.1	24.074	C

Queue Variation Results for each time segment

08:00 - 08:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.89	0.55	1.00	1.40	1.45			N/A	N/A
B	2.31	0.09	1.36	5.39	7.51			N/A	N/A
C	1.19	0.56	1.06	1.19	1.57			N/A	N/A

08:15 - 08:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1.30	0.07	0.94	2.69	3.70			N/A	N/A
B	6.71	0.15	3.13	16.81	23.34			N/A	N/A
C	2.26	0.10	1.41	5.08	6.97			N/A	N/A

08:30 - 08:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	2.28	0.03	0.28	2.28	7.29			N/A	N/A
B	44.85	19.46	42.00	68.34	77.39			N/A	N/A
C	5.37	0.06	1.09	15.35	24.74			N/A	N/A

08:45 - 09:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	2.32	0.03	0.27	2.32	2.99			N/A	N/A
B	82.05	43.62	78.77	116.53	129.04			N/A	N/A
C	6.15	0.04	0.42	16.57	33.11			N/A	N/A

09:00 - 09:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1.36	0.07	0.92	2.88	3.99			N/A	N/A
B	67.10	33.05	63.87	98.07	109.57			N/A	N/A
C	3.45	0.05	0.46	9.69	16.89			N/A	N/A

09:15 - 09:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.92	0.05	0.45	2.00	3.10			N/A	N/A
B	13.05	0.29	7.14	32.20	43.80			N/A	N/A
C	2.06	0.04	0.40	5.56	10.10			N/A	N/A

2040+Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout		Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms A and C have 88% of the total flow for the roundabout for one or more time segments]
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Broad Oak/Vauxhall Road Mini Roundabout	Mini-roundabout		A, B, C	33.46	D

Junction Network

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	Normal/unknown		-5	Arm C	33.46	D

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2040+Dev	PM	ONE HOUR	16:30	18:00	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	887	100.000
B		ONE HOUR	✓	216	100.000
C		ONE HOUR	✓	582	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
From		A	B	C
	A	0	364	503
	B	139	0	77
	C	435	147	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
From		A	B	C
	A	0	0	1
	B	3	0	0
	C	1	2	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	0.89	28.32	7.1	38.5	D	796	1193
B	0.33	7.46	0.5	2.2	A	198	297
C	0.92	50.79	8.4	43.9	F	534	801

Main Results for each time segment

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	653	163	109	1107	0.590	647	427	0.0	1.4	7.733	A
B	163	41	375	829	0.196	162	381	0.0	0.2	5.382	A
C	438	110	104	730	0.800	432	433	0.0	1.5	11.882	B

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	779	195	131	1093	0.713	775	513	1.4	2.4	11.203	B
B	194	49	450	784	0.248	194	457	0.2	0.3	6.101	A
C	523	131	125	717	0.730	519	519	1.5	2.5	17.806	C

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	955	239	157	1076	0.887	939	618	2.4	6.4	23.850	C
B	238	59	545	725	0.328	237	551	0.3	0.5	7.365	A
C	641	160	153	699	0.917	622	629	2.5	7.2	39.495	E

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	955	239	161	1073	0.889	952	628	6.4	7.1	28.324	D
B	238	59	552	721	0.330	238	560	0.5	0.5	7.455	A
C	641	160	153	699	0.917	636	637	7.2	8.4	50.786	F

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	779	195	138	1088	0.716	797	533	7.1	2.6	13.041	B
B	194	49	462	776	0.250	195	472	0.5	0.3	6.203	A
C	523	131	125	716	0.730	545	532	8.4	2.9	23.268	C

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	653	163	112	1105	0.591	657	438	2.6	1.5	8.118	A
B	163	41	381	826	0.197	163	388	0.3	0.2	5.435	A
C	438	110	105	729	0.601	444	439	2.9	1.6	12.829	B

Queue Variation Results for each time segment

16:30 - 16:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1.41	0.58	1.29	1.73	1.87			N/A	N/A
B	0.24	0.00	0.00	0.24	0.24			N/A	N/A
C	1.45	0.59	1.36	1.77	1.90			N/A	N/A

16:45 - 17:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	2.39	0.06	0.92	6.26	9.46			N/A	N/A
B	0.33	0.00	0.00	0.33	0.33			N/A	N/A
C	2.53	0.08	1.31	6.21	8.86			N/A	N/A

17:00 - 17:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	6.40	0.05	0.46	18.01	33.25			N/A	N/A
B	0.48	0.03	0.25	0.48	0.48			N/A	N/A
C	7.22	0.07	1.29	20.58	32.01			N/A	N/A

17:15 - 17:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	7.07	0.04	0.35	14.68	38.51			N/A	N/A
B	0.49	0.03	0.31	1.40	2.16			N/A	N/A
C	8.42	0.05	0.49	24.03	43.87			N/A	N/A

17:30 - 17:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	2.63	0.04	0.43	7.28	12.79			N/A	N/A
B	0.34	0.00	0.00	0.34	0.34			N/A	N/A
C	2.91	0.04	0.41	7.97	14.72			N/A	N/A

17:45 - 18:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1.47	0.03	0.33	3.06	7.65			N/A	N/A
B	0.25	0.00	0.00	0.25	0.25			N/A	N/A
C	1.55	0.03	0.32	2.94	8.06			N/A	N/A

Junctions 10															
ARCADY 10 - Roundabout Module															
Version: 10.0.1.1519															
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Filename: Junction 13 - Broad Oak Road_Vauxhall Road MITIGATION.j10

Path: \\uk.wspgroup.com\central data\Projects\70080xxx\70080896 - University of Kent\03 WIP\TP Transport Planning\Junctions 10

Report generation date: 04/02/2022 17:22:44

»2040+Dev, AM

»2040+Dev, 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
2040+Dev														
Arm A	D5	2.3	10.99	0.70	B	132.18	-19 % [Arm B]	D6	7.1	28.32	0.89	D	33.42	-5 % [Arm C]
Arm B		70.0	285.61	1.18	F				0.5	7.10	0.32	A		
Arm C		6.9	58.84	0.90	F				8.4	50.79	0.92	F		

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages. 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	17/01/2022
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	CORP\UKWGF001
Description	

Units

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

Analysis Options

Mini-roundabout model	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
JUNCTIONS 9	5.75	✓				✓	Delay	0.85	36.00	20.00		500

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2040+Dev	AM	ONE HOUR	08:00	09:30	15	✓
D6	2040+Dev	PM	ONE HOUR	16:30	18:00	15	✓

Analysis Set Details

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

2040+Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Broad Oak/Vauxhall Road Mini Roundabout	Mini-roundabout		A, B, C	132.18	F

Junction Network

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	Normal/unknown		-19	Arm B	132.18	F

Arms

Arms

Arm	Name	Description
A	Broad Oak Road (West)	
B	Broad Oak Road (East)	
C	Vauxhall Road	

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
A	3.30	3.20	4.50	18.4	17.90	18.20	0.0	✓
B	3.05	2.95	4.93	4.6	15.30	12.50	0.0	
C	3.80	3.70	3.80	1.8	17.60	12.50	0.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A	0.650	1186
B	0.627	859
C	0.627	806

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

Arm Capacity Adjustments

Arm	Type	Reason	Direct capacity adjustment (PCU/hr)
B	Direct		250

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2040+Dev	AM	ONE HOUR	08:00	09:30	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	704	100.000
B		ONE HOUR	✓	749	100.000
C		ONE HOUR	✓	411	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
	A	B	C	
From	A	0	165	539
	B	480	0	269
	C	352	59	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	A	B	C	
From	A	0	5	3
	B	4	0	3
	C	1	10	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	0.70	10.99	2.3	7.3	B	646	989
B	1.18	285.61	70.0	116.8	F	687	1031
C	0.90	58.84	6.9	35.7	F	377	568

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	530	133	44	1116	0.475	526	617	0.0	0.9	6.069	A
B	564	141	403	819	0.689	555	167	0.0	2.1	13.282	B
C	309	77	356	561	0.551	305	603	0.0	1.2	13.794	B

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	633	158	52	1110	0.570	631	735	0.9	1.3	7.492	A
B	673	168	483	769	0.876	659	200	2.1	5.6	29.688	D
C	369	92	423	519	0.712	365	720	1.2	2.3	22.782	C

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	775	194	63	1103	0.703	771	819	1.3	2.3	10.727	B
B	825	206	590	702	1.175	693	244	5.6	38.5	130.236	F
C	453	113	444	505	0.896	438	839	2.3	5.8	46.128	E

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	775	194	64	1102	0.703	775	832	2.3	2.3	10.994	B
B	825	206	593	700	1.178	699	246	38.5	70.0	285.610	F
C	453	113	448	503	0.900	448	844	5.8	6.9	58.836	F

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	633	158	55	1108	0.571	637	811	2.3	1.4	7.694	A
B	673	168	488	766	0.879	755	204	70.0	49.5	284.337	F
C	369	92	484	480	0.770	382	759	6.9	3.8	40.073	E

09:15 - 09:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	530	133	45	1115	0.475	532	753	1.4	0.9	6.191	A
B	564	141	407	816	0.691	751	170	49.5	2.6	102.877	F
C	309	77	482	481	0.643	317	677	3.8	1.9	22.806	C

Queue Variation Results for each time segment

08:00 - 08:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.89	0.55	1.00	1.40	1.45			N/A	N/A
B	2.11	0.13	1.49	4.35	5.76			N/A	N/A
C	1.19	0.56	1.07	1.23	1.61			N/A	N/A

08:15 - 08:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1.30	0.07	0.94	2.69	3.70			N/A	N/A
B	5.59	0.12	2.33	14.26	20.08			N/A	N/A
C	2.28	0.09	1.40	5.19	7.16			N/A	N/A

08:30 - 08:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	2.28	0.03	0.28	2.28	7.28			N/A	N/A
B	38.54	14.57	35.48	61.27	70.29			N/A	N/A
C	5.83	0.07	1.43	16.51	25.74			N/A	N/A

08:45 - 09:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	2.32	0.03	0.27	2.32	2.98			N/A	N/A
B	69.99	33.05	66.35	104.02	116.78			N/A	N/A
C	6.87	0.05	0.46	19.41	35.73			N/A	N/A

09:00 - 09:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1.36	0.07	0.92	2.88	3.99			N/A	N/A
B	49.49	23.45	46.82	73.11	81.99			N/A	N/A
C	3.78	0.05	0.66	10.70	17.57			N/A	N/A

09:15 - 09:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.92	0.05	0.45	2.00	3.10			N/A	N/A
B	2.59	0.03	0.29	2.59	10.40			N/A	N/A
C	1.91	0.04	0.37	4.93	9.68			N/A	N/A

2040+Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout		Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms A and C have 88% of the total flow for the roundabout for one or more time segments]
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Broad Oak/Vauxhall Road Mini Roundabout	Mini-roundabout		A, B, C	33.42	D

Junction Network

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	Normal/unknown		-5	Arm C	33.42	D

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2040+Dev	PM	ONE HOUR	16:30	18:00	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	887	100.000
B		ONE HOUR	✓	216	100.000
C		ONE HOUR	✓	582	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
From		A	B	C
	A	0	364	503
	B	139	0	77
	C	435	147	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
From		A	B	C
	A	0	0	1
	B	3	0	0
	C	1	2	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	0.89	28.32	7.1	38.5	D	796	1193
B	0.32	7.10	0.5	2.0	A	198	297
C	0.92	50.79	8.4	43.9	F	534	801

Main Results for each time segment

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	653	163	109	1107	0.590	647	427	0.0	1.4	7.733	A
B	163	41	375	855	0.190	162	381	0.0	0.2	5.189	A
C	438	110	104	730	0.800	432	433	0.0	1.5	11.883	B

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	779	195	131	1093	0.713	775	513	1.4	2.4	11.203	B
B	194	49	450	808	0.240	194	457	0.2	0.3	5.856	A
C	523	131	125	717	0.730	519	519	1.5	2.5	17.807	C

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	955	239	157	1076	0.887	939	618	2.4	6.4	23.850	C
B	238	59	545	750	0.317	237	551	0.3	0.5	7.020	A
C	641	160	153	699	0.917	622	629	2.5	7.2	39.499	E

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	955	239	161	1073	0.889	952	628	6.4	7.1	28.324	D
B	238	59	552	745	0.319	238	560	0.5	0.5	7.100	A
C	641	160	153	699	0.917	636	637	7.2	8.4	50.792	F

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	779	195	138	1088	0.716	797	533	7.1	2.6	13.041	B
B	194	49	462	801	0.243	195	472	0.5	0.3	5.947	A
C	523	131	125	716	0.730	545	532	8.4	2.9	23.287	C

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	653	163	112	1105	0.591	657	438	2.6	1.5	8.118	A
B	163	41	381	851	0.191	163	388	0.3	0.2	5.236	A
C	438	110	105	729	0.601	444	439	2.9	1.6	12.829	B

Queue Variation Results for each time segment

16:30 - 16:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1.41	0.58	1.29	1.73	1.87			N/A	N/A
B	0.23	0.00	0.00	0.23	0.23			N/A	N/A
C	1.45	0.59	1.36	1.77	1.90			N/A	N/A

16:45 - 17:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	2.39	0.06	0.92	6.26	9.46			N/A	N/A
B	0.31	0.00	0.00	0.31	0.31			N/A	N/A
C	2.53	0.08	1.31	6.21	8.86			N/A	N/A

17:00 - 17:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	6.40	0.05	0.46	18.01	33.25			N/A	N/A
B	0.46	0.03	0.25	0.46	0.48			N/A	N/A
C	7.22	0.07	1.29	20.58	32.01			N/A	N/A

17:15 - 17:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	7.07	0.04	0.35	14.68	38.51			N/A	N/A
B	0.47	0.03	0.31	1.39	1.96			N/A	N/A
C	8.42	0.05	0.49	24.03	43.88			N/A	N/A

17:30 - 17:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	2.63	0.04	0.43	7.28	12.79			N/A	N/A
B	0.32	0.00	0.00	0.32	0.32			N/A	N/A
C	2.91	0.04	0.41	7.97	14.72			N/A	N/A

17:45 - 18:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1.47	0.03	0.33	3.06	7.65			N/A	N/A
B	0.24	0.00	0.00	0.24	0.24			N/A	N/A
C	1.55	0.03	0.32	2.94	8.06			N/A	N/A

Junctions 10													
PICADY 10 - Priority Intersection Module													
Version: 10.0.1.1519													
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Filename: Site Access - Right-Left Staggered_Rev2.0.j10

Path: \\uk.wspgroup.com\central data\Projects\70080xxx\70080896 - University of Kent\03 WIP\TP Transport Planning\Junctions 10

Report generation date: 04/02/2022 11:34:46

»2040+Dev, AM

»2040+Dev, 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
2040+Dev														
Stream B-C	D1	4.4	114.76	0.91	F	18.77	-14 % [Stream B-AD]	D2	0.2	9.22	0.16	A	2.72	8 % [Stream B-AD]
Stream B-AD		5.1	126.71	0.90	F				0.7	26.08	0.41	D		
Stream A-BCD		0.0	7.63	0.02	A				0.0	8.30	0.01	A		
Stream D-ABC		0.1	15.16	0.07	C				0.0	12.88	0.05	B		
Stream C-ABD		0.1	10.29	0.10	B				0.4	10.28	0.29	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. Junction LOS and Junction Delay are demand-weighted averages. 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	18/01/2022
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	CORP\UKWGF001
Description	

Units

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

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D1	2040+Dev	AM	ONE HOUR	07:45	09:15	15	✓	✓
D2	2040+Dev	PM	ONE HOUR	16:15	17:45	15	✓	✓

Analysis Set Details

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

2040+Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	Arm B - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Demand Sets	D1 - 2040+Dev, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Right-Left Stagger	Two-way	Two-way	Two-way	Two-way		18.77	C

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	-14	Stream B-AD	18.77	C

Arms

Arms

Arm	Name	Description	Arm type
A	Whitstable Road (North)		Major
B	Site Access		Minor
C	Whitstable Road (South)		Major
D	Highfield Close		Minor

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Width for right-turn storage (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
A	6.00		✓	2.50	120.4	✓	3.00
C	6.00		✓	3.00	69.2	✓	4.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B	One lane plus flare		10.00	5.86	4.49	4.14	3.80		2.00	48	78
D	One lane	3.16								58	15

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-B	Slope for D-C
A-D	665	-	-	-	0.258	0.258	0.258	-	0.258	-	-
B-AD	558	0.101	0.256	-	-	-	0.161	0.365	0.161	0.101	0.256
B-C	698	0.107	0.270	-	-	-	-	-	-	0.107	0.270
C-B	668	0.259	0.259	-	-	-	-	-	-	0.259	0.259
D-A	643	-	-	-	0.249	0.099	0.249	-	0.099	-	-
D-BC	512	0.148	0.148	0.337	0.236	0.093	0.236	-	0.093	-	-

The slopes and intercepts shown above include custom intercept adjustments only.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D1	2040+Dev	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 (%)
A		ONE HOUR	✓	962	100.000
B		ONE HOUR	✓	273	100.000
C		ONE HOUR	✓	525	100.000
D		ONE HOUR	✓	17	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A	B	C	D
From	A	0	44	909	9
	B	141	0	132	0
	C	488	35	0	2
	D	8	0	9	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	0	2	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.91	114.76	4.4	15.8	F	132	132
B-AD	0.90	126.71	5.1	21.8	F	141	141
A-BCD	0.02	7.63	0.0	0.5	A	9	9
A-B						44	44
A-C						909	909
D-ABC	0.07	15.16	0.1	0.5	C	17	17
C-ABD	0.10	10.29	0.1	0.5	B	35	35
C-D						2	2
C-A						488	488

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	119	30	387	0.307	118	0.3	0.4	13.369	B
B-AD	127	32	252	0.504	125	0.5	1.0	28.032	D
A-BCD	8	2	518	0.016	8	0.0	0.0	7.058	A
A-B	40	10			40				
A-C	817	204			817				
D-ABC	15	4	323	0.047	15	0.0	0.0	11.683	B
C-ABD	31	8	440	0.072	31	0.1	0.1	8.818	A
C-D	2	0.45			2				
C-A	439	110			439				

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	145	36	203	0.715	139	0.4	2.1	51.529	F
B-AD	155	39	176	0.883	143	1.0	3.9	89.891	F
A-BCD	10	2	485	0.020	10	0.0	0.0	7.579	A
A-B	48	12			48				
A-C	1001	250			1001				
D-ABC	19	5	259	0.072	19	0.0	0.1	14.942	B
C-ABD	39	10	388	0.099	38	0.1	0.1	10.282	B
C-D	2	0.55			2				
C-A	537	134			537				

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	145	38	180	0.908	138	2.1	4.4	114.783	F
B-AD	155	39	173	0.898	151	3.9	5.1	128.708	F
A-BCD	10	2	482	0.021	10	0.0	0.0	7.629	A
A-B	48	12			48				
A-C	1001	250			1001				
D-ABC	19	5	258	0.073	19	0.1	0.1	15.165	C
C-ABD	39	10	388	0.099	39	0.1	0.1	10.289	B
C-D	2	0.55			2				
C-A	537	134			537				

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	119	30	388	0.325	134	4.4	0.5	16.588	C
B-AD	127	32	250	0.507	143	5.1	1.1	37.793	E
A-BCD	8	2	513	0.016	8	0.0	0.0	7.127	A
A-B	40	10			40				
A-C	817	204			817				
D-ABC	15	4	318	0.048	15	0.1	0.1	11.881	B
C-ABD	31	8	440	0.072	32	0.1	0.1	8.826	A
C-D	2	0.45			2				
C-A	439	110			439				

Queue Variation Results for each time segment

08:00 - 08:15

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.43	0.04	0.37	1.19	1.34			N/A	N/A
B-AD	0.96	0.07	0.82	1.71	2.19			N/A	N/A
A-BCD	0.02	0.02	0.25	0.45	0.48			N/A	N/A
D-ABC	0.05	0.03	0.25	0.45	0.48			N/A	N/A
C-ABD	0.08	0.03	0.26	0.46	0.49			N/A	N/A

08:15 - 08:30

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	2.07	0.04	0.38	5.19	10.81			N/A	N/A
B-AD	3.95	0.09	1.25	10.27	14.87			N/A	N/A
A-BCD	0.02	0.00	0.00	0.02	0.02			N/A	N/A
D-ABC	0.08	0.03	0.26	0.47	0.49			N/A	N/A
C-ABD	0.11	0.03	0.26	0.47	0.49			N/A	N/A

08:30 - 08:45

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	4.43	0.11	1.75	11.20	15.82			N/A	N/A
B-AD	5.10	0.07	1.46	14.23	21.83			N/A	N/A
A-BCD	0.02	0.00	0.00	0.02	0.02			N/A	N/A
D-ABC	0.08	0.03	0.25	0.45	0.48			N/A	N/A
C-ABD	0.11	0.03	0.25	0.45	0.48			N/A	N/A

08:45 - 09:00

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.49	0.04	0.38	1.43	1.59			N/A	N/A
B-AD	1.10	0.03	0.35	2.69	5.30			N/A	N/A
A-BCD	0.02	0.00	0.00	0.02	0.02			N/A	N/A
D-ABC	0.05	0.00	0.00	0.05	0.05			N/A	N/A
C-ABD	0.08	0.00	0.00	0.08	0.08			N/A	N/A

2040+Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	Arm B - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Demand Sets	D2 - 2040+Dev, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Right-Left Stagger	Two-way	Two-way	Two-way	Two-way		2.72	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	8	Stream B-AD	2.72	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)	Results for central hour only	Run automatically
D2	2040+Dev	PM	ONE HOUR	16:15	17:45	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	609	100.000
B		ONE HOUR	✓	155	100.000
C		ONE HOUR	✓	831	100.000
D		ONE HOUR	✓	12	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
	A	B	C	D	
From	A	0	163	441	5
	B	86	0	69	0
	C	695	131	0	5
	D	7	0	5	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
	A	B	C	D	
	A	0	0	3	0
	B	0	0	0	0
	C	1	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.16	9.22	0.2	0.5	A	69	69
B-AD	0.41	26.08	0.7	3.2	D	88	88
A-BCD	0.01	8.30	0.0	0.5	A	5	5
A-B						163	163
A-C						441	441
D-ABC	0.05	12.88	0.0	0.5	B	12	12
C-ABD	0.29	10.28	0.4	1.7	B	132	132
C-D						5	5
C-A						694	694

Main Results for each time segment

16:30 - 16:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	62	16	522	0.119	62	0.1	0.1	7.825	A
B-AD	77	19	293	0.264	77	0.2	0.3	16.597	C
A-BCD	4	1	481	0.009	4	0.0	0.0	7.555	A
A-B	147	37			147				
A-C	396	99			396				
D-ABC	11	3	351	0.031	11	0.0	0.0	10.589	B
C-ABD	118	30	524	0.225	118	0.2	0.3	8.847	A
C-D	4	1			4				
C-A	624	156			624				

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	76	19	468	0.162	76	0.1	0.2	9.175	A
B-AD	95	24	233	0.407	93	0.3	0.7	25.662	D
A-BCD	6	1	439	0.013	5	0.0	0.0	8.294	A
A-B	179	45			179				
A-C	486	121			486				
D-ABC	13	3	293	0.045	13	0.0	0.0	12.857	B
C-ABD	146	36	496	0.294	145	0.3	0.4	10.252	B
C-D	5	1			5				
C-A	764	191			764				

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	76	19	486	0.163	76	0.2	0.2	9.224	A
B-AD	95	24	232	0.407	95	0.7	0.7	26.082	D
A-BCD	6	1	439	0.013	6	0.0	0.0	8.300	A
A-B	179	45			179				
A-C	486	121			486				
D-ABC	13	3	293	0.045	13	0.0	0.0	12.878	B
C-ABD	146	36	496	0.294	146	0.4	0.4	10.281	B
C-D	5	1			5				
C-A	764	191			764				

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	62	16	520	0.119	62	0.2	0.1	7.867	A
B-AD	77	19	293	0.264	79	0.7	0.4	16.848	C
A-BCD	4	1	480	0.009	5	0.0	0.0	7.566	A
A-B	147	37			147				
A-C	396	99			396				
D-ABC	11	3	350	0.031	11	0.0	0.0	10.608	B
C-ABD	118	30	524	0.225	119	0.4	0.3	8.883	A
C-D	4	1			4				
C-A	624	156			624				

Queue Variation Results for each time segment

16:30 - 16:45

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.13	0.00	0.00	0.13	0.13			N/A	N/A
B-AD	0.35	0.00	0.00	0.35	0.35			N/A	N/A
A-BCD	0.01	0.01	0.25	0.45	0.48			N/A	N/A
D-ABC	0.03	0.03	0.25	0.45	0.48			N/A	N/A
C-ABD	0.29	0.00	0.00	0.29	0.29			N/A	N/A

16:45 - 17:00

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.19	0.03	0.26	0.46	0.49			N/A	N/A
B-AD	0.66	0.03	0.27	0.66	1.05			N/A	N/A
A-BCD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
D-ABC	0.05	0.03	0.25	0.46	0.48			N/A	N/A
C-ABD	0.41	0.03	0.26	0.46	0.49			N/A	N/A

17:00 - 17:15

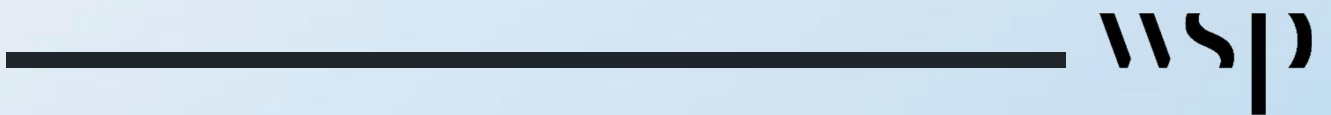
Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.19	0.03	0.26	0.46	0.49			N/A	N/A
B-AD	0.67	0.03	0.31	1.31	3.18			N/A	N/A
A-BCD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
D-ABC	0.05	0.00	0.00	0.05	0.05			N/A	N/A
C-ABD	0.42	0.03	0.31	1.32	1.72			N/A	N/A

17:15 - 17:30

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.14	0.00	0.00	0.14	0.14			N/A	N/A
B-AD	0.37	0.03	0.29	0.84	1.17			N/A	N/A
A-BCD	0.01	0.00	0.00	0.01	0.01			N/A	N/A
D-ABC	0.03	0.00	0.00	0.03	0.03			N/A	N/A
C-ABD	0.30	0.00	0.00	0.30	0.30			N/A	N/A

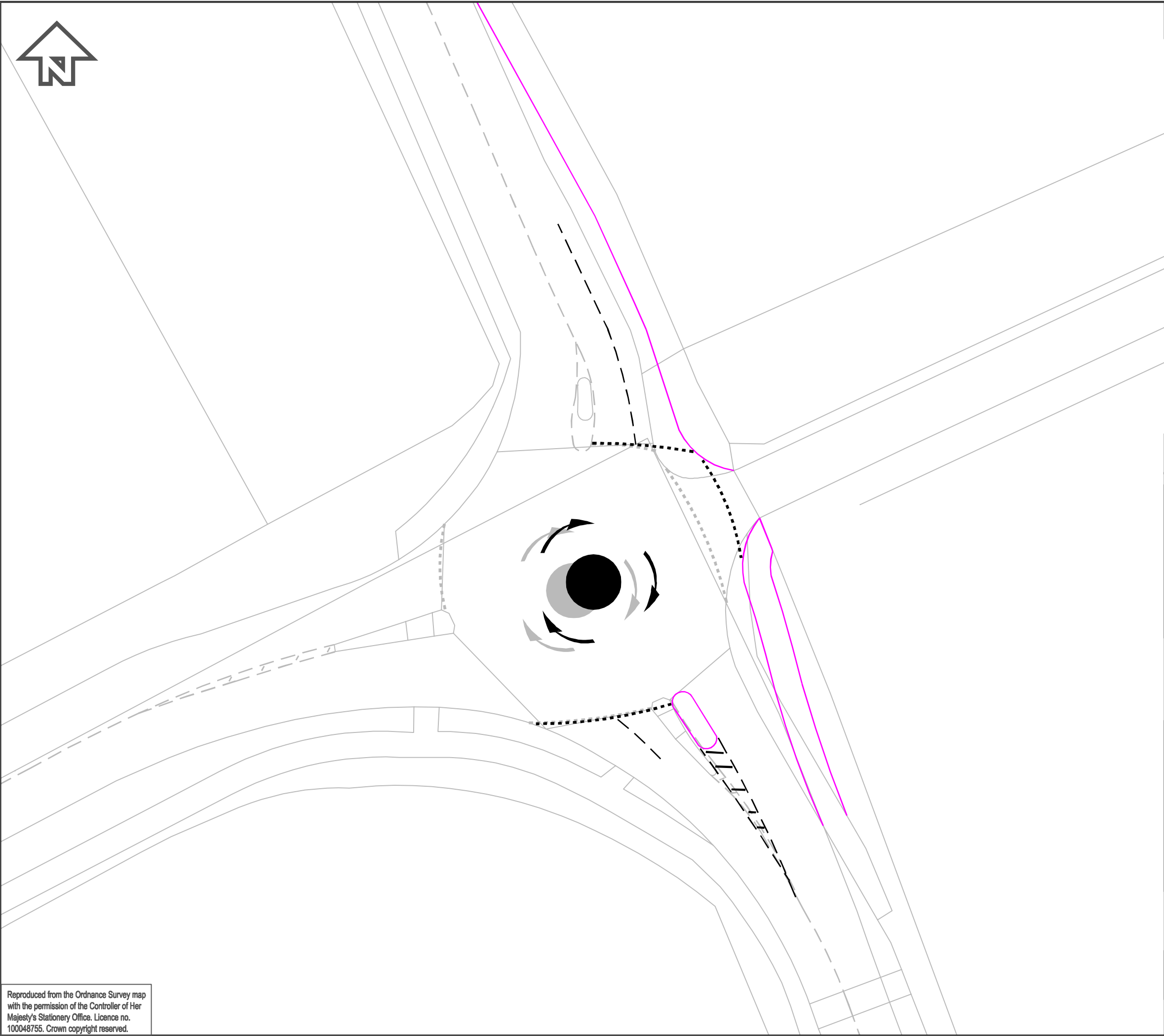
Appendix D

Site Access and Mitigation Drawings



DO NOT SCALE			
KEY			
		Proposed Kerb Line	
		Proposed Road Marking	
DRAWING STATUS:			
 Mountbatten House, Basing View, Basingstoke, RG21 4HJ, UK T+ 44 (0) 1256 318 800, F+ 44 (0) 1256 318 700 wsp.com			
CLIENT: University of Kent			
ARCHITECT: PRP			
PROJECT: University of Kent, Canterbury			
TITLE: Preliminary Transport Appraisal Site Access			
SCALE @ A3: NTS		CHECKED: JS	
PROJECT No: 70080896		DESIGNED: JS	
		DRAWN: JS	
		DATE: February 2022	
DRAWING No: 70080896-XX-XX-TP-016 SITE ACCESS			REV: -
© WSP UK Ltd			

File name \\UK.WSPGROUP.COM\CENTRAL DATA\PROJECTS\70080896-XX-XX-TP-017 J10 GILES LANE.DWG, printed on 01 February 2022 09:08:58, by Sherlock, Justin



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DO NOT SCALE

KEY

Proposed Kerb Line

Proposed Road Marking

DRAWING STATUS:

WSP

Mountbatten House, Basing View, Basingstoke, RG21 4HJ, UK

T+ 44 (0) 1256 318 800, F+ 44 (0) 1256 318 700

wsp.com

CLIENT:

University of Kent

ARCHITECT:

PRP

PROJECT:

University of Kent, Canterbury

TITLE:

Preliminary Transport Appraisal
J10 Giles Lane Mitigation

SCALE @ A3:

NTS

CHECKED:

JS

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AA

PROJECT No:

70080896

DESIGNED:

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DRAWN:

JS

DATE:

February 2022

DRAWING No:

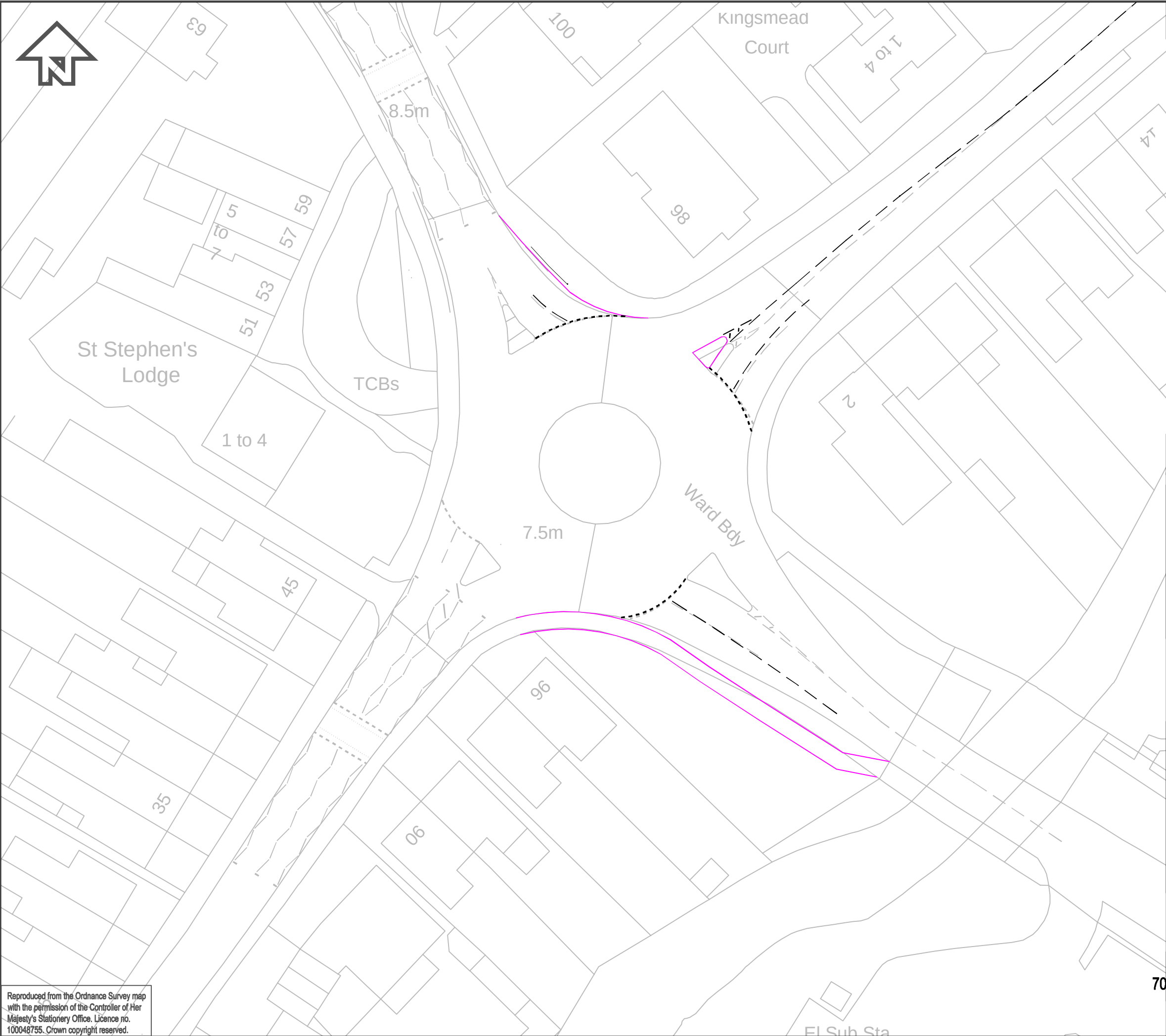
70080896-XX-XX-TP-017 J10 GILES LANE

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CLIENT:

University of Kent

ARCHITECT:

PRP

PROJECT:

University of Kent, Canterbury

TITLE:

Preliminary Transport Appraisal
J12 Broad Oak Road Mitigation

SCALE @ A3:
NTS

CHECKED:
JS

APPROVED:
AA

PROJECT No:
70080896

DESIGNED:
JS

DRAWN:
JS

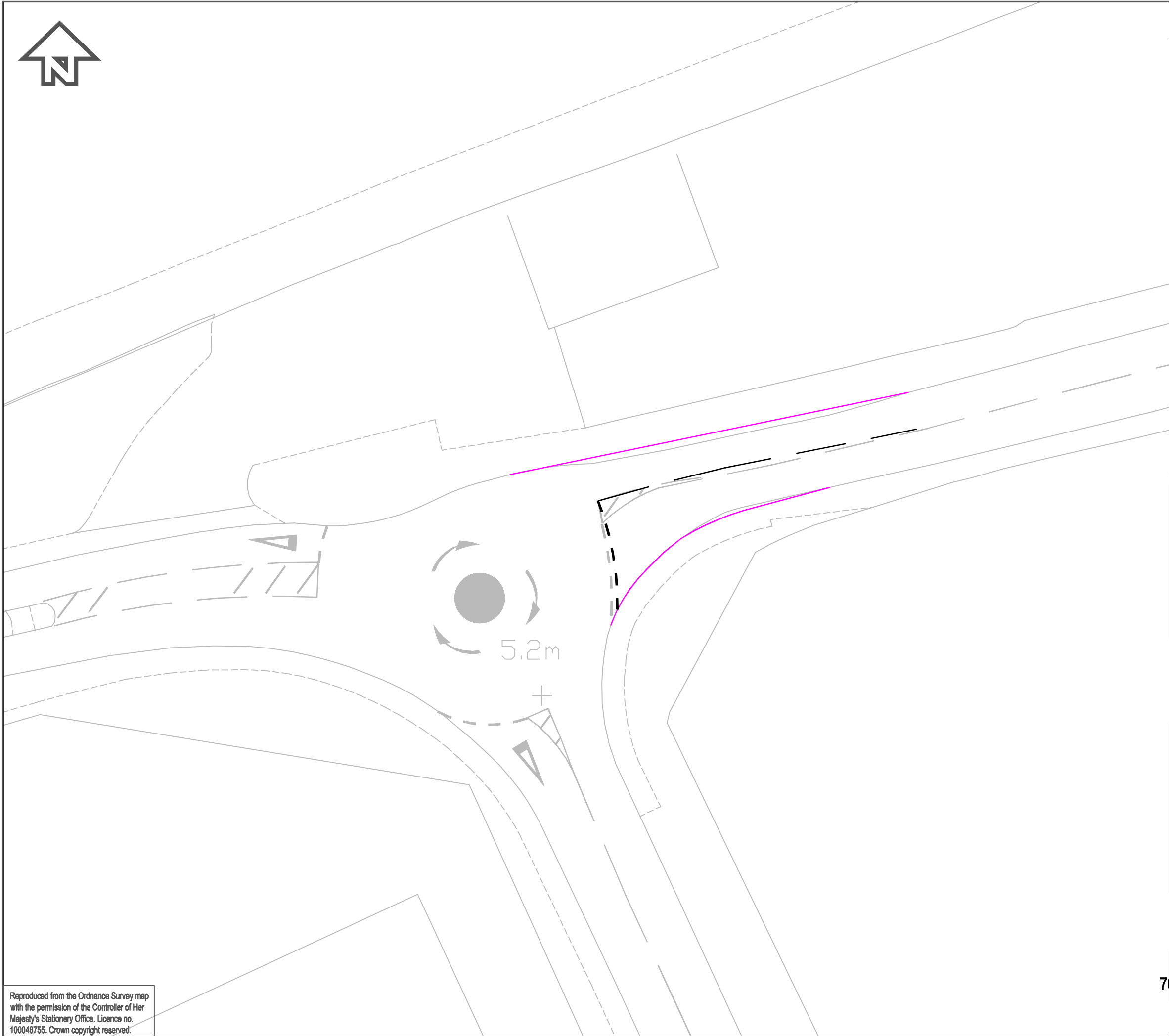
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CLIENT: University of Kent

ARCHITECT: PRP

PROJECT: University of Kent, Canterbury

TITLE: Preliminary Transport Appraisal
J13 Vauxhall Road Mitigation

SCALE @ A3: NTS	CHECKED: JS	APPROVED: AA
PROJECT No: 70080896	DESIGNED: JS	DRAWN: JS
DATE: February 2022		REV:

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