dha transport
integrated transport & travel planning

gate 2 business case

QUINN ESTATES /

MILDVALLEY HOMES LTD

MIDDLE DEAL LINK ROAD,

DEAL

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PL/HA/11025

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1 Introduction

1.1.1 DHA Transport has been commissioned by Quinn Estates and Mildvalley Homes Ltd to prepare a Single Local Growth Fund (SLGF) business case submission to the South East Local Enterprise Partnership (SELEP) in respect to a proposed link road and related mixed-used development off Albert Road in Deal, Kent.

1.1.2 The purpose of this submission is to provide a proportionate justification for the 2016/17 funding provisionally allocated to the Middle Deal Link Road scheme. It has been agreed with the SELEP's Independent Technical Evaluator (ITE) that it would not be appropriate to apply the Department for Transport (DfT)'s Transport Business Case appraisal methodology to the scheme, as its principal benefits relate to regeneration and local economic growth rather than traditional transport benefits (i.e. journey time savings and/or mode shift). Instead, the ITE has advised that the Homes and Communities Agency (HCA)'s Additionality Guide should be applied to the scheme.

1.1.3 The submission is structured in accordance with HM Treasury's '5 Case Model', which is used to assess the business case for investment decisions. This considers the strategic case, the economic case, the financial case, the commercial case and the management case for the project.

1.1.4 Following this introduction, the submission is structured as follows:-

- Section 2 – Project Outline;
- Section 3 – the Strategic Case;
- Section 4 – the Economic Case;
- Section 5 – the Financial Case;
- Section 6 – the Commercial Case;
- Section 7 – the Management Case;
- Section 8 – Summary and Conclusions.

2 Existing Conditions and Project Outline

2.1 Scheme Location

2.1.1 The proposal site is situated in the Middle Deal area of Deal, which is a medium-sized coastal town located within the Dover District of the County of Kent. It lies to the north of Southwall Road and to the west of Albert Road. The site location is highlighted in Figure 2-1 below.

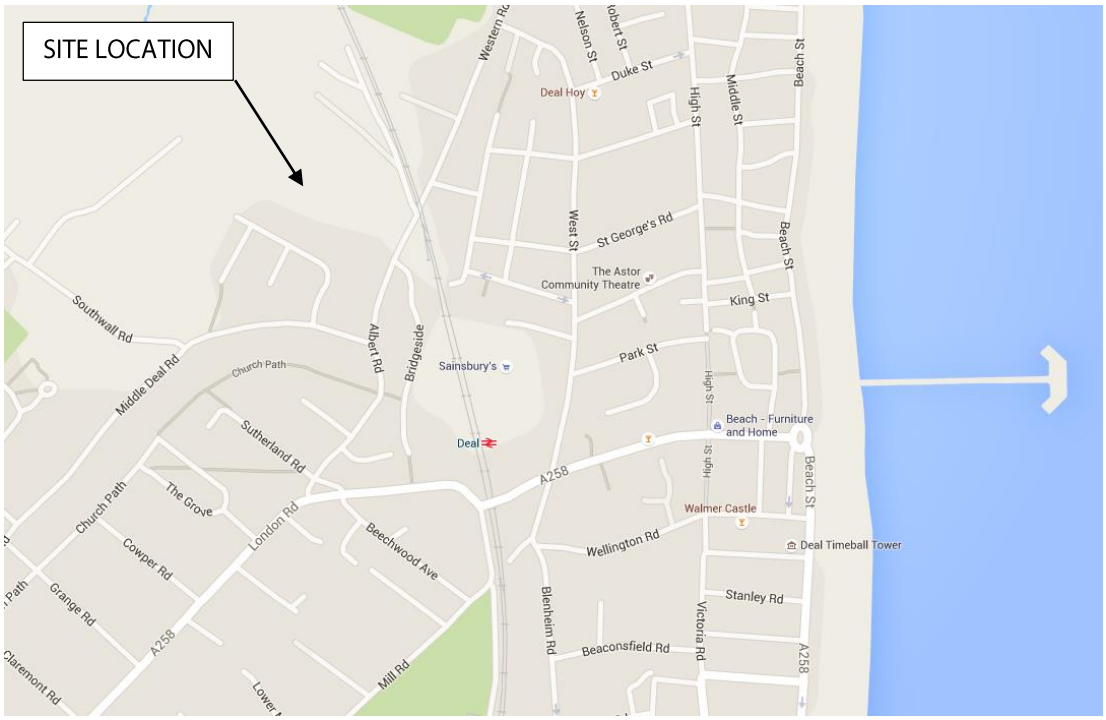


Figure 2-1: Site Location (courtesy of Google Maps)

2.1.2 The site is bound by residential properties within Matthews Close and Albert Road to the south and east, the Minters Yard commercial area to the south west, undeveloped land to the north west and further commercial development alongside the Dover to Ramsgate railway line to the north.

2.1.3 Vehicular access to the site is currently gained from Southwall Road via the private road that serves the Minters Yard commercial area.

2.2 Walking and Cycle Infrastructure

2.2.1 The local highway network within the vicinity of the site is provided with footways on each side of the carriageway, which are subject to street lighting, as is typical of suburban residential streets. This footway network generally measures at least 1.8 metres in width and provides ready access to Deal Town Centre and local bus and rail facilities, all of which are located within approximately 1km of the centre of the site by recognised walking routes.

2.2.2 The Public Right of Way (PRoW) network local to the site is highlighted in Figure 2-2 below. It is evident that there are several Public Footpaths (identified in purple) to the south and east of the site, which provide local links between the key distributor roads in the area. Public Bridleway EE385 also provides a link between Southwall Road and Fowlmead Country Park to the west of Deal.

2.2.3 An on-carriageway cycle route is also present (identified in orange), which connects Albert Road with the town centre and seafront via St Patrick's Road and St George's Road.

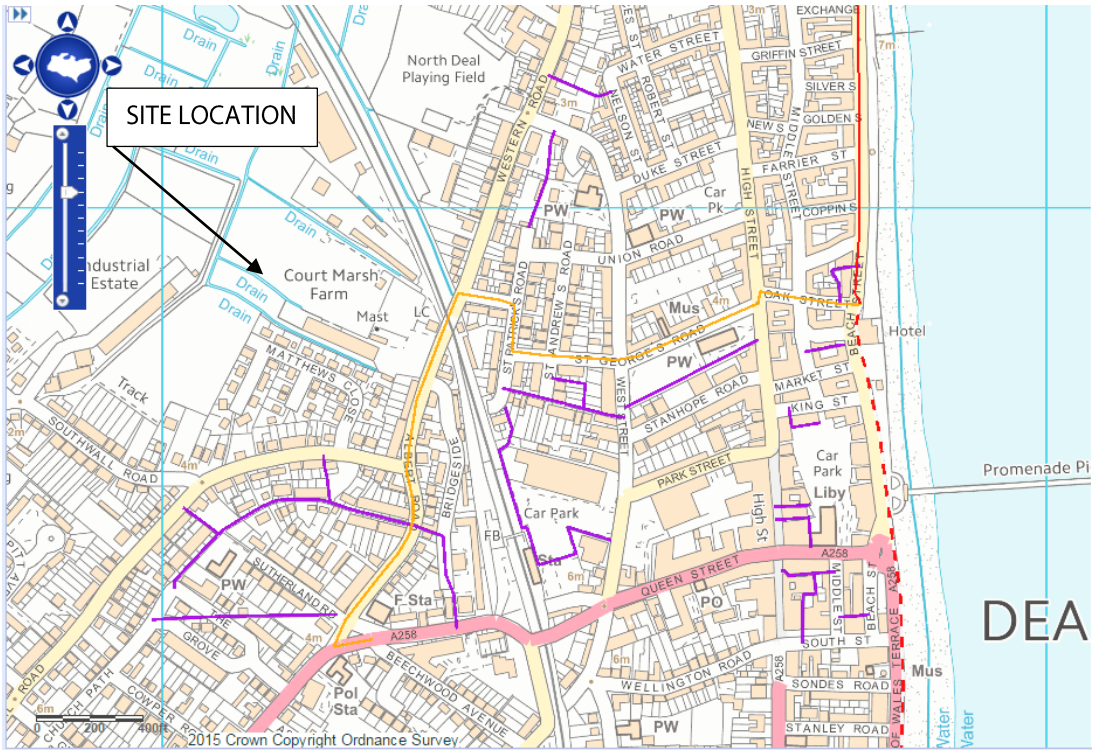


Figure 2-2: Local PRoW Network (courtesy of KCC)

2.3 Public Transport Infrastructure

2.3.1 Bus stops are located along the length of Albert Road, at regular intervals. The closest bus stop is situated immediately opposite the eastern boundary of the site.

2.3.2 This bus stop is served by two bus services - Routes 15A and 80 – operated by Stagecoach in East Kent, the details of which are summarised in Table 2-1 below. The full service timetables are included at **Appendix A**.

Service No.	Route	Weekday Frequency
15A	Sandown – Deal – Ringwould – Dover – Canterbury	11 per day
80	Sandown – Deal – Ringwould – Dover	1 per day

Table 2-1: Local Bus Routes and Frequencies

2.3.3 It should be noted that in addition to the above services, London Road to the south of the site is served by several other high-frequency bus routes to surrounding towns and villages, including some four departures per hour to Canterbury. These services are highlighted in Figure 2-3 below.

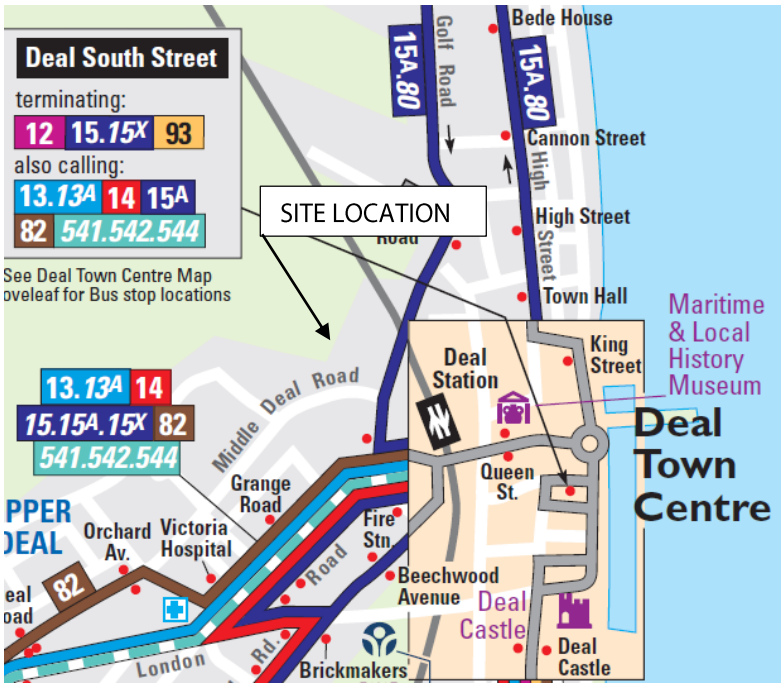


Figure 2-3: Extract from Local Bus Route Map (courtesy of KCC)

2.3.4 The site is also situated within approximately 480 metres of Deal railway station by recognised walking routes, as previously indicated. Deal is served by half-hourly Southeastern High Speed rail services to London St Pancras International (via Ashford International and Faversham respectively), as well as half-hourly Southeastern Mainline services to London Charing Cross, Dover Priory and Ramsgate.

2.4 Highway Infrastructure and Local Road Network

2.4.1 As has been noted, vehicular access to the site is currently derived from Southwall Road via the private road that serves the Minters Yard commercial development. This single point of access is located some distance from the primary route network via a series of residential streets.

2.4.2 Commercial traffic associated with the businesses in Minters Yard is known to be of concern to local residents in Middle Deal, due to the restricted width of local streets and

the perceived impacts of these movements on residential amenity, highway safety, air quality and congestion.

2.4.3 The area to the south of Southwall Road provides several signed HGV access routes between the site and the A258 London Road, via Middle Deal Road or Albert Road, which are provided with footways and street lighting and are subject to 30mph speed limits. These routes vary in width from approximately 4.5 metres to approximately 7.3 metres. It should be noted in this respect that the Manual for Streets states that a minimum carriageway width of 5.5 metres is required for two HGVs to pass and that this requirement is not currently met on Southwall Road.

2.4.4 To the north of the site, Albert Road crosses the Dover to Ramsgate railway line by way of an at-grade crossing and joins with Western Road, which provides onward connectivity to the predominantly residential areas in North Deal.

2.4.5 The A258 London Road provides onward connectivity to the towns of Sandwich to the north and Dover to the south, via Deal Town Centre.

2.5 Accessibility

2.5.1 A number of local facilities and services are located within an acceptable walking distance of the site. These include, but are not limited to, bus stops, the railway station, a medical centre and a supermarket. A summary of walking distances, measured along walking routes from the proposed new site entrance located on Albert Road and not taken 'as the crow flies', is provided in Table 2-2 below.

Facility	Walk Distance (m)	Walk Time (Minutes)
Bus Stop	40	1
Public House	320	4
Railway Station	480	6
Supermarket	480	6
Sandown Primary School	480	6
Medical Centre	600	7.5
Town Centre Retail	600	7.5
Castle Community College	1300	16

Table 2-2: Site Accessibility to Local Services

2.5.2 The walk times provided above are based on a walk speed of 80m per minute, a figure which is widely used to estimate walk times and used within the London Based Public Transport Accessibility Level (PTAL) analysis. It aims to provide a typical average value that estimates it takes 5 minutes to walk 400m, 10 minutes to walk 800m and so on.

2.6 Road Safety

2.6.1 Personal Injury Accident (PIA) data has been sourced from KCC for the area surrounding the proposal site for the most recent three year period up to 30th April 2015. The accident plot and D-print report are included in **Appendix B**.

2.6.2 A total of 16 incidents were recorded during the three-year study period. Of these, two were classified as 'serious' and the remainder as 'slight' in their severity. The PIA data is summarised in Table 2-3 below.

Junction/Link	Accident Type			Light Conditions		Weather Conditions		Road Surface		
	Slight	Ser.	Fatal	Light	Dark	Fine	Other	Dry	Wet	Ice
St Patricks Road / St Davids Road	2	0	0	2	0	1	1	2	0	0
St George's Road	1	0	0	1	0	1	0	1	0	0
Mill Road / Park Avenue	2	0	0	1	1	2	0	1	1	0
The Grove	1	0	0	1	0	1	0	1	0	0
Church Path	1	0	0	1	0	0	1	1	0	0
London Road / Astor Drive	1	0	0	1	0	1	0	1	0	0
London Road / Bowling Green	3	1	0	3	1	3	1	2	2	0
London Road / Albert Road	1	1	0	1	1	2	0	2	0	0
London Road / Claremont Road	1	0	0	1	0	0	1	1	0	0
London Road	1	0	0	1	0	1	0	1	0	0
Total	**14**	**2**	**0**	**13**	**3**	**12**	**4**	**13**	**3**	**0**

Table 2-3: Summary of PIA Data

2.6.3 The serious incidents (PIA nos. 3 and 12) each took place at priority junctions. The former occurred at the A258 London Road / Albert Road junction. A vehicle was turning right from Albert Road in to London Road and pulled into the path of a pedal cycle travelling on London Road, resulting in a collision. The latter incident took place at the A258 London Road / Bowling Green Lane junction, after a vehicle turning right into Bowling Green Lane collided with an oncoming vehicle.

2.6.4 In addition to the serious incident on the London Road / Albert Road, a slight incident (PIA no. 5) was also recorded. This was the result of a vehicle turning right from Albert Road onto London Road, causing a collision with an oncoming vehicle.

2.6.5 Two slight incidents (PIA nos. 1 and 13) were recorded at the St Patricks Road / St Davids Road priority junction. The first of these incidents involved a right turn on to St Patricks Road. The driver was reported to have accidentally accelerated and collided with the kerb, causing the vehicle to roll on to its roof. The second incident involved a van

reversing into a mobility scooter which was crossing from St Patricks Road into St Davids Road.

2.6.6 A further incident was recorded in the vicinity of the above location, on St Georges Road (PIA no. 4). This resulted from a reversing manoeuvre during which a car driver's foot is reported to have become stuck, causing the vehicle to reverse into a parked car, which in turn collided with another parked vehicle.

2.6.7 Two incidents (PIA nos. 2 and 10) took place at the Mill Road / Park Avenue priority junction. The first of these involved a suspected stolen vehicle which was being pursued by a police car. At the Mill Road / Park Avenue junction, the vehicle left the carriageway and collided with a tree. The second incident was the result of a right turning vehicle crossing the path of oncoming traffic, resulting in a collision.

2.6.8 A further incident (PIA no. 6) was recorded on The Grove. A cyclist is reported to have crossed into the path of an oncoming vehicle and sustained injury. An incident was also recorded on Church Path (PIA no. 11), in which a car wing mirror clipped a youth who was playing in the street.

2.6.9 The remaining slight incidents all took place on the A258 London Road. Of these, three (PIA nos. 7, 9 and 16) occurred in the vicinity of the London Road / Bowling Green Lane priority junction. The first involved a rear end shunt between two cars after the preceding vehicle braked suddenly. The second was the result of a right turning vehicle into Bowling Green Lane colliding with an oncoming vehicle. The third incident occurred after a vehicle stopped due to parked cars obstructing their lane and was hit from behind by the following vehicle.

2.6.10 A further incident (PIA no. 8) took place at the London Road / Claremont Road priority junction. This involved a rear end shunt, by a driver failing to stop for a stationary vehicle waiting to turn right into Claremont Road. An incident was also recorded at the London Road / Astor Drive junction (PIA no. 14). This also involved a rear end shunt after a driver was momentarily blinded by the sun and failed to observe that the car in front had slowed. The final incident (PIA no. 15) involved a mobility scooter travelling along London Road manoeuvring to pass a pedestrian. In doing so, the scooter left the pavement and tipped over on to the rider.

2.6.11 In summary, it is apparent that the majority of the recorded PIAs within the study area occurred at priority junctions and were the result of human error. It should also be noted that none of the incidents occurred in the near vicinity of the site on Southwall Road or Albert Road. It is therefore concluded that the proposed development is unlikely to exacerbate the existing highway safety record in this case.

2.7 Scheme Description

2.7.1 The proposed development comprises the construction of up to 145 residential units, 370sqm of A1 retail floorspace, 480sqm of B1 office floorspace and a 286sqm D1 children's nursery.

2.7.2 In order to provide suitable vehicular access to the development and to relieve the high-density residential area of Middle Deal to the south of commercial vehicle traffic, it is

proposed that the SLGF grant will be used to construct a new link road between Albert Road to the east and Southwall Road to the west, forming a spine road for the development and the existing Minters Yard commercial area.

2.7.3 The development masterplan is included at **Appendix C**.

2.8 Access

2.8.1 Vehicular access to the site will be derived from Albert Road and Southwall Road, as described above. A new priority junction will be created on Albert Road to the south of the at-grade crossing of the Dover to Ramsgate railway line. The access has been designed to accord with the relevant standards as set out in the Manual for Streets (MfS), following extensive dialogue with KCC H&T and Dover District Council.

2.8.2 It is anticipated that the link road will significantly reduce traffic volumes on Southwall Road, Middle Deal Road and Church Lane relative to both the Do Nothing and Do Minimum (i.e. proposed development without link road) scenarios, particularly with respect to trips to the existing Minters Yard commercial area, which include HGVs. The scheme consequently has widespread local and political support. These impacts will be considered in greater detail in Section 6 of this report.

2.9 Construction Traffic

2.9.1 Site offices and welfare facilities will be located on the construction site. Wheel washing equipment will be provided as necessary for construction phases. Access to the construction site will be secured and operated in accordance with current health and safety legislation. Delivery and construction HGV traffic will be accommodated on the construction site, with no requirement for waiting on the public highway. Daily movements of goods vehicles in particular will be timed to avoid peak traffic times.

2.9.2 At this stage it is envisaged that construction vehicles will be routed to the A258 London Road via Albert Road, with no access to the north of the at-grade railway crossing or the residential areas to the west via Middle Deal Road, Southwall Road or Church Lane.

2.9.3 As is common practice, a condition will be offered requiring the applicant to agree a Construction Environment Management Plan (CEMP), to satisfy the Local Planning and Highway Authorities that adequate measures are in place to ameliorate any temporary effects from construction activities and processes.

2.9.4 Third party suppliers and contractors visiting the site will be made aware of the construction access and routeing arrangements at the start of the project. Site management will ensure compliance with the construction access arrangements.

2.10 Category of Scheme Business Case

2.10.1 With a projected capital expenditure of £1,800,000, this scheme is categorised as 'small', according to SELEP criteria. The scheme is classified as a regeneration project.

3 Strategic Case

3.1 Overview

3.1.1 This section outlines the rationale for investment and presents evidence of the strategic and technical policy fit of the proposed scheme.

3.2 Purpose of the Proposed Investment

3.2.1 The overall purpose of the investment is to unlock a strategically important site for housing and employment uses by providing an appropriate means of vehicular access. The investment will assure the viability of the development, relieve the neighbouring residential communities of HGV traffic and potentially facilitate further phases of development in the medium term.

3.3 National Planning Policy Framework (NPPF)

3.3.1 The NPPF was brought in with immediate effect on 28th March 2012 and sets out the Government's planning policies for England. It states that the NPPF must be taken into account in the preparation of Local and Neighbourhood Plans, and is a material consideration in planning decisions.

3.3.2 At the heart of the NPPF is a presumption in favour of sustainable development. Its 'core planning principles', outlined in Paragraph 17, include the need to:-

- *Proactively drive and support sustainable economic development to deliver the homes, business and industrial units, infrastructure and thriving local places that the country needs;*
- *Promote mixed use developments, and encourage multiple benefits from the use of land in urban and rural areas…;*
- *Actively manage patterns of growth to make the fullest possible use of public transport, walking and cycling, and focus significant development in locations which are or can be made sustainable.*

3.3.3 Section 1 of the NPPF focuses on the role of planning in promoting economic growth. Paragraph 19 states that:-

> *The Government is committed to ensuring that the planning system does everything it can to support sustainable economic growth. Planning should operate to encourage and not act as an impediment to sustainable growth. Therefore significant weight should be placed on the need to support economic growth through the planning system.*

3.3.4 Section 4 of the document notes that sustainable transport has an important role to play in new development. The NPPF advises that development should be located and designed so as to:-

- *accommodate the efficient delivery of goods and supplies;*
- *give priority to pedestrian and cycle movements, and have access to high quality public transport facilities;*
- *create safe and secure layouts which minimise conflicts between traffic and cyclists or pedestrians, avoiding street clutter and where appropriate establishing home zones;*
- *incorporate facilities for charging plug-in and other ultra-low emission vehicles; and*
- *consider the needs of people with disabilities by all modes of transport.*

3.3.5 With respect to development which is likely to generate significant amounts of movement, Paragraph 32 states that plans and decisions should take account of whether:-

- *the opportunities for sustainable transport modes have been taken up depending on the nature and location of the site, to reduce the need for major transport infrastructure;*
- *safe and suitable access to the site can be achieved for all people; and*
- *improvements can be undertaken within the transport network that cost effectively limit the significant impacts of the development. Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe.*

3.3.6 Paragraph 37 encourages a mixture of land uses within larger-scale developments in particular so as to promote non-motorised travel for day-to-day activities, including employment and shopping.

3.4 SELEP Growth Deal and Strategic Economic Plan

3.4.1 The SELEP Strategic Economic Plan (SEP) was published in March 2014 and sets out the investment strategy for the LEP area, to which the Government's SLGF allocation will be applied.

3.4.2 The SEP encompasses the Kent and Medway Growth Deal, which outlines the Kent and Medway Economic Partnership (KMEP)'s intention to invest over £80 million per year between 2015/16 and 2020/21 to:-

- Substantially increase the delivery of housing and commercial developments;
- Deliver transport and broadband infrastructure to unlock growth;
- Back business expansion through better access to finance and support; and
- Deliver the skills that the local economy needs.

3.4.3 The Kent and Medway Growth Deal identifies four defined areas within the sub-region which will be the focus of investment. Dover District falls within the East Kent area – 'the High Speed One Growth Corridor' – for which the following challenges are specified:-

- Major sites are often difficult to bring forward. Although aspirations for growth are high in East Kent, values for housing and employment land are relatively low (and become lower east of Canterbury and Ashford) and local infrastructure constraints are often significant.

- Concentrations of deprivation are hard to overcome. Particularly within coastal towns such as Margate and Dover, entrenched worklessness and disadvantage is reinforced by local housing market failures which require a concerted effort to tackle.

- Infrastructure bottlenecks are significant and could hold back growth. While there has been substantial investment in road infrastructure, pinch points on the A2 present challenges, especially given the expansion of the Port of Dover.

3.5 Dover District Core Strategy

3.5.1 The Dover District Core Strategy Development Plan Document (DPD) was adopted in February 2010, and is the Borough Council's principal document within its Local Development Framework (LDF). The Core Strategy sets out the main planning policy objectives for the District up to 2026.

3.5.2 The Core Strategy's principal aims are as follows:-

- A priority for overall regeneration;

- A need to address the social and economic issues associated with the former coalfield;

- Diversification of the local economy;

- Improvement of transport communications;

- Improvement of the delivery of skills training.

3.5.3 In respect to Deal, the Core Strategy states that the town may have a larger role to play in contributing to the District's growth strategy if the constraints of the North and Middle Deal areas can be overcome and their potential realised.

3.6 Dover District Land Allocations Local Plan

3.6.1 The Dover District Land Allocations Local Plan was adopted by the District Council in January 2015 and forms part of the statutory Development Plan. Its purpose is to allocate land for development and to set out any issues or criteria that subsequent planning applications will need to address.

3.6.2 With regard to employment land allocations, it is noted that the Dover District Employment Update Report (September 2012) recommended that the proposal site (known as Albert Road, Deal) be prioritised for employment uses based on its sustainability credentials. The site is consequently allocated for a total of 4,550sqm of B1/B2 uses under Saved Local Plan Policy LE5. It is further noted in Paragraph 3.195 of the Land Allocations Local Plan that:-

> *"…there may be the opportunity to create a new road from Albert Road to Southwall Road, which would help to relieve traffic in Southwall Road. If it can be demonstrated that there is such potential, the mix of uses, including the suitability of retail and residential development, the new road… can be advanced through a planning application".*

3.7 Need for the Scheme

3.7.1 Deal is a medium-sized coastal town that is situated within the Dover District of the County of Kent. Despite its location within the relatively prosperous South East Region, Dover District – in common with other parts of coastal East Kent – contains some of the most deprived communities in England. Deal in particular has suffered the social and economic consequences of the decline of the East Kent Coalfield during the 1980s.

3.7.2 The District's population is also ageing at a higher rate than the national average, which is resulting in an increase in residents over the age of 65 and a reduction in children and people of working age.

3.7.3 Partly as a result of these issues, the District's housing market is not as strong as those for Kent and the wider South East Region. This is reflected in lower than average house prices and the second lowest sales price for new houses per square metre in Kent.[1] Until recently, volume house builders have consequently not been attracted to the District due to the weaker market conditions and related viability issues.

3.7.4 Whilst housing affordability issues are not as extreme as in other parts of the South East, they are nevertheless significant and growing. The need for affordable housing has increased due largely to an increase in the backlog of unmet need and a reduction in the stock of socially owned properties. Although there are shortages of all house types, the greatest shortfall is of three bedroom and larger houses.

3.7.5 The District's housing stock does not offer sufficient choice to satisfy modern needs in terms of affordability, type, size or quality. Dover and Deal in particular contain significantly more terraced housing than the regional average, much of which is privately-owned pre-1920s stock in poor condition. It is not sufficiently suited or adaptable to the needs of the elderly or those with health problems. The evidence also suggests that there is not enough housing at the upper end of the market to attract working age people to the area.

3.7.6 The closure of the East Kent Coalfield during the 1980s, together with the opening of the Channel Tunnel and changes to European Union regulations on international freight

[1] Dover District Council (2010), Adopted Core Strategy, p.15.

movement during the 1990s, resulted in large-scale job losses in the Dover economy. This has caused a polarisation between lower value, low skilled jobs and higher value, high skilled jobs in sectors that relate poorly to one other. The District consequently lacks professional, technical and managerial employment opportunities and lags behind the rest of the region on performance measures such as unemployment, business start-ups, density of businesses, productivity, skills levels and gross annual earnings.

3.7.7 Commercial activity in Deal is generally small-scale and locally based, which results in a high percentage of out-commuting to neighbouring employment centres. The North Deal area is associated with issues of high unemployment, low economic activity, relatively poor educational attainment and perceptions of crime and anti-social behaviour. The North and Middle Deal areas also lack community facilities.

3.7.8 The proposed development offers a strategically important opportunity to address many of the above issues, not least with regard to the provision of a supply of high quality homes of varying size, type and tenure; the creation of new employment opportunities within purpose-built premises suitable for business start-ups, as well as employers seeking to expand; and the establishment of new community facilities. The SLGF grant is critical to the realisation of these benefits, as it will assure the viability of the scheme and enable the delivery of vehicular access to the site, relieving the neighbouring residential communities of HGV traffic and potentially facilitating further phases of development in the medium term.

3.7.9 In the absence of this investment, there is likely to be an accentuation of the socio-economic and transport issues that currently affect the North and Middle Deal areas, as it will not be possible to bring forward the redevelopment of the proposal site in the short- to medium-term. As such, the backlog of unmet need for affordable and family housing will continue to grow and the lack of appropriate local employment opportunities in modern premises will remain, which will further promote the outmigration of economically active labour. These conditions will reinforce the problems of unemployment, anti-social behaviour, poor health and social exclusion that currently plague the area.

3.8 Strategic Fit and Objectives

3.8.1 The proposed scheme is seen to comply with relevant national, regional and local policies, as follows:-

- It unlocks a strategically important, mixed-use development which will provide much-needed new homes, employment opportunities and community facilities in an area which presently lacks them (*NPPF, Strategic Economic Plan, Dover Local Plan*);

- It provides for a highly sustainable development which is accessible by public transport and close to a number of local services, amenities and facilities within Deal Town Centre (*NPPF, Dover Local Plan)*;

- It relieves the neighbouring residential communities of HGV traffic and its associated impacts on local amenity and environmental quality; thereby

facilitating the potential for further phases of development in the medium term (*Dover Local Plan)*.

3.9 Stakeholder Engagement

3.9.1 Quinn Estates and Mildvalley Homes Ltd have demonstrated their commitment to consult with the local community regarding the proposed development. Consultation to date has included discussions with the following key groups:-

- Local residents;
- Local councillors;
- Dover District Council;
- Kent County Council;
- Deal Chamber of Commerce;
- Locate in Kent (inward investment agency);
- Network Rail;
- Environment Agency;
- Southern Water;
- Internal Drainage Board.

3.9.2 Pre-application consultation with the local community has included a public exhibition (held on Wednesday 4th March 2015 at Deal Town Hall) at which local residents and stakeholders were provided with the opportunity to view and comment on the draft proposals. The exhibition was extensively advertised via the following media:-

- Flyer drop to residential properties in close proximity to the site;
- Email invite to all Dover District Councillors;
- Email invite to Dover District Council's Planning Team;
- Advertisement in the East Kent Mercury.

3.9.3 Feedback forms were provided to enable all attendees to notify the applicants of any issues they wished to raise. In total, 47 feedback forms were returned, which represented a return rate of 29%. Overall, 90% of respondents stated that they were in favour of the scheme.

3.9.4 The results of the consultation process have been fully taken into account within the technical documentation forming the planning application, which includes a Statement of Community Involvement.

3.10 Powers and Consents

3.10.1 The proposed scheme is almost wholly incorporated within land under the control of the applicants. The construction of the Link Road would necessitate minor works on the public highway at Albert Road; however these have previously been agreed in principle with KCC H&T and will be formalised later this year by way of a Section 278 Agreement following the grant of planning permission for the wider project by DDC.

3.11 Technical Appraisal

3.11.1 This section sets out the methodology employed to forecast the traffic and transport impacts of the proposed development and to demonstrate the technical suitability of the link road.

3.12 Existing Network Traffic

3.12.1 To gain an understanding of the existing traffic flows on the local highway network, Bellamy Roberts LLP commissioned fully classified turning movement traffic surveys and observations during the weekday AM and PM peak periods in November 2014. The survey locations included the following priority junctions which are of primary interest in relation to this submission:-

- Southwall Road / Church Lane / Minters Yard site access;
- Albert Road / Middle Deal Road;
- Middle Deal Road / Southwall Road;
- Albert Road / Proposed site access (link road).

3.12.2 The full survey data is included at **Appendix D**.

3.12.3 Automatic Traffic Count (ATC) surveys have also been undertaken on the links between the above junctions, to ascertain traffic flow, vehicle classification and vehicle speed. The surveys took place during the one week period between Friday 4th September 2015 and Thursday 10th September 2015. It is confirmed that the surveys were undertaken during school term time.

3.12.4 The full ATC data is included at **Appendix E** and the average traffic flows recorded are summarised for the peak and daily time periods in Table 3-1 below.

Period	Eastbound	Westbound
Albert Road		
08:00-09:00	233 *(225)*	226 *(220)*
17:00-18:00	249 *(233)*	224 *(219)*
07:00-19:00	2,393 *(2,184)*	2,285 *(2,108)*
Middle Deal Road		
08:00-09:00	147 *(146)*	113 *(114)*
17:00-18:00	158 *(151)*	118 *(112)*
07:00-19:00	1,501 *(1,374)*	1,115 *(1,015)*
Southwall Road		
08:00-09:00	117 *(115)*	89 *(87)*
17:00-18:00	124 *(118)*	92 *(83)*
07:00-19:00	1,074 *(970)*	828 *(735)*

Table 3-3-1: ATC Average Traffic Flow Data (5-day and *(7-day)* average)

3.12.5 As can be seen from Table 3-1, Albert Road carries the highest traffic volumes, which reflects its role as a local distributor route between the A258 London Road and North Deal. These equate to approximately four vehicle movements per minute in each direction during the AM and PM peak hours. Middle Deal Road and Southwall Road carry similar traffic volumes, which equate to approximately two vehicle movements per minute in each direction during the AM and PM peak hours.

3.12.6 Average traffic speeds were also recorded by the ATCs and are summarised in Table 3-2 for the 7-day time period.

Eastbound	Westbound
Albert Road	
25.1mph	26.0mph
Middle Deal Road	
22.6mph	19.8mph
Southwall Road	
22.4mph	21.7mph

Table 3-3-2: ATC Average Traffic Speeds (7-day average)

3.12.7 It is observed that average traffic speeds are well below the posted speed limit of 30mph in all cases, which reflects the residential nature of these roads, their restricted width (particularly Middle Deal Road and Southwall Road), the numerous side road junctions and private accesses, the observed on-street parking and high pedestrian footfall.

3.12.8 The vehicle classification composition for cars, LGVs and HGVs for the 7-day time period is shown in Table 3-3 below.

	Tot	Car		LGV		HGV	
	No.	No.	%	No.	%	No.	%
Albert Road							
Eastbound	2,521	2,170	86%	215	9%	43	2%
Westbound	2,429	2,033	84%	251	10%	33	1%
Middle Deal Road							
Eastbound	1,578	1,397	89%	95	6%	103	7%
Westbound	1,154	1,003	87%	84	7%	78	7%
Southwall Road							
Eastbound	1,056	918	87%	42	4%	58	5%
Westbound	811	706	87%	75	9%	16	2%

Table 3-3-3: ATC Survey Vehicle Classification (7-day average)

3.12.9 The data shows that HGV flows are noticeably higher as a proportion of all traffic on Middle Deal Road and Southwall Road than they are on Albert Road, which negatively impacts local residential amenity and environmental quality and is likely to reflect commercial vehicle routing to the Minters Yard commercial area.

3.13 Proposed Trip Attraction

3.13.1 To gain an understanding of the trip generating potential of the development, the latest version of the national TRICS trip rate database (2014 v.7.2.2) has been interrogated to output the average trip rates for each of the proposed on-site land uses. In order to provide for a robust assessment, it has been assumed that all of the residential properties will be privately owned, as this will provide a worst case analysis of the impact of the proposed development on the local highway network.

3.13.2 It should be noted that due to a late reduction in the development composition and quantum, the transport impact assessment has assumed the following land use split:-

- 160 residential units;
- 1,858sqm of B1 commercial floorspace;
- 1,115sqm of A1 retail floorspace;
- 372sqm D1 children's nursery.

3.13.3 This should nevertheless provide the Local Planning and Highway Authorities with confidence that a robust assessment of the proposed development has been made.

3.13.4 TRICS has been utilised to output the average trip rates for the categories '03-RESIDENTIAL: A-HOUSES PRIVATELY OWNED', '02-EMPLOYMENT: A-OFFICE', '01-RETAIL: A-FOOD SUPERSTORE' and '04-EDUCATION: D-NURSERY'. Search criteria for sites in England, Wales and Scotland within *Suburban Area* and *Edge of Town* locations were selected to reflect the proposal site location. The initial trip rates for each of these uses are shown in Table 3-4 below. The full TRICS data output is included at **Appendix F**.

Period	Arrivals	Departures	Total
Private Houses (veh. per dwelling)			
08:00-09:00	0.137	0.403	0.540
17:00-18:00	0.366	0.226	0.592
07:00-19:00	**2.406**	**2.551**	**4.957**
Offices (veh. per 100m² GFA)			
08:00-09:00	2.259	0.318	2.577
17:00-18:00	0.216	2.411	2.627
07:00-19:00	**9.234**	**9.410**	**18.644**
Supermarket (veh. per 100m² GFA)			
08:00-09:00	3.931	2.933	6.864
17:00-18:00	9.018	8.639	17.657
07:00-19:00	**77.354**	**77.781**	**155.135**
Nursery School (veh. per 100m² GFA)			
08:00-09:00	7.282	6.528	13.810
17:00-18:00	4.885	6.528	11.413
07:00-19:00	**29.410**	**29.314**	**58.724**

Table 3-3-4: TRICS Trip Rates by Land Use

3.13.5 The above trip rates have been factored by the previously proposed development quantum for each constituent land use (160 residential units, 1,858sqm of B1 commercial floorspace, 1,115sqm of A1 convenience retail floorspace and 372sqm of D1 day nursery floorspace), giving the vehicle trip generations in Table 5-5 below. Please note that any inaccuracies are the result of MS Excel rounding errors.

Period	Arrivals	Departures	Total
Private Houses (vehicles)			
08:00-09:00	22	64	86
17:00-18:00	59	36	95
07:00-19:00	**385**	**408**	**793**
Offices (vehicles)			
08:00-09:00	42	6	48
17:00-18:00	4	45	49
07:00-19:00	**172**	**175**	**346**
Supermarket (vehicles)			
08:00-09:00	44	33	77
17:00-18:00	101	96	197
07:00-19:00	**862**	**867**	**1,729**
Nursery School (vehicles)			
08:00-09:00	27	24	51
17:00-18:00	18	24	42
07:00-19:00	**109**	**109**	**218**

Table 3-3-5: Proposed Development Vehicle Trip Generation

3.13.6 Based on the above, the total cumulative vehicle trip generation can be calculated and is shown in Table 3-6 below.

Period	Arrivals	Departures	Total
08:00-09:00	135	127	262
17:00-18:00	181	202	383
07:00-19:00	**1,528**	**1,559**	**3,087**

Table 3-3-6: Proposed Development Total Vehicle Trip Generation

3.13.7 This analysis indicates that the proposed development could be expected to generate 262 trips in the morning peak hour and 383 trips in the evening peak hour, including arrivals and departures. The total number of vehicle trips envisaged across the whole day is 3,087 including 1,528 arrivals and 1,559 departures. On average this equates to approximately 129 trips per hour – or 2 trips per minute – including arrivals and departures.

3.14 Vehicle Trip Distribution

3.14.1 Following the construction of the link road, it would be expected that the majority of trips to and from the proposal site would route via Albert Road to the south, where direct access to the A258 London Road can be achieved.

3.14.2 Data from the Census 2011 *"Location of usual residence and place of work by method of travel to work WU03EW"* data (released in August 2014) for the Medium Super Output Area (MSOA) in which the site is located (Dover 003), together with journey time analysis

based on the Google journey planner application, can be used to gain an indication of the likely vehicle trip distribution in the peak hours, when trips to work represent the most common journey purpose. From this it is expected that approximately 78 per cent of vehicle trips will route to/from the south on Albert Road to the junction with the A258 London Road. The full Census data is attached at **Appendix G**.

3.14.3 It is evident that the proposed link road will act to dissuade the use of Southwall Road, Middle Deal Road and Church Lane by drivers seeking to access the site from the primary route network, including HGVs. As will be documented below, this will improve conditions for local residents and will be enforced by the application of Traffic Regulation Orders to regulate HGV routes.

3.15 Impact Assessment

3.15.1 The expected traffic impact of the proposed development is set out in this section. The impact on the following priority junctions has been assessed:-

- Albert Road / Proposed site access (link road);
- Albert Road / Middle Deal Road;
- Middle Deal Road / Southwall Road;
- Southwall Road / Church Lane / Minters Yard site access;

3.16 Base Vehicle Traffic Flows

3.16.1 In order to gain an understanding of the level of vehicle traffic on the local highway network, Bellamy Roberts LLP commissioned fully classified turning movement traffic surveys and observations at the above junctions during the weekday AM and PM peak periods in November 2014. The full survey data is included at **Appendix D**.

3.16.2 As these surveys were undertaken in the latter part of 2014, the recorded traffic flows have not been adjusted to represent the current 2015 traffic levels as it is considered that there will have been no significant change in traffic flow in the intervening period, as no significant changes have taken place on the local highway network nor has there been any significant development over the period.

3.17 Network Traffic Growth

3.17.1 To allow for the assessment of future traffic impact on the local highway network, a traffic model has been prepared in spreadsheet format. The traffic growth factors to be applied to the model flows have been derived using TEMPRO 6.2 traffic growth forecasting software, and adjusted using NTM AF09 factors in accordance with WebTAG guidance.

3.17.2 The NTM adjustment has been made for the Deal geographical area, assuming 'Urban Minor' routes. The weekday morning and afternoon data sets have been selected for the baseline year 2015, and the assessment year 2020.

3.17.3 The growth factor calculations are summarised in Table 3-7 below.

Year	AM Peak	PM Peak
2015 to 2020	1.0832	1.0889

Table 3-7: Traffic Growth Factors

3.18 Committed Development

3.18.1 There are no known committed developments of significance to the TS study area. As such, the background traffic growth factors reported above have not been discounted. The model is therefore considered to provide a robust assessment of the overall traffic impacts of the proposed development.

3.19 Spreadsheet Modelling

3.19.1 The purpose of the spreadsheet model is to show the likely impact on the local highway network as a result of the proposals. The impact has been considered with respect to the change in traffic flow and the Ratio of Flow to Capacity (RFC) at the four local junctions identified above.

3.19.2 The growth factors in Table 3-7 have been applied to the surveyed traffic flows to represent the 2020 future year, as shown in **Figure 3-1 and 3-2** for the weekday peak hours. The 'Do Nothing' and 'Do Minimum' scenarios are assessed in accordance with the above trip generation and distribution. For clarity, the scenarios that have been considered are as follows:-

- 2020 ('Do Nothing');
- 2020 + Proposed Development ('Do Minimum').

3.19.3 An assessment has been made of the likely re-distribution of 'Do Nothing' traffic flows to the proposed link road, which is reflected in the 'Do Minimum' scenario. The proportion of base traffic likely to use the link road has been derived from the existing turning movements at the Southwall Road / Church Lane / Minters Yard site access junction. Following construction of the link road, it is assumed that the flows at this junction will be redistributed such that traffic heading to/from a north-easterly direction will travel along the link road as this will represent both a time and a distance saving.

3.19.4 The 'Do Minimum' scenario considers the situation with the proposed development traffic added to the 'Do Nothing' scenario, as demonstrated in **Figure 3-3 and 3-4**.

3.19.5 The resulting traffic impact has been considered with respect to percentage change in traffic for the 2020 'Do Minimum' scenario, relative to the 2020 'Do Nothing' scenario. A summary of the development percentage impact at each of the four junctions under consideration is included in Tables 3-8 to 3-9 below.

Albert Road / Proposed site access (link road)		AM Peak (0800-0900)	PM Peak (1700-1800)
Albert Road (North)	North bound	-8.5%	-12.4%
	South bound	-13%	-8.5%
Site Access (Link Road)	West bound	N/A	N/A
	East bound	N/A	N/A
Albert Road (South)	North bound	+46.8%	+26.6%
	South bound	+37%	+42.4%
Net traffic increase at junction		**+15.5%**	**+12.1%**

Table 3-8: Development Traffic Impact at Albert Road / Proposed Site Access Junction

3.19.6 It is noted that the proposed development would result in a small overall net increase in traffic at this junction, with Albert Road (south) experiencing the most significant impact as a consequence of base and development trips assigning to this route to access the A258 London Road and the wider highway network. It was nevertheless identified in Section 3.10.5 (above) that Albert Road is currently lightly trafficked. It is also of a more appropriate standard to convey vehicles to the primary route network than many of the residential streets within the Middle Deal area and therefore it is considered that it could adequately accommodated the trips forecast to be generated by the proposed development.

Albert Road / Middle Deal Road		AM Peak (0800-0900)	PM Peak (1700-1800)
Albert Road (North)	North bound	+13.9%	+18.6%
	South bound	+21.6%	+31.7%
Middle Deal Road	West bound	-32.0%	-10.9%
	East bound	-37.1%	-18.9%
Albert Road (South)	North bound	+44.8%	+35.4%
	South bound	+34.8%	+37.6%
Net traffic increase at junction		**+15.4%**	**+19.2%**

Table 3-9: Development Traffic Impact at Albert Road / Middle Deal Road Junction

3.19.7 It is noted that the proposed development would result in a small overall net increase in traffic movements at this junction, which would be of a similar magnitude to the impact at the Albert Road / Proposed Site Access junction. Again, Albert Road is forecast to experience the greatest impact in each of the peak periods under consideration. By contrast, Middle Deal Road is predicted to experience a significant decrease in traffic movements as a result of the implementation of the link road, particularly during the AM peak period.

Southwall Road / Middle Deal Road		AM Peak (0800-0900)	PM Peak (1700-1800)
Middle Deal Road (North)	North bound	+9.8%	-18.9%
	South bound	+10.3%	-10.9%
Southwall Road (West)	West bound	+3.2%	-40.4%
	East bound	+2.3%	-53.4%
Middle Deal Road (South)	North bound	+19.3%	+4.7%
	South bound	+22.9%	+12.7%
Net traffic increase at junction		**+9.8%**	**-15.2%**

Table 3-10: Development Traffic Impact at Middle Deal Road / Southwall Road Junction

3.19.8 It is noted that the proposed development would result in a small overall net increase in traffic movements at this junction during the AM peak period and a small overall net decrease in traffic movements during the PM peak period. This is likely to reflect the reassignment of traffic associated with the implementation of the link road, as well as the fact that the AM peak period for residential and employment uses generally coincides, whereas the PM peak period for residential uses is generally 'flatter' in nature than that for employment uses, due to the impact of the mid-afternoon school/college closure time.

Southwall Road / Church Lane / Minters Yard access		AM Peak (0800-0900)	PM Peak (1700-1800)
Southwall Road (East)	West bound	-60.3%	-40.4%
	East bound	-51.1%	-53.4%
Church Lane	North bound	+23.9%	+8.1%
	South bound	+40.0%	+15.1%
Minters Yard access	North bound	+46.0%	+154.5%
	South bound	+47.9%	+26.3%
Net traffic increase at junction		**+2.8%**	**-4.9%**

Table 3-11: Development Traffic Impact at Southwall Road / Church Lane / Minters Yard Junction

3.19.9 It is noted that the proposed development would result in a similar impact at this junction as at the Middle Deal Road / Southwall Road junction above. In this case, Southwall Road would experience a significant net reduction in vehicular movements during both peak periods, with existing and proposed development traffic reassigning to more appropriate routes. Whilst Church Lane and Minters Yard would experience a significant percentage increase in trips, it should be noted that this compares to a very low baseline traffic flow in each case.

3.20 Junction Capacity Assessment

3.20.1 With respect to the impact of the proposed development on junction capacity, assessments have been undertaken in respect to each of the above junctions.

Albert Road / Proposed site access (link road)

3.20.2 The operational performance of the proposed junction layout in the 2020 'Do Minimum' scenario has been modelled using industry-standard PICADY software for the AM and PM peak hours. The results of this exercise are summarised in Table 3-12, with the full output summary tables included at **Appendix H**. Please note that the traffic flows have been applied to the model in Passenger Car Units (PCU), which is standard practice within this modelling tool. The output values are shown in Ratio of Flow to Capacity (RFC) where a junction reaches theoretical capacity at a value of 0.85, and vehicle queues in PCUs. Average delay per vehicle is shown in seconds.

Arm	AM peak		PM peak	
	RFC	Q	RFC	Q
2020 Do Minimum				
Albert Road (N)	0.029	0.03	0.013	0.01
Site Access (Link Rd)	0.353	0.54	0.278	0.38
Albert Road (S)	-	-	-	-
Avg Delay (s)	13.8		12	

Table 3-12: Albert Road / Proposed Site Access (Link Road) Capacity Modelling Results

3.20.3 It is noted that the junction was modelled assuming the highway geometries set out for a 'Major Access Road' within the Kent Design Guide: Step 3 – Designing for Movement, with account taken for the likely extent of visibility that could be achieved from the side road. This type of road design is considered appropriate for developments of between 50 and 300 dwellings. Whilst the exact highway geometries of the link road are yet to be determined, it provides a set of reasonable assumptions against which the operation of the site access junction can be assessed.

3.20.4 It has been demonstrated that the junction is likely to operate well below its theoretical capacity and therefore it will protect the amenity and free-flow of traffic along Albert Road. It is noted that the details will be subject to change as the junction design is finalised; however, it is entirely possible to provide a junction which will operate in a safe and efficient manner to accommodate the likely level of development, account for future traffic growth and provide an element of future proofing.

Albert Road / Middle Deal Road

3.20.5 The operational performance of this junction in the 2020 'Do Nothing' and 'Do Minimum' scenarios has been modelled using PICADY software for the AM and PM peak hours. The results of this exercise are summarised in Table 3-13, with the full output summary tables included at **Appendix I**.

Arm	AM peak		PM peak	
	RFC	Q	RFC	Q
2020 Do Nothing				
Albert Road (North)	0.153	0.19	0.116	0.13
Middle Deal Road	0.312	0.45	0.301	0.43
Albert Road (South)	-	-	-	-
Avg Delay (s)	10.2		9.6	
2020 Do Minimum				
Albert Road (North)	0.089	0.10	0.095	0.11
Middle Deal Road	0.230	0.30	0.266	0.36
Albert Road (South)	-	-	-	-
Avg Delay (s)	10.8		10.2	

Table 3-13: Albert Road / Middle Deal Road Capacity Modelling Results

3.20.6 It is noted that the junction will continue to operate well below its theoretical capacity into the future and following the introduction of the proposed development traffic. Moreover, the proposed link road and the associated traffic redistribution will provide an improvement to the capacity of the junction. The Ratio of Flow to Capacity will reduce by 0.082 during the AM peak hour and 0.035 during the PM peak hour.

3.20.7 This analysis therefore demonstrates that the proposed link road and associated development will protect the amenity of existing local residents in Middle Deal, improve the operation of the junction and ensure that highway safety is not affected.

Middle Deal Road / Southwall Road

3.20.8 The operational performance of this junction in the 2020 'Do Nothing' and 'Do Minimum' scenarios has been modelled using PICADY software for the AM and PM peak hours. The results of this exercise are summarised in Table 3-14, with the full output summary tables included at **Appendix J**.

Arm	AM peak		PM peak	
	RFC	Q	RFC	Q
2020 Do Nothing				
Middle Deal Rd (N)	0.119	0.14	0.089	0.10
Southwall Road	0.158	0.19	0.106	0.12
Middle Deal Rd (S)	-	-	-	-
Avg Delay (s)	7.2		6.6	
2020 Do Minimum				
Middle Deal Rd (N)	0.124	0.14	0.054	0.06
Southwall Road	0.162	0.19	0.050	0.05
Middle Deal Rd (S)	-	-	-	-
Avg Delay (s)	7.2		6.6	

Table 3-14: Middle Deal Road / Southwall Road Capacity Modelling Results

3.20.9 The junction is observed to operate well below its theoretical capacity in both the 'Do Nothing' and 'Do Minimum' scenarios. The operation of the junction is likely to improve once the proposed link road is implemented owing to the re-routing of vehicles locally.

3.20.10 It is therefore confirmed that the development proposals will not detrimentally affect the operation of this junction, and will provide an element of planning gain.

Southwall Road / Church Lane / Minters Yard access

3.20.11 The operational performance of this junction in the 2020 'Do Nothing' and 'Do Minimum' scenarios has been modelled using PICADY software for the AM and PM peak hours. The results of this exercise are summarised in Table 3-15, with the full output summary tables included at **Appendix K**.

Arm	AM peak		PM peak	
	RFC	Q	RFC	Q
2020 Do Nothing				
Southwall Road (East)	0.057	0.6	0.014	0.01
Church Lane	-	-	-	-
Minters Yard access	0.102	0.11	0.080	0.09
Avg Delay (s)	7.8		7.2	
2020 Do Minimum				
Southwall Road (East)	0.021	0.02	0.008	0.01
Church Lane	-	-	-	-
Minters Yard access	0.170	0.2	0.113	0.13
Avg Delay (s)	9.6		8.4	

Table 3-15: Southwall Road / Church Lane / Minters Yard Capacity Modelling Results

3.20.12 It is noted that the highway parameters for the junction have assumed the retention of the existing means of vehicular access in both the 'Do Nothing' and 'Do Minimum' scenarios.

3.20.13 It is evident that the junction will continue to operate significantly below capacity in both the 'Do Nothing' and 'Do Minimum' scenarios. The free-flow of traffic along Southwall Road and Church Lane, and the amenity of local residents will be protected. Furthermore, the existing junction form will be able to satisfactorily accommodate the future development in capacity terms.

3.21 Determining the Success of the Scheme

3.21.1 There are several 'Critical Success Factors' (CSF) that will determine if the scheme can be introduced satisfactorily. In accordance with HM Treasury's Green Book (2011) guidance, these CSF are a combination of performance, finance and delivery assurances which broadly align with the '5 Case Model'.

3.21.2 The CSFs for the Middle Deal Link Road scheme have been categorised as follows:-

- **CSF1: Strategic Fit**
  - Will enable housing and employment development;
  - Will enhance local residential amenity;
- **CSF2: Value for Money**
  - Will create significant GVA benefits for the local economy;
  - Will maximise return on investment;
- **CSF3: Affordable Finance**

- Can be delivered within the capital funding available;
- Can be afforded, in terms of financing revenue liabilities, within current budgets;

- **CSF4: Achievable Construction**
  - Can be delivered using existing engineering and technological solutions;
  - Can be procured through accepted methods of commissioning;
- **CSF5: Manageable Implementation and Operation**
  - Can be delivered within the timeframe of available funding;
  - Can be operated successfully in accordance with intended remit.

4 Economic Case

4.1 Approach to Economic Case

4.1.1 The SELEP's advice to scheme promoters in respect to the economic case is that it should be proportionate to the scale, scope and cost of the proposed intervention and the preparation time available. In line with this proportionate approach, it has been advised that for a scheme with a relatively large capital cost (>£5 million), the economic appraisal should be substantiated with quantified outcomes but that for a scheme with a relatively small capital cost, such as the Middle Deal Link Road, mainly qualitative evidence should be produced.

4.1.2 With specific regard to the Middle Deal Link Road scheme, it has been agreed with the SELEP's Independent Technical Evaluator (ITE) that it would not be appropriate to apply the Department for Transport (DfT)'s Transport Business Case appraisal methodology to the scheme, as its principal benefits relate to regeneration and local economic growth rather than traditional transport benefits (i.e. journey time savings and/or mode shift). Instead, the ITE has advised that the Homes and Communities Agency (HCA)'s Additionality Guide should be applied to the scheme.

4.2 Scheme Options Considered

4.2.1 Whilst the economic appraisal contained within this Business Case is confined to the 'preferred' scheme option described in the preceding sections, an overview is provided here of the alternative scheme options considered.

Option 1: Do Nothing

4.2.2 This represents the existing situation, with local housing and economic growth constrained by poor viability and inadequate infrastructure, which confirms the case for change described in the preceding section of this report.

Option 2: Do Minimum (Alternative Site Access)

4.2.3 This option comprises the delivery of the proposed development with access via Southwall Road and the Minters Yard commercial area. Whilst this has the advantage of avoiding the requirement for public funding, the quantum of development that could be delivered via this constrained access is likely to be significantly reduced relative to the preferred option, thereby diluting the socio-economic benefits of the project and comprising its ability to meet the scheme objectives outlined in the preceding section of this report. It would also rule out the potential delivery of further phases of development in the medium-term. On this basis, this option has not been carried forward.

Option 3: Do Something (Postponed Delivery)

4.2.4 This option comprises the delivery of the proposed development and the Link Road only at such time that the overall project proves viable in commercial terms. Again, this option has the advantage of avoiding any requirement for public funding; however it would potentially delay its delivery for a considerable period of time, which would hamper the

regeneration of the local area and further exacerbate the District's unmet housing need. For this reason, this option has not been carried forward.

Option 4: Do Something (Preferred Option)

4.2.5 This option comprises the delivery of the proposed development and the Link Road as described in the preceding sections of this report. Whilst this would necessitate SLGF grant funding, it would enable immediate delivery following the attainment of planning consent from Dover District Council; thereby ensuring that its significant socio-economic and local environmental benefits – which align strongly with national and local policy and the objectives of the SLGF – are realised in a timely manner.

4.3 Additionality Appraisal Overview

4.3.1 Additionality is the extent to which something happens as a result of an intervention that would not have occurred in the absence of the intervention. Additionality may relate to:-

- **Scale** – a greater quantity of outputs in an area;
- **Timing** – activity may happen earlier than would otherwise have been the case;
- **Quality** – the quality of outputs / outcomes may be different due to a public sector intervention;
- **Specific area or group** – the extent to which the target beneficiaries actually benefit from an intervention.

4.3.2 The HCA's Additionality Guide specifies an approach to assessing additionality which is consistent with HM Treasury Green Book guidance and the Department for Communities and Local Government (DCLG)'s guidance on Assessing the Impacts of Spatial Interventions (known as the '3Rs guidance').

4.3.3 The key components of additionality are as follows:-

- **Intervention options** – the alternative ways or options that the public sector might choose in order to intervene to achieve its objectives.
- **Reference case** – an estimate of what level of target outputs / outcomes would be produced if the intervention did not go ahead. The outputs / outcomes produced under this option are referred to as 'deadweight'.
- **Gross direct effects** – an estimate of the total effect of an intervention option or the reference case in terms of a specific output. It includes consideration of wider consequential or induced effects, as well as the immediate effects; for example, the positive effect of a housing scheme on adjacent property values.
- **Leakage effects** – the number or proportion of outputs (occurring under the reference case and the intervention options) that benefit those outside of the intervention's target area or group. These should be deducted from the gross direct effects.

- **Displacement effects** – the number or proportion of intervention outputs (occurring under the reference case and the intervention options) accounted for by reduced outputs elsewhere in the target area. These should also be deducted from the gross direct effects.

- **Substitution effects** – where a firm substitutes one activity for a similar one (such as recruiting an unemployed person while another employee loses their job) to take advantage of public sector assistance. These effects should also be deducted from the gross direct effects.

- **Economic multiplier effects** – further economic activity associated with additional local income, local supplier purchases and longer term development effects. These effects should be added to the gross direct effects.

4.3.4 The assessment of additionality is not a mechanistic process and depends on the appraiser's judgement and knowledge of the intervention and the wider environment.

4.4 Time Period for Appraisal

4.4.1 The time period for the additionality appraisal of the Middle Deal Link Road scheme is 30 years, which is in accordance with the HM Treasury Green Book guidance and is considered sufficiently robust to encompass the development build out period (up to 5 years) and its principal socio-economic outputs and outcomes.

4.5 Intervention Option

4.5.1 As has been noted, the Middle Deal Link Road scheme will enable a mixed-use development comprising the construction of up to 145 residential units, 370sqm of A1 retail floorspace, 480sqm of B1 office floorspace and a 286sqm D1 children's nursery.

4.5.2 It should be noted that the Local Planning Authority has also indicated that the Link Road could potentially facilitate further phases of development in the medium term, although these have not been included in the additionality appraisal in order to provide the ITE and the SELEP with comfort that a robust assessment has been undertaken.

4.6 Reference Case (Deadweight)

4.6.1 As has been noted in Section 3.62 of this report, the proposed development site is allocated for a total of 4,550sqm of B1/B2 uses under Saved Dover District Local Plan Policy LE5. However, it is further noted in Paragraph 3.195 of the Land Allocations Local Plan that:-

> *"…there may be the opportunity to create a new road from Albert Road to Southwall Road, which would help to relieve traffic in Southwall Road. If it can be demonstrated that there is such potential, the mix of uses, including the suitability of retail and residential development, the new road… can be advanced through a planning application".*

4.6.2 It is evident that the quantum of commercial development provided for by Policy LE5 has not proven viable since the previous Dover District Local Plan was adopted in 2002,

despite the generally favourable market conditions that have prevailed prior to and following the 2008 economic downturn. It is considered by Quinn Estates that the mixed-use development now proposed represents the optimum economic use of the site, provided that external funding support can be secured for the necessary on-site highway infrastructure.

4.6.3 With this in mind, it is apparent that the reference case for the appraisal period under consideration is highly likely to comprise the continued vacant use of the site, given the critical nature of the vehicular access from Albert Road and the on-site carriageway link. However, in the interests of a robust appraisal, account has been taken in the reference case of a permitted but unimplemented planning consent (Ref: DOV/05/0569) for the construction of a replacement vehicular access to the existing commercial development to the north of the proposal site (broadly in the location of the vehicular access now proposed by Quinn Estates / Mildvalley Homes), together with the variation of conditions of previous planning permissions to allow for the retail sale of timber, DIY and gardening products at the on-site timber merchant (representing an additional 1,400sqm of retail floorspace).

4.7 Gross Direct Effects

Intervention Option

4.7.1 The proposed development offers strategically important opportunities for job creation and local economic growth. In order to quantify the potential extent of this benefit, analysis has been undertaken using Gross Value Added (GVA) data taken from The Office of National Statistics (ONS) and the HCA[2]. Utilising these sources allows for an approximate estimation of job creation for the site to be made, which can be broken down as follows:-

- The construction of 145 residential dwellings would create **174 temporary on-site jobs**, based on an estimate of 1.2 jobs per unit, which reflects the current rate of economic activity in the construction industry;
- The proposed B1 480m^2 office unit, which has been assumed will be utilised as general office space, would create **40 jobs**, based on one Full-Time Equivalent (FTE) member of staff per 12m^2;
- The proposed A1 370m^2 convenience retail unit would create **10 jobs**, based on one FTE member of staff per 36m^2 and;
- The proposed D1 286m^2 nursery unit, would create **8 jobs**, based on one FTE member of staff per 36m^2

4.7.2 In total, based on the above analysis, **174 temporary jobs** and **58 permanent jobs** would be created as a result of the Link Road scheme.

[2] Homes and Communities Agency. (2010). *Employment Densities Guide.* 2nd ed.

Reference Case

4.7.3 Based on the ONS and HCA guidance described above, an approximate estimation of job creation has been calculated for the reference case as follows:-

- A 1,400m^2 retail unit within a timber merchants, which has been assumed would be classified as B8 "Large Scale and High Bay Warehousing", would create **18 jobs**, based on one Full-Time Equivalent (FTE) member of staff per 80m^2.

4.8 Leakage Effects

Intervention Option

4.8.1 The proposed mixed-use development unlocked by the Middle Deal Link Road scheme is principally targeted at existing residents and employers of Dover District and the wider East Kent sub-region.

4.8.2 As has been noted, existing commercial activity in Deal is generally small-scale and locally based, which results in a high percentage of out-commuting to neighbouring employment centres and the area lacks professional, technical and managerial employment opportunities. It is also deficient in the supply of modern housing for families and those at the upper end of the market. These facts, together with the peripheral geographical location of Deal, is such that leakage effects are anticipated to be limited, as there is likely to be sufficient demand for these land uses within the local area.

4.8.3 It is nevertheless acknowledged that it will not be possible to restrict the supply of private housing and employment opportunities to local people and that the recent introduction of frequent High Speed rail services between Deal and London could encourage some residents and employers from the capital and the surrounding districts to relocate to the proposed development to take advantage of the comparatively low house prices and rental values. These effects are acknowledged to be desirable to some degree; however they are likely to be limited in magnitude, as the rail-based commuting time to London remains in excess of an hour in duration.

4.8.4 The Additionality Guide notes that there is relatively little published research relating to the size of leakage effects. Research in the 1980s and 1990s into property driven regeneration initiatives indicated that these effects were principally related to the type of jobs created, with managerial, professional and technical roles generally being associated with the greatest leakage effects. Most other occupational groups had approximately 10% of employees recruited from outside the local area and in relatively deprived areas, around 40% of company vacancies were filled by unemployed people from the locality. Similarly, the Government's Final Evaluation of City Challenge funding in 2000 found that 38% of employees in businesses supported by City Challenge Partnerships lived outside of the City Challenge area and 11% resided outside of the local authority district. Relatively low levels of leakage were also identified in the Government's review of Neighbourhood Renewal Fund projects and the latest Department for Business, Innovation and Skills (BIS) guidance states that the mean average leakage rates are 15.8% at the regional level and 11.3% at the regional level.

4.8.5 On the basis of the above analysis, leakage has been assessed for each job type. For the convenience store and nursey it is assumed a minimal leakage of 5% would occur, as these are small scale and more likely to be locally based. The office jobs are believed to have a leakage of 15% as, given the lack of managerial employment in the region, people are likely to travel further to reach these opportunities. Finally, the construction jobs are believed to have the highest leakage at 25%, as it is likely that a number of employees will work on a temporary basis, coming from further afield to find work.

Reference Case

4.8.6 It is considered that similar leakage effects to those described above will apply to the reference case, as much of the same reasoning applies. Indeed, the absence of residential development and the relatively low skilled employment opportunities likely to be created in this case are such that the likely leakage effects would be lower than in the intervention option. On this basis, a 5% leakage effect has been applied.

4.9 Displacement Effects

Intervention Option

4.9.1 It is not considered that the residential component of the proposed development would result in material displacement effects, due to the historic under-supply of high quality and affordable family housing in Dover District. There is a possibility that the commercial components of the scheme could cause a limited amount of displacement, particularly with respect to the proposed food retail unit, in view of the proximity of other food retail stores within Deal Town Centre. However, this effect is likely to be ameliorated to some extent by the significant committed and planned housing growth in North Deal during the Local Plan period, which will increase the demand for these facilities. As has been noted, Dover District lacks professional, technical and managerial employment opportunities and on this basis, the proposed B1 office unit is not expected to result in significant displacement effects.

4.9.2 The Additionality Guide notes that there is a considerable body of evidence regarding the scale of displacement associated with public sector initiatives at the local and regional level. The Final Evaluation of City Challenge funding assessed displacement for a number of intervention types and found that at the local level, displacement effects ranged from 8% for training/education and business support projects to 17% for commercial development schemes. Housing projects registered an average displacement rate of 10%. These rates have been corroborated by a more recent review of Neighbourhood Renewal Fund schemes.

4.9.3 On the basis of the above analysis, a 15% displacement effect has been assumed with respect to the intervention option, which is considered to robustly reflect local conditions in Deal.

Reference Case

4.9.4 The Planning Committee report in respect to Planning Application Ref: DOV/05/0569 notes that the Local Planning Authority engaged a retail consultant to advise on the suitability of the site for retail purposes, who concluded that Deal had ample capacity for

additional floor space, including for DIY goods. It was identified that suppliers of DIY and Decorating supplies had an expenditure retention in the town of just 1% of generated expenditure and that over 51% of shoppers in Deal purchased DIY goods solely from elsewhere. On the basis that this situation is not known to have materially changed in the intervening period, a 0% displacement effect has been assumed with respect to the reference case.

4.10 Substitution Effects

Intervention Option

4.10.1 Substitution is a very specific form of non-additionality that is often subsumed within displacement effects as part of additionality appraisals. For this reason, there is a limited amount of published research concerning the size of substitution effects. Examples of substitution include the recruitment of unemployed persons at the expense of existing employees to take advantage of public sector assistance aimed at reducing worklessness, or the acquisition by a company of an office building provided by a local authority at a reduced cost by relocating from another local building.

4.10.2 The Additionality Guide reports that the research that has been undertaken by BIS indicates that substitution effects are likely to be minimal at both the sub-regional and regional levels for all project types.

4.10.3 On this basis, and in view of the fact that the intervention option does not involve the provision of public sector subsidies for property acquisition or the creation of employment opportunities, a 0% substitution effect has been assumed in this case.

Reference Case

4.10.4 A 0% substitution effect has also been assumed in respect to the reference case, since this would also involve no public sector assistance for property acquisition or the creation of employment opportunities.

4.11 Economic Multiplier Effects

Intervention Option

4.11.1 The Additionality Guide recognises two types of economic multiplier effect:-

- a Supply Linkage Multiplier, due to purchases made as a result of the intervention and further purchases associated with linked firms along the supply chain; and
- an Income Multiplier associated with local expenditure as a result of those who derive incomes from the direct and supply linkage impacts of the intervention.

Many additionality appraisals combine these to generate a composite multiplier.

4.11.2 The scale of supply linkage and income multiplier effects vary according to the composition of local economic activity and the type of intervention that is being undertaken. The Additionality Guide presents evidence from an extensive number of

studies, including the Evaluation of the Enterprise Zone Experiment, which provides local area composite multiplier estimates for four types of property related activity, including B1 Office (1.29), B2/B8 (1.29) and Retailing (1.21). Similarly, the BIS guidance identifies an overall average composite multiplier of 1.25 at the sub-regional level.

4.11.3 On the basis of the above analysis, a multiplier of 1.29 will be applied to the office, 1.21 will be applied to both the convenience store and nursey and a multiplier of 1.25 has been applied to the construction jobs.

Reference Case

4.11.4 A composite multiplier of 1.29 has been assumed for the reference case, in recognition of the larger quantum of B8 commercial uses proposed.

4.12 Additionality Calculation

4.12.1 An appraisal spreadsheet tool has been prepared in order to assess the value of the total net additional local effects of the intervention option relative to those of the reference case, set against the upfront capital cost of the project, over the 30 year appraisal period. The spreadsheet tool is included in full at **Appendix L**.

4.12.2 The total net additional local impact of the intervention option is calculated by deducting the total gross additional local effects of the reference case from the total net local effects of the intervention option. Therefore the above considerations have been factored against both the reference and intervention options.

4.12.3 In the interests of a robust appraisal, consideration has been given only to the construction jobs created through the provision of the Link Road itself, rather than the wider development, and as such this element of the appraisal has been amended accordingly using information obtained from the Office of National Statistics (ONS)[3]. As has been noted, the estimated total cost of the Link Road is £1,800,000. Using this information, and information regarding the construction of roads and motorways as outlined in Section F of the ONS Annual Business Survey, the ratio of spending on materials, goods and services to jobs in the construction of roads and motorways is £146,067 per job.

4.12.4 Utilising this figure, a total of 12 direct construction jobs would be created for a temporary period on the basis of the total road construction cost of £1,800,000.

4.12.5 Taking into consideration the above, Table 4-1 sets out the initial assessment of additionality in respect to the scheme, in terms of the estimated level of total local net additional jobs relative to the reference case.

[3] ONS, Annual Business Survey, Provisional 2014 Results (2015)

		Store / Nursery Jobs	Office Jobs	Construction Jobs	Reference Case	Additionality
A	Gross Direct Additional Jobs	18	40	12	18	
B=A*leakage (%)	Estimated Leakage	1	6	3	1	
C=A-B	Gross Local Direct effects (jobs)	17	34	9	17	
D= C*displacement (%)	Displacement	3	5	1	0	
E=C-D	Net local direct effects (jobs)	15	29	8	17	
F=E*multiplier	Multiplier	3	8	2	5	
G=E+F	Total net local effects (jobs)	18	37	10	22	
H=G (int. option) – G (reference case)	Total net additional local effects (jobs)					**43**

Table 4-1: Additionality Calculation (Jobs)

4.12.6 It is noted that the intervention approach would result in an additional 43 local net additional jobs.

4.12.7 In order to assess the initial total local net additional GVA that these jobs would create, a further additionality calculation has been undertaken in Table 4-2 below, assuming the average GVA per head for Dover District of £14,679.[4]

[4] Kent County Council, Business Intelligence Statistical Bulletin: Gross Value Added at 2013 (August 2015).

		Store / Nursery Jobs	Office Jobs	Construction Jobs	Reference Case	Additionality
A	Gross Direct Additional Jobs	£264,222.00	£587,160.00	£176,148.00	£264,222	
B=A*leakage (%)	Estimated Leakage	£13,211.10	£88,074.00	£44,037.00	£13,211	
C=A-B	Gross Local Direct effects (jobs)	£251,010.90	£499,086.00	£132,111.00	£251,010	
D=C*displacement (%)	Displacement	£37,651.64	£74,862.90	£19,816.65	£0.00	
E=C-D	Net local direct effects (jobs)	£213,359.27	£424,223.10	£112,294.35	£251,010	
F=E*multiplier	Multiplier	£44,805.45	£123,024.70	£28,073.59	£72,793	
G=E+F	Total net local effects (jobs)	£258,164.71	£547,247.80	£140,367.94	£323,804	
H=G (int. option) – G (reference case)	Total net additional local effects (jobs)					**£621,976.45**

Table 4-2: Additionality Calculations (GVA)

4.12.8 It is noted that the Middle Deal Link Road scheme would result in a total of 44 local net additional jobs, which would generate a Net Present Value (NPV) of £621,976.45 in local net additional GVA.

4.12.9 This calculation has been undertaken on a short term basis, assuming the instant additionality gained as part of the scheme. However, the benefits of the scheme are not merely short term, as the on-site jobs and wider economic benefits will clearly be maintained into the future.

4.12.10 Therefore, as noted above, a 30 year appraisal period has been assessed, taking into consideration the short-term nature of the construction jobs and the long term nature of the office, nursey and food store jobs. In accordance with the HM Treasury Green Book Guidance[5], an annual discount rate of 3.5 per cent has been applied based on the social time preference.

4.12.11 It has been assumed as a conservative measure that the office employment will expand in a staged manner over time, with an additional 20 staff added in 2021 and a further 20 in 2030. The nursey and convenience retail unit will remain constant, given their size and limited scope for expansion.

[5] HM Treasury, The Green Book: Appraisal and Evaluation in Central Government (2003)

4.12.12 To account for the expansion of the office, at each increase in staffing levels, a revised calculation has been undertaken, creating a new GVA per head based on the previous discount rate. This has then been factored against the enhanced level of staffing and discounted by 3.5 per cent, to provide the most realistic assessment of the likely future values.

4.12.13 In addition, GVA has been amended taking into consideration the forecast future GDP per worker by local district authority. Using the figures for construction and consumer services, a percentage increase was calculated per 5 year period until 2046. This percentage increase was then revised to produce a monetary value, which was then divided to produce a single years' worth of GVA inflation. This was then factored against the total number of jobs, taking account of the above factors. These figures were then applied to the intervention and reference cases, adding in each figure for the correct time period.

4.12.14 The reference case has also been subject to this procedure, using the above tables and methodology.

4.12.15 Based on this procedure, it is possible to obtain a long-term additionality value and associated Benefit to Cost Ratio (BCR). In accordance with DfT guidance[6] the following criteria is used to assess Value for Money (VfM):-

- Poor VfM if BCR is below 1.0;
- Low VfM if the BCR is between 1.0 and 1.5;
- Medium VfM if the BCR is between 1.5 and 2.0;
- High VfM if the BCR is between 2.0 and 4.0;
- Very High VfM if the BCR is greater than 4.0.

4.12.16 Over the 30-year appraisal period, the total net additional local effects of the intervention option relative to those of the reference case, set against the upfront capital cost of the project, are valued at £22,403,109 (NPV) with a BCR of 12.4. This represents very high value for money.

Sensitivity Testing

4.12.17 Whilst it is considered that the above scenario is a robust and representative assessment of the additionality effects of the project, a number of sensitivity tests have been employed to provide an additional degree of confidence around the strength of the business case should conditions change in the short- to medium-term.

4.12.18 These sensitivity tests are as follows:-

- A five year delay in the Link Road construction;

[6] DfT, Value for Money Assessment: Advice Note for Local Transport Decision Makers (2013)

- An increased construction cost of 50% to £2,700,000 over two years;
- The reference case is improved , with a further 20 on-site employees;
- Fewer office jobs are created, totalling 20 initially; and
- The removal of the benefits produced as a result of the construction jobs.

4.12.19 The outcome of each of these sensitivity tests is summarised in turn below.

Sensitivity Test 1: Five Year Construction Delay

4.12.20 The basic methodology for this test remains as outlined above, although in this instance, the construction of the Link Road is assumed to commence in 2021 rather than 2016. This would impact on the creation of the on-site jobs and therefore the overall additionality of the project.

4.12.21 The total number of jobs and the period over which they are created is assumed to remain the same as in the intervention option.

4.12.22 Based on this sensitivity test, a total additionality of £16,979,374 (NPV) is expected across the 30 year appraisal period, representing a BCR of 9.4 (very high value for money).

Sensitivity Test 2: Increased Construction Cost

4.12.23 This sensitivity test assumes that the construction costs rise by 50% to £2,700,000, although no allowance for a corresponding labour increase has occurred. This ensures that a robust assessment has been made.

4.12.24 Based on these assumptions, a total additionality of £22,403,110 (NPV) is produced, with a BCR of 8.3 (very high value for money).

Sensitivity Test 3: Improved Reference Case

4.12.25 In this example, the total number of employees in the reference case is increased from 18 to 40. This figure has been subject to the above criteria, taking into consideration the relevant leakage, displacement and multiplier effects.

4.12.26 It has been established that an additionality of £10,926,110 (NPV) is produced in this scenario, representing a total BCR of 6.1 (very high value for money) over the 30 year appraisal period.

Sensitivity Test 4: Fewer Office Jobs

4.12.27 This sensitivity test assumes that rather than 40 jobs being created in the office facility from the outset, only 20 are created. As with the previous test, the total employee figures have been subject to the relevant leakage, displacement and multiplier factors.

4.12.28 Under this scenario, total additionality of £18,662,932 (NPV) with a BCR of 10.4 (very high value for money) has been calculated.

Sensitivity Test 5: Removal of Construction Jobs

4.12.29 The final test removes the construction jobs, in view of the fact that these jobs are temporary in nature, unlike those for the convenience store, nursery and office and therefore will not produce long term benefits for the community.

4.12.30 Using this scenario, a total additionality of £22,123,985 (NPV) with a BCR of 12.3 (very high value for money) has been calculated.

4.12.31 Given the above, it is evident that the project has the capability to generate substantial economic benefits, even were conditions to become less favourable than presently forecast. This should provide SELEP with confidence that the business case for the scheme remains robust in a range of scenarios.

5 Financial Case

5.1 Overview

5.1.1 The Financial Case for the Middle Deal Link Road scheme provides a breakdown of the expected project cost components and a programme for the capital investment. It also identifies where funding contributions will be sourced and how secure these funds are likely to be. Finally, it reviews the principal project risks and identifies possible mitigation.

5.2 Project Costs

5.2.1 The Middle Deal Link Road scheme is currently costed at £1,800,000 and will be delivered during the 2016/17 financial year. The scheme has been costed using Spon's Civil Engineering and Highway Works Price Book, in addition to the cost of breaking up the reinforced concrete slabs on the existing Minters Yard access road, elements of banking and regrading, main carriageway lighting, and the addition of the required box culvert bridging across the main river. A contingency allowance of 15% has been applied to all elements of the construction cost for additional construction costs related to design development, inflation and construction risks, which are detailed in Table 7-3 of the Management Case.

5.2.2 HM Treasury's Supplementary Green Book Guidance has been utilised to adjust the construction cost to account for optimism bias. It is recommended that project appraisers should initially make use of the upper bound optimism bias percentages contained within the Guidance, which for 'standard civil engineering' projects, including new roads, is 44%. This upper bound figure can then be reduced according to the extent to which the contributory factors have been managed, before the present value of the capital costs is multiplied by the resulting optimism bias factor and added to the total net present cost. The managed optimism bias calculation in respect to the Middle Deal Link Road scheme is presented in Table 5-1 below.

Contributory Factor	% Contribution to Optimism Bias	Mitigation Factor	Cost of Risk Management	Justification
Late Contractor Involvement in Design	3	1.0	£0	NEC3 form of contract with design and build portion to be used.
Environmental Impact	22	1.0	£25,000	Extensive environmental surveys completed and mitigation factored into construction cost estimate. Minor additional works may be required.
Inadequacy of the Business Case	10	0.6	£50,000	HM Treasury guidance used to prepare business case. Rigorous assessment by SELEP ITE undertaken. Minor alterations to project scope may be required.
Poor Project Intelligence	7	1.0	£2,000	Extensive technical surveys on all aspects of the project have been undertaken.
Public Relations	9	1.0	£1,000	Extensive public engagement has been undertaken, which has demonstrated strong local support.
Site Characteristics	3	1.0	£0	Quinn Estates has controlled the site for a number of years, during which time detailed surveys and investigations have been undertaken.
Economic	7	1.0	£0	Wider economic influences are unlikely to have a significant impact on the project, as the construction phase is programmed for 2016/17.

Table 5-1: Managed Optimism Bias Calculation

5.2.3 The resultant capital expenditure optimism bias (i.e. the upper bound optimism bias minus the managed optimism bias contribution) has been calculated as follows:-

Managed optimism bias contribution =

(Reduction in optimism bias = 3 + 22 + (10 x 0.6) + 7 + 9 + 3 + 7) = 57%

Resultant capital expenditure optimism bias = (100% -- 57%) x 44 = **19%**

5.2.4 Any consequences of inflation have been subsumed into risk, contingency and optimism bias, which is considered reasonable in view of the short-term nature of the construction works. 'Sunk costs' are also assumed to have been incorporated within the normal operations of the highway design and project delivery teams.

5.3 Project Funding

5.3.1 Table 5-2 below illustrates the breakdown of anticipated funding contributions by source and financial year.

Funding Source	Details	2016/17	2017/18	Total
Govt / SELEP	SLGF	£800,000	-	£800,000
Developers	Quinn Ests / Mildvalley	£1,000,000	-	£1,000,000
All Funding Sources	Total	£1,800,000	-	£1,800,000

Table 5-2: Project Funding Sources and Profile

State Aid Compliance

5.3.2 Consideration has been given to the compliance of the project with State Aid regulations, with reference to the latest Government guidance on the subject (published in July 2015). In this respect, it is considered that Quinn Estates and Mildvalley Homes would not gain an advantage that they could not otherwise gain from the market, due to the fact that the proposed development is not viable without the SLGF grant. It is further considered that the grant funding falls within the General Block Exemption Regulation, as it involves finance for the construction of local infrastructure to improve the business and consumer environment and to modernise and develop the industrial base.

Security of Funding

5.3.3 Quinn Estates has a long and successful delivery history and experience of funding and developing commercial and residential projects, both individually and combined. The funding commitment for the Middle Deal Link Road scheme is secure and assured through both private and mainstream funding organisations – all of which have been previously used to successfully deliver projects for the last twenty years. In the local vicinity, this has included the adjacent Minters Yard commercial scheme. Table 5-3 below indicates the security and availability of the identified funding.

		Security of Funding Contribution		
Funding Source	**Details**	**Low**	**Medium**	**High**
Govt / SELEP	SLGF	-	-	X
Developer	Quinn Ests / Mildvalley	-	-	X

Table 5-3: Security of Project Funding

5.4 Financial Risk Management

5.4.1 Table 5-4 below sets out the financial risk assessment for the project.

Scheme Financial Risk Item	Risk Likelihood			Impact Severity			Effect on Scheme Delivery			Mitigation
	Low	Med	High	Low	Med	High	Low	Med	High	
Increase in project cost beyond funds available	X				X			X		Value engineer project design to reduce cost
Project business case not acceptable to SELEP		X				X			X	Seek advice of SELEP ITE and assemble additional evidence to enable preparation of acceptable business case
Govt withdraws SLGF initiative	X					X			X	Seek additional public and private sector funding contributions

Table 5-4: Project Financial Risk Assessment

6 Commercial Case

6.1 Overview

6.1.1 The Commercial Case for the Middle Deal Link Road scheme provides evidence that the intervention can be procured, delivered and operated in a manner that secures best value for the developer and the public sector.

6.2 Project Procurement Strategy

6.2.1 Quinn Estates and Mildvalley Homes Ltd propose to take the following approach to the procurement of the project construction works.

6.2.2 Quinn Estates will appoint GPM Partnership Ltd to act as Project Managers on this project, being well respected and experienced construction project managers based in East Kent, who have been engaged in numerous projects with Quinn Estates. They will advise and assist with the appointment of the design team that will include appropriately experienced highway engineers to design the project in accordance with current legislation, liaise as necessary with the Local Highway Authority, advise on the requirement for statutory agreements, provide the necessary information for tendering the scheme, and ensure the works are completed to the required quality and standards. Other consultants and surveys will be procured as necessary under advisement from the project managers and highway engineers.

6.2.3 The highway engineers will be chosen through a strict tendering process that will include a Pre-Qualification Questionnaire (PQQ). The PQQ will be scored to demonstrate technical ability and this score will be weighted 60% against 40% financial. Once the highway engineers have been appointed, the Project Managers will ensure that they have the appropriate information (budget, specifications, timescales etc.) by producing a comprehensive Project Brief that will ensure that the highway engineers have a full understanding to effectively execute the project.

6.2.4 The Project Managers will act as the interface between the design team and Quinn Estates and will provide assistance in managing all other key actions required to deliver the project; from advising on forms of contract, procurement options, managing risk, monitoring and reporting on the works as they proceed on site and assisting with procurement.

6.2.5 It is presently envisaged that the construction contract will be NEC3 Option A with Design and Build and that the contractor will be selected by means of a selective competitive tender process. Tenderers will be carefully selected and vetted to ensure that they have appropriate experience. The Design and Build approach will ensure that any design development required will become the responsibility of the successful contractor along with the adoption of the risk of delivering the project within budget and on programme.

6.3 Commercial Risk Assessment

6.3.1 Table 6-1 below outlines the commercial risk assessment for the project.

Scheme Financial Risk Item	Risk Likelihood			Impact Severity			Effect on Scheme Delivery			Mitigation
	Low	Med	High	Low	Med	High	Low	Med	High	
Preferred contractor does not have capacity to undertake works within period of SLGF funding availability	X					X			X	Quinn Estates / Mildvalley Homes will mitigate this risk by appointing a contractor using an NEC3 contract with design and build portion.
Unforeseen engineering challenges delay construction and increase costs		X			X			X		Robust detailed design and survey work, together with careful consideration of tender list and use of an NEC3 contract with design and build portion will minimise such risks.

Table 6-1: Project Commercial Risk Assessment

7 Management Case

7.1 Overview

7.1.1 The Management Case for the Middle Deal Link Road scheme demonstrates how the intervention and its outcomes can be delivered successfully through effective project management techniques.

7.2 Project Management and Governance Strategy

7.2.1 The project will be managed externally by GPM Partnership Ltd, who are well respected and experienced construction project managers based in East Kent, using a proven and well-established governance structure.

7.2.2 An outline of the meetings and processes which make up the established governance process is provided below.

Project Steering Group Meetings

7.2.3 Steering Group meetings are held on a bi-weekly basis and are chaired by the Quinn Estates Project Manager, Simon Reynolds. Attendees will include representatives from Quinn Estates, Mildvalley Homes Ltd, GPM Partnership Ltd, the scheme design team and the scheme contractor. The meetings typically comprise a technical discussion around scheme progress and any issues requiring remedial action. Minutes of the meeting, together with any updates to the project programme, feed in to the Highlight Report to the Project Board meeting.

Highlight Report

7.2.4 The Highlight Report is used to identify any areas of concern or issues requiring a decision by the Project Board. It typically covers subject areas including scheme progress, finance and risks.

Project Board Meetings

7.2.5 Project Board meetings are held monthly and are chaired by the Managing Director of Quinn Estates, Mark Quinn. Attendees will also include senior representatives from Mildvalley Homes Ltd, GPM Partnership Ltd, the scheme design team and the scheme contractor. Technical advisors are also invited if necessary. The meetings typically comprise a high-level discussion around scheme progress, any issues identified in the Highlight Report requiring a decision by the Board, financial management, project risks and next steps. The key outputs from the meeting will be issued to Mary Gillett (KCC Major Projects Planning Manager) for distribution to the KCC LEP Programme Board, as well as to DDC's Planning Department.

7.3 Evidence of Successful Project Management

7.3.1 Quinn Estates has a successful track record of delivering major development schemes within Kent. Completed developments include:-

- Davington Park / Foundary Business Park, Faversham

  100 residential dwelling units / 40,000sqft of B1/B8 commercial space

- Lakesview Business Park, Canterbury

  500,000sqft of B1/B8 commercial space (Joint Venture development)

- Eversley Park, Folkestone

  Conversion of redundant college building into 24 residential dwelling units

- Beer Cart Building, Canterbury

  Conversion of former Kent County Council office building into 14 residential dwelling units / 6 B1 office suites / 2 retail units

- Hammill Brickworks, Woodnesborough

  19 residential dwelling units / 250,000sqft of commercial space

- Minters Yard Phase 1, Deal

  60,000sqft of commercial space

7.3.2 Recent major developments for which Quinn Estates has secured planning consent and are currently being progressed towards construction include:-

- Herne Bay Golf Course

  572 residential dwelling units / sports hub / retirement home / business park / community facilities

- Spirit of Sittingbourne

  215 residential apartments / 7 restaurants / 7-screen cinema / hotel / 2 large retail units / drive-thru restaurant / 300 space multi-storey car park – delivered over six sites and including remodelling and alterations to the existing A2 through Sittingbourne Town Centre

7.3.3 Through these projects, Quinn Estates has learned the importance of working closely with its sub-consultants to ensure that the scheme designs are economic and thoroughly considered in order that the final product both meets its objectives and offers best value.

7.4 Key Project Work Stages and Timescales

7.4.1 The principal project work stages and timescales are outlined in Table 7-1 below:-

Work Stage	Status	Estimated Timescale
Land acquisition	COMPLETE	-
Feasibility work	COMPLETE	-
Pre-submission public consultation	COMPLETE	-
Outline design	COMPLETE	-
SLGF Business Case	COMPLETE	-
Submission of planning application	COMPLETE	-
Planning consent	PROGRAMMED	May 2016
Procurement of Design and Build Contractor	PROGRAMMED	June 2016
Detailed design	PROGRAMMED	June to Sept 2016
Environmental surveys	PROGRAMMED	June to Sept 2016
Construction work	PROGRAMMED	Oct to Dec 2016

Table 7-1: Project Work Stages and Timescales

7.5 Availability and Suitability of Resources

7.5.1 It is intended that the project will be managed by appropriately trained and experienced personnel employed by GPM Partnership Ltd, who will designate a formal Project Sponsor and Project Manager to oversee the design, approval and delivery of the scheme throughout its duration. These individuals will be supported by colleagues within Quinn Estates as well as the Design and Build Civil Engineering Contractor once their appointment has been secured.

7.6 Communication and Stakeholder Management Strategy

7.6.1 Table 7-2 below illustrates the proposed project engagement strategy in respect to the key identified stakeholders.

Stakeholder	Consultation Approach	Frequency
Dover District Council (LPA)	• Pre-Application Engagement • Post-Application Dialogue • Agreement of Construction Management Plan • Discharge of pre-commencement conditions	To be dictated by planning process
Kent County Council (LHA)	• Pre-Application Engagement • Post-Application Dialogue • Section 38 and 278 Agreements	To be dictated by planning and consents process
Environment Agency	• Pre-Application Engagement • Post-Application Dialogue • Agreement of Construction Management Plan • Discharge of pre-commencement conditions	To be dictated by planning and consents process
SELEP	• Submission and agreement of SLGF Business Case • Provision of agreed review and evaluation reports	To be dictated by SELEP reporting requirements
Local residents and businesses	• Pre-Application Engagement • Post-Application Consultation by LPA • Targeted consultation with affected residents and businesses immediately prior to on-site construction works • Posting of contractor / client contact details during on-site construction works	To be dictated by planning process. Targeted consultation prior to and during construction works

Table 7-2: Project Communication and Stakeholder Management Strategy

7.7 Project Risk Management Strategy

7.7.1 Project risk management is an ongoing process as part of the scheme governance structure. A risk register will be maintained throughout the life of the project and will be the responsibility of the GPM Partnership Project Manager to update and report to the wider project team and other stakeholders on a regular basis.

7.7.2 Any 'high' residual impacts will be identified for discussion at the Project Board meetings between the client and contractors. Agreed mitigation measures will be the responsibility of the Project Manager to action as appropriate.

7.7.3 Table 7-3 below summarises the current Project Risk Assessment:-

Risk Category	Risk Description	Risk Likelihood (1-5)	Impact Severity (1-5)	Risk Score (Likelihood x Impact)	Risk Mitigation	Estimated Mitigation Cost
SLGF Business Case	SELEP ITE requires more evidence to augment business case	2	4	8	Fully address ITE feedback on draft business case and submit draft final version ahead of issue deadline for feedback	£5k
Project cost	Cost overruns arising from design, surveys, procurement and/or environmental considerations	2	4	8	Value engineer scheme design to reduce cost	£150-200k
External funding	Funding not forthcoming (e.g. due to change in Govt policy)	1	4	4	Seek additional public and private sector funding contributions	N/A
Planning issues	Planning permission refused by LPA	2	5	10	Seek pre-application advice from LPA and statutory consultees	£50k
Technical issues	Highway design unacceptable to LHA	2	4	8	Seek pre-application advice from LHA at Stage 1 design stage	£25k

Table 7-3: Project Risk Assessment

7.8 Project Monitoring and Benefits Realisation

7.8.1 As has been noted, the project's principal benefits relate to regeneration and local economic growth rather than traditional transport benefits (i.e. journey time savings and/or mode shift). Consequently, it is considered that the key measures against which the success of the scheme can be monitored are on-site housing completions and the extent of occupation of the proposed commercial and retail units and associated job creation.

7.8.2 Quinn Estates and Mildvalley Homes Ltd are committed to undertaking the necessary monitoring against these measures, as detailed in Table 7-4 below. The outcomes of this monitoring will be reported to DDC and/or KCC on a regular basis. Whilst the present Review Timescales are set out in Table 7-4, Quinn Estates have indicated their willingness to devise a more detailed schedule that might align further with how aspects of regeneration in Deal may wish to be reported by DDC. The likelihood of whether those

may or may not be desired will be communicated by DDC in ongoing discussions at a time of their choosing.

Expected Benefit	Measure	Owner	Outcome/ Impacts	Review Timescale	Review Method
New housing	Completions	Quinn Estates / Mildvalley Homes Ltd	Delivery against Objectively Assessed Housing Need and Local Plan	Quarterly	Ongoing monitoring with scheme contractor and via sales team
Employment opportunities	On-site employees	Quinn Estates	Reduced unemployment in local area. Delivery against Local Plan and Economic Development Strategy	Quarterly	Ongoing monitoring and liaison with on-site employers
Enhanced local residential amenity	HGV flows on Southwall Road and Middle Deal Road	Quinn Estates	Reduced HGV flows on local residential streets, resulting in improved environmental and residential amenity	One year post-opening of Link Road	Automatic Traffic Count surveys

Table 7-4: Project Monitoring and Benefits Realisation Plan

8 Conclusions and Recommendations

8.1.1 This SLGF business case submission has been prepared on behalf of Quinn Estates and Mildvalley Homes Ltd in relation to the Middle Deal Link Road scheme and related mixed-used development off Albert Road in Deal, Kent.

8.1.2 The project presents an affordable, deliverable and strategically important opportunity to address many of the socio-economic challenges facing Deal and the wider Dover District through the provision of a supply of high quality homes of varying size and tenure, the creation of significant new employment opportunities in a range of sectors and the establishment of new community facilities. The proposed link road serving the development would also relieve the neighbouring residential communities of HGV traffic, with its associated impacts on local amenity and environmental quality, and potentially facilitate further phases of development in the medium term.

8.1.3 The proposals have been found to accord with the relevant national and local transport and planning policy objectives. The site is situated in a sustainable location, which provides for ready access to frequent public transport services, as well as educational, retail, employment and leisure facilities, within a short walking and cycling distance. A road safety analysis has been undertaken for the surrounding highway network, which has identified no existing road safety concerns that would be exacerbated by the proposed development.

8.1.4 The proposed development offers strategically important opportunities for job creation and local economic growth. An additionality appraisal has been undertaken which has concluded that the project would create £22.4 million (NPV) of net additional local GVA over a 30 year appraisal period, with a BCR of 12.4 (very high value for money) when set against the £1.8 million construction cost of the Link Road.

8.1.5 On this basis, it is recommended that the development and delivery of the project should be approved and the SLGF funding requirement should be released to Quinn Estates during the 2016/17 financial year.


A
APPENDIX

Deal • Dover • Canterbury via Mill Hill, St. Margaret's Bay, Duke of York's School and Lydden
Sandown • Deal • Dover • Canterbury via Mill Hill, Dover Eastern Docks and Lydden
Dover • Canterbury via River and Lydden

Including route 15X via Duke of York's School.

15
15A
15B

MONDAYS TO FRIDAYS except Bank Holidays

route number	15	15	15	15	15B	15	15X	15B	80	80A	15X	15B	15X	15	15B	15A	15B	15	then at these minutes past each hour	15B	15A	15B	15	until	15B	15A	15B	15	15B	15A	15B	15	15B
						Sch			♿	Sch																	Hols							♿
Sandown Ethelbert Road									0728	0730						0844					44				1344				1444				
Golf Road Cannon Street									0731	0733						0848					48				1348				1448				
Deal South Street				0644			0720		0737	▼	0755		0814			0859		0919			59		19		1359		1419		1459		1519		
Deal London Road Victoria Hospital				0647			0724		▼	0736	0759		0819			0904		0924			04		24		1404		1424		1504		1524		
Mill Hill Tesco				0651			0728		0747	0744	0803		0824			0909		0929			09		29		1409		1429		1509		1529		
Walmer Rail Station ⇌				0655			0732		0751	0748	0807		0828			0913		0933			13		33		1413		1433		1513		1533		
Ringwould The Five Bells				0658			0737		0756	0753	0812		0833			0918		0938			18		38		1418		1438		1518		1538		
St. Margaret's Bay Bay Hill				0706			▼		0806	0802	▼		▼	0906		↓		0946			↓		46		↓		1446		1526		1546		
Duke of York's Military School				0714			0745		0814	0810	0820		0841	0914		↓		0954			↓		54		↓		1454		▼		1554		
Eastern Docks Travel Centre				▼			▼		▼		▼		▼	▼		0929		▼			29		▼		1429		▼		1537		▼		
Dover Pencester Road *arrive*				0721			0755		0836		0832		0854	0922		0937		1002			37		02		1437		1502		1545		1602		
Dover Pencester Road Stop B *depart*	0613	0638	0710	0725	0746	0750	0800	0818			0838	0853	0906		0923	0940	0953	1010		23	40	53	10		1423	1440	1453	1510	1523	1548	1553	1610	1628
Buckland Bridge	0619	0644	0718	0733	0754	0758	0808	0826			0846	0901	0915		0931	0948	1001	1018		31	48	01	18		1431	1448	1501	1518	1531	1556	1601	1618	1636
River Minnis Lane	▼	▼	▼	▼	0759	▼	▼	0831			▼	0906	▼		0936	▼	1006	▼		36	▼	06	▼		1436	▼	1506	▼	1536	▼	1606	▼	1641
Temple Ewell Templeside	0623	0648	0723	0739	0804	0804	0814	0836			0851	0911	0921		0941	0953	1011	1023		41	53	11	23		1441	1453	1511	1523	1541	1601	1611	1623	1646
Lydden The Bell Inn	0628	0653	0729	0745	0808	0810	0820	0840			0855	0915	0927		0945	0957	1015	1027		45	57	15	27		1445	1457	1515	1527	1545	1605	1615	1627	1650
Canterbury Bus Station	0647	0712	0748	0810	0829	0835	0845	0901			0914	0934	0946		1004	1016	1034	1046		04	16	34	46		1504	1516	1534	1546	1604	1624	1634	1646	1709

This bus continues via Frith Road for Dover Girls' Grammar School and Tower Hamlets (for Astor College and Dover Grammar School for Boys).

On schooldays this bus calls at St. Anselm's School bus park and arrives at Canterbury Bus Station 5 minutes later than shown.

MONDAYS TO FRIDAYS except Bank Holidays

route number	15A	15B	15	15A	15	15A	15	15X	15	15A	15
Sandown Ethelbert Road	1552			1644		1754		1903			
Golf Road Cannon Street	1556			1648		1758		1907			
Deal South Street	1606		1634	1659	1727	1809	1827	1914			
Deal London Road Victoria Hospital	1611		1639	1704	1732	1814	1832	1918			
Mill Hill Tesco	1616		1644	1709	1737	1819	1837	1922			
Walmer Rail Station ⇌	1620		1648	1713	1741	1823	1841	1926			
Ringwould The Five Bells	1625		1653	1718	1746	1828	1846	1930			
St. Margaret's Bay Bay Hill	↓		1701	↓	1754	↓	1854	▼			
Duke of York's Military School	▼		1709	▼	1802	▼	1902	1937			
Eastern Docks Travel Centre	1636		▼	1729	▼	1839	▼	▼		2140	
Dover Pencester Road *arrive*	1644		1717	1737	1810	1847	1910	1945		2145	
Dover Pencester Road Stop B *depart*	1650	1705	1720	1740	1810	1847	1910	1945	2045	2145	2255
Buckland Bridge	1658	1713	1728	1748	1818	1855	1918	1952	2052	2152	2302
River Minnis Lane	▼	1718	▼	▼	LR	▼	LR	▼	▼	▼	▼
Temple Ewell Templeside	1703	1723	1733	1753		1900		1956	2056	2156	2306
Lydden The Bell Inn	1707	1727	1737	1757		1904		2000	2100	2200	2310
Canterbury Bus Station	1726	1746	1756	1816		1923		2018	2118	2218	2328

Sch - These bus journeys run on schooldays only.

Hols - This bus journey runs on Mondays to Fridays during school holidays only.

0737 - Route 80 picks up in Deal, Queen Street, *not* in South Street.

LR - This bus continues to London Road (Whitfield Hill bottom).

♿ - This bus journey is *not* normally operated with an easy access bus.

Kent County Council — The 0644 route 15 bus from Deal is operated on behalf of Kent County Council between Deal and Dover. Some journeys serving Sandown are operated on behalf of Kent County Council.

Please note that special bus timetables may apply during the Christmas period between 24 December and 1 January. Please contact us for details.

This timetable will operate from 26 April 2015.

Deal • Dover • Canterbury via Mill Hill, St. Margaret's Bay, Duke of York's School and Lydden
Sandown • Deal • Dover • Canterbury via Mill Hill, Dover Eastern Docks and Lydden
Dover • Canterbury via River and Lydden

15
15A
15B

Including route 15X via Duke of York's School.

SATURDAYS

route number	15	15	15	15	15	15B	15X	15B	15A	15B	15	15B	15A	15B	then at these minutes past each hour	15	15B	15A	15B	until	15	15B	15A	15B	15	15B	15A	15	15A	15
Sandown Ethelbert Road									0844				0944					44					1444				1552		1644	
Golf Road Cannon Street									0848				0948					48					1448				1556		1648	
Deal South Street			0644		0755		0814		0859		0919		0959			19		59			1419		1459		1519		1606	1634	1659	1727
Deal London Road Victoria Hospital			0647		0759		0819		0904		0924		1004			24		04			1424		1504		1524		1611	1639	1704	1732
Mill Hill Tesco			0651		0803		0824		0909		0929		1009			29		09			1429		1509		1529		1616	1644	1709	1737
Walmer Rail Station ⇌			0655		0807		0828		0913		0933		1013			33		13			1433		1513		1533		1620	1648	1713	1741
Ringwould The Five Bells			0658		0812		0833		0918		0938		1018			38		18			1438		1518		1538		1625	1653	1718	1746
St. Margaret's Bay Bay Hill			0706		0820		↓		↓		0946		↓			46		↓			1446		1526		1546		↓	1701	↓	1754
Duke of York's Military School			0714		0828		0841		↓		0954		↓			54		↓			1454		↓		1554		↓	1709	↓	1802
Eastern Docks Travel Centre			↓		↓		↓		0929		↓		1029			↓		29			↓		1537		↓		1636	↓	1729	↓
Dover Pencester Road *arrive*			0721		0836		0854		0937		1002		1037			02		37			1502		1545		1602		1644	1717	1737	1810
Dover Pencester Road Stop B *depart*	0613	0638	0725	0800	0838	0853	0906	0923	0940	0953	1010	1023	1040	1053		10	23	40	53		1510	1523	1548	1553	1610	1628	1650	1720	1740	1810
Buckland Bridge	0619	0644	0733	0808	0846	0901	0915	0931	0948	1001	1018	1031	1048	1101		18	31	48	01		1518	1531	1556	1601	1618	1636	1658	1728	1748	1818
River Minnis Lane	↓	↓	↓	↓	↓	0906	↓	0936	↓	1006	↓	1036	↓	1106		↓	36	↓	06		↓	1536	↓	1606	↓	1641	↓	↓	↓	LR
Temple Ewell Templeside	0623	0648	0739	0814	0851	0911	0921	0941	0953	1011	1023	1041	1053	1111		23	41	53	11		1523	1541	1601	1611	1623	1646	1703	1733	1753	
Lydden The Bell Inn	0628	0653	0745	0820	0855	0915	0927	0945	0957	1015	1027	1045	1057	1115		27	45	57	15		1527	1545	1605	1615	1627	1650	1707	1737	1757	
Canterbury Bus Station	0647	0712	0810	0845	0914	0934	0946	1004	1016	1034	1046	1104	1116	1134		46	04	16	34		1546	1604	1624	1634	1646	1709	1726	1756	1816	

SATURDAYS

route number	15A	15	15X	15	15A	15
Sandown Ethelbert Road	1754		1903			
Golf Road Cannon Street	1758		1907			
Deal South Street	1809	1827	1914			
Deal London Road Victoria Hospital	1814	1832	1918			
Mill Hill Tesco	1819	1837	1922			
Walmer Rail Station ⇌	1823	1841	1926			
Ringwould The Five Bells	1828	1846	1930			
St. Margaret's Bay Bay Hill	↓	1854	↓			
Duke of York's Military School	↓	1902	1937			
Eastern Docks Travel Centre	1839	↓	↓		2140	
Dover Pencester Road *arrive*	1847	1910	1945		2145	
Dover Pencester Road Stop B *depart*	1847	1910	1945	2045	2145	2255
Buckland Bridge	1855	1918	1952	2052	2152	2302
River Minnis Lane	↓	LR	↓	↓	↓	↓
Temple Ewell Templeside	1900		1956	2056	2156	2306
Lydden The Bell Inn	1904		2000	2100	2200	2310
Canterbury Bus Station	1923		2018	2118	2218	2328

SUNDAYS & BANK HOLIDAYS

route number	15	15B	15	15B	15	15B	15	15B	15	15B	15	15
Deal South Street			0950		1150		1350		1550		1750	1950
Deal London Road Victoria Hospital			0954		1154		1354		1554		1754	1954
Mill Hill Tesco			0959		1159		1359		1559		1759	1959
Walmer Rail Station ⇌			1003		1203		1403		1603		1803	2003
Ringwould The Five Bells			1008		1208		1408		1608		1808	2008
St. Margaret's Bay Bay Hill			1016		1216		1416		1616		1816	2016
Duke of York's Military School			1024		1224		1424		1624		1824	2024
Dover Pencester Road *arrive*			1032		1232		1432		1632		1832	2032
Dover Pencester Road Stop B *depart*	0830	0940	1040	1140	1240	1340	1440	1540	1640	1740	1835	2035
Buckland Bridge	0836	0945	1046	1145	1246	1345	1446	1546	1646	1746	1841	2041
River Minnis Lane	↓	0951	↓	1151	↓	1351	↓	1551	↓	1751	LR	LR
Temple Ewell Templeside	0840	0956	1050	1156	1250	1356	1450	1556	1650	1756		
Lydden The Bell Inn	0844	1000	1054	1200	1254	1400	1454	1600	1654	1800		
Canterbury Bus Station	0903	1019	1113	1219	1313	1419	1513	1619	1713	1819		

LR - These buses continue to London Road (Whitfield Hill bottom).

Bus routes 13/13A and 14 also operate between Deal and Canterbury. For times, pick up a timetable leaflet or see our website or Traveline.

This timetable will operate from 26 April 2015.

Canterbury • Dover • Deal via Lydden, Duke of York's School, St. Margaret's Bay and Mill Hill — 15
Canterbury • Dover • Deal • Sandown via Lydden, Dover Eastern Docks and Mill Hill — 15A
Canterbury • Dover via Lydden and River — 15B

Diamond

MONDAYS TO FRIDAYS except Bank Holidays

route number	15A	15A	15	15	15	15	15A	15B	15B	15B	15	15B	15A	15B	15		15B	15A	15B	15		15B	15	15	15B	15	80A	15B	15A
								Hols	Sch															Sch	Hols		Sch		
Canterbury Bus Station Bay D4				0655	0717	0753	0815			0838	0853	0908	0923	0938	0953		08	23	38	53		1408	1423	1438	1438	1453		1508	1523
Lydden The Bell Inn				0712	0734	0811	0833			0856	0911	0926	0941	0956	1011		26	41	56	11		1426	1441	1456	1456	1511		1526	1541
Temple Ewell Templeside				0715	0737	0815	0837			▼	0915	▼	0945	▼	1015		▼	45	▼	15		▼	1445	1500	▼	1515		▼	1545
Temple Ewell *opposite* The Fox Inn				↓	↓	↓	↓	0835	0845	0900	↓	0930	↓	1000	↓		30	↓	00	↓		1430	↓	↓	1500	↓		1530	↓
River Minnis Lane			LR	↓	↓	↓	↓	0840	0850	0905	↓	0935	↓	1005	↓		35	↓	05	↓		1435	↓	↓	1505	↓		1535	↓
Buckland Bridge			0703	0718	0742	0820	0842	0846	0856	0911	0920	0941	0950	1011	1020		41	50	11	20		1441	1450	1505	1511	1520		1541	1550
Dover Pencester Road *arrive*			0710	0725	0750	0828	0850	0852	0902	0917	0928	0947	0958	1017	1028		47	58	17	28		1447	1458	1511	1517	1528		1547	1558
Dover Pencester Road Stop A *depart*			0712	0729	0755	0834	0900				0934		1004		1034			04		34			1504			1534			1604
Eastern Docks Travel Centre			▼	▼	▼	▼	0905				▼		1009		▼			09		▼			▼			▼	TH		1609
Duke of York's Military School			0719	0737	0803	0842	↓				0942		↓		1042			↓		42			1512			1542	1548		↓
St. Margaret's Bay Bay Hill	SW	SW	0727	0745	0811	0850	↓				0950		↓		1050			↓		50			1520			1550	1556		↓
Ringwould The Five Bells	0629	0705	0735	0753	0819	0858	0917				0958		1020		1058			20		58			1528			1558	1604		1620
Walmer Rail Station ⇌	0632	0708	0738	0756	0822	0901	0921				1001		1023		1101			23		01			1531			1601	1607		1623
Mill Hill Tesco	0635	0711	0741	0800	0828	0905	0926				1005		1027		1105			27		05			1537			1605	1611		1627
Deal South Street	0641	▼	0751	0810	▼	0915	▼				1015		▼		1115			▼		15			▼			1615	▼		▼
Deal Pier Head		0721			0837		0937						1037					37					1545				1620		1637
College Road Cannon Street		0724			0840		0940						1040					40					1548				1623		1640
Sandown Ethelbert Road		0728			0844		0944						1044					44					1552				1627		1644

then at these minutes past each hour — *until*

MONDAYS TO FRIDAYS except Bank Holidays

route number	15B	15	15B	15A	15B	15	15B	15	15B	15	15	15	15	15	15
	♿						♿					P&R	P&R	P&R	P&R
Canterbury Bus Station Bay D4	1545	1605	1620	1635	1650	1710	1725	1740	1755	1825	1920	2020	2120	2220	2330
Lydden The Bell Inn	1603	1623	1638	1653	1708	1728	1743	1758	1813	1841	1936	2037	2137	2237	2347
Temple Ewell Templeside	▼	1627	▼	1657	▼	1732	▼	1802	▼	1845	1940	2041	2141	2241	2351
Temple Ewell *opposite* The Fox Inn	1607	↓	1642	↓	1712	↓	1747	↓	1817	↓	↓	↓	↓	↓	↓
River Minnis Lane	1612	↓	1647	↓	1717	↓	1752	↓	1822	↓	↓	↓	↓	↓	↓
Buckland Bridge	1618	1632	1653	1702	1723	1737	1758	1807	1828	1850	1945	2046	2146	2246	2356
Dover Pencester Road *arrive*	1624	1640	1659	1710	1729	1745	1804	1815	1834	1858	1953	2054	2154	2254	0004
Dover Pencester Road Stop A *depart*		1646		1716		1746		1816							
Eastern Docks Travel Centre		▼		1721		▼		▼							
Duke of York's Military School		1654		↓		1754		1824							
St. Margaret's Bay Bay Hill		1702		↓		1802		1832							
Ringwould The Five Bells		1710		1732		1810		1840							
Walmer Rail Station ⇌		1713		1735		1813		1843							
Mill Hill Tesco		1717		1739		1817		1847							
Deal South Street		1725		▼		1825		1855							
Deal Pier Head				1747				1856							
College Road Cannon Street				1750				1859							
Sandown Ethelbert Road				1754				1903							

On schooldays this bus omits Ladywell and runs non-stop via Cherry Tree to Frith Road (Dover Grammar School for Girls), then resumes normal route 8 minutes later than the times shown.

SW - This bus starts from The Swingate Inn.

LR - This bus starts from London Road (Whitfield Hill bottom).

1815 - Times in red indicate you will need to change bus at Pencester Road in order to continue your journey.

TH - This bus starts from Tower Hamlets at 1535 and serves Barton Road (St. Edmund's School) at 1543.

P&R - These bus journeys call at New Dover Road Park & Ride site, 4 minutes after departing Canterbury Bus Station.

Bus routes 13/13A and 14 also operate between Canterbury and Deal. For times, pick up a timetable leaflet or see our website or Traveline.

This timetable will operate from 26 April 2015.

SATURDAYS

route number	15A	15	15	15	15	15A	15	15A	15B	15		15B	15A	15B	15		15B	15	15B	15	15B	15A	15B	15	15B	15A	15B	15	15B
Canterbury Bus Station Bay D4			0655	0717		0815	0853	0923	0938	0953		08	23	38	53		1408	1423	1438	1453	1508	1523	1545	1605	1620	1635	1650	1710	1725
Lydden The Bell Inn			0712	0734		0833	0911	0941	0956	1011		26	41	56	11		1426	1441	1456	1511	1526	1541	1603	1623	1638	1653	1708	1728	1743
Temple Ewell Templeside			0715	0737		0837	0915	0945	▼	1015		▼	45	▼	15		▼	1445	▼	1515	▼	1545	▼	1627	▼	1657	▼	1732	▼
Temple Ewell *opposite* The Fox Inn			↓	↓		↓	↓	↓	1000	↓		30	↓	00	↓		1430	↓	1500	↓	1530	↓	1607	↓	1642	↓	1712	↓	1747
River Minnis Lane		LR	↓	↓	LR	↓	↓	↓	1005	↓		35	↓	05	↓		1435	↓	1505	↓	1535	↓	1612	↓	1647	↓	1717	↓	1752
Buckland Bridge		0703	0718	0742	0820	0842	0920	0950	1011	1020		41	50	11	20		1441	1450	1511	1520	1541	1550	1618	1632	1653	1702	1723	1737	1758
Dover Pencester Road *arrive*		0710	0725	0750	0828	0850	0928	0958	1017	1028		47	58	17	28		1447	1458	1517	1528	1547	1558	1624	1640	1659	1710	1729	1745	1804
Dover Pencester Road Stop A *depart*		0712	0729	0755	0834	0900	0934	1004		1034			04		34			1512		1534		1604		1646		1716		1746	
Eastern Docks Travel Centre		▼	▼	▼	▼	0905	▼	1009		▼			09		▼			▼		▼		1609		▼		1721		▼	
Duke of York's Military School		0719	0737	0803	0842	↓	0942	↓		1042			↓		42			1520		1542		↓		1654		↓		1754	
St. Margaret's Bay Bay Hill	SW	0727	0745	0811	0850	▼	0950	▼		1050			▼		50			1528		1550		▼		1702		▼		1802	
Ringwould The Five Bells	0629	0735	0753	0819	0858	0917	0958	1020		1058			20		58			1536		1558		1620		1710		1732		1810	
Walmer Rail Station ⇌	0632	0738	0756	0822	0901	0921	1001	1023		1101			23		01			1539		1601		1623		1713		1735		1813	
Mill Hill Tesco	0635	0741	0800	0828	0905	0926	1005	1027		1105			27		05			1543		1605		1627		1717		1739		1817	
Deal South Street	0641	0751	0810	▼	0915	▼	1015	▼		1115			▼		15			▼		1615		▼		1725		▼		1825	
Deal Pier Head				0837		0937		1037					37					1553				1637				1747			
College Road Cannon Street				0840		0940		1040					40					1556				1640				1750			
Sandown Ethelbert Road				0844		0944		1044					44					1600				1644				1754			

then at these minutes past each hour — *until*

SATURDAYS

route number	15	15	15	15 P&R	15 P&R	15 P&R	15 P&R
Canterbury Bus Station Bay D4	1740	1825	1920	2020	2120	2220	2330
Lydden The Bell Inn	1758	1841	1936	2037	2137	2237	2347
Temple Ewell Templeside	1802	1845	1940	2041	2141	2241	2351
Temple Ewell *opposite* The Fox Inn	↓	↓	↓	↓	↓	↓	↓
River Minnis Lane	↓	↓	↓	↓	↓	↓	↓
Buckland Bridge	1807	1850	1945	2046	2146	2246	2356
Dover Pencester Road *arrive*	1815	1858	1953	2054	2154	2254	0004
Dover Pencester Road Stop A *depart*	1816						
Eastern Docks Travel Centre	▼						
Duke of York's Military School	1824						
St. Margaret's Bay Bay Hill	1832						
Ringwould The Five Bells	1840						
Walmer Rail Station ⇌	1843						
Mill Hill Tesco	1847						
Deal South Street	1855						
Deal Pier Head	1856						
College Road Cannon Street	1859						
Sandown Ethelbert Road	1903						

SUNDAYS & BANK HOLIDAYS

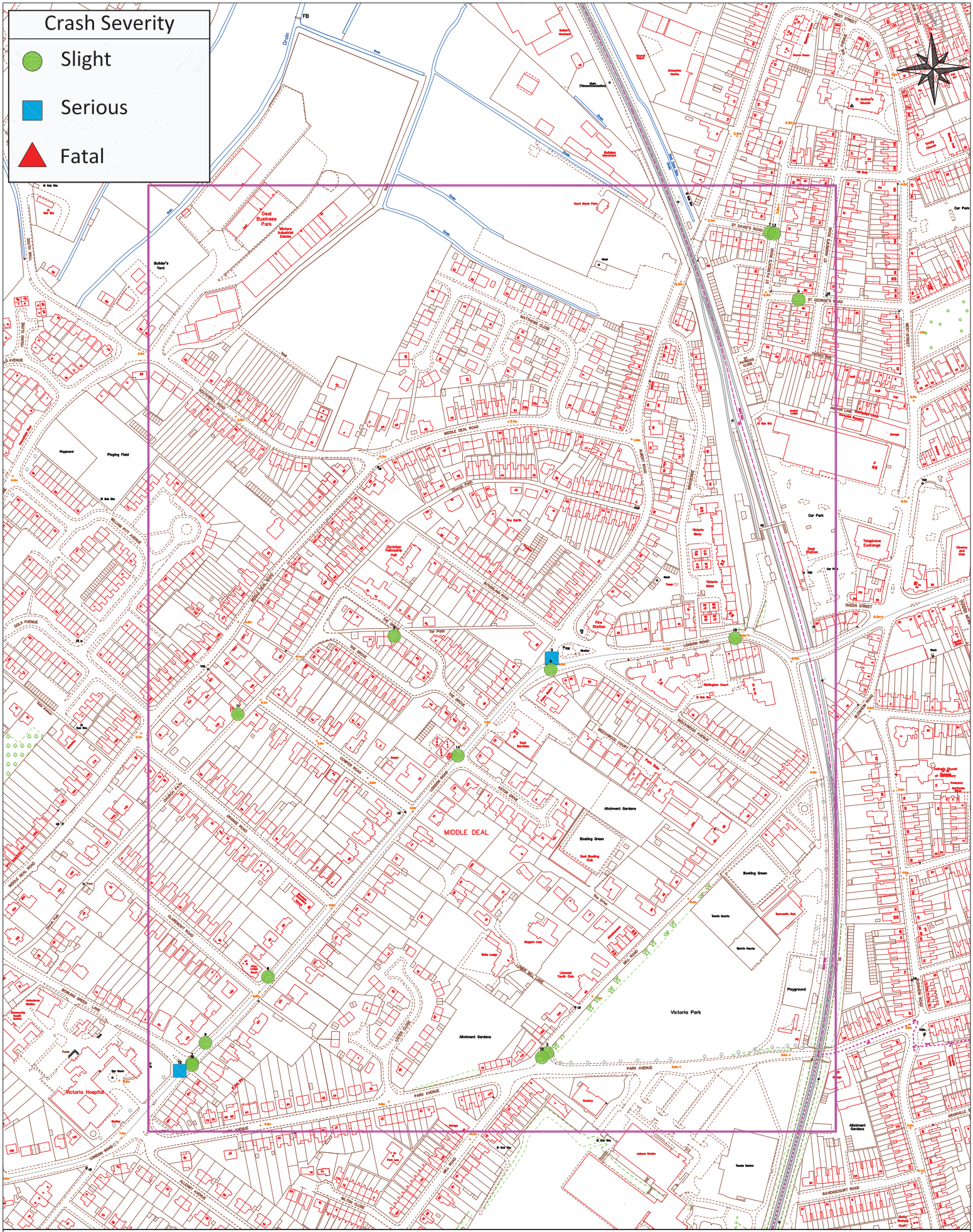
route number	15	15B	15	15B	15	15B	15	15B	15	15B	15
Canterbury Bus Station Bay D4		0925	1025	1125	1225	1325	1425	1525	1625	1725	1825
Lydden The Bell Inn		0943	1043	1143	1243	1343	1443	1543	1643	1743	1843
Temple Ewell Templeside		▼	1047	▼	1247	▼	1447	▼	1647	▼	1847
Temple Ewell *opposite* The Fox Inn		0947	↓	1147	↓	1347	↓	1547	↓	1747	↓
River Minnis Lane	LR	0952	▼	1152	▼	1352	▼	1552	▼	1752	▼
Buckland Bridge	0856	0958	1051	1158	1251	1358	1451	1558	1651	1758	1851
Dover Pencester Road *arrive*	0903	1004	1058	1204	1258	1404	1458	1604	1658	1804	1858
Dover Pencester Road Stop B *depart*	0905		1105		1305		1505		1705		1905
Duke of York's Military School	0913		1113		1313		1513		1713		1913
St. Margaret's Bay Bay Hill	0921		1121		1321		1521		1721		1921
Ringwould The Five Bells	0929		1129		1329		1529		1729		1929
Walmer Rail Station ⇌	0932		1132		1332		1532		1732		1932
Mill Hill Tesco	0937		1137		1337		1537		1737		1937
Deal South Street	0945		1145		1345		1545		1745		1945

LR - This bus starts from London Road (Whitfield Hill bottom).

1815 - Times in red indicate you will need to change bus at Pencester Road in order to continue your journey.

This timetable will operate from 26 April 2015.


B
APPENDIX



Location: Deal

3 years personal injury crash data up to 30/04/2015

KCC Ref number: EXT/411/15

Kent County Council
kent.gov.uk

Date: 19-August-2015
Time: 09:12:04

Title: **Deal**

Requested output:**D - Print Crash Report**
Date: 19-August-2015
Accident Date BETWEEN '01-May-2012' AND '30-Apr-2015'

There were 16 reported crashes resulting in injury

D-PRINT CRASH REPORT

19-Aug-2015
09:12:04

Deal
Accident Date BETWEEN '01-May-2012' AND '30-Apr-2015'

No	Location	Severity	Date	Day	Time	Street Lighting	Road Surface	Weather	Pedestrian Direction	Factors	Involved
1	**Road No E3311 Grid 637396E Section 001 Ref 152891N**	SLIGHT	10/09/2012	2	17:00	L	Dry	Fine		R.TURN	
	St Patricks Road J/W St Davids Road, Deal, Kent								Dover		
	V1 Trav Along St Davids Road, Turned right into St Patricks Road, Veh2 (Unknown) Trav Towards V1. V1 Hit Accelerator in Error , Hit Kerb and Bounced across the Road Knocking Garden Wall Down, V1 Ended up on It's Roof. V2 Failed to Stop.						Veh1, car, W -> S Veh2, car, S -> W				Casualties 1 Vehicles 2
2	**Road No E3313 Grid 637197E Section 001 Ref 152157N**	SLIGHT	22/09/2012	7	00:44	DRK STL	Wet/Damp	Fine		+VE	
	Mill Road J/W Park Avenue, Deal, Kent.								Dover		
	*****Polac V2 Followed V1 (Suspected Stolen Veh) V1 Made off from V2 and as it Trav Along Mill Road, V2 Held Back. as V1 Continued over J/W Park Avenue, onto the Corner of the Pavement Opposite into the Staggered Continuation of Mill Road and Straight across the Junction it Come off the C/Way to It's Offside and Collided with a Tree. no Contact was Made with V2.						Veh1, car, SW -> NE Veh2, car, SW -> NE				Casualties 2 Vehicles 2
3	**Road No A258 Grid 637201E Section 103 Ref 152510N**	SERIOUS	17/05/2013	6	20:05	DRK STL	Dry	Fine		R.TURN	P/C
	London Road 5M South of J/W Albert Road, Deal, Kent								Dover		
	V1 was at Give Way Junction of Albert Road Waiting to Join London Road, turning Right. V2 (Cyclist) was Travelling Along London Road Towards Albert Road. V1 Pulled out of Albert Road in Front of V2. V2 Tried to Avoid V1 but Has Hit the F/N/S of V1. Located Using Police Provided Map.						Veh1, car, N -> SW Veh2, pedal cycle, SW -> E				Casualties 2 Vehicles 2

Key

Involved

PED	*Pedestrian*
HGV	*Heavy Goods Vehicle*
GV	*Goods Vehicle*
M/C	*Motor Cycle*
P/C	*Pedal Cycle*
PSV	*Bus/Coach*

Street Lighting

L	*Daylight*
STL	*Street Lights*
USL	*Street LIghts Unlit*
NSL	*No Street Lights*
STU	*Street Lights Unknown*

FACTORS

+VE	*Positive Breath Test*
R.TURN	*Right Turn Manoeuvre*
O/TAKE	*Overtaking Manoeuvre*
S.VEH	*Single Vehicle*

Special Conditions

ATS OUT	*Traffic Lights Not Working*
ATS DEF	*Traffic Lights Defective*
SIGNS	*Road Signs Defective or Obscurred*
RD WRKS	*Road Works*
Surface	*Road Surface Defective*

D-PRINT CRASH REPORT

19-Aug-2015
09:12:04

Deal
Accident Date BETWEEN '01-May-2012' AND '30-Apr-2015'

No	Location	Severity	Date	Day	Time	Street Lighting	Road Surface	Weather	Pedestrian Direction	Factors	Involved
4	**Road No E3311 Grid 637422E** **Section 001 Ref 152831N**	SLIGHT	05/06/2013	4	11:08	L	Dry	Fine			
	St. George's Road, Deal, Kent								Dover		
	Driver of V1 Got Their Foot Stuck when Reversing Their Car Colliding with V2 which was Parked/Unattended. V2 then Got Pushed onto V3 which was Also Parked/Unattended. V3 Hit V4.						Veh1, car, W -> E Veh2, car, P -> P Veh3, car, P -> P Veh4, car, P -> P				Casualties 1 Vehicles 4
5	**Road No A258 Grid 637200E** **Section 103 Ref 152500N**	SLIGHT	09/06/2013	1	09:05	L	Dry	Fine		R.TURN	
	London Road / Albert Road, Deal, Kent								Dover		
	V1 was Travelling South West Along Albert Rd, Deal, Approaching the J/W London Road. V2 Ws Travelling North East Along London Road Towards the J/W Albert Road an the Crest of the right Hand Bend which is Directly on the Junction. V1 Pulled out into the Carriageway turning right onto London Road and Struck the Front Nearside of V2, Causing Extensive Damage to both Vehicles and a Minor Injury to the Driver of V2.						Veh1, car, NE -> SW Veh2, car, SW -> E				Casualties 1 Vehicles 2
6	**Road No E3312 Grid 637060E** **Section 001 Ref 152530N**	SLIGHT	16/08/2013	6	18:40	L	Dry	Fine			P/C
	the Grove / Tar Path, Deal, Kent								Dover		
	V2 was Proceeding Along the Grove when the Cyclist Came out of Tar Path Collided with V2 Causing Damage and Slight Injury to the Rider.						Veh1, pedal cycle, SW -> NE Veh2, car, NW -> SE				Casualties 1 Vehicles 2

Key

Involved
- *PED* Pedestrian
- *HGV* Heavy Goods Vehicle
- *GV* Goods Vehicle
- *M/C* Motor Cycle
- *P/C* Pedal Cycle
- *PSV* Bus/Coach

Street Lighting
- *L* Daylight
- *STL* Street Lights
- *USL* Street LIghts Unlit
- *NSL* No Street Lights
- *STU* Street Lights Unknown

FACTORS
- *+VE* Positive Breath Test
- *R.TURN* Right Turn Manoeuvre
- *O/TAKE* Overtaking Manoeuvre
- *S.VEH* Single Vehicle

Special Conditions
- *ATS OUT* Traffic Lights Not Working
- *ATS DEF* Traffic Lights Defective
- *SIGNS* Road Signs Defective or Obscurred
- *RD WRKS* Road Works
- *Surface* Road Surface Defective

D-PRINT CRASH REPORT

19-Aug-2015
09:12:04

Deal
Accident Date BETWEEN '01-May-2012' AND '30-Apr-2015'

No	Location	Severity	Date	Day	Time	Street Lighting	Road Surface	Weather	Pedestrian Direction	Factors	Involved
7	**Road No A258 Grid 636879E** **Section 109 Ref 152148N**	SLIGHT	04/10/2013	6	16:30	L	Dry	Unknown			
	London Road J/W Bowling Green Lane, Deal, Kent								Dover		
	Veh 1 Collided to the Rear of Veh 2 After Veh 2 Braked Suddenly. Veh 2 Asked Driver If Ok and then Drove Off. no Details Were Exchanged.						Veh1, car, NE -> SW Veh2, car, NE -> SW				Casualties 1 Vehicles 2
8	**Road No A258 Grid 636947E** **Section 108 Ref 152225N**	SLIGHT	04/11/2013	2	17:56	L	Dry	Fine		R.TURN	
	A258 London Road O/S no 125 J/W Claremont Road, Deal, Kent								Dover		
	V3 Waiting to Turn right into Claremont Road V2 Waiting Behind V3, V1 Has Failed to Stop and Has Struck V2 which Has Shunted Forward into the Rear of V3, the Driver and Two Passengers of V1 Have left the Scene Not Leaving Any Details. the Driver of V2, C1 States They Have a Sore Neck but Feels this May Be from Decorating at Weekend. the Driver of V3, C2 States They Have Pain to Their Shoulder, both C1 & C2 Declined Medical Treatment.						Veh1, car, S -> SW Veh2, car, NE -> SW Veh3, car, NE -> NW				Casualties 2 Vehicles 3
9	**Road No A258 Grid 636891E** **Section 109 Ref 152166N**	SLIGHT	02/01/2014	5	17:06	DRK STL	Wet/Damp	Fine			
	A258 London Road, Near Bowling Green Lane, Deal, Kent								Dover		
	V2 was Travelling Along London Road Towards the Town, There was Traffic Coming in the Opposite Direction (Towards the Hospital). There Were 3 Parked Cars in Front of V2 So V2 Stopped and Waited to Go Round the Parked Cars. V2 was Stationary when V1 Hit V2. the Driver of V1 left Scene. a Witness Saw Driver of V1 Get out of Vehicle Walk Along Bowling Green Lane, then Run Off.						Veh1, car, SW -> NE Veh2, car, SW -> NE				Casualties 1 Vehicles 2

Key

Involved
- *PED* Pedestrian
- *HGV* Heavy Goods Vehicle
- *GV* Goods Vehicle
- *M/C* Motor Cycle
- *P/C* Pedal Cycle
- *PSV* Bus/Coach

Street Lighting
- *L* Daylight
- *STL* Street Lights
- *USL* Street LIghts Unlit
- *NSL* No Street Lights
- *STU* Street Lights Unknown

FACTORS
- *+VE* Positive Breath Test
- *R.TURN* Right Turn Manoeuvre
- *O/TAKE* Overtaking Manoeuvre
- *S.VEH* Single Vehicle

Special Conditions
- *ATS OUT* Traffic Lights Not Working
- *ATS DEF* Traffic Lights Defective
- *SIGNS* Road Signs Defective or Obscurred
- *RD WRKS* Road Works
- *Surface* Road Surface Defective

D-PRINT CRASH REPORT

19-Aug-2015
09:12:04

Deal
Accident Date BETWEEN '01-May-2012' AND '30-Apr-2015'

No	Location	Severity	Date	Day	Time	Street Lighting	Road Surface	Weather	Pedestrian Direction	Factors	Involved
10	**Road No E3313 Grid 637192E** **Section 001 Ref 152153N**	SLIGHT	09/03/2014	1	17:12	L	Dry	Fine			
	Park Avenue / Mill Road, Deal, Kent								Dover		
	V2 turning into Mill Road Towards Deal Town Centre from Park Avenue. Vehicle Committed to Turn Right, and V1 Collided with V2.						Veh1, car, W -> E Veh2, car, E -> NE			Casualties 3 Vehicles 2	
11	**Road No E3312 Grid 636920E** **Section 001 Ref 152460N**	SLIGHT	12/05/2014	2	11:25	L	Dry	Unknown	Stand	S.VEH	
	Church Path, Outside House Number 128, Deal, Kent								Dover		PED
	V1 was turning left from Grange Road into Church Path, Deal. About 50 Yards down from turning Saw Two Youths on the Path. a Witness Saw the Two Youths Playing About and One Chasing the Other. One Youth Ran out into Road and Caught Nearside Wing Mirror of V1. V1 Stopped in Middle of Road, Got out of the Car to Check on Youth to Get Details. V1 Driver and Witness Tried to Speak to Youth to Get Details from Them but Would Not Speak. Youth Said to Friend Get a Teacher and Went Off.						Veh1, car, SW -> NE			Casualties 1 Vehicles 1	
12	**Road No A258 Grid 636868E** **Section 109 Ref 152141N**	SERIOUS	17/06/2014	3	15:10	L	Dry	Fine		R.TURN	M/C
	A258 London Road J/W Bowling Green Lane, Deal, Kent								Dover		
	V1 Travelling South West on London Road, Deal Approaching Bowling Green Lane Intending to Turn Right. View Blocked/Impacted by Stopped Bus in Bus Stop Opposite Junction. V2 Travelling North East London Road, Approaching Bowling Green Lane Intending to Continue Ahead. V1 Crosses Path of V2 Collision Occurred						Veh1, car, NE -> NW Veh2, m/cycle 50 - 125cc, SW -> NE			Casualties 1 Vehicles 2	

Key

Involved
- *PED* Pedestrian
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- *GV* Goods Vehicle
- *M/C* Motor Cycle
- *P/C* Pedal Cycle
- *PSV* Bus/Coach

Street Lighting
- *L* Daylight
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FACTORS
- *+VE* Positive Breath Test
- *R.TURN* Right Turn Manoeuvre
- *O/TAKE* Overtaking Manoeuvre
- *S.VEH* Single Vehicle

Special Conditions
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D-PRINT CRASH REPORT

19-Aug-2015
09:12:04

Deal
Accident Date BETWEEN '01-May-2012' AND '30-Apr-2015'

No	Location	Severity	Date	Day	Time	Street Lighting	Road Surface	Weather	Pedestrian Direction	Factors	Involved
13	**Road No E3311 Grid 637400E Section 001 Ref 152890N**	SLIGHT	05/07/2014	7	11:30	L	Dry	Unknown			
	St Patricks Road at J/W St Davids Road, Deal, Kent								Dover		
	Mobility Scooter Travelling Along St Patricks Road, Deal and as They Aprroached the Juction with St Davids Road They Have Begun to Cross when an Unknown Van Has Reversed into the Mobility Scooter Causing Damage to the Anti-Roll Bar and the Impact Has Caused the Ip to Jar Knee, Causing Swelling.						Veh1, car, E -> W Veh2, Motor vehicle, S -> N				Casualties 1 Vehicles 2
14	**Road No A258 Grid 637117E Section 105 Ref 152423N**	SLIGHT	16/10/2014	5	09:05	L	Dry	Fine			PSV
	A258, London Road Jw Astor Drive, Deal, Kent								Dover		
	V2 Slowed down to Let another Vehicle Join London Road. V2 was Hit by V1 from Behind. Driver of V1 Said was Blinded by Low Sun and Did Not See V2 Slowing Down.						Veh1, bus or coach, SW -> NE Veh2, car, SW -> NE				Casualties 1 Vehicles 2
15	**Road No A258 Grid 637365E Section 100 Ref 152528N**	SLIGHT	17/10/2014	6	10:56	L	Dry	Fine		S.VEH	
	A258, London Road, Deal, Kent (Mapped to 637370/152530)								Dover		
	V1 is a Mobility Scooter. Whilst Driving on London Road on the Footpath, Rider Has Attempted to Navigate Past a Pedestrian. Whilst Doing this the Mobility Scooter Has left the Pavement. this Has Caused the Mobility Scooter to Tip and Land on Rider. no Other Vehicles Were Involved. the Only Person Injured was the Rider.						Veh1, Motor vehicle, NE -> SW				Casualties 1 Vehicles 1

Key

Involved
- *PED* Pedestrian
- *HGV* Heavy Goods Vehicle
- *GV* Goods Vehicle
- *M/C* Motor Cycle
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- *L* Daylight
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- *NSL* No Street Lights
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FACTORS
- *+VE* Positive Breath Test
- *R.TURN* Right Turn Manoeuvre
- *O/TAKE* Overtaking Manoeuvre
- *S.VEH* Single Vehicle

Special Conditions
- *ATS OUT* Traffic Lights Not Working
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- *SIGNS* Road Signs Defective or Obscurred
- *RD WRKS* Road Works
- *Surface* Road Surface Defective

D-PRINT CRASH REPORT

19-Aug-2015
09:12:04

Deal
Accident Date BETWEEN '01-May-2012' AND '30-Apr-2015'

No	Location	Severity	Date	Day	Time	Street Lighting	Road Surface	Weather	Pedestrian Direction	Factors	Involved
16	**Road No A258 Grid 636879E** **Section 109 Ref 152146N**	SLIGHT	19/01/2015	2	11:40	L	Wet/Damp	Fine		R.TURN	
	London Road Jw Bowling Green Lane, Sholden, Deal, Kent								Dover		
	it Would Appear That the Driver of V1 Has Misjudged the Distance Between Their Vehicle and V2. Thereby Colliding with it Causing Damage to both Vehicles.						Veh1, car, NW -> SW Veh2, car, NE -> SW			Casualties 1 Vehicles 2	

Key

Involved

PED	*Pedestrian*
HGV	*Heavy Goods Vehicle*
GV	*Goods Vehicle*
M/C	*Motor Cycle*
P/C	*Pedal Cycle*
PSV	*Bus/Coach*

Street Lighting

L	*Daylight*
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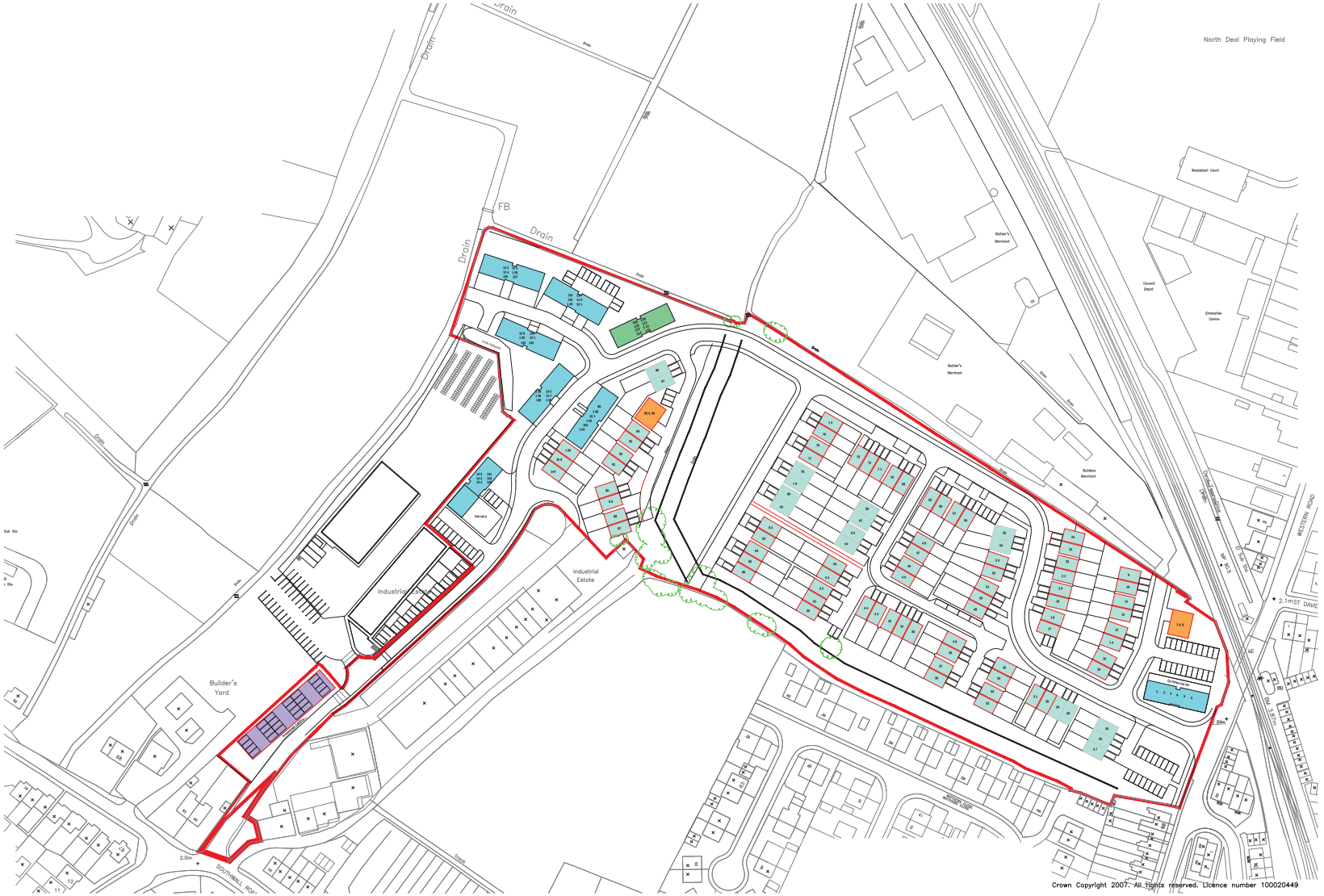
FACTORS

+VE	*Positive Breath Test*
R.TURN	*Right Turn Manoeuvre*
O/TAKE	*Overtaking Manoeuvre*
S.VEH	*Single Vehicle*

Special Conditions

ATS OUT	*Traffic Lights Not Working*
ATS DEF	*Traffic Lights Defective*
SIGNS	*Road Signs Defective or Obscurred*
RD WRKS	*Road Works*
Surface	*Road Surface Defective*


C
APPENDIX



2 Bed Flat (4 storey including undercroft)
2 Bed Flat (4 storey)
3 Bed House
2 Bed Flat (3 storey with undercroft)

N

Scale 1:1000

0 10 20 30 40 50 100m

NOTES

Do Not Scale.

Report all discrepancies, errors and omissions.

Verify all dimensions on site before commencing any work on site or preparing shop drawings.

All materials, components and workmanship are to comply with the relevant British Standards, Codes of Practice, and appropriate manufacturers recommendations that from time to time shall apply.

For all specialist work, see relevant drawings.

Rev	Date	Description

Project Title

Mixed Use Development

Land at Southwall Road and Albert Road
Deal
Kent

Drawing Description

Initial Site Layout Plan Option 2
145 Units

Scale	Drawn by
1:1000 @A1	JS
Date	Checked by
November 2015	TWM

CLAGUE ARCHITECTS

62 Burgate, Canterbury
Kent CT1 2BH 01227 762060

1 Kinsbourne Court, Luton Road,
Harpenden, Hertfordshire AL5 3BL 01582 765102

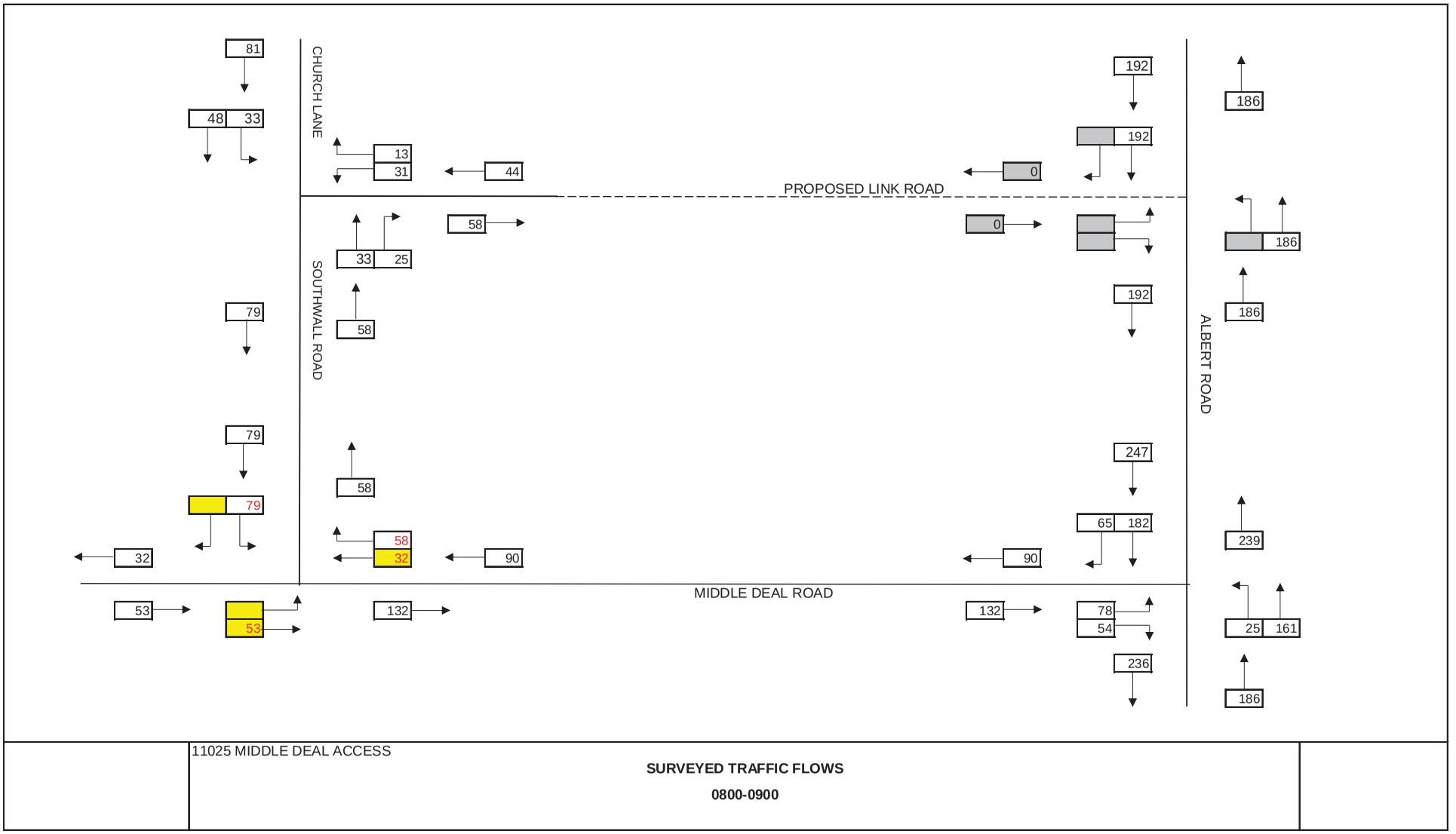
4th Floor, 99 Charterhouse Street
London EC1M 6HR 0203 597 6112

CANTERBURY LONDON HARPENDEN

Drawing Number	Revision
22209A	

Mixed Use Development

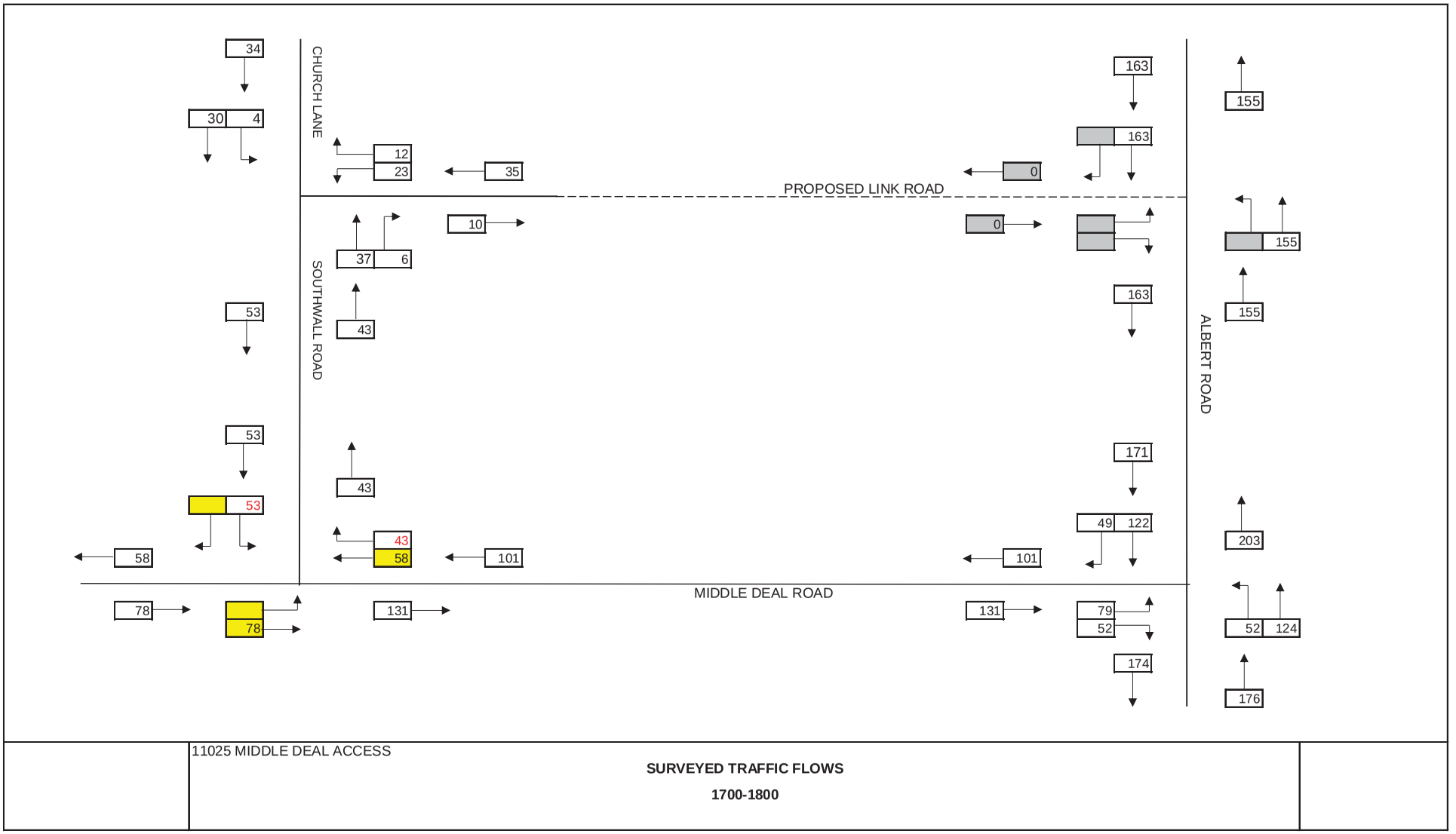

D
APPENDIX



11025 MIDDLE DEAL ACCESS

SURVEYED TRAFFIC FLOWS

0800-0900



11025 MIDDLE DEAL ACCESS

SURVEYED TRAFFIC FLOWS

1700-1800


E
APPENDIX

Site No: 19241001 Grid Reference: TR37297,52813
Site 1, Albert Road, Deal (LC 9)
Vehicle Count Report Week Begin: 07-Sep-15 Channel: Northbound

Time Begin	Mon 07/09/2015	Tue 08/09/2015	Wed 09/09/2015	Thu 10/09/2015	Fri 11/09/2015	Sat 12/09/2015	Sun 13/09/2015	5-Day Av	7-Day Av
00:00	2	8	7	6	3	24	20	5	10
01:00	3	3	4	3	3	11	12	3	6
02:00	3	1	2	1	3	6	11	2	4
03:00	2	0	1	1	1	2	3	1	1
04:00	1	1	3	2	1	1	2	2	2
05:00	4	9	7	8	5	3	2	7	5
06:00	25	35	26	35	31	22	11	30	26
07:00	133	143	133	130	132	49	26	134	107
08:00	223	253	211	210	236	109	40	227	183
09:00	169	196	198	226	247	185	110	207	190
10:00	193	193	217	188	213	211	189	201	201
11:00	207	212	208	215	192	217	190	207	206
12:00	185	220	200	195	240	199	186	208	204
13:00	193	207	191	195	180	170	125	193	180
14:00	211	199	202	169	189	151	133	194	179
15:00	220	222	254	272	255	189	118	245	219
16:00	232	234	236	242	237	134	115	236	204
17:00	198	198	194	191	181	135	101	192	171
18:00	144	149	154	149	151	130	110	149	141
19:00	107	115	90	127	125	96	101	113	109
20:00	60	85	74	58	96	67	53	75	70
21:00	48	45	52	62	51	55	30	52	49
22:00	33	35	28	29	53	36	24	36	34
23:00	18	12	19	18	39	30	9	21	21
12H,7-19	2308	2426	2398	2382	2453	1879	1443	2393	2184
16H,6-22	2548	2706	2640	2664	2756	2119	1638	2663	2439
18H,6-24	2599	2753	2687	2711	2848	2185	1671	2720	2493
24H,0-24	2614	2775	2711	2732	2864	2232	1721	2739	2521
Am	08:00	08:00	10:00	09:00	09:00	11:00	11:00	-	-
Peak	223	253	217	226	247	217	190	233	225
Pm	16:00	16:00	15:00	15:00	15:00	12:00	12:00	-	-
Peak	232	234	254	272	255	199	186	249	233

K & M TRAFFIC SURVEYS Created at 17:14:07 on 16 Sep 2015

Site No: 19241001 Grid Reference: TR37297,52813
Site 1, Albert Road, Deal (LC 9)
Vehicle Count Report Week Begin: 07-Sep-15 Channel: Southbound

Time Begin	Mon 07/09/2015	Tue 08/09/2015	Wed 09/09/2015	Thu 10/09/2015	Fri 11/09/2015	Sat 12/09/2015	Sun 13/09/2015	5-Day Av	7-Day Av
00:00	8	8	8	7	5	17	19	7	10
01:00	4	4	1	2	4	11	15	3	6
02:00	3	2	4	2	1	4	11	2	4
03:00	0	1	0	1	1	2	4	1	1
04:00	3	5	3	1	3	2	5	3	3
05:00	12	22	12	16	15	10	8	15	14
06:00	49	44	41	47	46	19	16	45	37
07:00	120	147	136	137	128	56	39	134	109
08:00	227	228	207	214	221	112	57	219	181
09:00	201	177	208	191	237	148	115	203	182
10:00	178	184	199	184	188	199	187	187	188
11:00	236	208	216	203	233	219	192	219	215
12:00	182	221	199	189	231	212	199	204	205
13:00	184	182	202	171	204	184	182	189	187
14:00	212	209	178	207	194	175	141	200	188
15:00	185	185	193	189	217	145	107	194	174
16:00	238	243	200	197	204	131	99	216	187
17:00	194	182	192	185	183	156	78	187	167
18:00	118	118	160	148	122	106	94	133	124
19:00	79	94	111	104	92	98	81	96	94
20:00	57	48	64	63	111	56	56	69	65
21:00	28	52	27	38	62	32	31	41	39
22:00	34	31	21	28	38	30	23	30	29
23:00	16	14	20	18	26	24	10	19	18
12H,7-19	2275	2284	2290	2215	2362	1843	1490	2285	2108
16H,6-22	2488	2522	2533	2467	2673	2048	1674	2537	2344
18H,6-24	2538	2567	2574	2513	2737	2102	1707	2586	2391
24H,0-24	2568	2609	2602	2542	2766	2148	1769	2617	2429
Am	11:00	08:00	11:00	08:00	09:00	11:00	11:00	-	-
Peak	236	228	216	214	237	219	192	226	220
Pm	16:00	16:00	13:00	14:00	12:00	12:00	12:00	-	-
Peak	238	243	202	207	231	212	199	224	219

K & M TRAFFIC SURVEYS Created at 17:14:07 on 16 Sep 2015


AK02 DWH


F
APPENDIX

Calculation Reference: AUDIT-704001-150902-0949

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
Category : A - OFFICE

VEHICLES

Selected regions and areas:

02	**SOUTH EAST**		
	KC	KENT	1 days
	SC	SURREY	1 days
07	**YORKSHIRE & NORTH LINCOLNSHIRE**		
	WY	WEST YORKSHIRE	1 days
08	**NORTH WEST**		
	LC	LANCASHIRE	1 days
09	**NORTH**		
	DH	DURHAM	1 days
	TW	TYNE & WEAR	2 days

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

Filtering Stage 2 selection:

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

Parameter: Gross floor area
Actual Range: 1500 to 2696 (units: sqm)
Range Selected by User: 1000 to 3000 (units: sqm)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/07 to 27/02/14

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	5 days
Thursday	1 days

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

Selected survey types:

Manual count	7 days
Directional ATC Count	0 days

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

Selected Locations:

Suburban Area (PPS6 Out of Centre)	4
Edge of Town	3

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

Selected Location Sub Categories:

Industrial Zone	2
Commercial Zone	2
Residential Zone	2
Built-Up Zone	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.

Filtering Stage 3 selection:

Use Class:

B1	7 days

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

Population within 1 mile:

1,001 to 5,000	1 days
5,001 to 10,000	2 days
10,001 to 15,000	2 days
15,001 to 20,000	1 days
25,001 to 50,000	1 days

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

Population within 5 miles:

75,001 to 100,000	1 days
100,001 to 125,000	1 days
125,001 to 250,000	2 days
250,001 to 500,000	2 days
500,001 or More	1 days

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

Car ownership within 5 miles:

0.6 to 1.0	4 days
1.1 to 1.5	3 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	1 days
No	6 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.

LIST OF SITES relevant to selection parameters

1 **DH-02-A-02** **CONSTRUCTION COMPANY** **DURHAM**
DURHAM ROAD
BOWBURN
NEAR DURHAM
Edge of Town
Industrial Zone
Total Gross floor area: 2000 sqm
Survey date: TUESDAY *27/11/12* *Survey Type: MANUAL*

2 **KC-02-A-07** **KCC HIGHWAYS REG.** **KENT**
KAVELIN WAY
HENWOOD IND. ESTATE
ASHFORD
Edge of Town
Commercial Zone
Total Gross floor area: 2525 sqm
Survey date: MONDAY *05/12/11* *Survey Type: MANUAL*

3 **LC-02-A-09** **OFFICES** **LANCASHIRE**
FURTHERGATE

BLACKBURN
Suburban Area (PPS6 Out of Centre)
Built-Up Zone
Total Gross floor area: 2600 sqm
Survey date: TUESDAY *04/06/13* *Survey Type: MANUAL*

4 **SC-02-A-15** **ACCOUNTANTS** **SURREY**
BOXGROVE ROAD

GUILDFORD
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Gross floor area: 1896 sqm
Survey date: TUESDAY *05/10/10* *Survey Type: MANUAL*

5 **TW-02-A-04** **HOUSING CO.** **TYNE & WEAR**
EARLSWAY
TEAM VALLEY TRAD. EST.
GATESHEAD
Edge of Town
Industrial Zone
Total Gross floor area: 2500 sqm
Survey date: TUESDAY *29/09/09* *Survey Type: MANUAL*

6 **TW-02-A-05** **TELEVISION CO.** **TYNE & WEAR**
DELTA BANK ROAD
METRO RIVERSIDE PARK
GATESHEAD
Suburban Area (PPS6 Out of Centre)
Commercial Zone
Total Gross floor area: 1500 sqm
Survey date: TUESDAY *29/09/09* *Survey Type: MANUAL*

7 **WY-02-A-03** **OFFICE** **WEST YORKSHIRE**
VICTORIA ROAD
HEADINGLEY
LEEDS
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Gross floor area: 2696 sqm
Survey date: THURSDAY *17/06/10* *Survey Type: MANUAL*

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

TRIP RATE for Land Use 02 - EMPLOYMENT/A - OFFICE

VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	7	2245	0.891	7	2245	0.185	7	2245	1.076
08:00 - 09:00	**7**	**2245**	**2.259**	7	2245	0.318	7	2245	2.577
09:00 - 10:00	7	2245	1.661	7	2245	0.490	7	2245	2.151
10:00 - 11:00	7	2245	0.643	7	2245	0.490	7	2245	1.133
11:00 - 12:00	7	2245	0.433	7	2245	0.458	7	2245	0.891
12:00 - 13:00	7	2245	0.808	7	2245	0.840	7	2245	1.648
13:00 - 14:00	7	2245	0.967	7	2245	0.630	7	2245	1.597
14:00 - 15:00	7	2245	0.547	7	2245	0.566	7	2245	1.113
15:00 - 16:00	7	2245	0.382	7	2245	0.655	7	2245	1.037
16:00 - 17:00	7	2245	0.363	7	2245	1.673	7	2245	2.036
17:00 - 18:00	7	2245	0.216	**7**	**2245**	**2.411**	**7**	**2245**	**2.627**
18:00 - 19:00	7	2245	0.064	7	2245	0.694	7	2245	0.758
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			9.234			9.410			18.644

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

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

Parameter summary

Trip rate parameter range selected:	1500 - 2696 (units: sqm)
Survey date date range:	01/01/07 - 27/02/14
Number of weekdays (Monday-Friday):	7
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

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

TRIP RATE for Land Use 02 - EMPLOYMENT/A - OFFICE

TAXIS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	7	2245	0.000	7	2245	0.000	7	2245	0.000
08:00 - 09:00	7	2245	0.019	7	2245	0.019	7	2245	0.038
09:00 - 10:00	**7**	**2245**	**0.051**	**7**	**2245**	**0.045**	**7**	**2245**	**0.096**
10:00 - 11:00	7	2245	0.000	7	2245	0.013	7	2245	0.013
11:00 - 12:00	7	2245	0.013	7	2245	0.013	7	2245	0.026
12:00 - 13:00	7	2245	0.006	7	2245	0.006	7	2245	0.012
13:00 - 14:00	7	2245	0.013	7	2245	0.013	7	2245	0.026
14:00 - 15:00	7	2245	0.013	7	2245	0.006	7	2245	0.019
15:00 - 16:00	7	2245	0.045	7	2245	0.038	7	2245	0.083
16:00 - 17:00	7	2245	0.006	7	2245	0.019	7	2245	0.025
17:00 - 18:00	7	2245	0.032	7	2245	0.032	7	2245	0.064
18:00 - 19:00	7	2245	0.006	7	2245	0.006	7	2245	0.012
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.204			0.210			0.414

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

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

Parameter summary

Trip rate parameter range selected:	1500 - 2696 (units: sqm)
Survey date date range:	01/01/07 - 27/02/14
Number of weekdays (Monday-Friday):	7
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

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

TRIP RATE for Land Use 02 - EMPLOYMENT/A - OFFICE

OGVS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	7	2245	0.013	7	2245	0.006	7	2245	0.019
08:00 - 09:00	7	2245	0.006	7	2245	0.006	7	2245	0.012
09:00 - 10:00	7	2245	0.006	7	2245	0.013	7	2245	0.019
10:00 - 11:00	7	2245	0.019	7	2245	0.013	7	2245	0.032
11:00 - 12:00	7	2245	0.019	7	2245	0.019	7	2245	0.038
12:00 - 13:00	7	2245	0.000	7	2245	0.006	7	2245	0.006
13:00 - 14:00	7	2245	0.000	7	2245	0.000	7	2245	0.000
14:00 - 15:00	7	2245	0.013	7	2245	0.006	7	2245	0.019
15:00 - 16:00	7	2245	0.025	7	2245	0.025	7	2245	0.050
16:00 - 17:00	**7**	**2245**	**0.032**	**7**	**2245**	**0.032**	**7**	**2245**	**0.064**
17:00 - 18:00	7	2245	0.000	7	2245	0.006	7	2245	0.006
18:00 - 19:00	7	2245	0.000	7	2245	0.000	7	2245	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.133			0.132			0.265

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

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

Parameter summary

Trip rate parameter range selected:	1500 - 2696 (units: sqm)
Survey date date range:	01/01/07 - 27/02/14
Number of weekdays (Monday-Friday):	7
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

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

TRIP RATE for Land Use 02 - EMPLOYMENT/A - OFFICE

PSVS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	7	2245	0.000	7	2245	0.000	7	2245	0.000
08:00 - 09:00	**7**	**2245**	**0.019**	7	2245	0.000	**7**	**2245**	**0.019**
09:00 - 10:00	7	2245	0.000	7	2245	0.000	7	2245	0.000
10:00 - 11:00	7	2245	0.000	7	2245	0.000	7	2245	0.000
11:00 - 12:00	7	2245	0.000	7	2245	0.000	7	2245	0.000
12:00 - 13:00	7	2245	0.000	7	2245	0.000	7	2245	0.000
13:00 - 14:00	7	2245	0.000	7	2245	0.000	7	2245	0.000
14:00 - 15:00	7	2245	0.000	7	2245	0.000	7	2245	0.000
15:00 - 16:00	7	2245	0.000	7	2245	0.000	7	2245	0.000
16:00 - 17:00	7	2245	0.000	7	2245	0.000	7	2245	0.000
17:00 - 18:00	7	2245	0.000	**7**	**2245**	**0.006**	7	2245	0.006
18:00 - 19:00	7	2245	0.000	7	2245	0.000	7	2245	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.019			0.006			0.025

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

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

Parameter summary

Trip rate parameter range selected:	1500 - 2696 (units: sqm)
Survey date date range:	01/01/07 - 27/02/14
Number of weekdays (Monday-Friday):	7
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

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

TRIP RATE for Land Use 02 - EMPLOYMENT/A - OFFICE

CYCLISTS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	7	2245	0.006	7	2245	0.000	7	2245	0.006
08:00 - 09:00	**7**	**2245**	**0.019**	7	2245	0.000	7	2245	0.019
09:00 - 10:00	7	2245	0.000	7	2245	0.000	7	2245	0.000
10:00 - 11:00	7	2245	0.000	7	2245	0.000	7	2245	0.000
11:00 - 12:00	7	2245	0.000	7	2245	0.000	7	2245	0.000
12:00 - 13:00	7	2245	0.000	7	2245	0.000	7	2245	0.000
13:00 - 14:00	7	2245	0.000	7	2245	0.000	7	2245	0.000
14:00 - 15:00	7	2245	0.000	7	2245	0.000	7	2245	0.000
15:00 - 16:00	7	2245	0.000	7	2245	0.006	7	2245	0.006
16:00 - 17:00	7	2245	0.013	**7**	**2245**	**0.019**	**7**	**2245**	**0.032**
17:00 - 18:00	7	2245	0.000	7	2245	0.013	7	2245	0.013
18:00 - 19:00	7	2245	0.000	7	2245	0.000	7	2245	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.038			0.038			0.076

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

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

Parameter summary

Trip rate parameter range selected:	1500 - 2696 (units: sqm)
Survey date date range:	01/01/07 - 27/02/14
Number of weekdays (Monday-Friday):	7
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

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

Calculation Reference: AUDIT-704001-150902-0933

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 04 - EDUCATION
Category : D - NURSERY

VEHICLES

Selected regions and areas:

02	**SOUTH EAST**		
	KC	KENT	1 days
05	**EAST MIDLANDS**		
	NR	NORTHAMPTONSHIRE	1 days
08	**NORTH WEST**		
	GM	GREATER MANCHESTER	1 days
09	**NORTH**		
	DH	DURHAM	1 days
	TW	TYNE & WEAR	1 days
10	**WALES**		
	BG	BRIDGEND	1 days
	GW	GWYNEDD	1 days
	MT	MERTHYR TYDFIL	1 days

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

Filtering Stage 2 selection:

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

Parameter:	Gross floor area
Actual Range:	200 to 500 (units: sqm)
Range Selected by User:	200 to 500 (units: sqm)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/07 to 13/10/14

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	3 days
Tuesday	2 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	8 days
Directional ATC Count	0 days

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

Selected Locations:

Suburban Area (PPS6 Out of Centre)	5
Edge of Town	3

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

Selected Location Sub Categories:

Industrial Zone	2
Commercial Zone	1
Residential Zone	4
No Sub Category	1

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

Filtering Stage 3 selection:

Use Class:

D1	8 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 1 mile:

1,000 or Less	1 days
1,001 to 5,000	1 days
10,001 to 15,000	4 days
25,001 to 50,000	2 days

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

Population within 5 miles:

25,001 to 50,000	1 days
75,001 to 100,000	3 days
100,001 to 125,000	1 days
125,001 to 250,000	1 days
250,001 to 500,000	1 days
500,001 or More	1 days

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

Car ownership within 5 miles:

0.6 to 1.0	4 days
1.1 to 1.5	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:

No	8 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.

LIST OF SITES relevant to selection parameters

1 **BG-04-D-01** **NURSERY** **BRIDGEND**
GEORGE STREET
BRIDGEND IND. ESTATE
BRIDGEND
Edge of Town
Industrial Zone
Total Gross floor area: 210 sqm
Survey date: MONDAY *13/10/14* *Survey Type: MANUAL*

2 **DH-04-D-02** **NURSERY** **DURHAM**
PRIORY ROAD
FRAMWELLGATE MOOR
DURHAM
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Gross floor area: 382 sqm
Survey date: THURSDAY *27/11/08* *Survey Type: MANUAL*

3 **GM-04-D-01** **NURSERY** **GREATER MANCHESTER**
RUFFORD ROAD
WHALLEY RANGE
MANCHESTER
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Gross floor area: 200 sqm
Survey date: MONDAY *16/11/09* *Survey Type: MANUAL*

4 **GW-04-D-01** **NURSERY** **GWYNEDD**
FFORDD GELLI MORGAN
PARC MENAI
BANGOR
Edge of Town
Commercial Zone
Total Gross floor area: 200 sqm
Survey date: MONDAY *13/07/09* *Survey Type: MANUAL*

5 **KC-04-D-01** **NURSERY** **KENT**
PEMBURY ROAD

TONBRIDGE
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Gross floor area: 210 sqm
Survey date: WEDNESDAY *09/12/09* *Survey Type: MANUAL*

6 **MT-04-D-01** **NURSERY** **MERTHYR TYDFIL**
BREWERY ROAD
DOWLAIS
MERTHYR TYDFIL
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Gross floor area: 200 sqm
Survey date: TUESDAY *09/10/07* *Survey Type: MANUAL*

7 **NR-04-D-01** **NURSERY** **NORTHAMPTONSHIRE**
OWL CLOSE
MOULTON PARK
NORTHAMPTON
Edge of Town
Industrial Zone
Total Gross floor area: 350 sqm
Survey date: TUESDAY *12/06/07* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

8 TW-04-D-02 NURSERY TYNE & WEAR
ETTRICK GROVE
HIGH BARNES
SUNDERLAND
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Gross floor area: 500 sqm
Survey date: WEDNESDAY *28/11/12* *Survey Type: MANUAL*

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

TRIP RATE for Land Use 04 - EDUCATION/D - NURSERY

VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	7	267	3.155	7	267	1.497	7	267	4.652
08:00 - 09:00	**8**	**282**	**7.282**	**8**	**282**	**6.528**	**8**	**282**	**13.810**
09:00 - 10:00	8	282	3.064	8	282	2.664	8	282	5.728
10:00 - 11:00	8	282	0.710	8	282	0.533	8	282	1.243
11:00 - 12:00	8	282	0.622	8	282	0.755	8	282	1.377
12:00 - 13:00	8	282	1.110	8	282	1.155	8	282	2.265
13:00 - 14:00	8	282	1.243	8	282	1.643	8	282	2.886
14:00 - 15:00	8	282	0.933	8	282	0.888	8	282	1.821
15:00 - 16:00	8	282	2.220	8	282	2.087	8	282	4.307
16:00 - 17:00	8	282	3.552	8	282	3.330	8	282	6.882
17:00 - 18:00	8	282	4.885	8	282	6.528	8	282	11.413
18:00 - 19:00	7	293	0.634	7	293	1.706	7	293	2.340
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			29.410			29.314			58.724

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

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

Parameter summary

Trip rate parameter range selected:	200 - 500 (units: sqm)
Survey date date range:	01/01/07 - 13/10/14
Number of weekdays (Monday-Friday):	8
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

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

TRIP RATE for Land Use 04 - EDUCATION/D - NURSERY

TAXIS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	**7**	**267**	**0.160**	7	267	0.107	**7**	**267**	**0.267**
08:00 - 09:00	8	282	0.089	**8**	**282**	**0.133**	8	282	0.222
09:00 - 10:00	8	282	0.000	8	282	0.000	8	282	0.000
10:00 - 11:00	8	282	0.044	8	282	0.044	8	282	0.088
11:00 - 12:00	8	282	0.000	8	282	0.000	8	282	0.000
12:00 - 13:00	8	282	0.000	8	282	0.000	8	282	0.000
13:00 - 14:00	8	282	0.000	8	282	0.000	8	282	0.000
14:00 - 15:00	8	282	0.000	8	282	0.000	8	282	0.000
15:00 - 16:00	8	282	0.000	8	282	0.000	8	282	0.000
16:00 - 17:00	8	282	0.000	8	282	0.000	8	282	0.000
17:00 - 18:00	8	282	0.089	8	282	0.089	8	282	0.178
18:00 - 19:00	7	293	0.049	7	293	0.049	7	293	0.098
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.431			0.422			0.853

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

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

Parameter summary

Trip rate parameter range selected:	200 - 500 (units: sqm)
Survey date date range:	01/01/07 - 13/10/14
Number of weekdays (Monday-Friday):	8
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

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

TRIP RATE for Land Use 04 - EDUCATION/D - NURSERY

OGVS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	7	267	0.000	7	267	0.000	7	267	0.000
08:00 - 09:00	**8**	**282**	**0.044**	8	282	0.000	8	282	0.044
09:00 - 10:00	8	282	0.000	**8**	**282**	**0.044**	8	282	0.044
10:00 - 11:00	8	282	0.044	8	282	0.000	8	282	0.044
11:00 - 12:00	8	282	0.000	8	282	0.044	8	282	0.044
12:00 - 13:00	8	282	0.000	8	282	0.000	8	282	0.000
13:00 - 14:00	8	282	0.044	8	282	0.044	**8**	**282**	**0.088**
14:00 - 15:00	8	282	0.000	8	282	0.000	8	282	0.000
15:00 - 16:00	8	282	0.000	8	282	0.000	8	282	0.000
16:00 - 17:00	8	282	0.000	8	282	0.000	8	282	0.000
17:00 - 18:00	8	282	0.000	8	282	0.000	8	282	0.000
18:00 - 19:00	7	293	0.000	7	293	0.000	7	293	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.132			0.132			0.264

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

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

Parameter summary

Trip rate parameter range selected:	200 - 500 (units: sqm)
Survey date date range:	01/01/07 - 13/10/14
Number of weekdays (Monday-Friday):	8
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

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

TRIP RATE for Land Use 04 - EDUCATION/D - NURSERY

PSVS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	7	267	0.000	7	267	0.000	7	267	0.000
08:00 - 09:00	**8**	**282**	**0.044**	**8**	**282**	**0.044**	**8**	**282**	**0.088**
09:00 - 10:00	8	282	0.000	8	282	0.000	8	282	0.000
10:00 - 11:00	8	282	0.000	8	282	0.000	8	282	0.000
11:00 - 12:00	8	282	0.000	8	282	0.000	8	282	0.000
12:00 - 13:00	8	282	0.000	8	282	0.000	8	282	0.000
13:00 - 14:00	8	282	0.000	8	282	0.000	8	282	0.000
14:00 - 15:00	8	282	0.000	8	282	0.000	8	282	0.000
15:00 - 16:00	8	282	0.000	8	282	0.000	8	282	0.000
16:00 - 17:00	8	282	0.000	8	282	0.000	8	282	0.000
17:00 - 18:00	8	282	0.000	8	282	0.000	8	282	0.000
18:00 - 19:00	7	293	0.000	7	293	0.000	7	293	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.044			0.044			0.088

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

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

Parameter summary

Trip rate parameter range selected:	200 - 500 (units: sqm)
Survey date date range:	01/01/07 - 13/10/14
Number of weekdays (Monday-Friday):	8
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

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

TRIP RATE for Land Use 04 - EDUCATION/D - NURSERY

CYCLISTS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	7	267	0.000	7	267	0.000	7	267	0.000
08:00 - 09:00	**8**	**282**	**0.044**	**8**	**282**	**0.044**	**8**	**282**	**0.088**
09:00 - 10:00	8	282	0.000	8	282	0.000	8	282	0.000
10:00 - 11:00	8	282	0.000	8	282	0.000	8	282	0.000
11:00 - 12:00	8	282	0.044	8	282	0.000	8	282	0.044
12:00 - 13:00	8	282	0.000	8	282	0.044	8	282	0.044
13:00 - 14:00	8	282	0.000	8	282	0.000	8	282	0.000
14:00 - 15:00	8	282	0.000	8	282	0.000	8	282	0.000
15:00 - 16:00	8	282	0.000	8	282	0.000	8	282	0.000
16:00 - 17:00	8	282	0.000	8	282	0.000	8	282	0.000
17:00 - 18:00	8	282	0.044	8	282	0.044	8	282	0.088
18:00 - 19:00	7	293	0.000	7	293	0.000	7	293	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.132			0.132			0.264

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

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

Parameter summary

Trip rate parameter range selected:	200 - 500 (units: sqm)
Survey date date range:	01/01/07 - 13/10/14
Number of weekdays (Monday-Friday):	8
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

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

Calculation Reference: AUDIT-704001-150902-0957

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : A - HOUSES PRIVATELY OWNED

VEHICLES

Selected regions and areas:

02	**SOUTH EAST**		
	WS	WEST SUSSEX	1 days
05	**EAST MIDLANDS**		
	LN	LINCOLNSHIRE	2 days
07	**YORKSHIRE & NORTH LINCOLNSHIRE**		
	NY	NORTH YORKSHIRE	1 days
08	**NORTH WEST**		
	CH	CHESHIRE	2 days
10	**WALES**		
	CF	CARDIFF	1 days
11	**SCOTLAND**		
	FA	FALKIRK	1 days
	FI	FIFE	1 days
	SR	STIRLING	1 days

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

Filtering Stage 2 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: Number of dwellings
Actual Range: 115 to 196 (units:)
Range Selected by User: 110 to 200 (units:)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/07 to 11/12/14

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	3 days
Tuesday	3 days
Wednesday	1 days
Thursday	1 days
Friday	2 days

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

Selected survey types:

Manual count	10 days
Directional ATC Count	0 days

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

Selected Locations:

Suburban Area (PPS6 Out of Centre)	5
Edge of Town	5

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

Selected Location Sub Categories:

Residential Zone	9
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.

Filtering Stage 3 selection:

Use Class:

C3	10 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 1 mile:

1,001 to 5,000	1 days
5,001 to 10,000	1 days
10,001 to 15,000	2 days
15,001 to 20,000	5 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
50,001 to 75,000	1 days
75,001 to 100,000	2 days
100,001 to 125,000	5 days
125,001 to 250,000	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	2 days
1.1 to 1.5	8 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	1 days
No	9 days

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

LIST OF SITES relevant to selection parameters

1 CF-03-A-02 MIXED HOUSES CARDIFF
DROPE ROAD

CARDIFF
Edge of Town
Residential Zone
Total Number of dwellings: 196
Survey date: FRIDAY *05/10/07* *Survey Type: MANUAL*

2 CH-03-A-02 HOUSES/FLATS CHESHIRE
SYDNEY ROAD

CREWE
Edge of Town
Residential Zone
Total Number of dwellings: 174
Survey date: TUESDAY *14/10/08* *Survey Type: MANUAL*

3 CH-03-A-06 SEMI-DET./BUNGALOWS CHESHIRE
CREWE ROAD

CREWE
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Number of dwellings: 129
Survey date: TUESDAY *14/10/08* *Survey Type: MANUAL*

4 FA-03-A-02 MIXED HOUSES FALKIRK
ROSEBANK AVENUE & SPRINGFIELD DRIVE

FALKIRK
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 161
Survey date: WEDNESDAY *29/05/13* *Survey Type: MANUAL*

5 FI-03-A-03 MIXED HOUSES FIFE
WOODMILL ROAD

DUNFERMLINE
Edge of Town
Residential Zone
Total Number of dwellings: 155
Survey date: MONDAY *30/04/07* *Survey Type: MANUAL*

6 LN-03-A-01 MIXED HOUSES LINCOLNSHIRE
BRANT ROAD
BRACEBRIDGE
LINCOLN
Edge of Town
Residential Zone
Total Number of dwellings: 150
Survey date: TUESDAY *15/05/07* *Survey Type: MANUAL*

7 LN-03-A-02 MIXED HOUSES LINCOLNSHIRE
HYKEHAM ROAD

LINCOLN
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 186
Survey date: MONDAY *14/05/07* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

8	**NY-03-A-06**	**BUNGALOWS & SEMI DET.**		**NORTH YORKSHIRE**
	HORSEFAIR			
	BOROUGHBRIDGE			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Number of dwellings:		115	
	Survey date: FRIDAY		*14/10/11*	*Survey Type: MANUAL*
9	**SR-03-A-01**	**DETACHED**		**STIRLING**
	BENVIEW			
	STIRLING			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Number of dwellings:		115	
	Survey date: MONDAY		*23/04/07*	*Survey Type: MANUAL*
10	**WS-03-A-04**	**MIXED HOUSES**		**WEST SUSSEX**
	HILLS FARM LANE			
	BROADBRIDGE HEATH			
	HORSHAM			
	Edge of Town			
	Residential Zone			
	Total Number of dwellings:		151	
	Survey date: THURSDAY		*11/12/14*	*Survey Type: MANUAL*

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

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

VEHICLES

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	10	153	0.076	10	153	0.281	10	153	0.357
08:00 - 09:00	10	153	0.137	**10**	**153**	**0.403**	10	153	0.540
09:00 - 10:00	10	153	0.152	10	153	0.201	10	153	0.353
10:00 - 11:00	10	153	0.145	10	153	0.181	10	153	0.326
11:00 - 12:00	10	153	0.149	10	153	0.155	10	153	0.304
12:00 - 13:00	10	153	0.194	10	153	0.171	10	153	0.365
13:00 - 14:00	10	153	0.193	10	153	0.172	10	153	0.365
14:00 - 15:00	10	153	0.172	10	153	0.196	10	153	0.368
15:00 - 16:00	10	153	0.259	10	153	0.175	10	153	0.434
16:00 - 17:00	10	153	0.329	10	153	0.195	10	153	0.524
17:00 - 18:00	**10**	**153**	**0.366**	10	153	0.226	**10**	**153**	**0.592**
18:00 - 19:00	10	153	0.234	10	153	0.195	10	153	0.429
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.406			2.551			4.957

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

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

Parameter summary

Trip rate parameter range selected:	115 - 196 (units:)
Survey date date range:	01/01/07 - 11/12/14
Number of weekdays (Monday-Friday):	10
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

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

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

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	10	153	0.003	10	153	0.003	10	153	0.006
08:00 - 09:00	10	153	0.001	10	153	0.002	10	153	0.003
09:00 - 10:00	10	153	0.001	10	153	0.001	10	153	0.002
10:00 - 11:00	10	153	0.002	10	153	0.001	10	153	0.003
11:00 - 12:00	10	153	0.001	10	153	0.001	10	153	0.002
12:00 - 13:00	10	153	0.003	10	153	0.003	10	153	0.006
13:00 - 14:00	10	153	0.001	10	153	0.001	10	153	0.002
14:00 - 15:00	10	153	0.002	10	153	0.001	10	153	0.003
15:00 - 16:00	**10**	**153**	**0.007**	**10**	**153**	**0.007**	**10**	**153**	**0.014**
16:00 - 17:00	10	153	0.002	10	153	0.003	10	153	0.005
17:00 - 18:00	10	153	0.002	10	153	0.001	10	153	0.003
18:00 - 19:00	10	153	0.001	10	153	0.002	10	153	0.003
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.026			0.026			0.052

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

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

Parameter summary

Trip rate parameter range selected:	115 - 196 (units:)
Survey date date range:	01/01/07 - 11/12/14
Number of weekdays (Monday-Friday):	10
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

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

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

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	10	153	0.002	10	153	0.000	10	153	0.002
08:00 - 09:00	**10**	**153**	**0.004**	**10**	**153**	**0.005**	**10**	**153**	**0.009**
09:00 - 10:00	10	153	0.004	10	153	0.002	10	153	0.006
10:00 - 11:00	10	153	0.004	10	153	0.005	10	153	0.009
11:00 - 12:00	10	153	0.002	10	153	0.001	10	153	0.003
12:00 - 13:00	10	153	0.002	10	153	0.002	10	153	0.004
13:00 - 14:00	10	153	0.002	10	153	0.002	10	153	0.004
14:00 - 15:00	10	153	0.001	10	153	0.005	10	153	0.006
15:00 - 16:00	10	153	0.001	10	153	0.001	10	153	0.002
16:00 - 17:00	10	153	0.001	10	153	0.001	10	153	0.002
17:00 - 18:00	10	153	0.000	10	153	0.001	10	153	0.001
18:00 - 19:00	10	153	0.001	10	153	0.001	10	153	0.002
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.024			0.026			0.050

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

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

Parameter summary

Trip rate parameter range selected:	115 - 196 (units:)
Survey date date range:	01/01/07 - 11/12/14
Number of weekdays (Monday-Friday):	10
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

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

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

PSVS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	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	10	153	0.000	10	153	0.000	10	153	0.000
08:00 - 09:00	**10**	**153**	**0.002**	**10**	**153**	**0.002**	**10**	**153**	**0.004**
09:00 - 10:00	10	153	0.000	10	153	0.000	10	153	0.000
10:00 - 11:00	10	153	0.000	10	153	0.000	10	153	0.000
11:00 - 12:00	10	153	0.001	10	153	0.001	10	153	0.002
12:00 - 13:00	10	153	0.000	10	153	0.000	10	153	0.000
13:00 - 14:00	10	153	0.001	10	153	0.001	10	153	0.002
14:00 - 15:00	10	153	0.001	10	153	0.000	10	153	0.001
15:00 - 16:00	10	153	0.001	10	153	0.001	10	153	0.002
16:00 - 17:00	10	153	0.000	10	153	0.000	10	153	0.000
17:00 - 18:00	10	153	0.000	10	153	0.000	10	153	0.000
18:00 - 19:00	10	153	0.001	10	153	0.001	10	153	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			0.006			0.013

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

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

Parameter summary

Trip rate parameter range selected:	115 - 196 (units:)
Survey date date range:	01/01/07 - 11/12/14
Number of weekdays (Monday-Friday):	10
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

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

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

CYCLISTS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	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	10	153	0.008	10	153	0.010	10	153	0.018
08:00 - 09:00	10	153	0.005	**10**	**153**	**0.020**	**10**	**153**	**0.025**
09:00 - 10:00	10	153	0.006	10	153	0.005	10	153	0.011
10:00 - 11:00	10	153	0.003	10	153	0.007	10	153	0.010
11:00 - 12:00	10	153	0.004	10	153	0.001	10	153	0.005
12:00 - 13:00	10	153	0.005	10	153	0.005	10	153	0.010
13:00 - 14:00	10	153	0.003	10	153	0.003	10	153	0.006
14:00 - 15:00	10	153	0.003	10	153	0.003	10	153	0.006
15:00 - 16:00	**10**	**153**	**0.015**	10	153	0.005	10	153	0.020
16:00 - 17:00	10	153	0.010	10	153	0.005	10	153	0.015
17:00 - 18:00	10	153	0.011	10	153	0.008	10	153	0.019
18:00 - 19:00	10	153	0.007	10	153	0.003	10	153	0.010
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.080			0.075			0.155

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

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

Parameter summary

Trip rate parameter range selected:	115 - 196 (units:)
Survey date date range:	01/01/07 - 11/12/14
Number of weekdays (Monday-Friday):	10
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

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

Calculation Reference: AUDIT-704001-150902-0951

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 01 - RETAIL
Category : A - FOOD SUPERSTORE

VEHICLES

Selected regions and areas:

03	**SOUTH WEST**		
	DC	DORSET	1 days
09	**NORTH**		
	CB	CUMBRIA	1 days
10	**WALES**		
	IA	ISLE OF ANGLESEY	1 days

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

Filtering Stage 2 selection:

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

Parameter:	Gross floor area
Actual Range:	1487 to 1825 (units: sqm)
Range Selected by User:	800 to 3000 (units: sqm)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/00 to 12/07/13

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
Friday	2 days

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

Selected survey types:

Manual count	3 days
Directional ATC Count	0 days

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

Selected Locations:

Suburban Area (PPS6 Out of Centre)	1
Edge of Town	2

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

Selected Location Sub Categories:

Residential Zone	2
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.

Filtering Stage 3 selection:

Use Class:

A1	3 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 1 mile:

1,001 to 5,000	1 days
5,001 to 10,000	1 days
50,001 to 100,000	1 days

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

Population within 5 miles:

5,001 to 25,000	1 days
25,001 to 50,000	1 days
250,001 to 500,000	1 days

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

Car ownership within 5 miles:

0.5 or Less	1 days
0.6 to 1.0	1 days
1.1 to 1.5	1 days

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

Petrol filling station:

PFS is present at the site and is included in the count	0 days
PFS is present at the site but is excluded from the count	0 days
There is no PFS at the site	3 days

This data displays the number of surveys within the selected set that include petrol filling station activity, and the number of surveys that do not.

Travel Plan:

Not Known	1 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.

LIST OF SITES relevant to selection parameters

1 **CB-01-A-07** **SOMERFIELD** **CUMBRIA**
WIGTON ROAD
NEWTOWN
CARLISLE
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Gross floor area: 1700 sqm
Survey date: FRIDAY *05/02/10* *Survey Type: MANUAL*

2 **DC-01-A-13** **CO-OP PIONEER** **DORSET**
SEA ROAD NORTH
ST ANDREWS WELL
BRIDPORT
Edge of Town
No Sub Category
Total Gross floor area: 1487 sqm
Survey date: FRIDAY *07/07/00* *Survey Type: MANUAL*

3 **IA-01-A-01** **CO-OP** **ISLE OF ANGLESEY**
MONA ROAD

MENAI BRIDGE
Edge of Town
Residential Zone
Total Gross floor area: 1825 sqm
Survey date: MONDAY *13/07/09* *Survey Type: MANUAL*

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

TRIP RATE for Land Use 01 - RETAIL/A - FOOD SUPERSTORE

VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	3	1671	0.559	3	1671	0.180	3	1671	0.739
08:00 - 09:00	3	1671	3.931	3	1671	2.933	3	1671	6.864
09:00 - 10:00	3	1671	4.429	3	1671	3.851	3	1671	8.280
10:00 - 11:00	3	1671	5.926	3	1671	4.609	3	1671	10.535
11:00 - 12:00	3	1671	5.806	3	1671	5.886	3	1671	11.692
12:00 - 13:00	3	1671	5.387	3	1671	5.746	3	1671	11.133
13:00 - 14:00	3	1671	5.247	3	1671	5.646	3	1671	10.893
14:00 - 15:00	3	1671	5.766	3	1671	5.946	3	1671	11.712
15:00 - 16:00	3	1671	6.644	3	1671	6.804	3	1671	13.448
16:00 - 17:00	3	1671	7.702	3	1671	7.562	3	1671	15.264
17:00 - 18:00	**3**	**1671**	**9.018**	**3**	**1671**	**8.639**	**3**	**1671**	**17.657**
18:00 - 19:00	3	1671	6.305	3	1671	7.123	3	1671	13.428
19:00 - 20:00	3	1671	5.287	3	1671	5.946	3	1671	11.233
20:00 - 21:00	3	1671	3.571	3	1671	3.791	3	1671	7.362
21:00 - 22:00	3	1671	1.776	3	1671	2.514	3	1671	4.290
22:00 - 23:00	1	1487	0.000	1	1487	0.605	1	1487	0.605
23:00 - 24:00									
Total Rates:			77.354			77.781			155.135

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

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

Parameter summary

Trip rate parameter range selected:	1487 - 1825 (units: sqm)
Survey date date range:	01/01/00 - 12/07/13
Number of weekdays (Monday-Friday):	3
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

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

TRIP RATE for Land Use 01 - RETAIL/A - FOOD SUPERSTORE

OGVS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	3	1671	0.040	3	1671	0.040	3	1671	0.080
08:00 - 09:00	3	1671	0.000	3	1671	0.000	3	1671	0.000
09:00 - 10:00	**3**	**1671**	**0.080**	3	1671	0.040	**3**	**1671**	**0.120**
10:00 - 11:00	3	1671	0.020	**3**	**1671**	**0.080**	3	1671	0.100
11:00 - 12:00	3	1671	0.000	3	1671	0.000	3	1671	0.000
12:00 - 13:00	3	1671	0.000	3	1671	0.000	3	1671	0.000
13:00 - 14:00	3	1671	0.000	3	1671	0.000	3	1671	0.000
14:00 - 15:00	3	1671	0.000	3	1671	0.000	3	1671	0.000
15:00 - 16:00	3	1671	0.040	3	1671	0.040	3	1671	0.080
16:00 - 17:00	3	1671	0.000	3	1671	0.000	3	1671	0.000
17:00 - 18:00	3	1671	0.000	3	1671	0.000	3	1671	0.000
18:00 - 19:00	3	1671	0.000	3	1671	0.000	3	1671	0.000
19:00 - 20:00	3	1671	0.000	3	1671	0.000	3	1671	0.000
20:00 - 21:00	3	1671	0.000	3	1671	0.000	3	1671	0.000
21:00 - 22:00	3	1671	0.000	3	1671	0.000	3	1671	0.000
22:00 - 23:00	1	1487	0.000	1	1487	0.000	1	1487	0.000
23:00 - 24:00									
Total Rates:			0.180			0.200			0.380

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

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

Parameter summary

Trip rate parameter range selected:	1487 - 1825 (units: sqm)
Survey date date range:	01/01/00 - 12/07/13
Number of weekdays (Monday-Friday):	3
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

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

TRIP RATE for Land Use 01 - RETAIL/A - FOOD SUPERSTORE

PSVS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	3	1671	0.000	3	1671	0.000	3	1671	0.000
08:00 - 09:00	3	1671	0.000	3	1671	0.000	3	1671	0.000
09:00 - 10:00	3	1671	0.000	3	1671	0.000	3	1671	0.000
10:00 - 11:00	3	1671	0.000	3	1671	0.000	3	1671	0.000
11:00 - 12:00	3	1671	0.000	3	1671	0.000	3	1671	0.000
12:00 - 13:00	3	1671	0.000	3	1671	0.000	3	1671	0.000
13:00 - 14:00	3	1671	0.000	3	1671	0.000	3	1671	0.000
14:00 - 15:00	3	1671	0.000	3	1671	0.000	3	1671	0.000
15:00 - 16:00	3	1671	0.000	3	1671	0.000	3	1671	0.000
16:00 - 17:00	3	1671	0.000	3	1671	0.000	3	1671	0.000
17:00 - 18:00	3	1671	0.000	3	1671	0.000	3	1671	0.000
18:00 - 19:00	3	1671	0.000	3	1671	0.000	3	1671	0.000
19:00 - 20:00	3	1671	0.000	3	1671	0.000	3	1671	0.000
20:00 - 21:00	3	1671	0.000	3	1671	0.000	3	1671	0.000
21:00 - 22:00	3	1671	0.000	3	1671	0.000	3	1671	0.000
22:00 - 23:00	1	1487	0.000	1	1487	0.000	1	1487	0.000
23:00 - 24:00									
Total Rates:			0.000			0.000			0.000

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

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

Parameter summary

Trip rate parameter range selected:	1487 - 1825 (units: sqm)
Survey date date range:	01/01/00 - 12/07/13
Number of weekdays (Monday-Friday):	3
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

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

TRIP RATE for Land Use 01 - RETAIL/A - FOOD SUPERSTORE

CYCLISTS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	3	1671	0.000	3	1671	0.000	3	1671	0.000
08:00 - 09:00	3	1671	0.080	3	1671	0.060	3	1671	0.140
09:00 - 10:00	3	1671	0.000	3	1671	0.000	3	1671	0.000
10:00 - 11:00	3	1671	0.000	3	1671	0.040	3	1671	0.040
11:00 - 12:00	3	1671	0.120	**3**	**1671**	**0.120**	**3**	**1671**	**0.240**
12:00 - 13:00	3	1671	0.060	3	1671	0.080	3	1671	0.140
13:00 - 14:00	3	1671	0.100	3	1671	0.060	3	1671	0.160
14:00 - 15:00	3	1671	0.100	3	1671	0.060	3	1671	0.160
15:00 - 16:00	3	1671	0.040	3	1671	0.040	3	1671	0.080
16:00 - 17:00	3	1671	0.060	3	1671	0.060	3	1671	0.120
17:00 - 18:00	3	1671	0.080	3	1671	0.060	3	1671	0.140
18:00 - 19:00	3	1671	0.120	3	1671	0.080	3	1671	0.200
19:00 - 20:00	**3**	**1671**	**0.140**	3	1671	0.060	3	1671	0.200
20:00 - 21:00	3	1671	0.060	3	1671	0.120	3	1671	0.180
21:00 - 22:00	3	1671	0.080	3	1671	0.120	3	1671	0.200
22:00 - 23:00	1	1487	0.000	1	1487	0.000	1	1487	0.000
23:00 - 24:00									
Total Rates:			1.040			0.960			2.000

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

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

Parameter summary

Trip rate parameter range selected:	1487 - 1825 (units: sqm)
Survey date date range:	01/01/00 - 12/07/13
Number of weekdays (Monday-Friday):	3
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

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


G
APPENDIX

ID	Area of residence	Area of workplace	MSOA	All categories: Method of travel to work	Work mainly at or from home	Underground, metro, light rail, tram	Train
866851	E02002190	E02005043	Bradford 008	1	0	0	0
1E+06	E02002663	E02005043	Kingston upon Hull 012	1	0	0	0
1E+06	E02002856	E02005043	Leicester 030	1	0	0	0
1E+06	E02003334	E02005043	Medway 021	1	0	0	0
1E+06	E02004150	E02005043	Exeter 002	1	0	0	0
1E+06	E02004365	E02005043	Eastbourne 010	1	0	0	0
1E+06	E02004372	E02005043	Hastings 005	1	0	0	0
2E+06	E02004483	E02005043	Castle Point 011	1	0	0	0
2E+06	E02004545	E02005043	Harlow 002	1	0	0	0
2E+06	E02004880	E02005043	East Hertfordshire 003	1	0	0	0
2E+06	E02004996	E02005043	Ashford 001	1	0	0	0
2E+06	E02004997	E02005043	Ashford 002	1	0	0	0
2E+06	E02005001	E02005043	Ashford 006	1	0	0	0
2E+06	E02005004	E02005043	Ashford 009	1	0	0	0
2E+06	E02005012	E02005043	Canterbury 003	1	0	0	0
2E+06	E02005014	E02005043	Canterbury 005	4	0	0	0
2E+06	E02005016	E02005043	Canterbury 007	2	0	0	0
2E+06	E02005017	E02005043	Canterbury 008	1	0	0	0
2E+06	E02005019	E02005043	Canterbury 010	3	0	0	0
2E+06	E02005020	E02005043	Canterbury 011	2	0	0	0
2E+06	E02005021	E02005043	Canterbury 012	2	0	0	0
2E+06	E02005022	E02005043	Canterbury 013	1	0	0	1
2E+06	E02005023	E02005043	Canterbury 014	2	0	0	0
2E+06	E02005026	E02005043	Canterbury 017	2	0	0	0
2E+06	E02005027	E02005043	Canterbury 018	2	0	0	0
2E+06	E02005041	E02005043	Dover 001	15	0	0	0
2E+06	E02005042	E02005043	Dover 002	40	0	0	4
2E+06	E02005043	E02005043	Dover 003	224	0	0	0
2E+06	E02005044	E02005043	Dover 004	123	0	0	0
2E+06	E02005045	E02005043	Dover 005	248	0	0	0
2E+06	E02005046	E02005043	Dover 006	10	0	0	0
2E+06	E02005047	E02005043	Dover 007	183	0	0	1
2E+06	E02005048	E02005043	Dover 008	25	0	0	0
2E+06	E02005049	E02005043	Dover 009	47	0	0	1
2E+06	E02005050	E02005043	Dover 010	22	0	0	0
2E+06	E02005051	E02005043	Dover 011	27	0	0	1
2E+06	E02005052	E02005043	Dover 012	11	0	0	0
2E+06	E02005053	E02005043	Dover 013	18	0	0	1
2E+06	E02005054	E02005043	Dover 014	9	0	0	0
2E+06	E02005103	E02005043	Shepway 002	2	0	0	0
2E+06	E02005104	E02005043	Shepway 003	5	0	0	0
2E+06	E02005105	E02005043	Shepway 004	4	0	0	3
2E+06	E02005106	E02005043	Shepway 005	5	0	0	0
2E+06	E02005107	E02005043	Shepway 006	9	0	0	0
2E+06	E02005109	E02005043	Shepway 008	2	0	0	0
2E+06	E02005110	E02005043	Shepway 009	4	0	0	0
2E+06	E02005130	E02005043	Swale 016	1	0	0	0
2E+06	E02005132	E02005043	Thanet 001	1	0	0	1
2E+06	E02005133	E02005043	Thanet 002	2	0	0	0
2E+06	E02005134	E02005043	Thanet 003	2	0	0	0

2E+06	E02005135	E02005043	Thanet 004	1	0	0	0
2E+06	E02005136	E02005043	Thanet 005	4	0	0	0
2E+06	E02005138	E02005043	Thanet 007	1	0	0	0
2E+06	E02005139	E02005043	Thanet 008	1	0	0	0
2E+06	E02005140	E02005043	Thanet 009	2	0	0	0
2E+06	E02005141	E02005043	Thanet 010	1	0	0	0
2E+06	E02005142	E02005043	Thanet 011	2	0	0	0
2E+06	E02005143	E02005043	Thanet 012	4	0	0	0
2E+06	E02005144	E02005043	Thanet 013	3	0	0	0
2E+06	E02005145	E02005043	Thanet 014	7	0	0	0
2E+06	E02005146	E02005043	Thanet 015	2	0	0	0
2E+06	E02005147	E02005043	Thanet 016	3	0	0	2
2E+06	E02005148	E02005043	Thanet 017	3	0	0	0
2E+06	E02005170	E02005043	Tunbridge Wells 009	1	0	0	0
2E+06	E02005172	E02005043	Tunbridge Wells 011	1	0	0	0
2E+06	E02006325	E02005043	Elmbridge 009	1	0	0	0
2E+06	E02006356	E02005043	Guildford 013	1	0	0	0
2E+06	E02006879	E02005043	Shepway 014	2	0	0	0
2E+06	E02006880	E02005043	Shepway 015	3	0	0	1
							16
							1.4%

Bus, minibus or coach	Taxi	Motorcycle, scooter or moped	Driving a car or van	Passenger in a car or van	Bicycle	On foot	Other method of travel to work
0	0	0	1	0	0	0	0
1	0	0	0	0	0	0	0
0	0	0	1	0	0	0	0
1	0	0	0	0	0	0	0
0	0	0	0	0	1	0	0
0	0	0	1	0	0	0	0
0	0	0	0	0	1	0	0
0	0	0	1	0	0	0	0
0	0	0	1	0	0	0	0
0	0	0	1	0	0	0	0
0	0	0	1	0	0	0	0
0	0	0	1	0	0	0	0
0	0	0	1	0	0	0	0
0	0	0	4	0	0	0	0
0	0	0	2	0	0	0	0
0	0	0	1	0	0	0	0
0	0	0	3	0	0	0	0
0	0	0	2	0	0	0	0
0	0	0	2	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	1	0	0	1	0
0	0	0	2	0	0	0	0
0	0	0	2	0	0	0	0
0	0	2	11	1	0	1	0
2	0	0	31	3	0	0	0
1	2	0	96	9	19	96	1
0	2	0	57	5	8	51	0
2	1	1	118	17	22	87	0
0	0	0	7	0	1	2	0
0	3	3	83	15	17	59	2
0	0	1	19	3	2	0	0
4	0	0	35	3	3	1	0
0	0	0	20	1	0	1	0
1	0	1	22	0	1	1	0
1	0	0	8	1	0	1	0
0	0	0	15	0	0	2	0
0	0	0	9	0	0	0	0
0	0	0	2	0	0	0	0
1	0	0	4	0	0	0	0
0	0	0	1	0	0	0	0
0	0	0	3	0	0	1	1
0	0	0	9	0	0	0	0
0	0	0	2	0	0	0	0
0	0	0	3	0	0	0	1
0	0	0	1	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	2	0	0	0	0
0	0	0	2	0	0	0	0

0	0	0	1	0	0	0	0	
0	0	1	3	0	0	0	0	
0	0	0	1	0	0	0	0	
0	0	0	1	0	0	0	0	
0	0	0	1	0	1	0	0	
0	0	0	1	0	0	0	0	
0	0	0	1	1	0	0	0	
0	0	0	4	0	0	0	0	
0	0	0	3	0	0	0	0	
0	0	0	7	0	0	0	0	
0	0	0	2	0	0	0	0	
0	0	0	1	0	0	0	0	
0	0	0	3	0	0	0	0	
0	0	0	1	0	0	0	0	
0	0	0	0	0	1	0	0	
0	0	0	1	0	0	0	0	
0	0	0	1	0	0	0	0	
0	0	0	2	0	0	0	0	
0	0	0	2	0	0	0	0	
14	**8**	**9**	**626**	**59**	**77**	**304**	**5**	**1118**
1.3%	0.7%	0.8%	56.0%	5.3%	6.9%	27.2%	0.4%	

North on Albert Rd	South on Albert Rd	West on Middle Deal Rd	South on Albert Rd	West on Southwall Rd	South on Middle Deal Rd
	1		1		
	1		1		
	1		1		
	1		1		
	1		1		
	1		1		
	1		1		
	1		1		
	1		1		
	1		1		
	1		1		
	4		4		
	2		2		
	1		1		
	3		3		
	2		2		
	2		2		
	1		1		
	2		2		
	2		2		
	11		11		
	31		31		
48	48	12	36		12
20	37		37		
	118	59	59	15	44
	7		7		
	83		83		
	19		19		
	35		35		
	20		20		
	22		22		
	8		8		
	15		15		
	9		9		
	2		2		
	4		4		
	1		1		
	3		3		
	9		9		
	2		2		
	3		3		
	1		1		
	2		2		
	2		2		

		1			1			
		3			3			
		1			1			
		1			1			
		1			1			
		1			1			
		1			1			
		4			4			
		3			3			
		7			7			
		2			2			
		1			1			
		3			3			
		1			1			
		1			1			
		1			1			
		2			2			
		2			2			
	68	**558**	**626**	**71**	**487**	**558**	**15**	**56**
	10.9%	89.1%		11.3%	77.8%		2.4%	8.9%

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H
APPENDIX

PICADY

GUI Version: 5.1 AE
Analysis Program Release: 5.0 (MAY 2010)

For sales and distribution information, program advice and maintenance, contact:

TRL Limited
Crowthorne House
Nine Mile Ride
Wokingham, Berks.
RG40 3GA, UK

Tel: +44 (0)1344 770758
Fax: +44 (0)1344 770864
E-mail: software@trl.co.uk
Web: www.trlsoftware.co.uk

Run Analysis

Parameter	Values
File Run	T:\..\PICADY\New Link Road - Albert Road.vpi
Date Run	28 September 2015
Time Run	08:43:50
Driving Side	Drive On The Left

Arm Names and Flow Scaling Factors

Arm	Arm Name	Flow Scaling Factor (%)
Arm A	Albert Road S	100
Arm B	New Link Road	100
Arm C	Albert Road N	100

Stream Labelling Convention

Stream A-B contains traffic going from A to B etc.

Run Information

Parameter	Values
Run Title	Middle Deal - Site Access
Location	-
Date	28 September 2015
Enumerator	ChrisC [DHA-CAD-HP]
Job Number	11025
Status	-
Client	-
Description	-

Errors and Warnings

Parameter	Values
Warning	No Errors Or Warnings

Geometric Data

Geometric Parameters

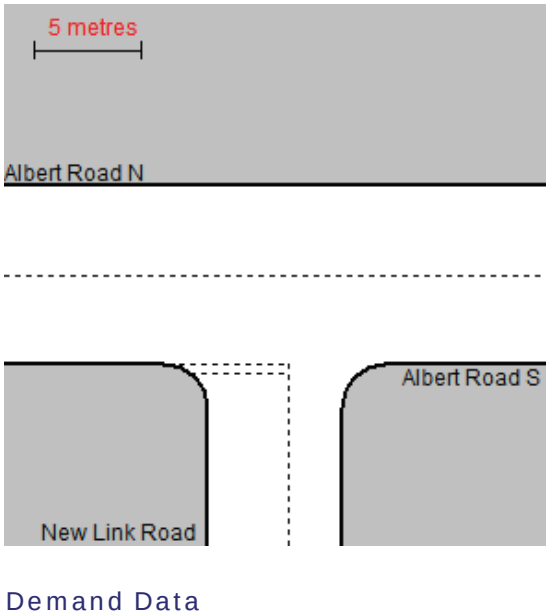
Parameter	Minor Arm B
Major Road Carriageway Width (m)	6.00
Major Road Kerbed Central Reserve Width (m)	0.00
Major Road Right Turning Lane Width (m)	2.20
Minor Road First Lane Width (m)	3.69
Minor Road Visibility To Right (m)	15
Minor Road Visibility To Left (m)	26
Major Road Right Turn Visibility (m)	105
Major Road Right Turn Blocks Traffic	Yes (if over 1 veh)

Slope and Intercept Values

Stream	Intercept for Stream	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	527.484	0.096	0.243	0.153	0.347
B-C	677.134	0.104	0.262	-	-
C-B	634.770	0.246	0.246	-	-

Note: Streams may be combined in which case capacity will be adjusted
These values do not allow for any site-specific corrections

Junction Diagram



Demand Data

Modelling Periods

Parameter	Period	Duration (min)	Segment Length (min)
First Modelling Period	07:45-09:15	90	15
Second Modelling Period	16:45-18:15	90	15

ODTAB Turning Counts

Demand Set: 2020 AM PEAK BASE + DEVELOPMENT
Modelling Period: 07:45-09:15

From / To	Arm A	Arm B	Arm C
Arm A	0.0	121.0	173.0
Arm B	117.0	0.0	10.0
Arm C	168.0	13.0	0.0

Demand Set: 2020 PM PEAK BASE + DEVELOPMENT
Modelling Period: 16:45-18:15

From / To	Arm A	Arm B	Arm C
Arm A	0.0	75.0	139.0
Arm B	96.0	0.0	9.0
Arm C	156.0	6.0	0.0

ODTAB Synthesised Flows

Demand Set: 2020 AM PEAK BASE + DEVELOPMENT
Modelling Period: 07:45-09:15

Arm	Rising Time	Rising Flow (veh / min)	Peak Time	Peak Flow (veh / min)	Falling Time	Falling Flow (veh / min)
Arm A	08:00	3.675	08:30	5.512	09:00	3.675
Arm B	08:00	1.587	08:30	2.381	09:00	1.587
Arm C	08:00	2.263	08:30	3.394	09:00	2.263

Heavy Vehicles Percentages

Demand Set: 2020 AM PEAK BASE + DEVELOPMENT
Modelling Period: 07:45-09:15

From / To	Arm A	Arm B	Arm C
Arm A	-	10.0	10.0
Arm B	10.0	-	10.0
Arm C	10.0	10.0	-

Demand Set: 2020 PM PEAK BASE + DEVELOPMENT
Modelling Period: 16:45-18:15

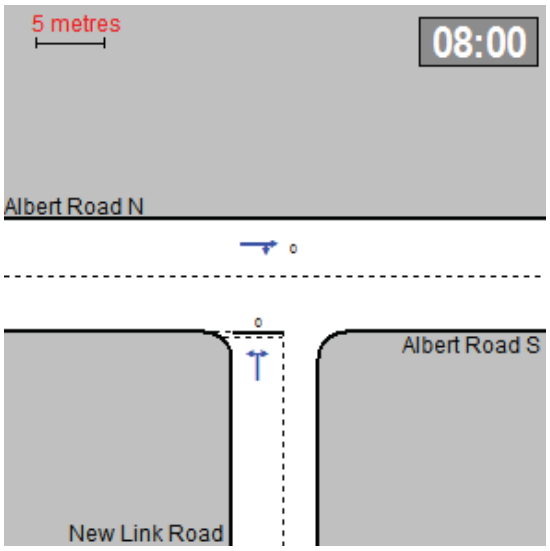
From / To	Arm A	Arm B	Arm C
Arm A	-	10.0	10.0
Arm B	10.0	-	10.0
Arm C	10.0	10.0	-

Default proportions of heavy vehicles are used

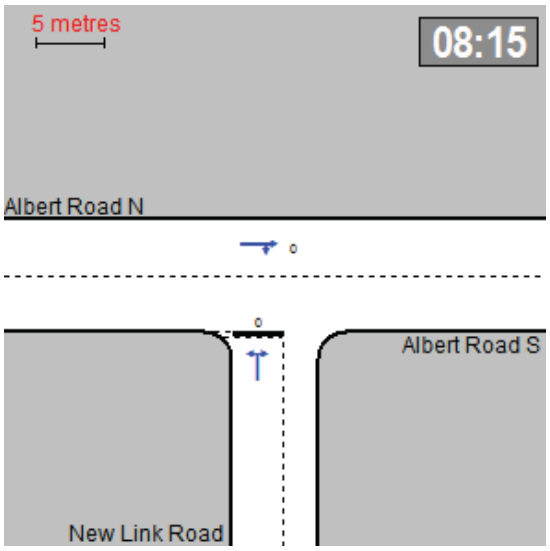
Queue Diagrams

Demand Set: 2020 AM PEAK BASE + DEVELOPMENT
Modelling Period: 07:45-09:15
View Extent: 40m

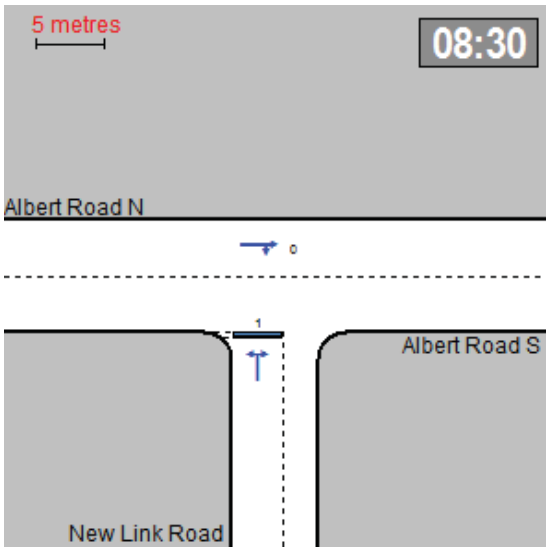
Queue Interval 1: 07:45-08:00



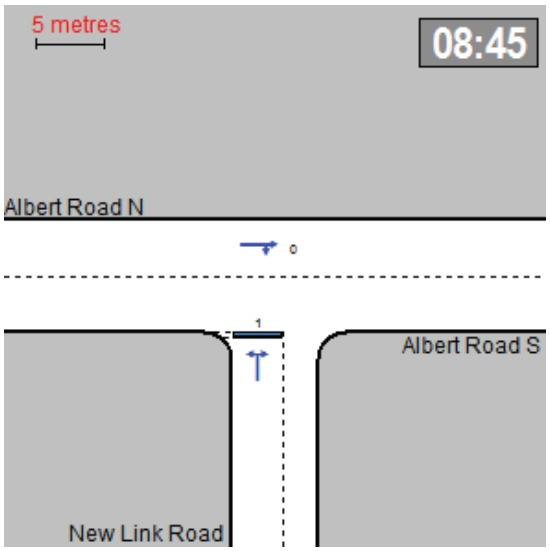
Queue Interval 2: 08:00-08:15



Queue Interval 3: 08:15-08:30

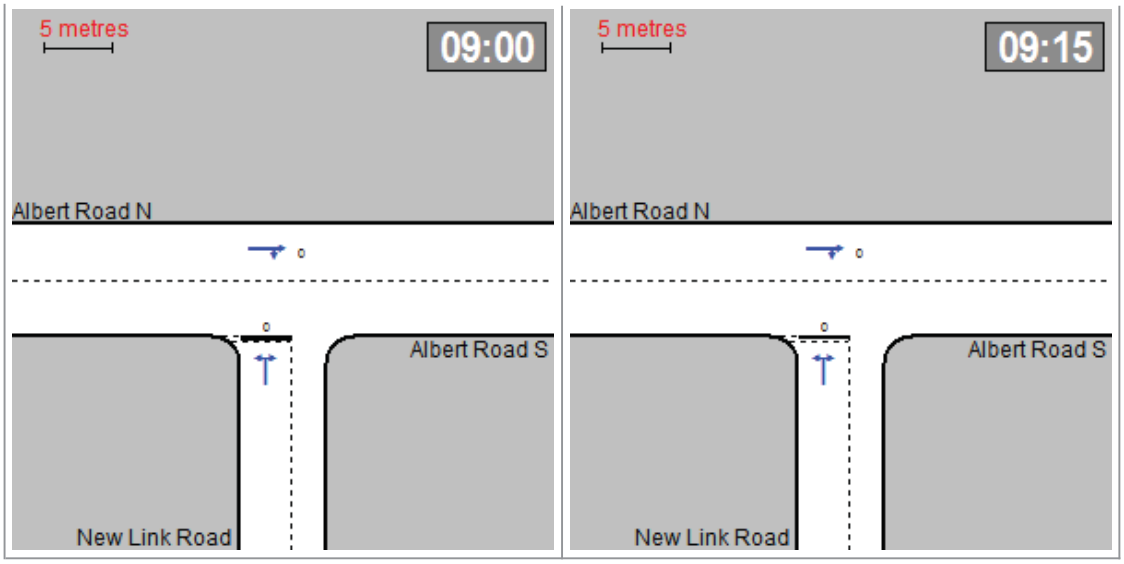


Queue Interval 4: 08:30-08:45



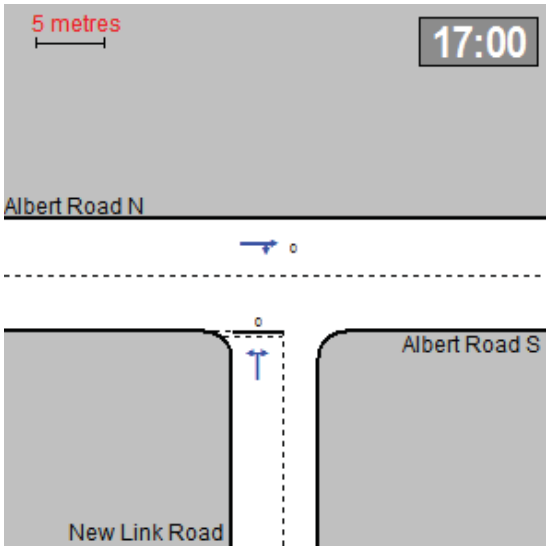
Queue Interval 5: 08:45-09:00

Queue Interval 6: 09:00-09:15

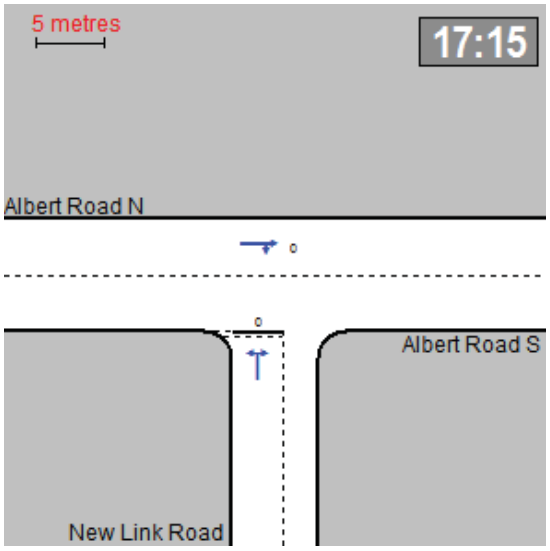

5 metres
09:00
Albert Road N
Albert Road S
New Link Road
5 metres
09:15
Albert Road N
Albert Road S
New Link Road

Demand Set: 2020 PM PEAK BASE + DEVELOPMENT
Modelling Period: 16:45-18:15
View Extent: 40m

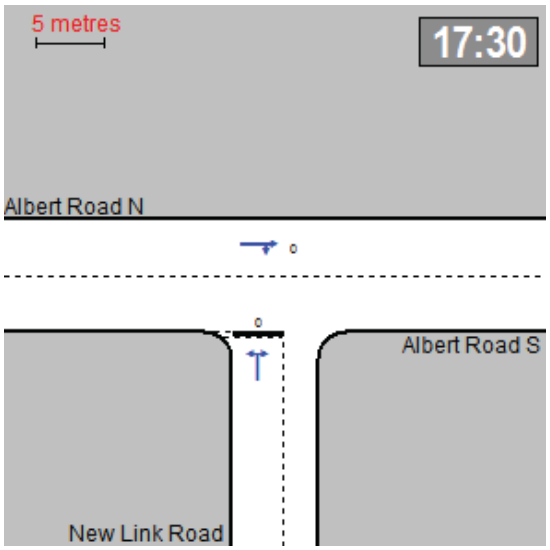
Queue Interval 1: 16:45-17:00



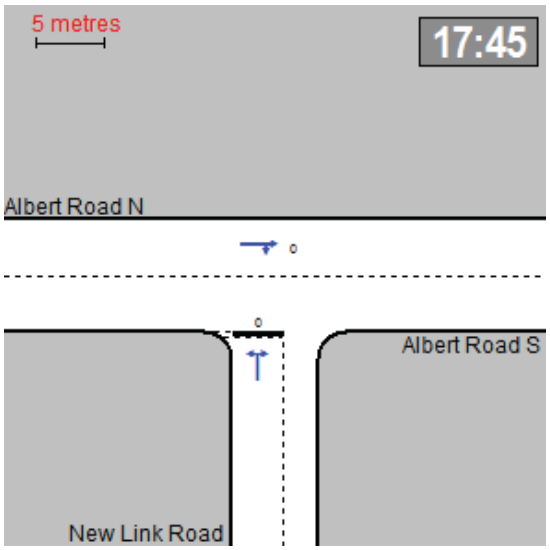
Queue Interval 2: 17:00-17:15



Queue Interval 3: 17:15-17:30

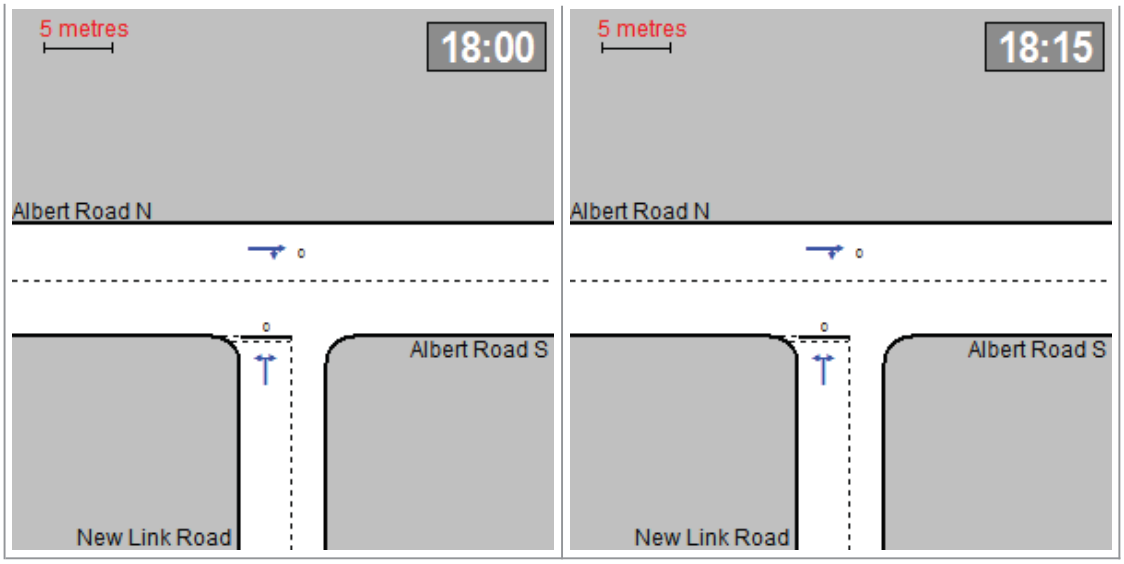


Queue Interval 4: 17:30-17:45



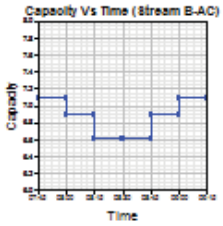
Queue Interval 5: 17:45-18:00

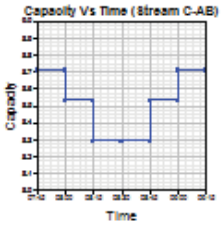
Queue Interval 6: 18:00-18:15


5 metres
18:00
Albert Road N
Albert Road S
New Link Road
5 metres
18:15
Albert Road N
Albert Road S
New Link Road

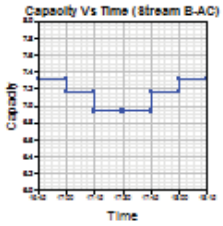
Capacity Graph

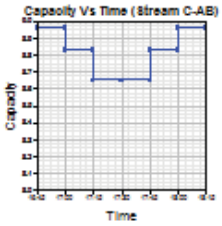
Demand Set: 2020 AM PEAK BASE + DEVELOPMENT
Modelling Period: 07:45-09:15





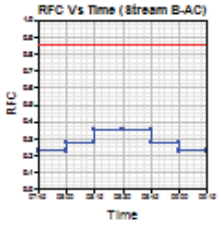
Demand Set: 2020 PM PEAK BASE + DEVELOPMENT
Modelling Period: 16:45-18:15

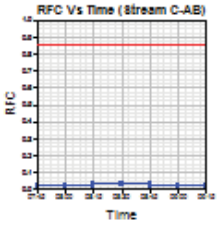




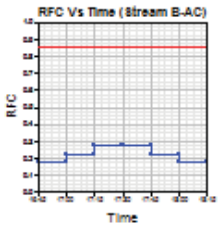
RFC Graph

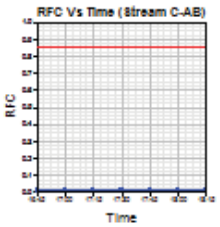
Demand Set: 2020 AM PEAK BASE + DEVELOPMENT
Modelling Period: 07:45-09:15





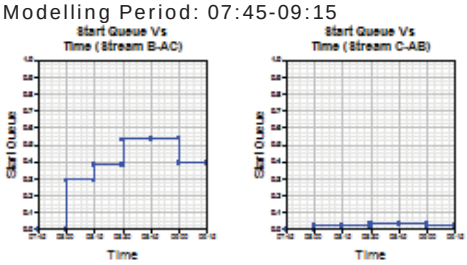
Demand Set: 2020 PM PEAK BASE + DEVELOPMENT
Modelling Period: 16:45-18:15



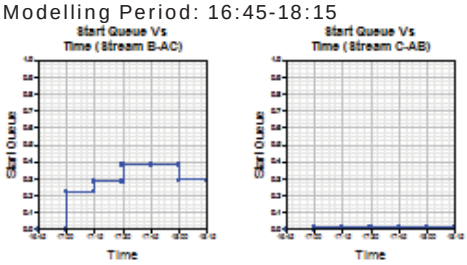


Start Queue Graph

Demand Set: 2020 AM PEAK BASE + DEVELOPMENT
Modelling Period: 07:45-09:15

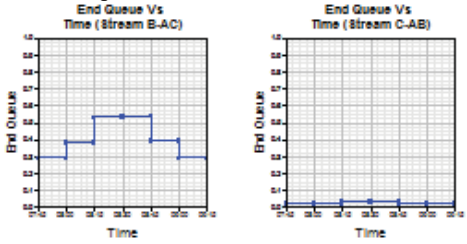


Demand Set: 2020 PM PEAK BASE + DEVELOPMENT
Modelling Period: 16:45-18:15

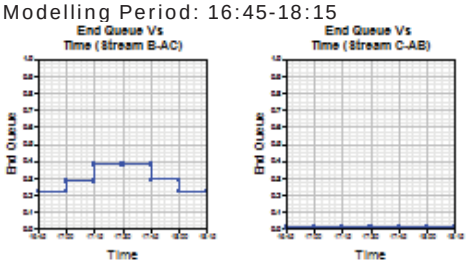


End Queue Graph

Demand Set: 2020 AM PEAK BASE + DEVELOPMENT
Modelling Period: 07:45-09:15

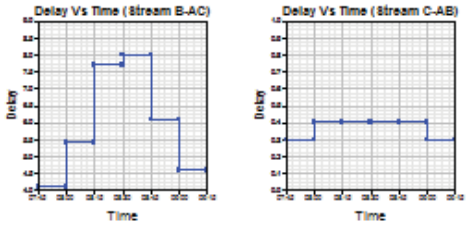


Demand Set: 2020 PM PEAK BASE + DEVELOPMENT
Modelling Period: 16:45-18:15

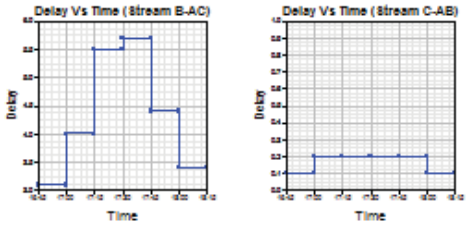


Delay Graph

Demand Set: 2020 AM PEAK BASE + DEVELOPMENT
Modelling Period: 07:45-09:15



Demand Set: 2020 PM PEAK BASE + DEVELOPMENT
Modelling Period: 16:45-18:15



Queues & Delays

Demand Set: 2020 AM PEAK BASE + DEVELOPMENT
Modelling Period: 07:45-09:15

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
07:45-08:00	B-AC	1.59	7.09	0.225	-	0.00	0.29	-	4.1	0.18
	C-AB	0.16	8.71	0.019	-	0.00	0.02	-	0.3	0.12
	C-A	-	-	-	-	-	-	-	-	-
	A-B	1.52	-	-	-	-	-	-	-	-
	A-C	2.17	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:00-08:15	B-AC	1.90	6.89	0.276	-	0.29	0.38	-	5.4	0.20
	C-AB	0.19	8.53	0.023	-	0.02	0.02	-	0.4	0.12
	C-A	-	-	-	-	-	-	-	-	-
	A-B	1.81	-	-	-	-	-	-	-	-
	A-C	2.59	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:15-08:30	B-AC	2.33	6.61	0.353	-	0.38	0.53	-	7.7	0.23
	C-AB	0.24	8.29	0.029	-	0.02	0.03	-	0.4	0.12
	C-A	-	-	-	-	-	-	-	-	-
	A-B	2.22	-	-	-	-	-	-	-	-
	A-C	3.17	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:30-08:45	B-AC	2.33	6.61	0.353	-	0.53	0.54	-	8.0	0.23
	C-AB	0.24	8.29	0.029	-	0.03	0.03	-	0.4	0.12
	C-A	-	-	-	-	-	-	-	-	-
	A-B	2.22	-	-	-	-	-	-	-	-
	A-C	3.17	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:45-09:00	B-AC	1.90	6.89	0.276	-	0.54	0.39	-	6.1	0.20
	C-AB	0.19	8.53	0.023	-	0.03	0.02	-	0.4	0.12
	C-A	-	-	-	-	-	-	-	-	-
	A-B	1.81	-	-	-	-	-	-	-	-
	A-C	2.59	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
09:00-09:15	B-AC	1.59	7.09	0.225	-	0.39	0.29	-	4.6	0.18
	C-AB	0.16	8.71	0.019	-	0.02	0.02	-	0.3	0.12
	C-A	-	-	-	-	-	-	-	-	-
	A-B	1.52	-	-	-	-	-	-	-	-
	A-C	2.17	-	-	-	-	-	-	-	-

Demand Set: 2020 PM PEAK BASE + DEVELOPMENT
Modelling Period: 16:45-18:15

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
16:45-17:00	B-AC	1.32	7.32	0.180	-	0.00	0.22	-	3.1	0.17
	C-AB	0.08	8.96	0.008	-	0.00	0.01	-	0.1	0.11
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.94	-	-	-	-	-	-	-	-
	A-C	1.74	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:00-17:15	B-AC	1.57	7.16	0.220	-	0.22	0.28	-	4.0	0.18
	C-AB	0.09	8.83	0.010	-	0.01	0.01	-	0.2	0.11
	C-A	-	-	-	-	-	-	-	-	-
	A-B	1.12	-	-	-	-	-	-	-	-
	A-C	2.08	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:15-17:30	B-AC	1.93	6.93	0.278	-	0.28	0.38	-	5.5	0.20
	C-AB	0.11	8.65	0.013	-	0.01	0.01	-	0.2	0.12
	C-A	-	-	-	-	-	-	-	-	-
	A-B	1.38	-	-	-	-	-	-	-	-
	A-C	2.55	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:30-17:45	B-AC	1.93	6.93	0.278	-	0.38	0.38	-	5.7	0.20
	C-AB	0.11	8.65	0.013	-	0.01	0.01	-	0.2	0.12
	C-A	-	-	-	-	-	-	-	-	-
	A-B	1.38	-	-	-	-	-	-	-	-
	A-C	2.55	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:45-18:00	B-AC	1.57	7.16	0.220	-	0.38	0.29	-	4.4	0.18
	C-AB	0.09	8.83	0.010	-	0.01	0.01	-	0.2	0.11
	C-A	-	-	-	-	-	-	-	-	-
	A-B	1.12	-	-	-	-	-	-	-	-
	A-C	2.08	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
18:00-18:15	B-AC	1.32	7.32	0.180	-	0.29	0.22	-	3.4	0.17
	C-AB	0.08	8.96	0.008	-	0.01	0.01	-	0.1	0.11
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.94	-	-	-	-	-	-	-	-
	A-C	1.74	-	-	-	-	-	-	-	-

Entry capacities marked with an '(X)' are dominated by a pedestrian crossing in that time segment.
In time segments marked with a '(B)', traffic leaving the junction may block back from a crossing so impairing normal operation of the junction.
Delays marked with '##' could not be calculated.

Overall Queues & Delays

Queueing Delay Information Over Whole Period

Demand Set: 2020 AM PEAK BASE + DEVELOPMENT
Modelling Period: 07:45-09:15

Stream	Total Demand (veh)	Total Demand (veh/h)	Queueing Delay (min)	Queueing Delay (min/veh)	Inclusive Delay (min)	Inclusive Delay (min/veh)
B-AC	174.8	116.5	35.8	0.2	35.8	0.2
C-AB	17.9	11.9	2.2	0.1	2.2	0.1
C-A	-	-	-	-	-	-
A-B	166.5	111.0	-	-	-	-
A-C	238.1	158.7	-	-	-	-
All	828.6	552.4	38.0	0.0	38.0	0.0

Demand Set: 2020 PM PEAK BASE + DEVELOPMENT
Modelling Period: 16:45-18:15

Stream	Total Demand (veh)	Total Demand (veh/h)	Queueing Delay (min)	Queueing Delay (min/veh)	Inclusive Delay (min)	Inclusive Delay (min/veh)
B-AC	144.5	96.3	26.2	0.2	26.2	0.2
C-AB	8.3	5.5	1.0	0.1	1.0	0.1
C-A	-	-	-	-	-	-
A-B	103.2	68.8	-	-	-	-
A-C	191.3	127.5	-	-	-	-
All	662.1	441.4	27.1	0.0	27.2	0.0

Delay is that occurring only within the time period.
Inclusive delay includes delay suffered by vehicles which are still queuing after the end of the time period.
These will only be significantly different if there is a large queue remaining at the end of the time period.

PICADY 5 Run Successful


I
APPENDIX

PICADY
GUI Version: 5.1 AE Analysis Program Release: 5.0 (MAY 2010)
For sales and distribution information, program advice and maintenance, contact:
TRL Limited Crowthorne House Nine Mile Ride Wokingham, Berks. RG40 3GA, UK Tel: +44 (0)1344 770758 Fax: +44 (0)1344 770864 E-mail: software@trl.co.uk Web: www.trlsoftware.co.uk
The user of this computer program for the solution of an engineering problem is in no way relieved of their responsibility for the correctness of the solution

Run Analysis

Parameter	Values
File Run	T:\..\Albert Road - Middle Deal Rd\Albert Road - Middle Deal Road.vpi
Date Run	28 September 2015
Time Run	09:03:29
Driving Side	Drive On The Left

Arm Names and Flow Scaling Factors

Arm	Arm Name	Flow Scaling Factor (%)
Arm A	Albert Rd S	100
Arm B	Middle Deal Rd	100
Arm C	Albert Rd N	100

Stream Labelling Convention

Stream A-B contains traffic going from A to B etc.

Run Information

Parameter	Values
Run Title	Albert Road - Middle Deal Road
Location	-
Date	28 September 2015
Enumerator	ChrisC [DHA-CAD-HP]
Job Number	11025
Status	-
Client	-
Description	-

Errors and Warnings

Parameter	Values
Warning	No Errors Or Warnings

Geometric Data

Geometric Parameters

Parameter	Minor Arm B
Major Road Carriageway Width (m)	6.93
Major Road Kerbed Central Reserve Width (m)	0.00
Major Road Right Turning Lane Width (m)	2.20
Minor Road First Lane Width (m)	4.40
Minor Road Visibility To Right (m)	23
Minor Road Visibility To Left (m)	20
Major Road Right Turn Visibility (m)	59
Major Road Right Turn Blocks Traffic	Yes (if over 1 veh)

Slope and Intercept Values

Stream	Intercept for Stream	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	564.824	0.099	0.250	0.157	0.356
B-C	727.899	0.107	0.271	-	-
C-B	608.131	0.226	0.226	-	-

Note: Streams may be combined in which case capacity will be adjusted
These values do not allow for any site-specific corrections

Demand Data

Modelling Periods

Parameter	Period	Duration (min)	Segment Length (min)
First Modelling Period	07:45-09:15	90	15
Second Modelling Period	16:45-18:15	90	15

ODTAB Turning Counts

Demand Set: 2020 AM Peak Base
Modelling Period: 07:45-09:15

From / To	Arm A	Arm B	Arm C
Arm A	0.0	27.0	174.0
Arm B	58.0	0.0	84.0
Arm C	197.0	70.0	0.0

Demand Set: 2020 AM Peak Base + Development
Modelling Period: 07:45-09:15

From / To	Arm A	Arm B	Arm C
Arm A	0.0	27.0	264.0
Arm B	58.0	0.0	31.0
Arm C	286.0	39.0	0.0

Demand Set: 2020 PM Peak Base
Modelling Period: 16:45-18:15

From / To	Arm A	Arm B	Arm C
Arm A	0.0	57.0	135.0
Arm B	57.0	0.0	86.0
Arm C	133.0	53.0	0.0

Demand Set: 2020 PM Peak Base + Development
Modelling Period: 16:45-18:15

From / To	Arm A	Arm B	Arm C
Arm A	0.0	57.0	203.0
Arm B	57.0	0.0	59.0
Arm C	203.0	42.0	0.0

ODTAB Synthesised Flows

Demand Set: 2020 AM Peak Base
Modelling Period: 07:45-09:15

Arm	Rising Time	Rising Flow (veh/min)	Peak Time	Peak Flow (veh/min)	Falling Time	Falling Flow (veh/min)
Arm A	08:00	2.513	08:30	3.769	09:00	2.513
Arm B	08:00	1.775	08:30	2.662	09:00	1.775
Arm C	08:00	3.338	08:30	5.006	09:00	3.338

Heavy Vehicles Percentages

Demand Set: 2020 AM Peak Base
Modelling Period: 07:45-09:15

From/To	Arm A	Arm B	Arm C
Arm A	-	10.0	10.0
Arm B	10.0	-	10.0
Arm C	10.0	10.0	-

Demand Set: 2020 AM Peak Base + Development
Modelling Period: 07:45-09:15

From/To	Arm A	Arm B	Arm C
Arm A	-	10.0	10.0
Arm B	10.0	-	10.0
Arm C	10.0	10.0	-

Demand Set: 2020 PM Peak Base
Modelling Period: 16:45-18:15

From/To	Arm A	Arm B	Arm C
Arm A	-	10.0	10.0
Arm B	10.0	-	10.0
Arm C	10.0	10.0	-

Demand Set: 2020 PM Peak Base + Development
Modelling Period: 16:45-18:15

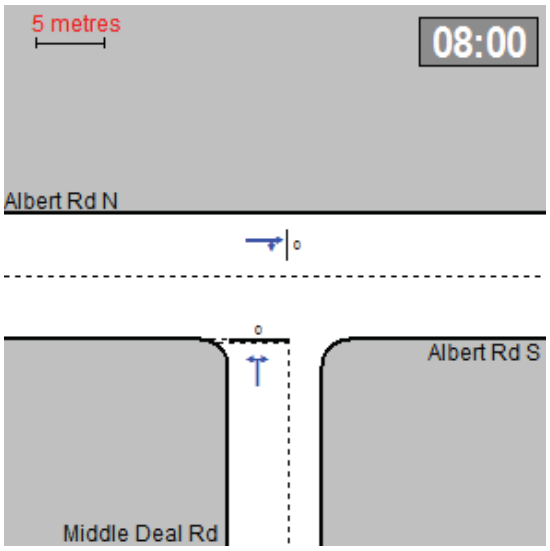
From/To	Arm A	Arm B	Arm C
Arm A	-	10.0	10.0
Arm B	10.0	-	10.0
Arm C	10.0	10.0	-

Default proportions of heavy vehicles are used

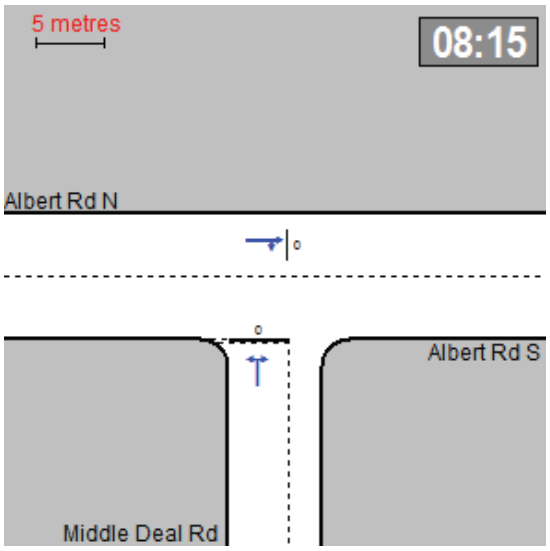
Queue Diagrams

Demand Set: 2020 AM Peak Base
Modelling Period: 07:45-09:15
View Extent: 40m

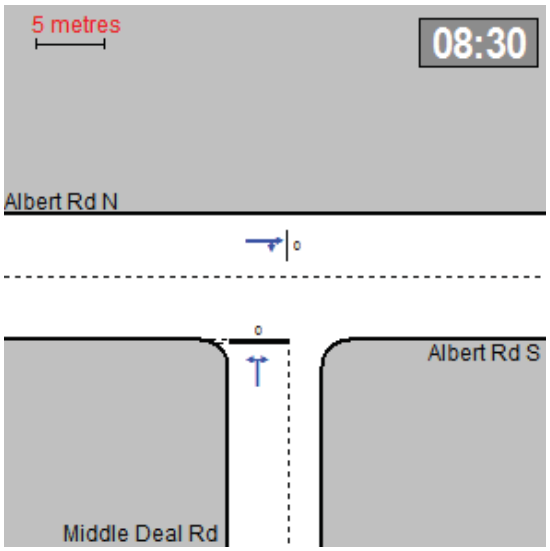
Queue Interval 1: 07:45-08:00



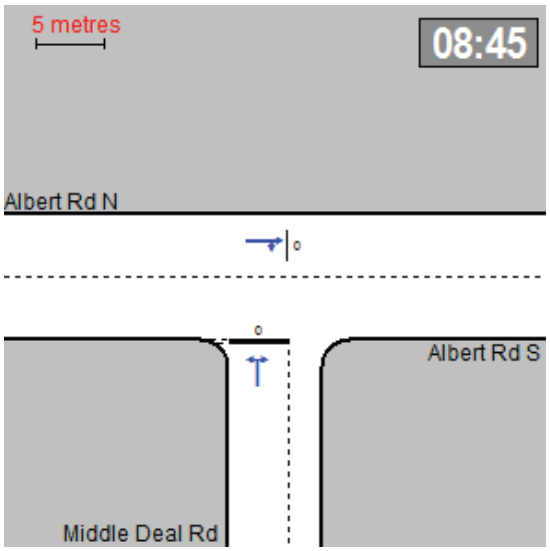
Queue Interval 2: 08:00-08:15



Queue Interval 3: 08:15-08:30

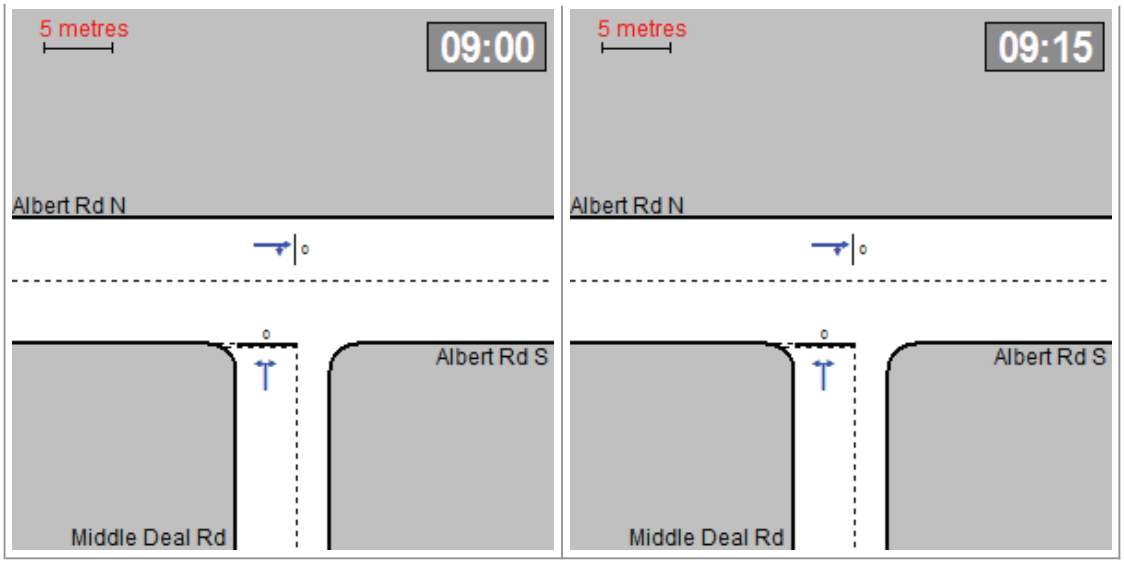


Queue Interval 4: 08:30-08:45



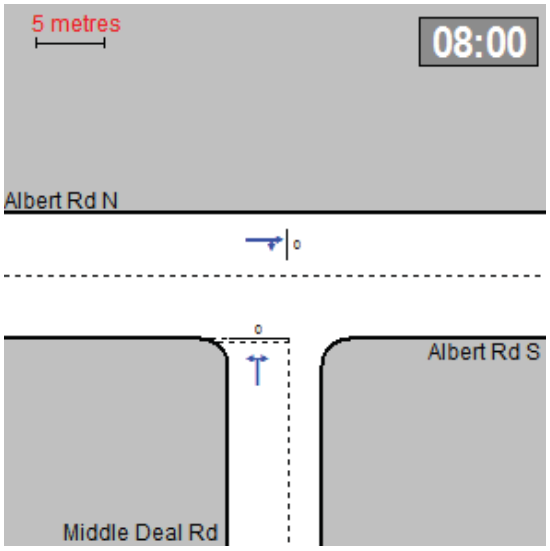
Queue Interval 5: 08:45-09:00

Queue Interval 6: 09:00-09:15

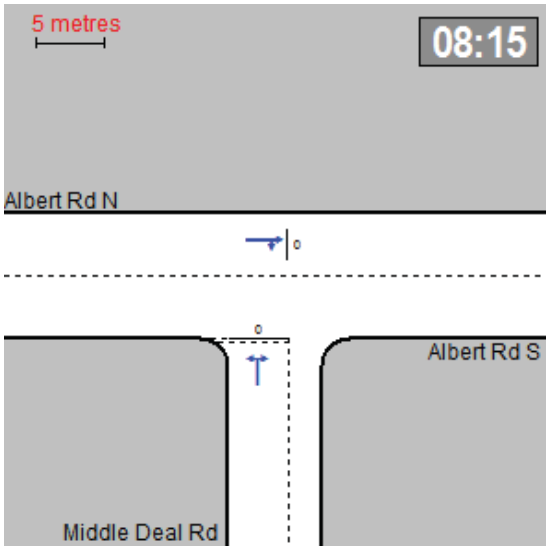

5 metres
09:00
Albert Rd N
Albert Rd S
Middle Deal Rd
5 metres
09:15
Albert Rd N
Albert Rd S
Middle Deal Rd

Demand Set: 2020 AM Peak Base + Development
Modelling Period: 07:45-09:15
View Extent: 40m

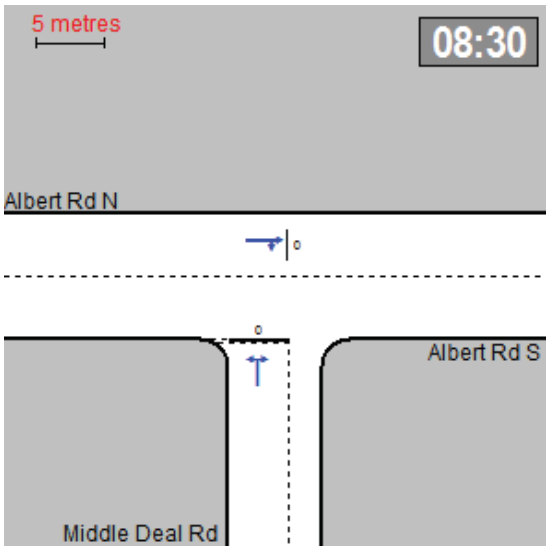
Queue Interval 1: 07:45-08:00



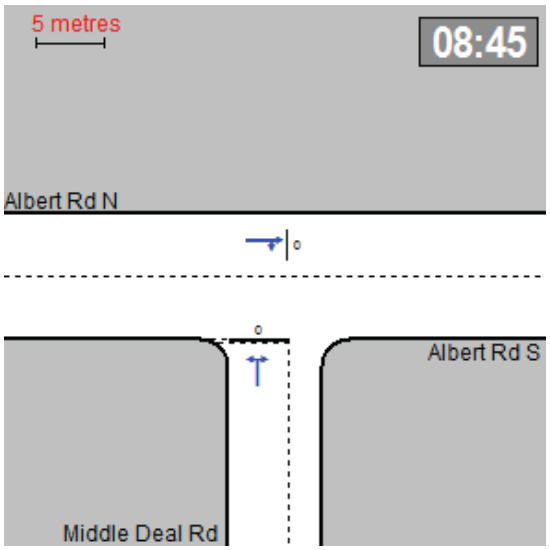
Queue Interval 2: 08:00-08:15



Queue Interval 3: 08:15-08:30

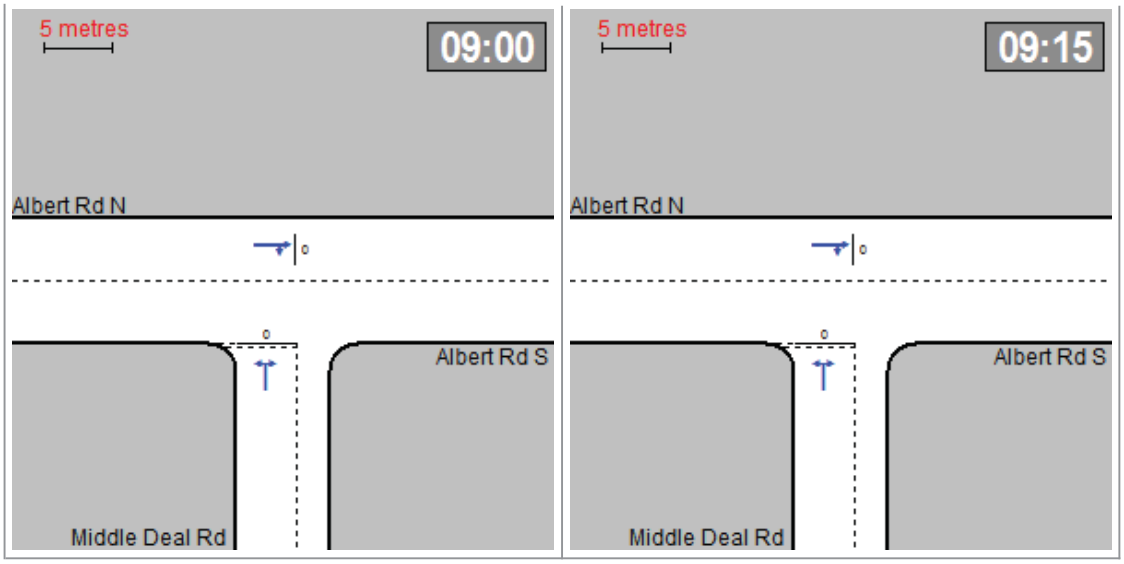


Queue Interval 4: 08:30-08:45



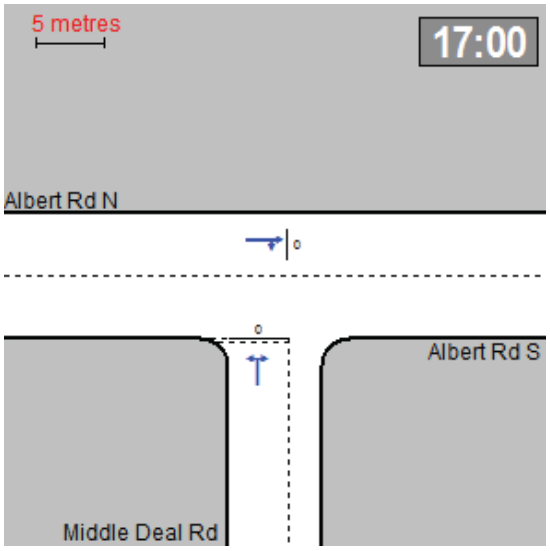
Queue Interval 5: 08:45-09:00

Queue Interval 6: 09:00-09:15

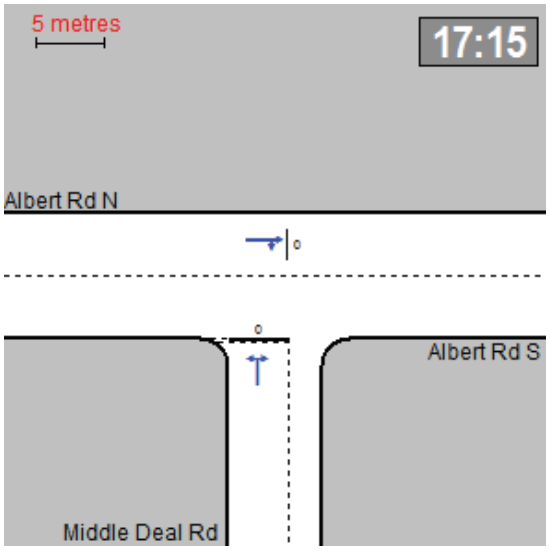

5 metres
09:00
Albert Rd N
Albert Rd S
Middle Deal Rd
5 metres
09:15
Albert Rd N
Albert Rd S
Middle Deal Rd

Demand Set: 2020 PM Peak Base
Modelling Period: 16:45-18:15
View Extent: 40m

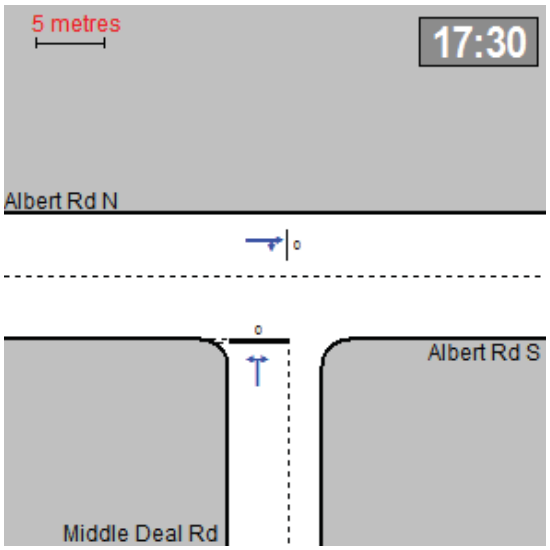
Queue Interval 1: 16:45-17:00



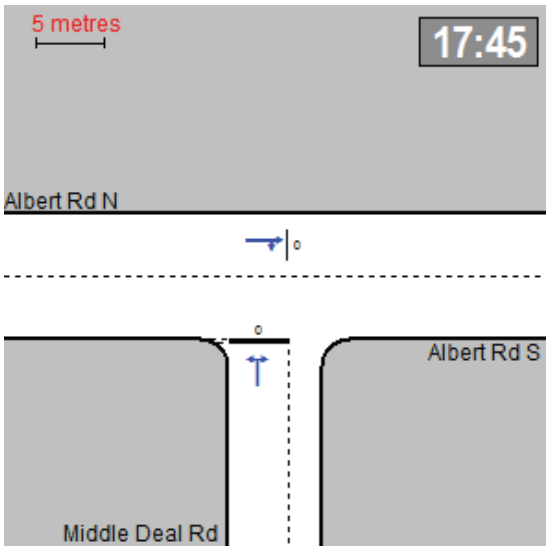
Queue Interval 2: 17:00-17:15



Queue Interval 3: 17:15-17:30



Queue Interval 4: 17:30-17:45



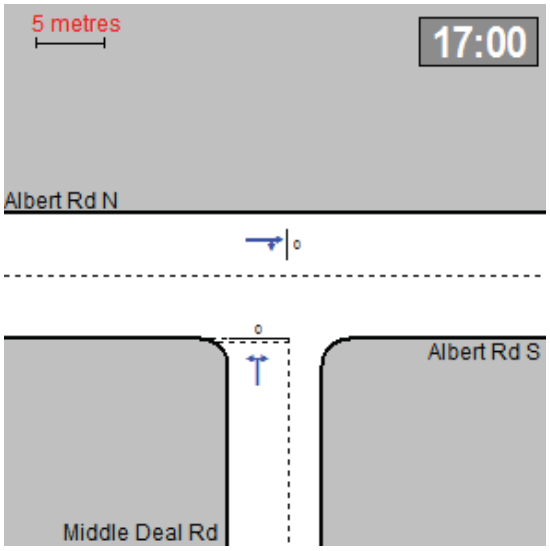
Queue Interval 5: 17:45-18:00

Queue Interval 6: 18:00-18:15

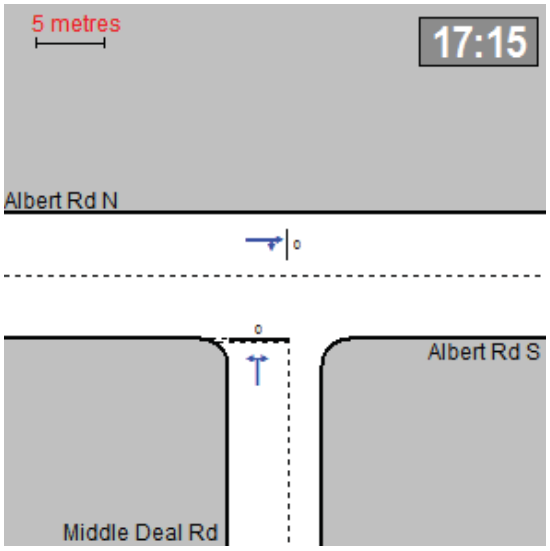

5 metres
18:00
Albert Rd N
Albert Rd S
Middle Deal Rd
5 metres
18:15
Albert Rd N
Albert Rd S
Middle Deal Rd

Demand Set: 2020 PM Peak Base + Development
Modelling Period: 16:45-18:15
View Extent: 40m

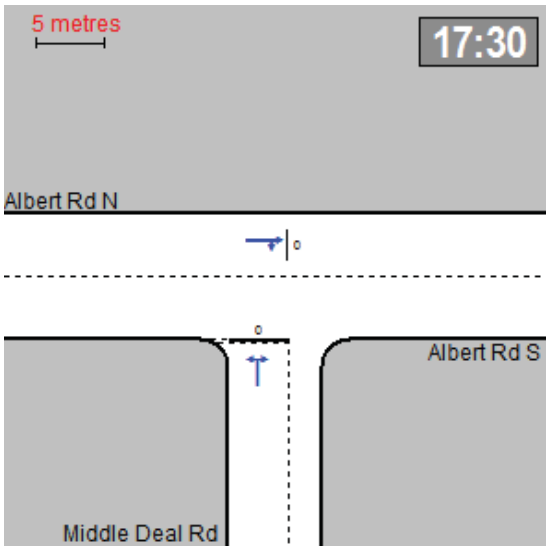
Queue Interval 1: 16:45-17:00



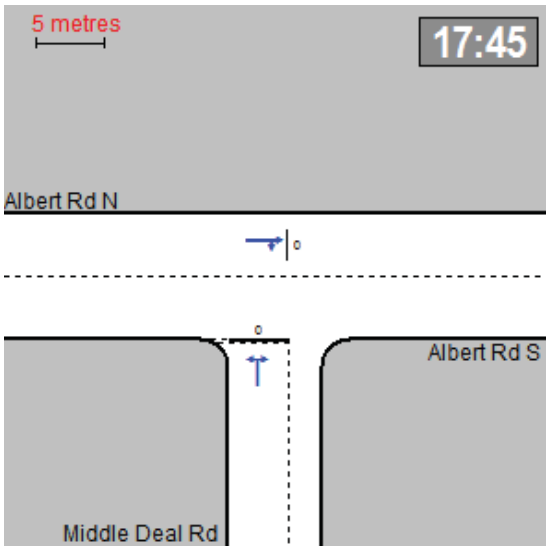
Queue Interval 2: 17:00-17:15



Queue Interval 3: 17:15-17:30



Queue Interval 4: 17:30-17:45



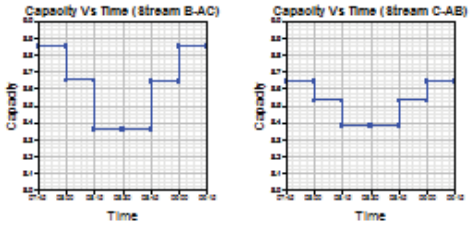
Queue Interval 5: 17:45-18:00

Queue Interval 6: 18:00-18:15

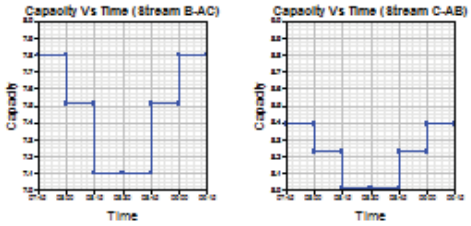

5 metres
18:00
Albert Rd N
Albert Rd S
Middle Deal Rd
5 metres
18:15
Albert Rd N
Albert Rd S
Middle Deal Rd

Capacity Graph

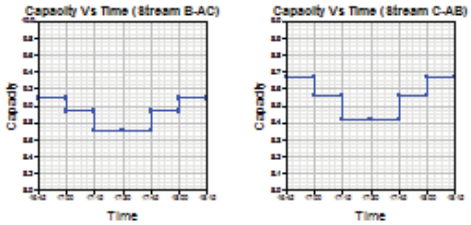
Demand Set: 2020 AM Peak Base
Modelling Period: 07:45-09:15



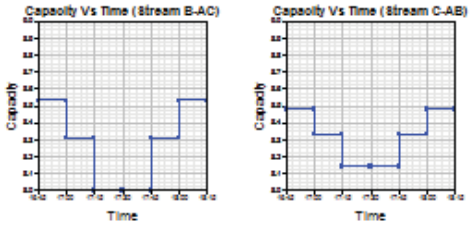
Demand Set: 2020 AM Peak Base + Development
Modelling Period: 07:45-09:15



Demand Set: 2020 PM Peak Base
Modelling Period: 16:45-18:15

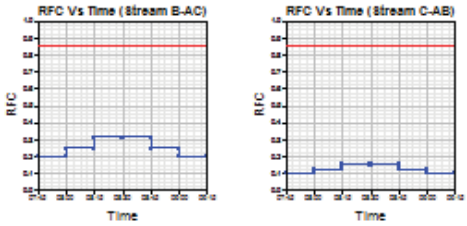


Demand Set: 2020 PM Peak Base + Development
Modelling Period: 16:45-18:15

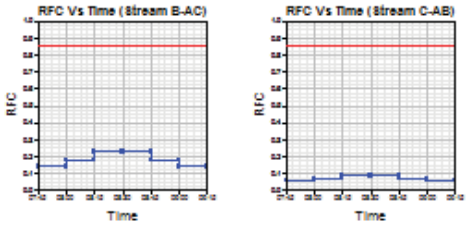


RFC Graph

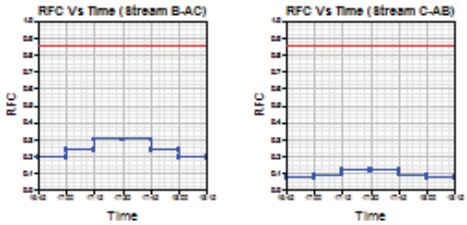
Demand Set: 2020 AM Peak Base
Modelling Period: 07:45-09:15



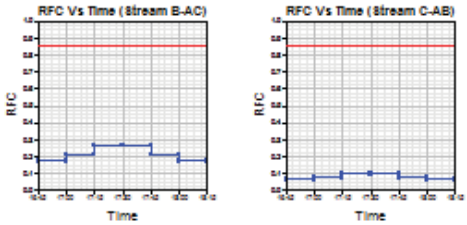
Demand Set: 2020 AM Peak Base + Development
Modelling Period: 07:45-09:15



Demand Set: 2020 PM Peak Base
Modelling Period: 16:45-18:15



Demand Set: 2020 PM Peak Base + Development
Modelling Period: 16:45-18:15



Queues & Delays

Demand Set: 2020 AM Peak Base
Modelling Period: 07:45-09:15

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
07:45-08:00	B-AC	1.78	8.85	0.201	-	0.00	0.25	-	3.6	0.14
	C-AB	0.88	8.64	0.102	-	0.00	0.12	-	1.7	0.13
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.34	-	-	-	-	-	-	-	-
	A-C	2.18	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:00-08:15	B-AC	2.13	8.65	0.246	-	0.25	0.32	-	4.7	0.15
	C-AB	1.05	8.53	0.123	-	0.12	0.14	-	2.2	0.13
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.40	-	-	-	-	-	-	-	-
	A-C	2.61	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:15-08:30	B-AC	2.61	8.36	0.312	-	0.32	0.45	-	6.5	0.17
	C-AB	1.28	8.38	0.153	-	0.14	0.19	-	2.9	0.14
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.50	-	-	-	-	-	-	-	-
	A-C	3.19	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:30-08:45	B-AC	2.61	8.36	0.312	-	0.45	0.45	-	6.7	0.17
	C-AB	1.28	8.38	0.153	-	0.19	0.19	-	2.9	0.14
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.50	-	-	-	-	-	-	-	-
	A-C	3.19	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:45-09:00	B-AC	2.13	8.64	0.246	-	0.45	0.33	-	5.1	0.15
	C-AB	1.05	8.53	0.123	-	0.19	0.15	-	2.2	0.13
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.40	-	-	-	-	-	-	-	-
	A-C	2.61	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
09:00-09:15	B-AC	1.78	8.85	0.201	-	0.33	0.25	-	3.9	0.14
	C-AB	0.88	8.64	0.102	-	0.15	0.12	-	1.8	0.13
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.34	-	-	-	-	-	-	-	-
	A-C	2.18	-	-	-	-	-	-	-	-

Demand Set: 2020 AM Peak Base + Development
Modelling Period: 07:45-09:15

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
07:45-08:00	B-AC	1.12	7.80	0.143	-	0.00	0.17	-	2.4	0.15
	C-AB	0.49	8.39	0.058	-	0.00	0.06	-	0.9	0.13
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.34	-	-	-	-	-	-	-	-
	A-C	3.31	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:00-08:15	B-AC	1.33	7.51	0.178	-	0.17	0.21	-	3.1	0.16
	C-AB	0.58	8.23	0.071	-	0.06	0.08	-	1.2	0.13
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.40	-	-	-	-	-	-	-	-
	A-C	3.96	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:15-08:30	B-AC	1.63	7.10	0.230	-	0.21	0.29	-	4.3	0.18
	C-AB	0.72	8.01	0.089	-	0.08	0.10	-	1.5	0.14
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.50	-	-	-	-	-	-	-	-
	A-C	4.84	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:30-08:45	B-AC	1.63	7.10	0.230	-	0.29	0.30	-	4.4	0.18
	C-AB	0.72	8.01	0.089	-	0.10	0.10	-	1.6	0.14
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.50	-	-	-	-	-	-	-	-
	A-C	4.84	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:45-09:00	B-AC	1.33	7.51	0.178	-	0.30	0.22	-	3.4	0.16
	C-AB	0.58	8.23	0.071	-	0.10	0.08	-	1.2	0.13
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.40	-	-	-	-	-	-	-	-
	A-C	3.96	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
09:00-09:15	B-AC	1.12	7.80	0.143	-	0.22	0.17	-	2.6	0.15
	C-AB	0.49	8.39	0.058	-	0.08	0.06	-	1.0	0.13
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.34	-	-	-	-	-	-	-	-
	A-C	3.31	-	-	-	-	-	-	-	-

Demand Set: 2020 PM Peak Base
Modelling Period: 16:45-18:15

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
16:45-17:00	B-AC	1.79	9.09	0.197	-	0.00	0.24	-	3.5	0.14
	C-AB	0.67	8.67	0.077	-	0.00	0.08	-	1.2	0.12
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.72	-	-	-	-	-	-	-	-
	A-C	1.69	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:00-17:15	B-AC	2.14	8.93	0.240	-	0.24	0.31	-	4.6	0.15
	C-AB	0.79	8.56	0.093	-	0.08	0.10	-	1.6	0.13
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.85	-	-	-	-	-	-	-	-
	A-C	2.02	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:15-17:30	B-AC	2.62	8.71	0.301	-	0.31	0.42	-	6.2	0.16
	C-AB	0.97	8.42	0.116	-	0.10	0.13	-	2.0	0.13
	C-A	-	-	-	-	-	-	-	-	-
	A-B	1.05	-	-	-	-	-	-	-	-
	A-C	2.48	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:30-17:45	B-AC	2.62	8.71	0.301	-	0.42	0.43	-	6.4	0.16
	C-AB	0.97	8.42	0.116	-	0.13	0.13	-	2.0	0.13
	C-A	-	-	-	-	-	-	-	-	-
	A-B	1.05	-	-	-	-	-	-	-	-
	A-C	2.48	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:45-18:00	B-AC	2.14	8.93	0.240	-	0.43	0.32	-	4.9	0.15
	C-AB	0.79	8.56	0.093	-	0.13	0.11	-	1.6	0.13
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.85	-	-	-	-	-	-	-	-
	A-C	2.02	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
18:00-18:15	B-AC	1.79	9.09	0.197	-	0.32	0.25	-	3.8	0.14
	C-AB	0.67	8.67	0.077	-	0.11	0.09	-	1.3	0.13
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.72	-	-	-	-	-	-	-	-
	A-C	1.69	-	-	-	-	-	-	-	-

Demand Set: 2020 PM Peak Base + Development
Modelling Period: 16:45-18:15

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
16:45-17:00	B-AC	1.46	8.53	0.171	-	0.00	0.20	-	2.9	0.14
	C-AB	0.53	8.48	0.062	-	0.00	0.07	-	1.0	0.13
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.72	-	-	-	-	-	-	-	-
	A-C	2.55	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:00-17:15	B-AC	1.74	8.31	0.209	-	0.20	0.26	-	3.8	0.15
	C-AB	0.63	8.33	0.076	-	0.07	0.08	-	1.2	0.13
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.85	-	-	-	-	-	-	-	-
	A-C	3.04	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:15-17:30	B-AC	2.13	8.00	0.266	-	0.26	0.36	-	5.2	0.17
	C-AB	0.77	8.14	0.095	-	0.08	0.11	-	1.6	0.14
	C-A	-	-	-	-	-	-	-	-	-
	A-B	1.05	-	-	-	-	-	-	-	-
	A-C	3.73	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:30-17:45	B-AC	2.13	8.00	0.266	-	0.36	0.36	-	5.4	0.17
	C-AB	0.77	8.14	0.095	-	0.11	0.11	-	1.6	0.14
	C-A	-	-	-	-	-	-	-	-	-
	A-B	1.05	-	-	-	-	-	-	-	-
	A-C	3.73	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:45-18:00	B-AC	1.74	8.31	0.209	-	0.36	0.27	-	4.1	0.15
	C-AB	0.63	8.33	0.076	-	0.11	0.08	-	1.3	0.13
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.85	-	-	-	-	-	-	-	-
	A-C	3.04	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
18:00-18:15	B-AC	1.46	8.53	0.171	-	0.27	0.21	-	3.2	0.14
	C-AB	0.53	8.48	0.062	-	0.08	0.07	-	1.0	0.13
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.72	-	-	-	-	-	-	-	-
	A-C	2.55	-	-	-	-	-	-	-	-

Entry capacities marked with an '(X)' are dominated by a pedestrian crossing in that time segment.
In time segments marked with a '(B)', traffic leaving the junction may block back from a crossing so impairing normal operation of the junction.
Delays marked with '##' could not be calculated.

PICADY 5 Run Successful


J
APPENDIX

PICADY
GUI Version: 5.1 AE Analysis Program Release: 5.0 (MAY 2010)
For sales and distribution information, program advice and maintenance, contact:
TRL Limited Crowthorne House Nine Mile Ride Wokingham, Berks. RG40 3GA, UK Tel: +44 (0)1344 770758 Fax: +44 (0)1344 770864 E-mail: software@trl.co.uk Web: www.trlsoftware.co.uk
The user of this computer program for the solution of an engineering problem is in no way relieved of their responsibility for the correctness of the solution

Run Analysis

Parameter	Values
File Run	T:\..\Southwall Rd - Middle Deal Rd\Southwall Rd - Middle Deal Rd.vpi
Date Run	28 September 2015
Time Run	09:23:11
Driving Side	Drive On The Left

Arm Names and Flow Scaling Factors

Arm	Arm Name	Flow Scaling Factor (%)
Arm A	Middle Deal S	100
Arm B	Southwall Rd	100
Arm C	Middle Deal N	100

Stream Labelling Convention

Stream A-B contains traffic going from A to B etc.

Run Information

Parameter	Values
Run Title	Southwall Rd - Middle Deal Rd
Location	-
Date	28 September 2015
Enumerator	ChrisC [DHA-CAD-HP]
Job Number	11025
Status	-
Client	-
Description	-

Errors and Warnings

Parameter	Values
Warning	No Errors Or Warnings

Geometric Data

Geometric Parameters

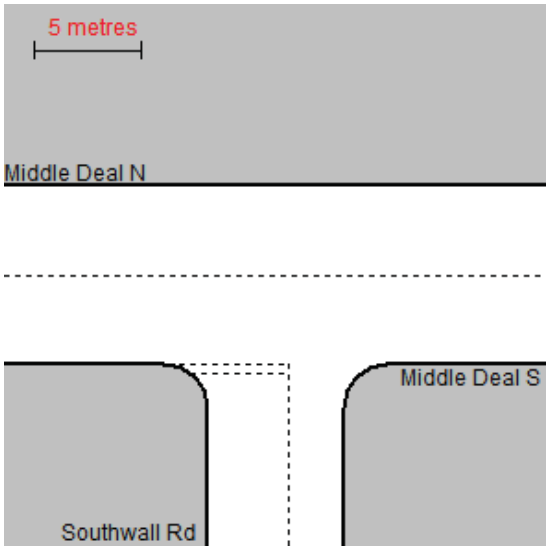
Parameter	Minor Arm B
Major Road Carriageway Width (m)	6.00
Major Road Kerbed Central Reserve Width (m)	0.00
Major Road Right Turning Lane Width (m)	2.20
Minor Road First Lane Width (m)	3.73
Minor Road Visibility To Right (m)	14
Minor Road Visibility To Left (m)	29
Major Road Right Turn Visibility (m)	143
Major Road Right Turn Blocks Traffic	Yes (if over 1 veh)

Slope and Intercept Values

Stream	Intercept for Stream	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	529.962	0.097	0.244	0.153	0.349
B-C	678.995	0.104	0.263	-	-
C-B	656.776	0.254	0.254	-	-

Note: Streams may be combined in which case capacity will be adjusted
These values do not allow for any site-specific corrections

Junction Diagram



Demand Data

Modelling Periods

Parameter	Period	Duration (min)	Segment Length (min)
First Modelling Period	07:45-09:15	90	15
Second Modelling Period	16:45-18:15	90	15

ODTAB Turning Counts

Demand Set: 2020 AM Base
Modelling Period: 07:45-09:15

From / To	Arm A	Arm B	Arm C
Arm A	0.0	0.0	57.0
Arm B	0.0	0.0	86.0
Arm C	35.0	63.0	0.0

Demand Set: 2020 PM Base
Modelling Period: 16:45-18:15

From / To	Arm A	Arm B	Arm C
Arm A	0.0	0.0	57.0
Arm B	0.0	0.0	58.0
Arm C	63.0	47.0	0.0

Demand Set: 2020 AM Base + Development
Modelling Period: 07:45-09:15

From / To	Arm A	Arm B	Arm C
Arm A	0.0	0.0	68.0
Arm B	0.0	0.0	88.0
Arm C	43.0	65.0	0.0

Demand Set: 2020 PM Base + Development
Modelling Period: 16:45-18:15

From / To	Arm A	Arm B	Arm C
Arm A	0.0	0.0	89.0
Arm B	0.0	0.0	27.0
Arm C	71.0	28.0	0.0

ODTAB Synthesised Flows

Demand Set: 2020 AM Base
Modelling Period: 07:45-09:15

Arm	Rising Time	Rising Flow (veh / min)	Peak Time	Peak Flow (veh / min)	Falling Time	Falling Flow (veh / min)
Arm A	08:00	0.712	08:30	1.069	09:00	0.712
Arm B	08:00	1.075	08:30	1.613	09:00	1.075
Arm C	08:00	1.225	08:30	1.838	09:00	1.225

Heavy Vehicles Percentages

Demand Set: 2020 AM Base
Modelling Period: 07:45-09:15

From / To	Arm A	Arm B	Arm C
Arm A	-	10.0	10.0
Arm B	10.0	-	10.0
Arm C	10.0	10.0	-

Demand Set: 2020 PM Base
Modelling Period: 16:45-18:15

From / To	Arm A	Arm B	Arm C
Arm A	-	10.0	10.0
Arm B	10.0	-	10.0
Arm C	10.0	10.0	-

Demand Set: 2020 AM Base + Development
Modelling Period: 07:45-09:15

From / To	Arm A	Arm B	Arm C
Arm A	-	10.0	10.0
Arm B	10.0	-	10.0
Arm C	10.0	10.0	-

Demand Set: 2020 PM Base + Development
Modelling Period: 16:45-18:15

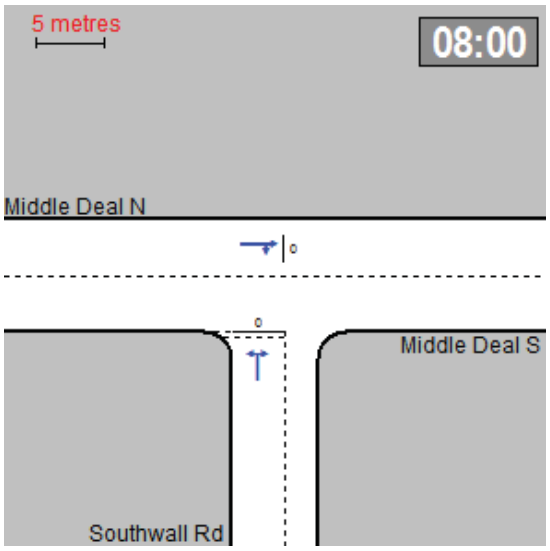
From / To	Arm A	Arm B	Arm C
Arm A	-	10.0	10.0
Arm B	10.0	-	10.0
Arm C	10.0	10.0	-

Default proportions of heavy vehicles are used

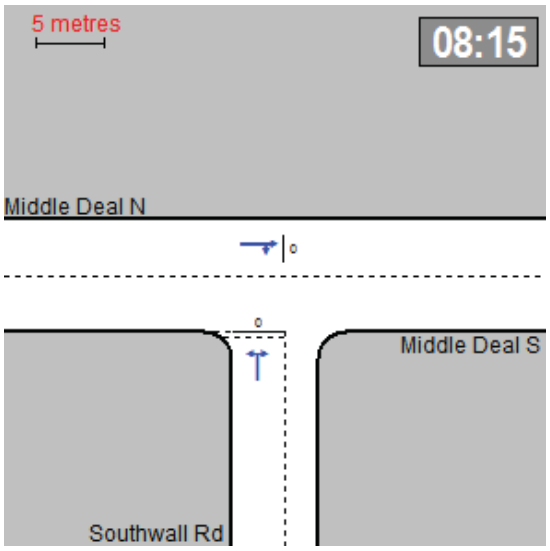
Queue Diagrams

Demand Set: 2020 AM Base
Modelling Period: 07:45-09:15
View Extent: 40m

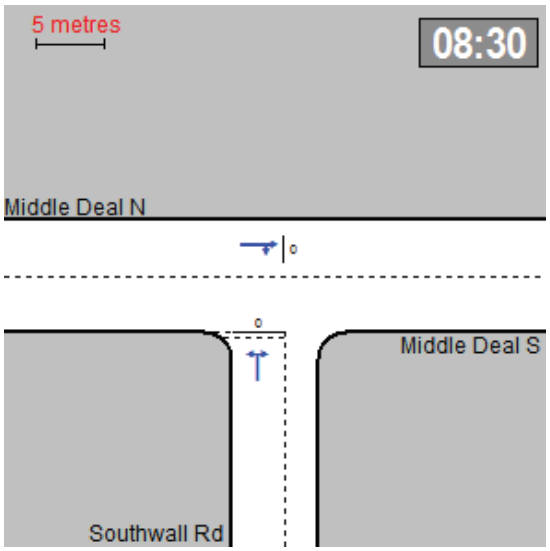
Queue Interval 1: 07:45-08:00



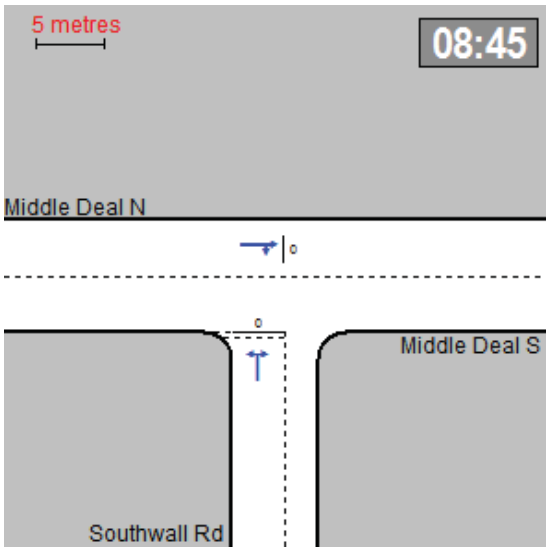
Queue Interval 2: 08:00-08:15



Queue Interval 3: 08:15-08:30

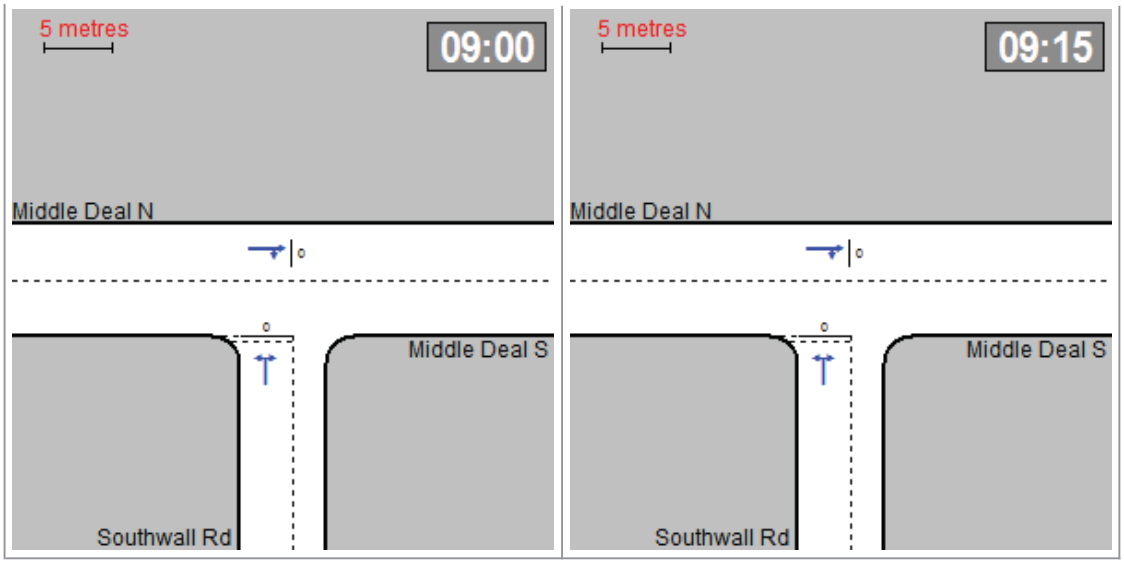


Queue Interval 4: 08:30-08:45



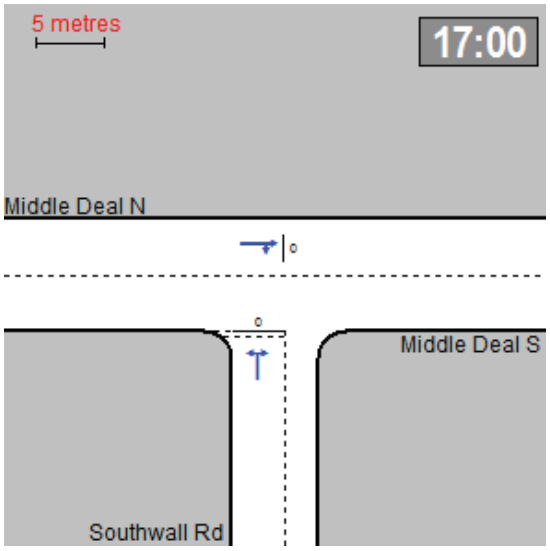
Queue Interval 5: 08:45-09:00

Queue Interval 6: 09:00-09:15

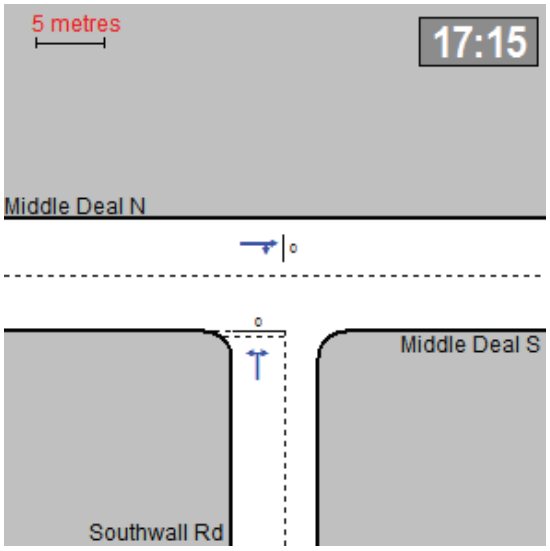

5 metres
09:00
Middle Deal N
Middle Deal S
Southwall Rd
5 metres
09:15
Middle Deal N
Middle Deal S
Southwall Rd

Demand Set: 2020 PM Base
Modelling Period: 16:45-18:15
View Extent: 40m

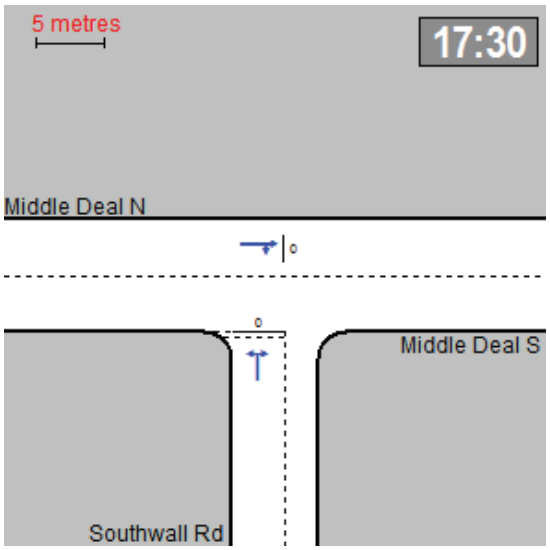
Queue Interval 1: 16:45-17:00



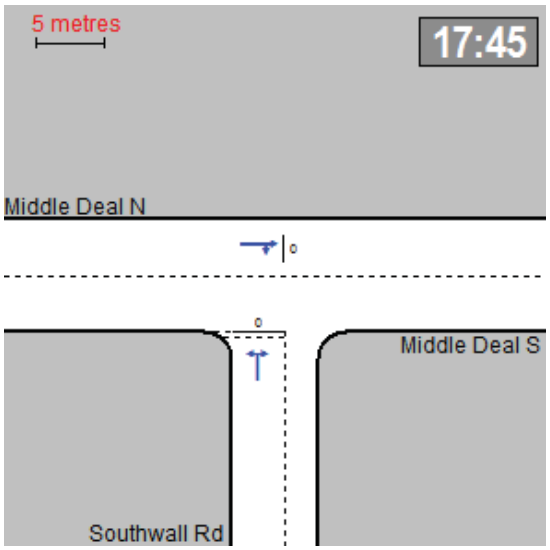
Queue Interval 2: 17:00-17:15



Queue Interval 3: 17:15-17:30

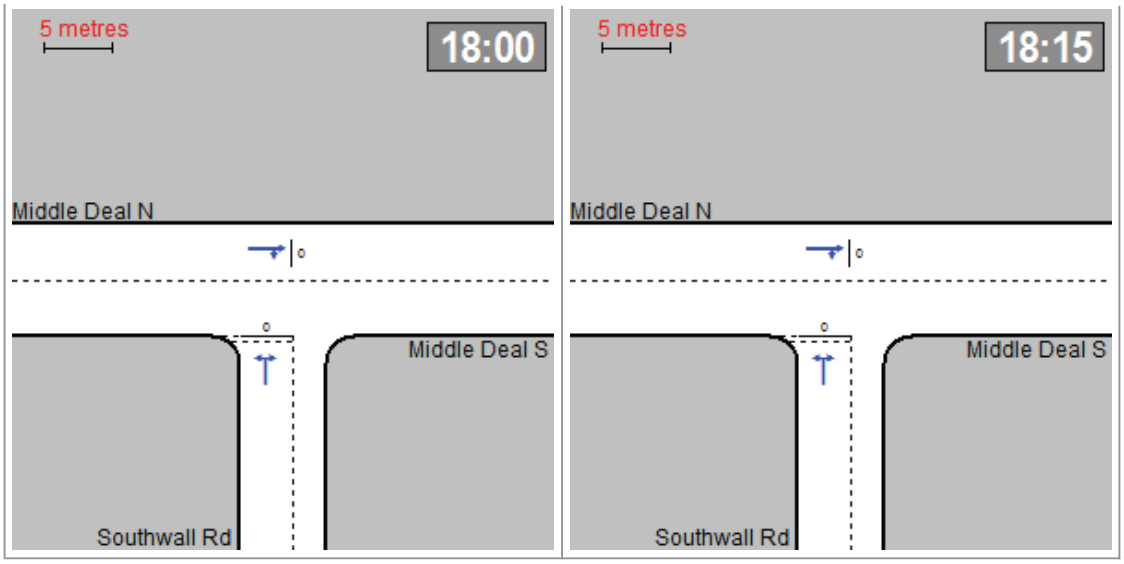


Queue Interval 4: 17:30-17:45



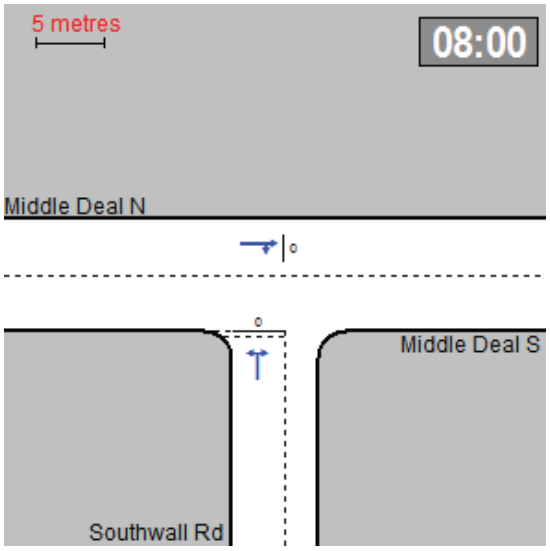
Queue Interval 5: 17:45-18:00

Queue Interval 6: 18:00-18:15

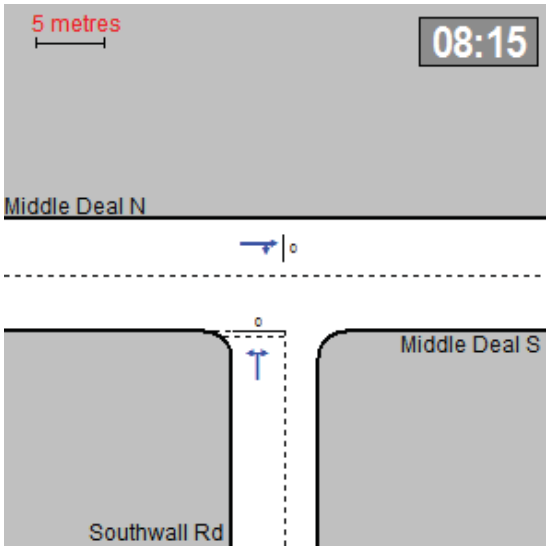

5 metres
18:00
Middle Deal N
Middle Deal S
Southwall Rd
5 metres
18:15
Middle Deal N
Middle Deal S
Southwall Rd

Demand Set: 2020 AM Base + Development
Modelling Period: 07:45-09:15
View Extent: 40m

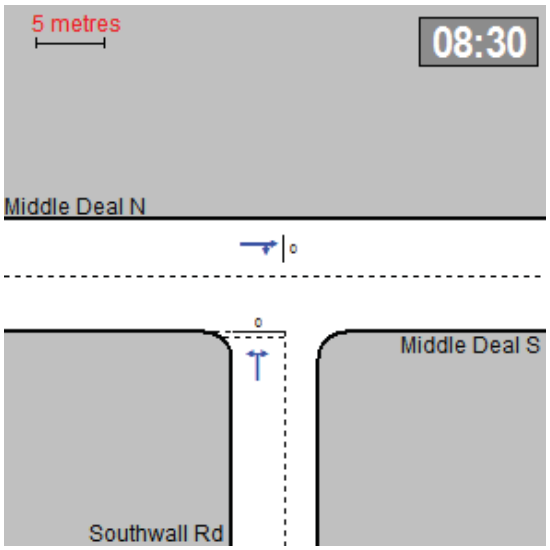
Queue Interval 1: 07:45-08:00



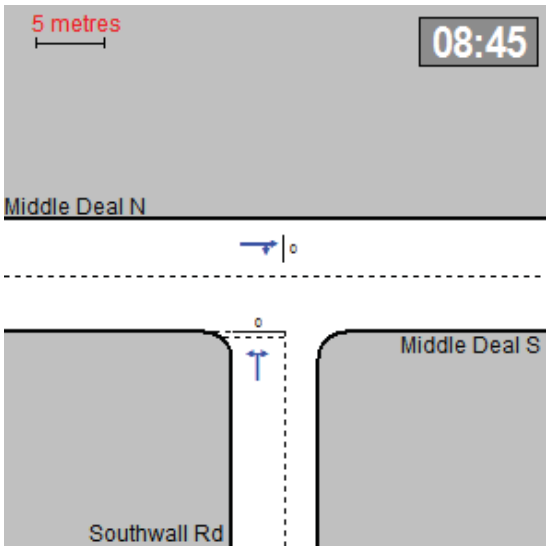
Queue Interval 2: 08:00-08:15



Queue Interval 3: 08:15-08:30

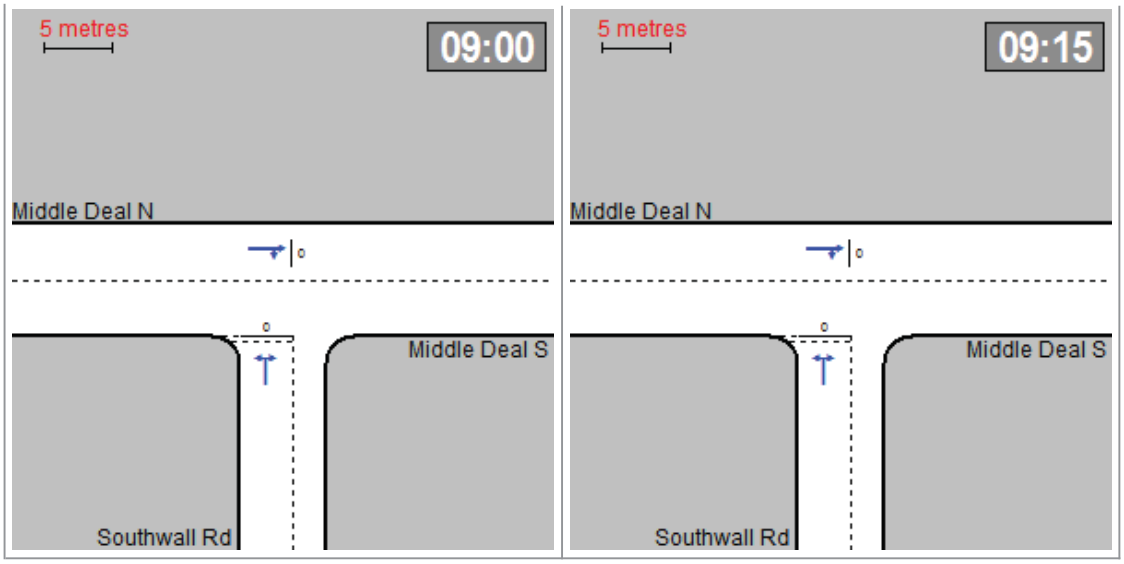


Queue Interval 4: 08:30-08:45



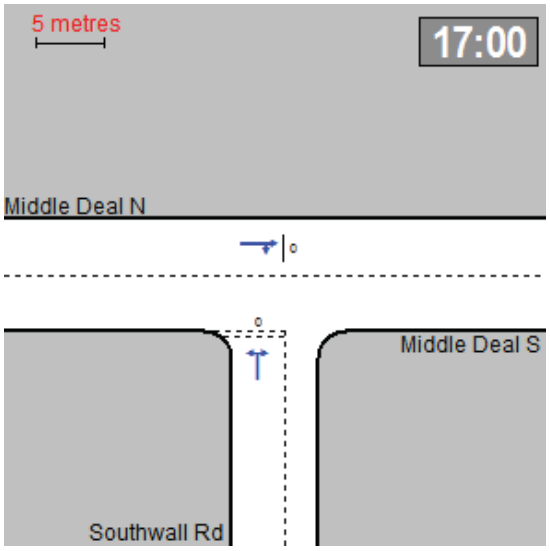
Queue Interval 5: 08:45-09:00

Queue Interval 6: 09:00-09:15

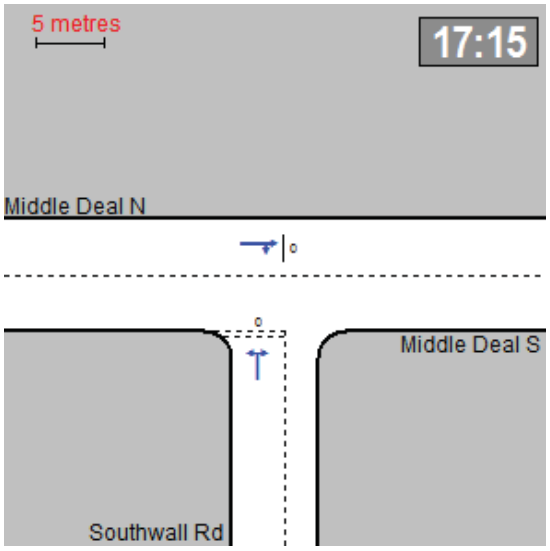

5 metres
09:00
Middle Deal N
Middle Deal S
Southwall Rd
5 metres
09:15
Middle Deal N
Middle Deal S
Southwall Rd

Demand Set: 2020 PM Base + Development
Modelling Period: 16:45-18:15
View Extent: 40m

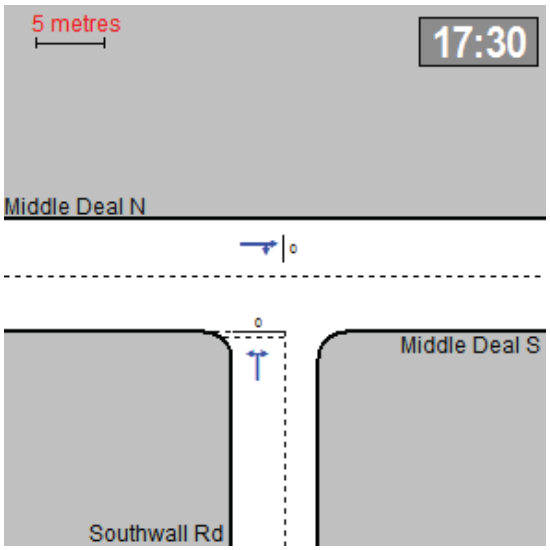
Queue Interval 1: 16:45-17:00



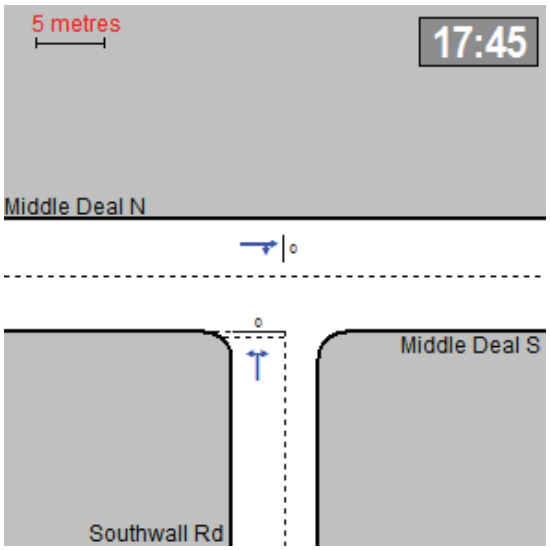
Queue Interval 2: 17:00-17:15



Queue Interval 3: 17:15-17:30

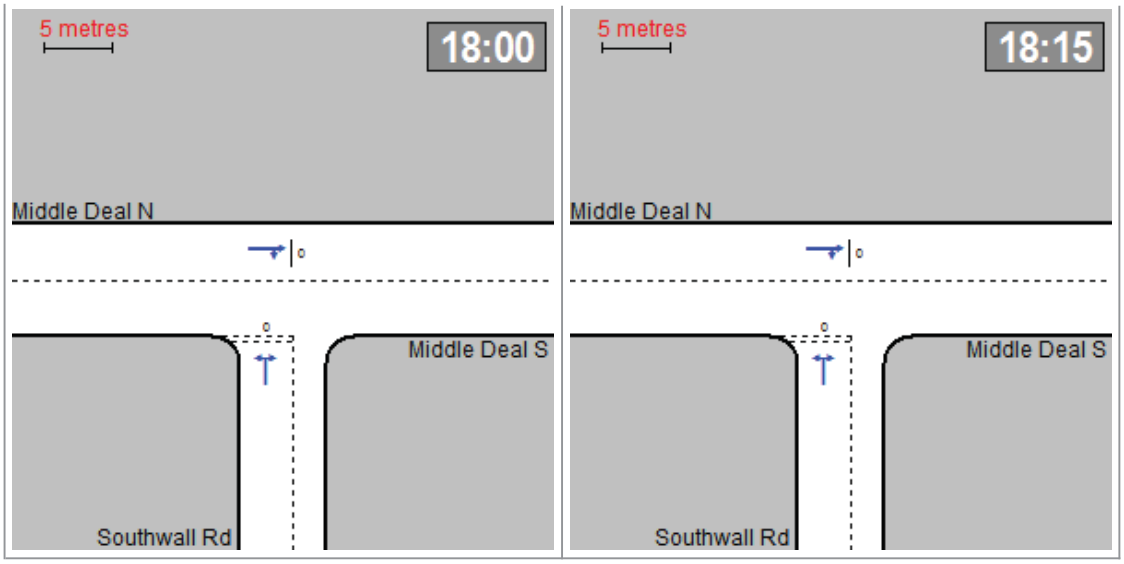


Queue Interval 4: 17:30-17:45



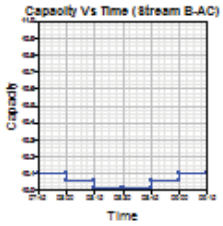
Queue Interval 5: 17:45-18:00

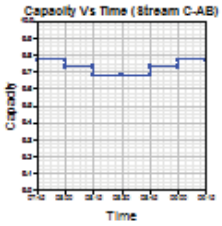
Queue Interval 6: 18:00-18:15


5 metres
18:00
Middle Deal N
Middle Deal S
Southwall Rd
5 metres
18:15
Middle Deal N
Middle Deal S
Southwall Rd

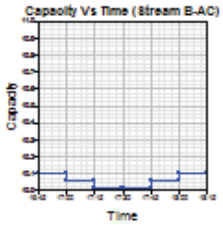
Capacity Graph

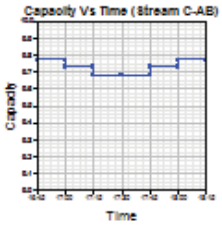
Demand Set: 2020 AM Base
Modelling Period: 07:45-09:15



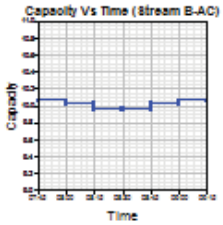


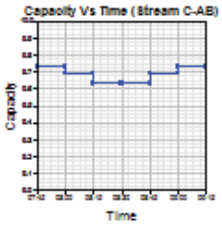
Demand Set: 2020 PM Base
Modelling Period: 16:45-18:15



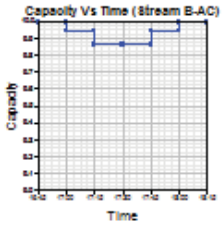


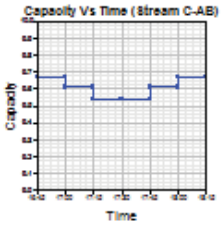
Demand Set: 2020 AM Base + Development
Modelling Period: 07:45-09:15





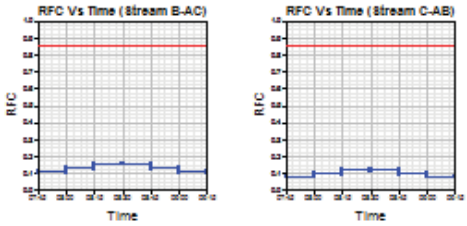
Demand Set: 2020 PM Base + Development
Modelling Period: 16:45-18:15



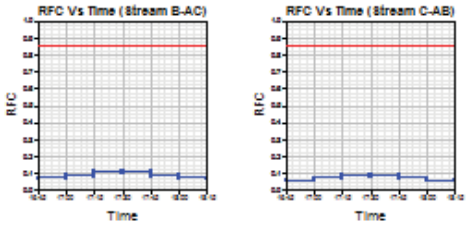


RFC Graph

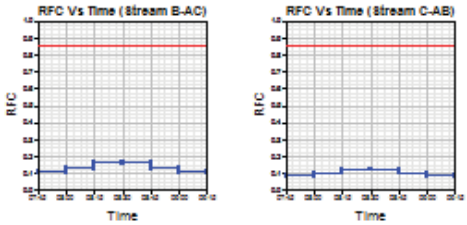
Demand Set: 2020 AM Base
Modelling Period: 07:45-09:15



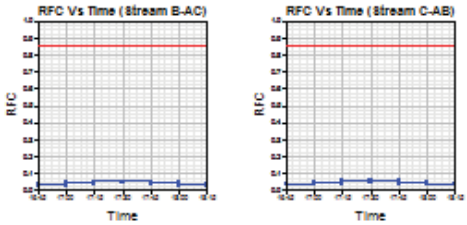
Demand Set: 2020 PM Base
Modelling Period: 16:45-18:15



Demand Set: 2020 AM Base + Development
Modelling Period: 07:45-09:15

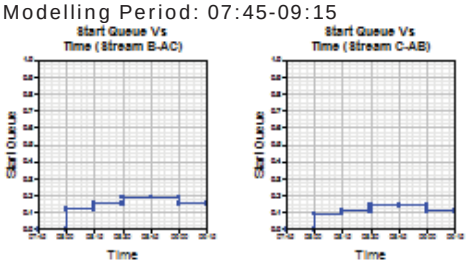


Demand Set: 2020 PM Base + Development
Modelling Period: 16:45-18:15

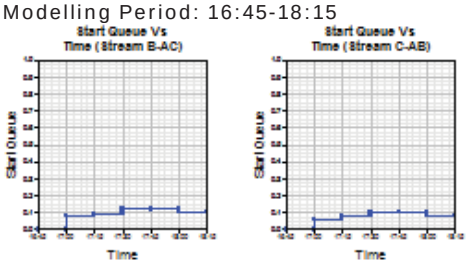


Start Queue Graph

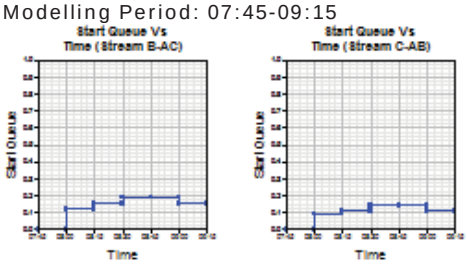
Demand Set: 2020 AM Base
Modelling Period: 07:45-09:15



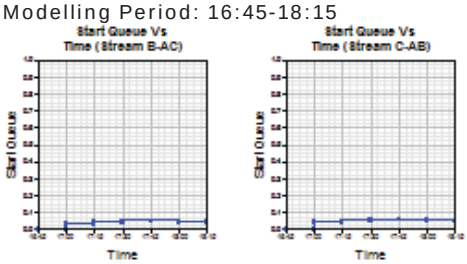
Demand Set: 2020 PM Base
Modelling Period: 16:45-18:15



Demand Set: 2020 AM Base + Development
Modelling Period: 07:45-09:15

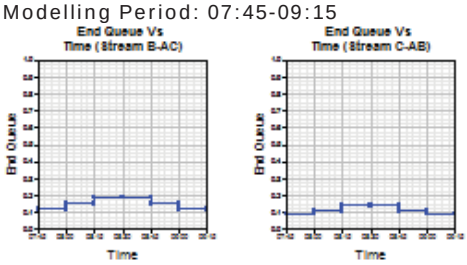


Demand Set: 2020 PM Base + Development
Modelling Period: 16:45-18:15

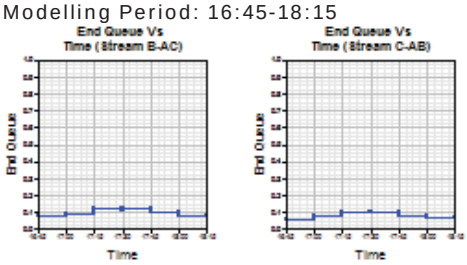


End Queue Graph

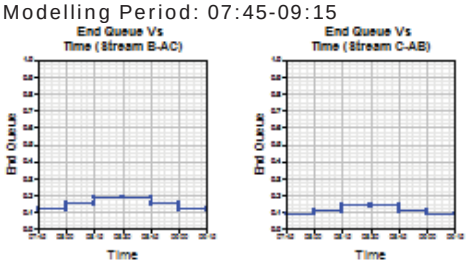
Demand Set: 2020 AM Base
Modelling Period: 07:45-09:15



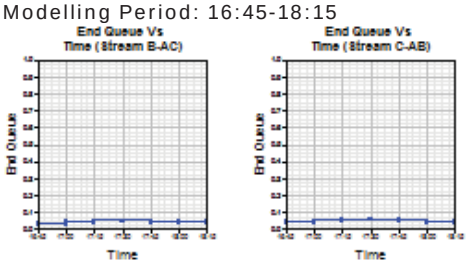
Demand Set: 2020 PM Base
Modelling Period: 16:45-18:15



Demand Set: 2020 AM Base + Development
Modelling Period: 07:45-09:15

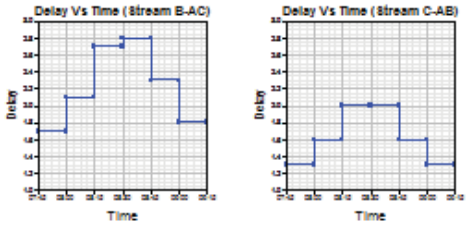


Demand Set: 2020 PM Base + Development
Modelling Period: 16:45-18:15

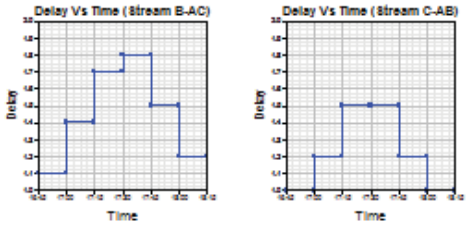


Delay Graph

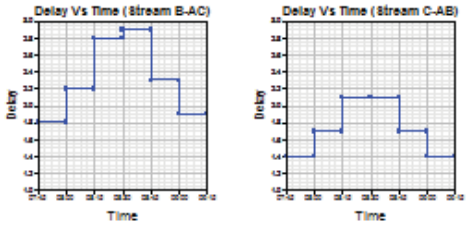
Demand Set: 2020 AM Base
Modelling Period: 07:45-09:15



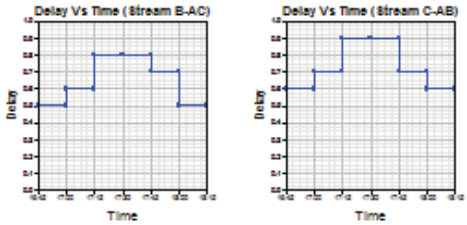
Demand Set: 2020 PM Base
Modelling Period: 16:45-18:15



Demand Set: 2020 AM Base + Development
Modelling Period: 07:45-09:15



Demand Set: 2020 PM Base + Development
Modelling Period: 16:45-18:15



Queues & Delays

Demand Set: 2020 AM Base
Modelling Period: 07:45-09:15

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
07:45-08:00	B-AC	1.08	10.10	0.107	-	0.00	0.12	-	1.7	0.11
	C-AB	0.79	9.77	0.081	-	0.00	0.09	-	1.3	0.11
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.00	-	-	-	-	-	-	-	-
	A-C	0.72	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:00-08:15	B-AC	1.29	10.06	0.128	-	0.12	0.15	-	2.1	0.11
	C-AB	0.94	9.73	0.097	-	0.09	0.11	-	1.6	0.11
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.00	-	-	-	-	-	-	-	-
	A-C	0.85	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:15-08:30	B-AC	1.58	10.01	0.158	-	0.15	0.19	-	2.7	0.12
	C-AB	1.16	9.68	0.119	-	0.11	0.14	-	2.0	0.12
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.00	-	-	-	-	-	-	-	-
	A-C	1.05	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:30-08:45	B-AC	1.58	10.01	0.158	-	0.19	0.19	-	2.8	0.12
	C-AB	1.16	9.68	0.119	-	0.14	0.14	-	2.0	0.12
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.00	-	-	-	-	-	-	-	-
	A-C	1.05	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:45-09:00	B-AC	1.29	10.06	0.128	-	0.19	0.15	-	2.3	0.11
	C-AB	0.94	9.73	0.097	-	0.14	0.11	-	1.6	0.11
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.00	-	-	-	-	-	-	-	-
	A-C	0.85	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
09:00-09:15	B-AC	1.08	10.10	0.107	-	0.15	0.12	-	1.8	0.11
	C-AB	0.79	9.77	0.081	-	0.11	0.09	-	1.3	0.11
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.00	-	-	-	-	-	-	-	-
	A-C	0.72	-	-	-	-	-	-	-	-

Demand Set: 2020 PM Base
Modelling Period: 16:45-18:15

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
16:45-17:00	B-AC	0.73	10.10	0.072	-	0.00	0.08	-	1.1	0.11
	C-AB	0.59	9.77	0.060	-	0.00	0.06	-	1.0	0.11
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.00	-	-	-	-	-	-	-	-
	A-C	0.72	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:00-17:15	B-AC	0.87	10.06	0.086	-	0.08	0.09	-	1.4	0.11
	C-AB	0.70	9.73	0.072	-	0.06	0.08	-	1.2	0.11
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.00	-	-	-	-	-	-	-	-
	A-C	0.85	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:15-17:30	B-AC	1.06	10.01	0.106	-	0.09	0.12	-	1.7	0.11
	C-AB	0.86	9.68	0.089	-	0.08	0.10	-	1.5	0.11
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.00	-	-	-	-	-	-	-	-
	A-C	1.05	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:30-17:45	B-AC	1.06	10.01	0.106	-	0.12	0.12	-	1.8	0.11
	C-AB	0.86	9.68	0.089	-	0.10	0.10	-	1.5	0.11
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.00	-	-	-	-	-	-	-	-
	A-C	1.05	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:45-18:00	B-AC	0.87	10.06	0.086	-	0.12	0.10	-	1.5	0.11
	C-AB	0.70	9.73	0.072	-	0.10	0.08	-	1.2	0.11
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.00	-	-	-	-	-	-	-	-
	A-C	0.85	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
18:00-18:15	B-AC	0.73	10.10	0.072	-	0.10	0.08	-	1.2	0.11
	C-AB	0.59	9.77	0.060	-	0.08	0.07	-	1.0	0.11
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.00	-	-	-	-	-	-	-	-
	A-C	0.72	-	-	-	-	-	-	-	-

Demand Set: 2020 AM Base + Development
Modelling Period: 07:45-09:15

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
07:45-08:00	B-AC	1.10	10.06	0.110	-	0.00	0.12	-	1.8	0.11
	C-AB	0.82	9.73	0.084	-	0.00	0.09	-	1.4	0.11
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.00	-	-	-	-	-	-	-	-
	A-C	0.85	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:00-08:15	B-AC	1.32	10.02	0.132	-	0.12	0.15	-	2.2	0.11
	C-AB	0.97	9.69	0.100	-	0.09	0.11	-	1.7	0.11
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.00	-	-	-	-	-	-	-	-
	A-C	1.02	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:15-08:30	B-AC	1.61	9.96	0.162	-	0.15	0.19	-	2.8	0.12
	C-AB	1.19	9.63	0.124	-	0.11	0.14	-	2.1	0.12
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.00	-	-	-	-	-	-	-	-
	A-C	1.25	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:30-08:45	B-AC	1.61	9.96	0.162	-	0.19	0.19	-	2.9	0.12
	C-AB	1.19	9.63	0.124	-	0.14	0.14	-	2.1	0.12
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.00	-	-	-	-	-	-	-	-
	A-C	1.25	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:45-09:00	B-AC	1.32	10.02	0.132	-	0.19	0.15	-	2.3	0.12
	C-AB	0.97	9.69	0.100	-	0.14	0.11	-	1.7	0.11
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.00	-	-	-	-	-	-	-	-
	A-C	1.02	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
09:00-09:15	B-AC	1.10	10.06	0.110	-	0.15	0.12	-	1.9	0.11
	C-AB	0.82	9.73	0.084	-	0.11	0.09	-	1.4	0.11
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.00	-	-	-	-	-	-	-	-
	A-C	0.85	-	-	-	-	-	-	-	-

Demand Set: 2020 PM Base + Development
Modelling Period: 16:45-18:15

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
16:45-17:00	B-AC	0.34	9.99	0.034	-	0.00	0.03	-	0.5	0.10
	C-AB	0.35	9.67	0.036	-	0.00	0.04	-	0.6	0.11
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.00	-	-	-	-	-	-	-	-
	A-C	1.12	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:00-17:15	B-AC	0.40	9.94	0.041	-	0.03	0.04	-	0.6	0.10
	C-AB	0.42	9.61	0.044	-	0.04	0.05	-	0.7	0.11
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.00	-	-	-	-	-	-	-	-
	A-C	1.33	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:15-17:30	B-AC	0.50	9.86	0.050	-	0.04	0.05	-	0.8	0.11
	C-AB	0.51	9.54	0.054	-	0.05	0.06	-	0.9	0.11
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.00	-	-	-	-	-	-	-	-
	A-C	1.63	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:30-17:45	B-AC	0.50	9.86	0.050	-	0.05	0.05	-	0.8	0.11
	C-AB	0.51	9.54	0.054	-	0.06	0.06	-	0.9	0.11
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.00	-	-	-	-	-	-	-	-
	A-C	1.63	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:45-18:00	B-AC	0.40	9.94	0.041	-	0.05	0.04	-	0.7	0.10
	C-AB	0.42	9.61	0.044	-	0.06	0.05	-	0.7	0.11
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.00	-	-	-	-	-	-	-	-
	A-C	1.33	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
18:00-18:15	B-AC	0.34	9.99	0.034	-	0.04	0.04	-	0.5	0.10
	C-AB	0.35	9.67	0.036	-	0.05	0.04	-	0.6	0.11
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.00	-	-	-	-	-	-	-	-
	A-C	1.12	-	-	-	-	-	-	-	-

Entry capacities marked with an '(X)' are dominated by a pedestrian crossing in that time segment.
In time segments marked with a '(B)', traffic leaving the junction may block back from a crossing so impairing normal operation of the junction.
Delays marked with '##' could not be calculated.

Overall Queues & Delays

Queueing Delay Information Over Whole Period

Demand Set: 2020 AM Base
Modelling Period: 07:45-09:15

Stream	Total Demand (veh)	Total Demand (veh/h)	Queueing Delay (min)	Queueing Delay (min/veh)	Inclusive Delay (min)	Inclusive Delay (min/veh)
B-AC	118.4	78.9	13.5	0.1	13.5	0.1
C-AB	86.7	57.8	10.0	0.1	10.0	0.1
C-A	-	-	-	-	-	-
A-B	0.0	0.0	-	-	-	-
A-C	78.5	52.3	-	-	-	-
All	331.7	221.1	23.5	0.1	23.5	0.1

Demand Set: 2020 PM Base
Modelling Period: 16:45-18:15

Stream	Total Demand (veh)	Total Demand (veh/h)	Queueing Delay (min)	Queueing Delay (min/veh)	Inclusive Delay (min)	Inclusive Delay (min/veh)
B-AC	79.8	53.2	8.7	0.1	8.7	0.1
C-AB	64.7	43.1	7.2	0.1	7.2	0.1
C-A	-	-	-	-	-	-
A-B	0.0	0.0	-	-	-	-
A-C	78.5	52.3	-	-	-	-
All	309.7	206.5	15.9	0.1	15.9	0.1

Demand Set: 2020 AM Base + Development
Modelling Period: 07:45-09:15

Stream	Total Demand (veh)	Total Demand (veh/h)	Queueing Delay (min)	Queueing Delay (min/veh)	Inclusive Delay (min)	Inclusive Delay (min/veh)
B-AC	121.1	80.8	13.9	0.1	13.9	0.1
C-AB	89.5	59.6	10.4	0.1	10.4	0.1
C-A	-	-	-	-	-	-
A-B	0.0	0.0	-	-	-	-
A-C	93.6	62.4	-	-	-	-
All	363.4	242.3	24.3	0.1	24.3	0.1

Demand Set: 2020 PM Base + Development
Modelling Period: 16:45-18:15

Stream	Total Demand (veh)	Total Demand (veh/h)	Queueing Delay (min)	Queueing Delay (min/veh)	Inclusive Delay (min)	Inclusive Delay (min/veh)
B-AC	37.2	24.8	3.9	0.1	3.9	0.1
C-AB	38.5	25.7	4.2	0.1	4.2	0.1
C-A	-	-	-	-	-	-
A-B	0.0	0.0	-	-	-	-
A-C	122.5	81.7	-	-	-	-
All	295.9	197.3	8.1	0.0	8.1	0.0

Delay is that occurring only within the time period.
Inclusive delay includes delay suffered by vehicles which are still queuing after the end of the time period.
These will only be significantly different if there is a large queue remaining at the end of the time period.

PICADY 5 Run Successful


K
APPENDIX

PICADY
GUI Version: 5.1 AE Analysis Program Release: 5.0 (MAY 2010)
For sales and distribution information, program advice and maintenance, contact:
TRL Limited Crowthorne House Nine Mile Ride Wokingham, Berks. RG40 3GA, UK Tel: +44 (0)1344 770758 Fax: +44 (0)1344 770864 E-mail: software@trl.co.uk Web: www.trlsoftware.co.uk
The user of this computer program for the solution of an engineering problem is in no way relieved of their responsibility for the correctness of the solution

Run Analysis

Parameter	Values
File Run	T:\..\Indus Est - Church Ln - Southwall Rd\Indust Est - Church Ln - Southwall Rd.vpi
Date Run	28 September 2015
Time Run	09:39:49
Driving Side	Drive On The Left

Arm Names and Flow Scaling Factors

Arm	Arm Name	Flow Scaling Factor (%)
Arm A	Church Lane	100
Arm B	Industrial Estate Rd	100
Arm C	Southwall Rd	100

Stream Labelling Convention

Stream A-B contains traffic going from A to B etc.

Run Information

Parameter	Values
Run Title	Industrial Estate / Church Rd / Southwall Rd
Location	-
Date	28 September 2015
Enumerator	ChrisC [DHA-CAD-HP]
Job Number	11025
Status	-
Client	-
Description	-

Errors and Warnings

Parameter	Values
Warning	No Errors Or Warnings

Geometric Data

Geometric Parameters

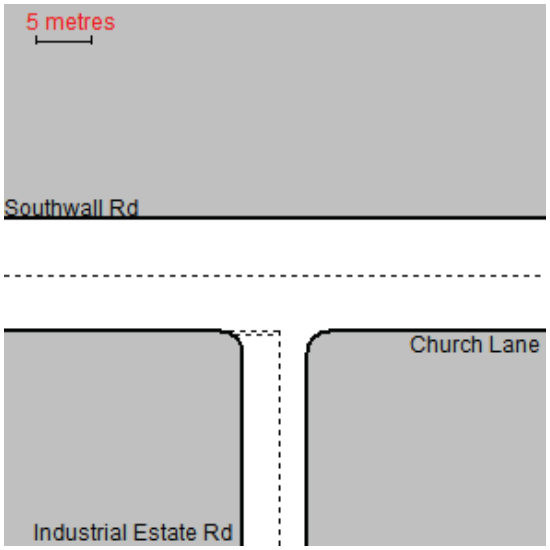
Parameter	Minor Arm B
Major Road Carriageway Width (m)	8.00
Major Road Kerbed Central Reserve Width (m)	0.00
Major Road Right Turning Lane Width (m)	2.20
Minor Road First Lane Width (m)	3.20
Minor Road Visibility To Right (m)	16
Minor Road Visibility To Left (m)	15
Major Road Right Turn Visibility (m)	38
Major Road Right Turn Blocks Traffic	Yes (if over 1 veh)

Slope and Intercept Values

Stream	Intercept for Stream	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	500.187	0.083	0.210	0.132	0.300
B-C	646.704	0.091	0.229	-	-
C-B	595.969	0.211	0.211	-	-

Note: Streams may be combined in which case capacity will be adjusted
These values do not allow for any site-specific corrections

Junction Diagram



Demand Data

Modelling Periods

Parameter	Period	Duration (min)	Segment Length (min)
First Modelling Period	07:45-09:15	90	15
Second Modelling Period	16:45-18:15	90	15

ODTAB Turning Counts

Demand Set: 2020 AM Peak BASE
Modelling Period: 07:45-09:15

From / To	Arm A	Arm B	Arm C
Arm A	0.0	36.0	52.0
Arm B	14.0	0.0	34.0
Arm C	36.0	27.0	0.0

Demand Set: 2020 AM Peak BASE + DEV
Modelling Period: 07:45-09:15

From / To	Arm A	Arm B	Arm C
Arm A	0.0	82.0	27.0
Arm B	55.0	0.0	16.0
Arm C	15.0	10.0	0.0

Demand Set: 2020 PM Peak BASE
Modelling Period: 16:45-18:15

From / To	Arm A	Arm B	Arm C
Arm A	0.0	4.0	33.0
Arm B	13.0	0.0	25.0
Arm C	40.0	7.0	0.0

Demand Set: 2020 PM Peak BASE + DEV
Modelling Period: 16:45-18:15

From / To	Arm A	Arm B	Arm C
Arm A	0.0	24.0	15.0
Arm B	37.0	0.0	11.0
Arm C	24.0	4.0	0.0

ODTAB Synthesised Flows

Demand Set: 2020 AM Peak BASE
Modelling Period: 07:45-09:15

Arm	Rising Time	Rising Flow (veh / min)	Peak Time	Peak Flow (veh / min)	Falling Time	Falling Flow (veh / min)
Arm A	08:00	1.100	08:30	1.650	09:00	1.100
Arm B	08:00	0.600	08:30	0.900	09:00	0.600
Arm C	08:00	0.788	08:30	1.181	09:00	0.788

Heavy Vehicles Percentages

Demand Set: 2020 AM Peak BASE
Modelling Period: 07:45-09:15

From / To	Arm A	Arm B	Arm C
Arm A	-	10.0	10.0
Arm B	10.0	-	10.0
Arm C	10.0	10.0	-

Demand Set: 2020 AM Peak BASE + DEV
Modelling Period: 07:45-09:15

From / To	Arm A	Arm B	Arm C
Arm A	-	10.0	10.0
Arm B	10.0	-	10.0
Arm C	10.0	10.0	-

Demand Set: 2020 PM Peak BASE
Modelling Period: 16:45-18:15

From / To	Arm A	Arm B	Arm C
Arm A	-	10.0	10.0
Arm B	10.0	-	10.0
Arm C	10.0	10.0	-

Demand Set: 2020 PM Peak BASE + DEV
Modelling Period: 16:45-18:15

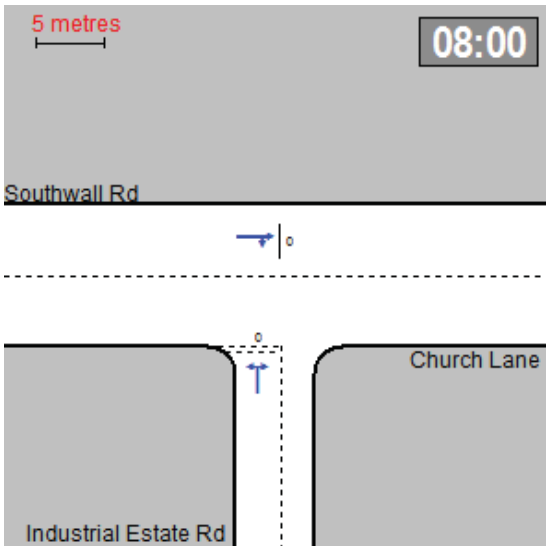
From / To	Arm A	Arm B	Arm C
Arm A	-	10.0	10.0
Arm B	10.0	-	10.0
Arm C	10.0	10.0	-

Default proportions of heavy vehicles are used

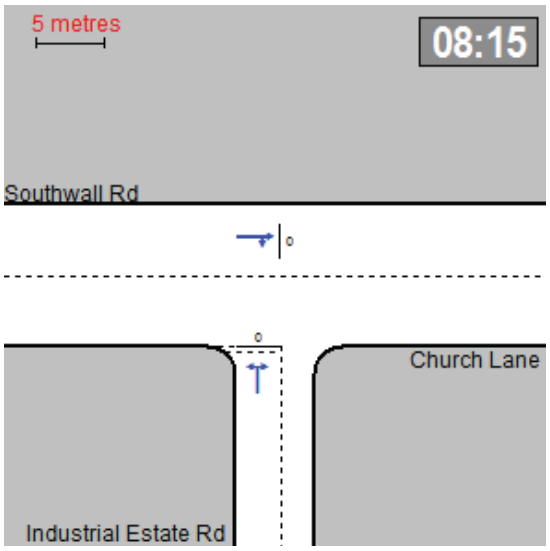
Queue Diagrams

Demand Set: 2020 AM Peak BASE
Modelling Period: 07:45-09:15
View Extent: 40m

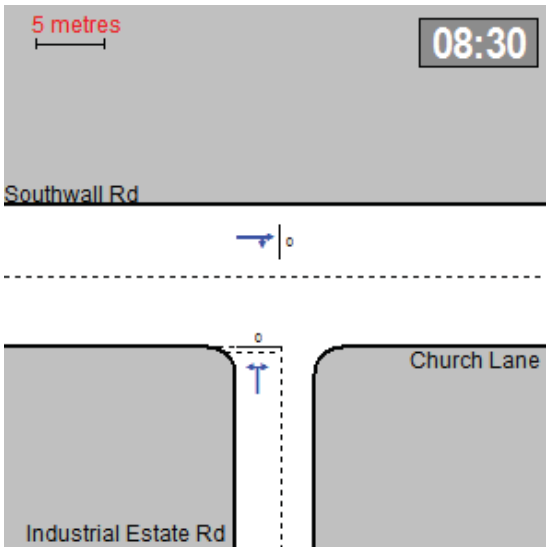
Queue Interval 1: 07:45-08:00



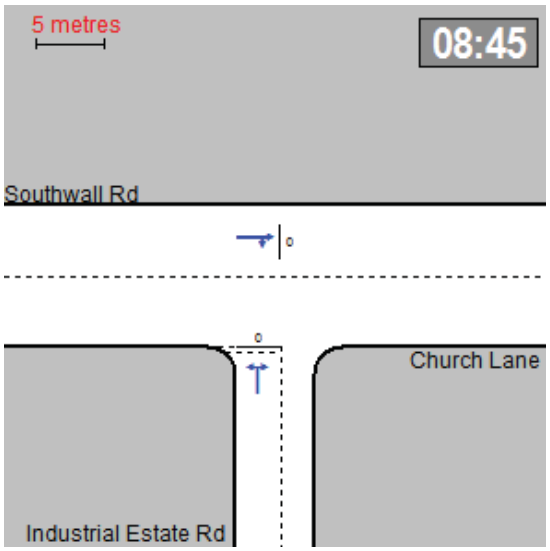
Queue Interval 2: 08:00-08:15



Queue Interval 3: 08:15-08:30

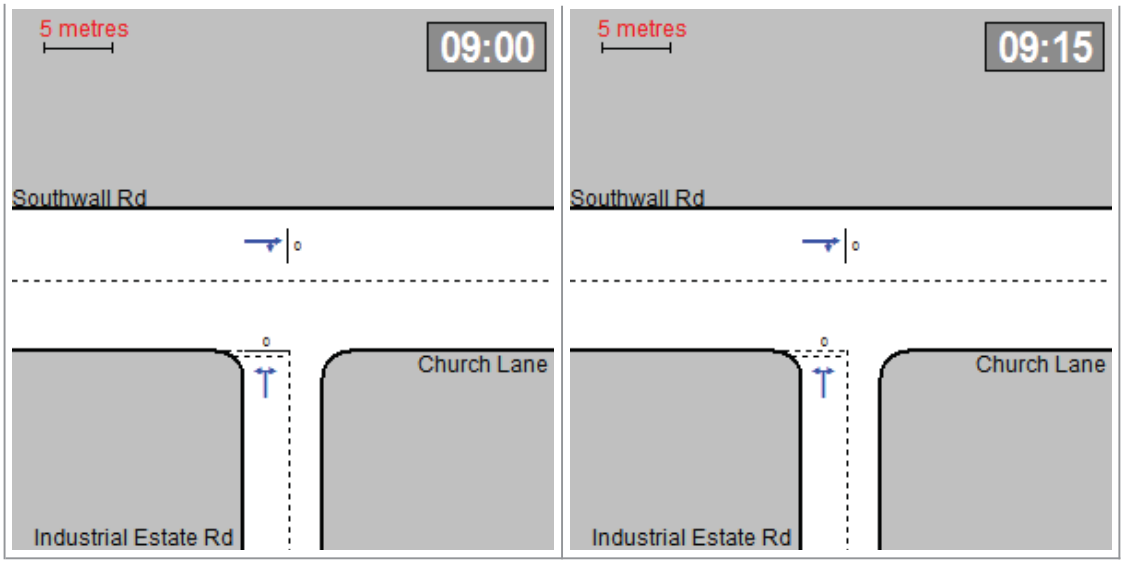


Queue Interval 4: 08:30-08:45



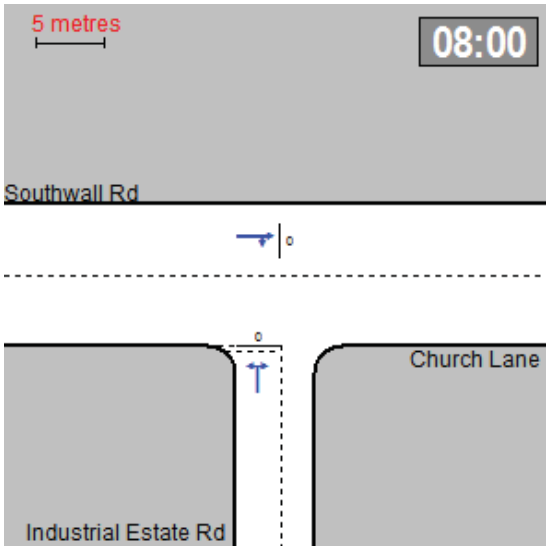
Queue Interval 5: 08:45-09:00

Queue Interval 6: 09:00-09:15

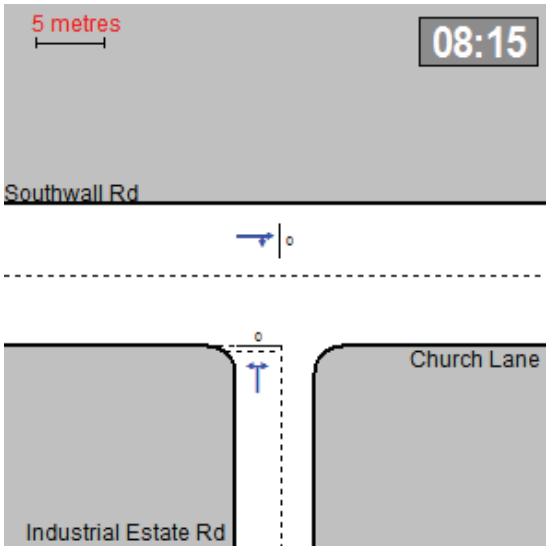

5 metres
09:00
Southwall Rd
Church Lane
Industrial Estate Rd
5 metres
09:15
Southwall Rd
Church Lane
Industrial Estate Rd

Demand Set: 2020 AM Peak BASE + DEV
Modelling Period: 07:45-09:15
View Extent: 40m

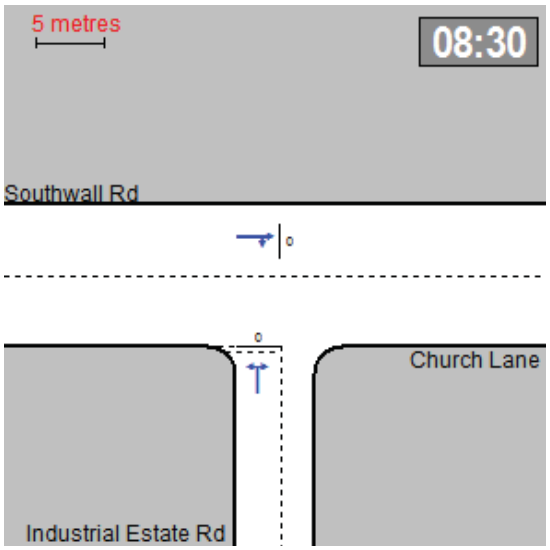
Queue Interval 1: 07:45-08:00



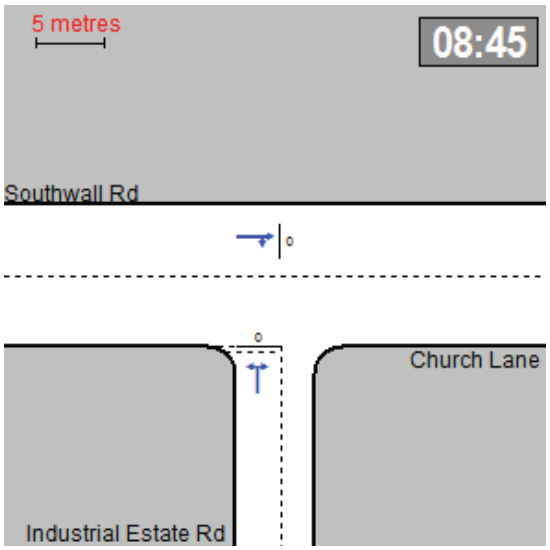
Queue Interval 2: 08:00-08:15



Queue Interval 3: 08:15-08:30

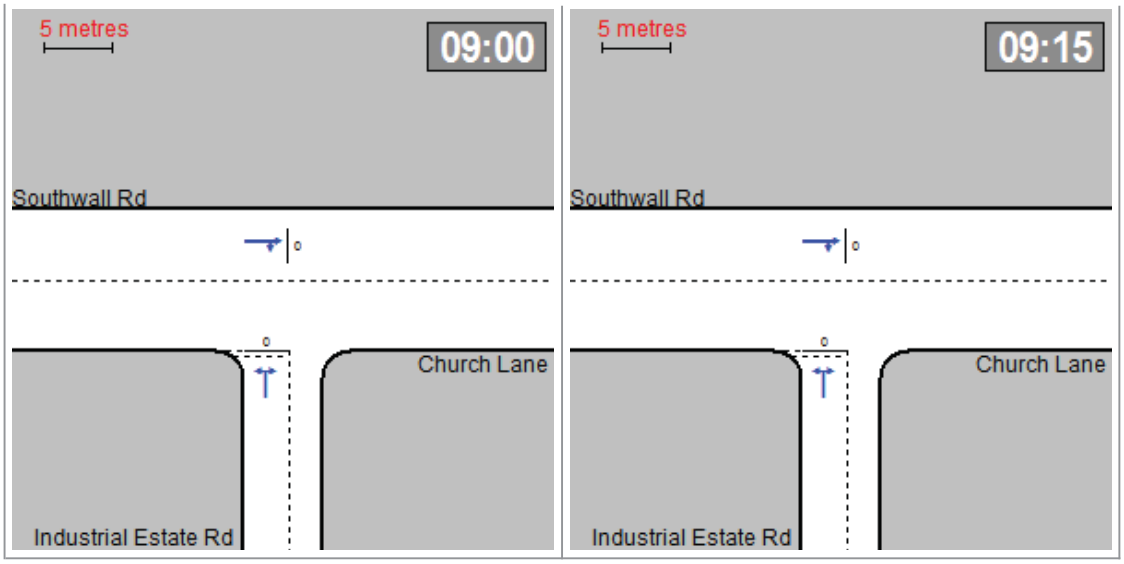


Queue Interval 4: 08:30-08:45



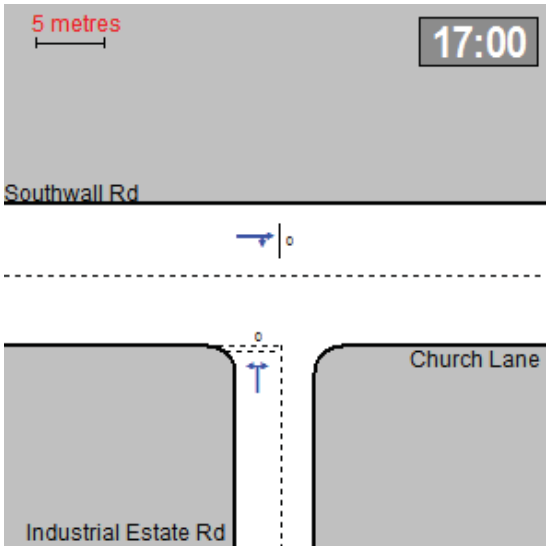
Queue Interval 5: 08:45-09:00

Queue Interval 6: 09:00-09:15

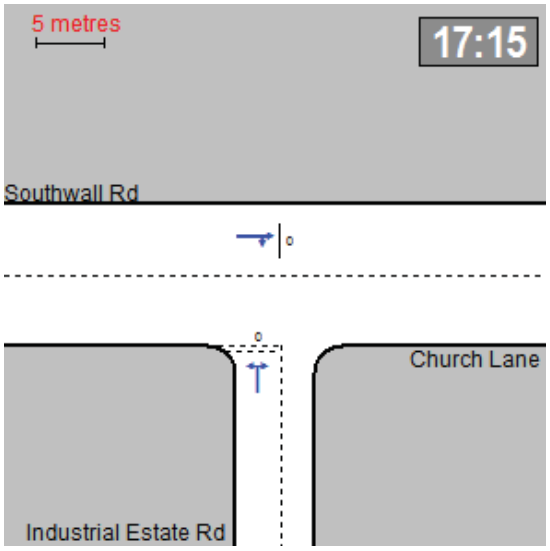

5 metres
09:00
Southwall Rd
Church Lane
Industrial Estate Rd
5 metres
09:15
Southwall Rd
Church Lane
Industrial Estate Rd

Demand Set: 2020 PM Peak BASE
Modelling Period: 16:45-18:15
View Extent: 40m

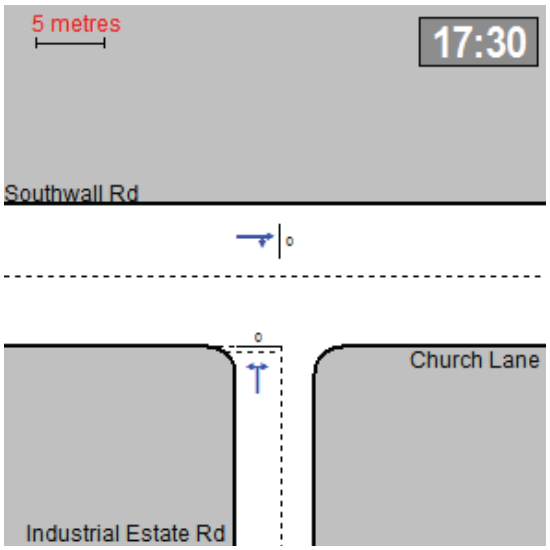
Queue Interval 1: 16:45-17:00



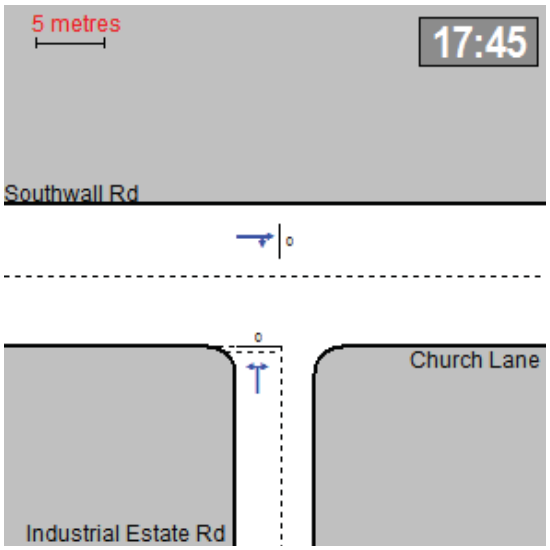
Queue Interval 2: 17:00-17:15



Queue Interval 3: 17:15-17:30

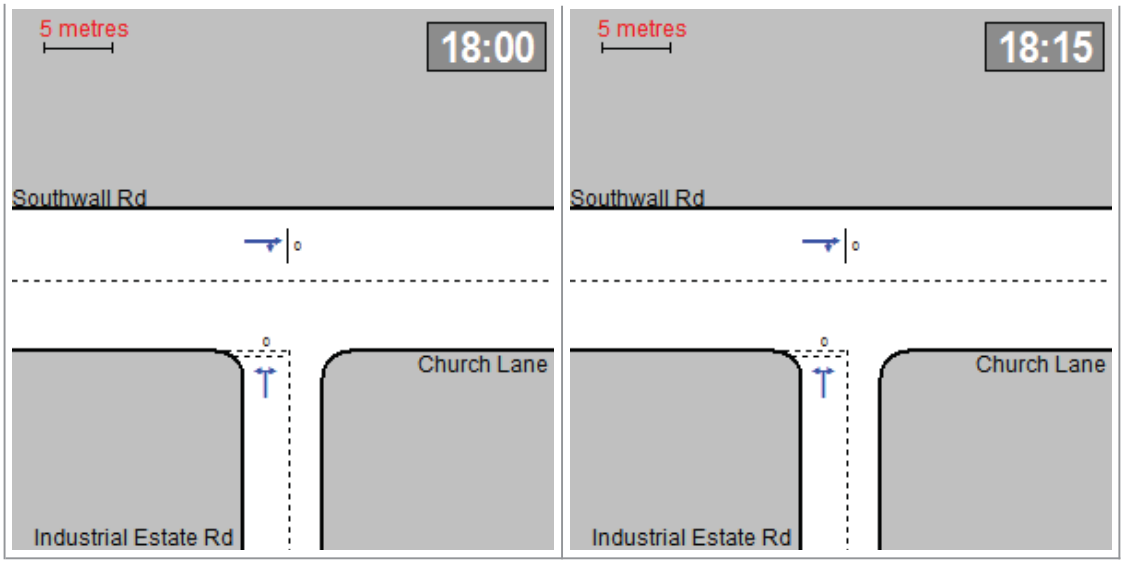


Queue Interval 4: 17:30-17:45



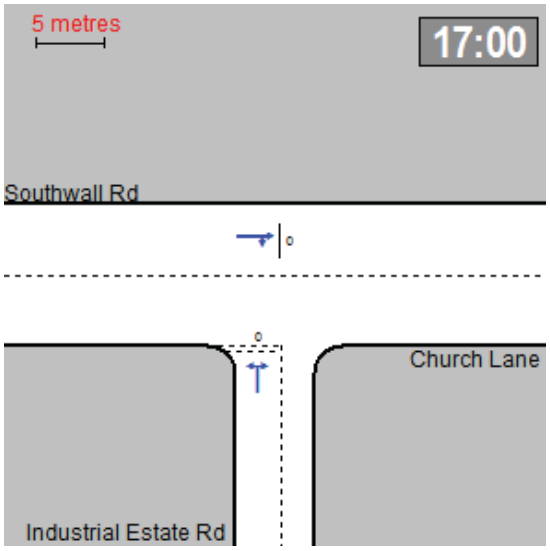
Queue Interval 5: 17:45-18:00

Queue Interval 6: 18:00-18:15

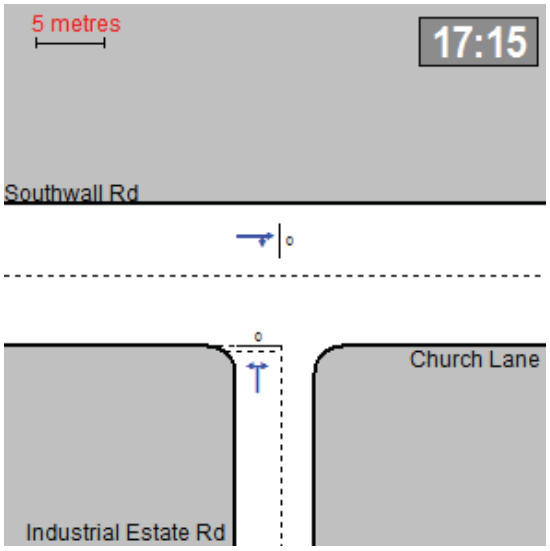

5 metres
18:00
Southwall Rd
Church Lane
Industrial Estate Rd
5 metres
18:15
Southwall Rd
Church Lane
Industrial Estate Rd

Demand Set: 2020 PM Peak BASE + DEV
Modelling Period: 16:45-18:15
View Extent: 40m

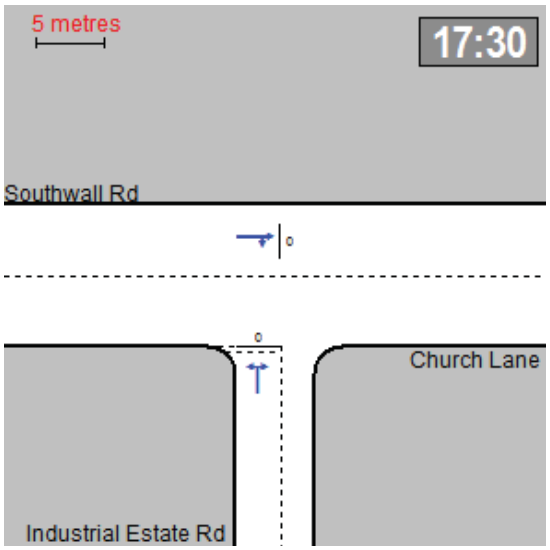
Queue Interval 1: 16:45-17:00



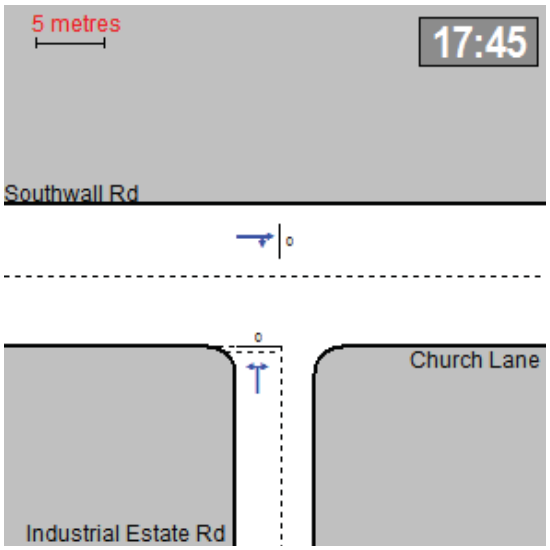
Queue Interval 2: 17:00-17:15



Queue Interval 3: 17:15-17:30

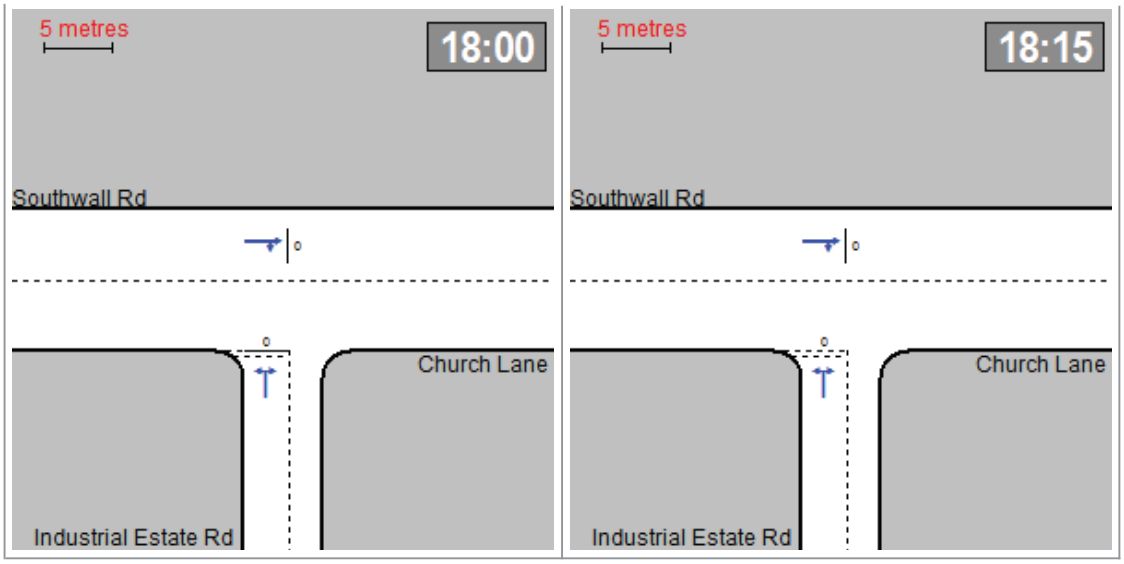


Queue Interval 4: 17:30-17:45



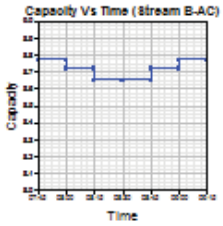
Queue Interval 5: 17:45-18:00

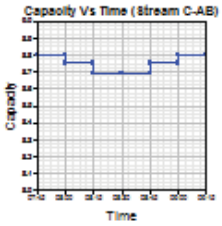
Queue Interval 6: 18:00-18:15


5 metres
18:00
Southwall Rd
Church Lane
Industrial Estate Rd
5 metres
18:15
Southwall Rd
Church Lane
Industrial Estate Rd

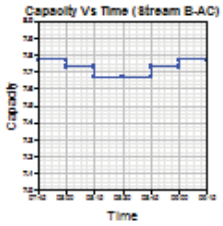
Capacity Graph

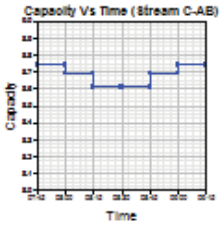
Demand Set: 2020 AM Peak BASE
Modelling Period: 07:45-09:15



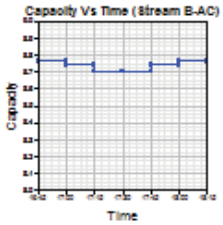


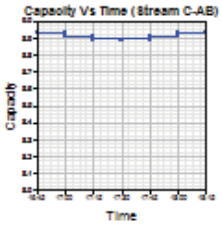
Demand Set: 2020 AM Peak BASE + DEV
Modelling Period: 07:45-09:15



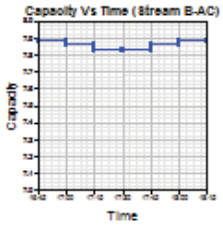


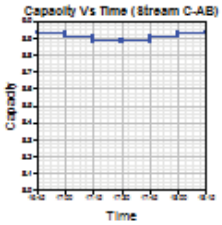
Demand Set: 2020 PM Peak BASE
Modelling Period: 16:45-18:15





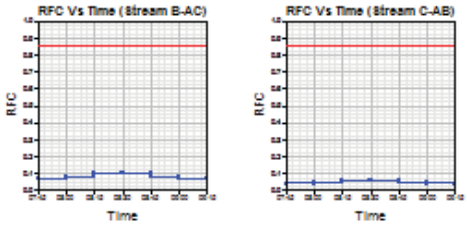
Demand Set: 2020 PM Peak BASE + DEV
Modelling Period: 16:45-18:15



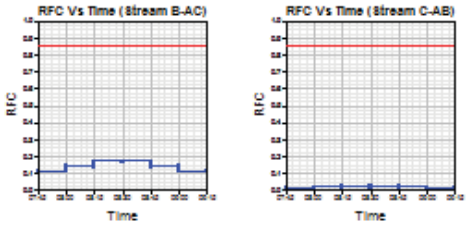


RFC Graph

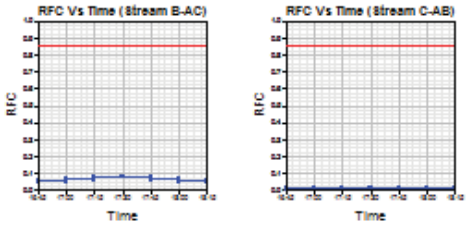
Demand Set: 2020 AM Peak BASE
Modelling Period: 07:45-09:15



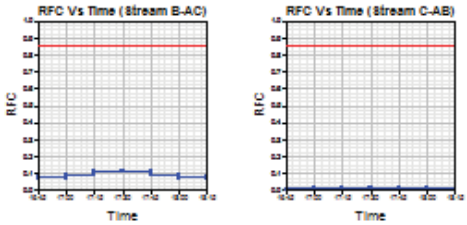
Demand Set: 2020 AM Peak BASE + DEV
Modelling Period: 07:45-09:15



Demand Set: 2020 PM Peak BASE
Modelling Period: 16:45-18:15

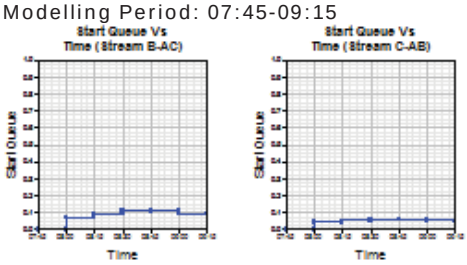


Demand Set: 2020 PM Peak BASE + DEV
Modelling Period: 16:45-18:15

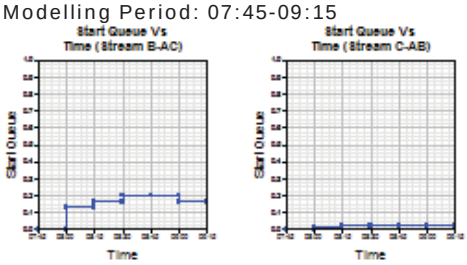


Start Queue Graph

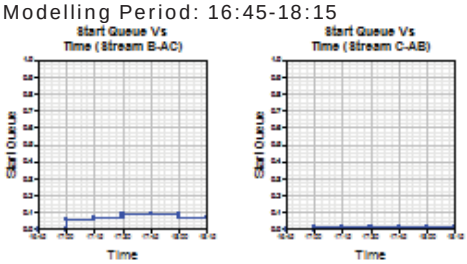
Demand Set: 2020 AM Peak BASE
Modelling Period: 07:45-09:15



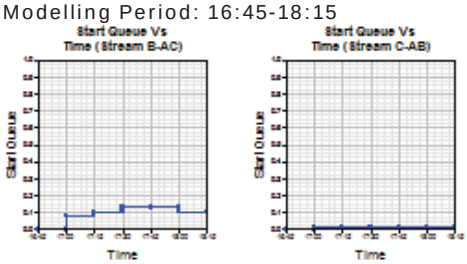
Demand Set: 2020 AM Peak BASE + DEV
Modelling Period: 07:45-09:15



Demand Set: 2020 PM Peak BASE
Modelling Period: 16:45-18:15

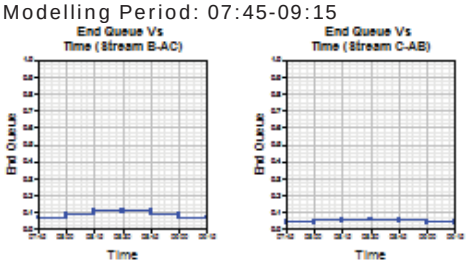


Demand Set: 2020 PM Peak BASE + DEV
Modelling Period: 16:45-18:15

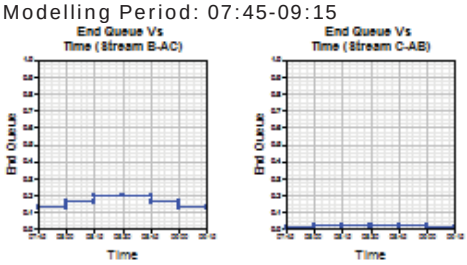


End Queue Graph

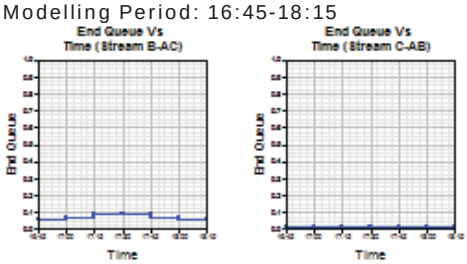
Demand Set: 2020 AM Peak BASE
Modelling Period: 07:45-09:15



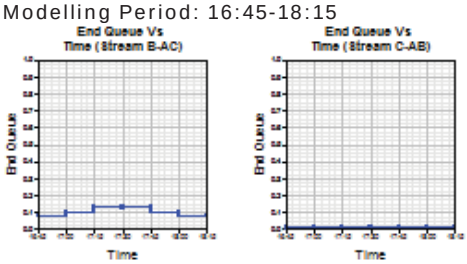
Demand Set: 2020 AM Peak BASE + DEV
Modelling Period: 07:45-09:15



Demand Set: 2020 PM Peak BASE
Modelling Period: 16:45-18:15

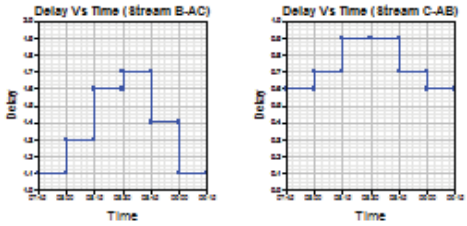


Demand Set: 2020 PM Peak BASE + DEV
Modelling Period: 16:45-18:15

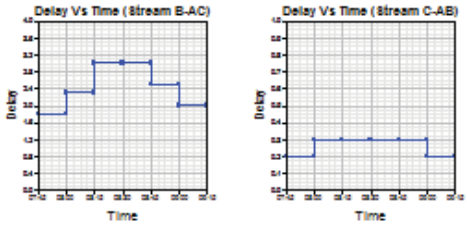


Delay Graph

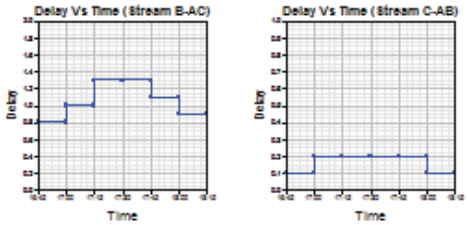
Demand Set: 2020 AM Peak BASE
Modelling Period: 07:45-09:15



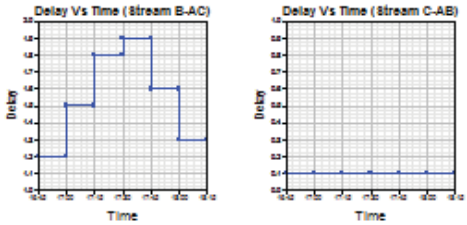
Demand Set: 2020 AM Peak BASE + DEV
Modelling Period: 07:45-09:15



Demand Set: 2020 PM Peak BASE
Modelling Period: 16:45-18:15



Demand Set: 2020 PM Peak BASE + DEV
Modelling Period: 16:45-18:15



Queues & Delays

Demand Set: 2020 AM Peak BASE
Modelling Period: 07:45-09:15

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
07:45-08:00	B-AC	0.60	8.77	0.069	-	0.00	0.07	-	1.1	0.12
	C-AB	0.34	8.80	0.039	-	0.00	0.04	-	0.6	0.12
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.45	-	-	-	-	-	-	-	-
	A-C	0.65	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:00-08:15	B-AC	0.72	8.72	0.082	-	0.07	0.09	-	1.3	0.12
	C-AB	0.40	8.75	0.046	-	0.04	0.05	-	0.7	0.12
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.54	-	-	-	-	-	-	-	-
	A-C	0.78	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:15-08:30	B-AC	0.88	8.65	0.102	-	0.09	0.11	-	1.6	0.13
	C-AB	0.50	8.69	0.057	-	0.05	0.06	-	0.9	0.12
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.66	-	-	-	-	-	-	-	-
	A-C	0.95	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:30-08:45	B-AC	0.88	8.65	0.102	-	0.11	0.11	-	1.7	0.13
	C-AB	0.50	8.69	0.057	-	0.06	0.06	-	0.9	0.12
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.66	-	-	-	-	-	-	-	-
	A-C	0.95	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:45-09:00	B-AC	0.72	8.72	0.082	-	0.11	0.09	-	1.4	0.12
	C-AB	0.40	8.75	0.046	-	0.06	0.05	-	0.7	0.12
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.54	-	-	-	-	-	-	-	-
	A-C	0.78	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
09:00-09:15	B-AC	0.60	8.77	0.069	-	0.09	0.07	-	1.1	0.12
	C-AB	0.34	8.80	0.039	-	0.05	0.04	-	0.6	0.12
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.45	-	-	-	-	-	-	-	-
	A-C	0.65	-	-	-	-	-	-	-	-

Demand Set: 2020 AM Peak BASE + DEV
Modelling Period: 07:45-09:15

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
07:45-08:00	B-AC	0.89	7.77	0.115	-	0.00	0.13	-	1.8	0.15
	C-AB	0.13	8.74	0.014	-	0.00	0.01	-	0.2	0.12
	C-A	-	-	-	-	-	-	-	-	-
	A-B	1.03	-	-	-	-	-	-	-	-
	A-C	0.34	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:00-08:15	B-AC	1.06	7.73	0.138	-	0.13	0.16	-	2.3	0.15
	C-AB	0.15	8.69	0.017	-	0.01	0.02	-	0.3	0.12
	C-A	-	-	-	-	-	-	-	-	-
	A-B	1.23	-	-	-	-	-	-	-	-
	A-C	0.40	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:15-08:30	B-AC	1.30	7.67	0.170	-	0.16	0.20	-	3.0	0.16
	C-AB	0.18	8.61	0.021	-	0.02	0.02	-	0.3	0.12
	C-A	-	-	-	-	-	-	-	-	-
	A-B	1.50	-	-	-	-	-	-	-	-
	A-C	0.50	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:30-08:45	B-AC	1.30	7.67	0.170	-	0.20	0.20	-	3.0	0.16
	C-AB	0.18	8.61	0.021	-	0.02	0.02	-	0.3	0.12
	C-A	-	-	-	-	-	-	-	-	-
	A-B	1.50	-	-	-	-	-	-	-	-
	A-C	0.50	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:45-09:00	B-AC	1.06	7.73	0.138	-	0.20	0.16	-	2.5	0.15
	C-AB	0.15	8.69	0.017	-	0.02	0.02	-	0.3	0.12
	C-A	-	-	-	-	-	-	-	-	-
	A-B	1.23	-	-	-	-	-	-	-	-
	A-C	0.40	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
09:00-09:15	B-AC	0.89	7.77	0.115	-	0.16	0.13	-	2.0	0.15
	C-AB	0.13	8.74	0.014	-	0.02	0.01	-	0.2	0.12
	C-A	-	-	-	-	-	-	-	-	-
	A-B	1.03	-	-	-	-	-	-	-	-
	A-C	0.34	-	-	-	-	-	-	-	-

Demand Set: 2020 PM Peak BASE
Modelling Period: 16:45-18:15

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
16:45-17:00	B-AC	0.48	8.76	0.054	-	0.00	0.06	-	0.8	0.12
	C-AB	0.09	8.93	0.010	-	0.00	0.01	-	0.1	0.11
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.05	-	-	-	-	-	-	-	-
	A-C	0.41	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:00-17:15	B-AC	0.57	8.74	0.065	-	0.06	0.07	-	1.0	0.12
	C-AB	0.10	8.91	0.012	-	0.01	0.01	-	0.2	0.11
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.06	-	-	-	-	-	-	-	-
	A-C	0.49	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:15-17:30	B-AC	0.70	8.70	0.080	-	0.07	0.09	-	1.3	0.12
	C-AB	0.13	8.89	0.014	-	0.01	0.01	-	0.2	0.11
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.07	-	-	-	-	-	-	-	-
	A-C	0.61	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:30-17:45	B-AC	0.70	8.70	0.080	-	0.09	0.09	-	1.3	0.12
	C-AB	0.13	8.89	0.014	-	0.01	0.01	-	0.2	0.11
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.07	-	-	-	-	-	-	-	-
	A-C	0.61	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:45-18:00	B-AC	0.57	8.74	0.065	-	0.09	0.07	-	1.1	0.12
	C-AB	0.10	8.91	0.012	-	0.01	0.01	-	0.2	0.11
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.06	-	-	-	-	-	-	-	-
	A-C	0.49	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
18:00-18:15	B-AC	0.48	8.76	0.054	-	0.07	0.06	-	0.9	0.12
	C-AB	0.09	8.93	0.010	-	0.01	0.01	-	0.1	0.11
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.05	-	-	-	-	-	-	-	-
	A-C	0.41	-	-	-	-	-	-	-	-

Demand Set: 2020 PM Peak BASE + DEV
Modelling Period: 16:45-18:15

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
16:45-17:00	B-AC	0.60	7.88	0.076	-	0.00	0.08	-	1.2	0.14
	C-AB	0.05	8.93	0.006	-	0.00	0.01	-	0.1	0.11
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.30	-	-	-	-	-	-	-	-
	A-C	0.19	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:00-17:15	B-AC	0.72	7.86	0.092	-	0.08	0.10	-	1.5	0.14
	C-AB	0.06	8.91	0.007	-	0.01	0.01	-	0.1	0.11
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.36	-	-	-	-	-	-	-	-
	A-C	0.22	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:15-17:30	B-AC	0.88	7.83	0.113	-	0.10	0.13	-	1.8	0.14
	C-AB	0.07	8.88	0.008	-	0.01	0.01	-	0.1	0.11
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.44	-	-	-	-	-	-	-	-
	A-C	0.28	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:30-17:45	B-AC	0.88	7.83	0.113	-	0.13	0.13	-	1.9	0.14
	C-AB	0.07	8.88	0.008	-	0.01	0.01	-	0.1	0.11
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.44	-	-	-	-	-	-	-	-
	A-C	0.28	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:45-18:00	B-AC	0.72	7.86	0.092	-	0.13	0.10	-	1.6	0.14
	C-AB	0.06	8.91	0.007	-	0.01	0.01	-	0.1	0.11
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.36	-	-	-	-	-	-	-	-
	A-C	0.22	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
18:00-18:15	B-AC	0.60	7.88	0.076	-	0.10	0.08	-	1.3	0.14
	C-AB	0.05	8.93	0.006	-	0.01	0.01	-	0.1	0.11
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.30	-	-	-	-	-	-	-	-
	A-C	0.19	-	-	-	-	-	-	-	-

Entry capacities marked with an '(X)' are dominated by a pedestrian crossing in that time segment.
In time segments marked with a '(B)', traffic leaving the junction may block back from a crossing so impairing normal operation of the junction.
Delays marked with '##' could not be calculated.

Overall Queues & Delays

Queueing Delay Information Over Whole Period

Demand Set: 2020 AM Peak BASE
Modelling Period: 07:45-09:15

Stream	Total Demand (veh)	Total Demand (veh/h)	Queueing Delay (min)	Queueing Delay (min/veh)	Inclusive Delay (min)	Inclusive Delay (min/veh)
B-AC	66.1	44.0	8.2	0.1	8.2	0.1
C-AB	37.2	24.8	4.5	0.1	4.5	0.1
C-A	-	-	-	-	-	-
A-B	49.6	33.0	-	-	-	-
A-C	71.6	47.7	-	-	-	-
All	273.9	182.6	12.7	0.0	12.7	0.0

Demand Set: 2020 AM Peak BASE + DEV
Modelling Period: 07:45-09:15

Stream	Total Demand (veh)	Total Demand (veh/h)	Queueing Delay (min)	Queueing Delay (min/veh)	Inclusive Delay (min)	Inclusive Delay (min/veh)
B-AC	97.7	65.2	14.6	0.1	14.7	0.1
C-AB	13.8	9.2	1.6	0.1	1.6	0.1
C-A	-	-	-	-	-	-
A-B	112.9	75.2	-	-	-	-
A-C	37.2	24.8	-	-	-	-
All	282.2	188.1	16.3	0.1	16.3	0.1

Demand Set: 2020 PM Peak BASE
Modelling Period: 16:45-18:15

Stream	Total Demand (veh)	Total Demand (veh/h)	Queueing Delay (min)	Queueing Delay (min/veh)	Inclusive Delay (min)	Inclusive Delay (min/veh)
B-AC	52.3	34.9	6.4	0.1	6.4	0.1
C-AB	9.6	6.4	1.1	0.1	1.1	0.1
C-A	-	-	-	-	-	-
A-B	5.5	3.7	-	-	-	-
A-C	45.4	30.3	-	-	-	-
All	167.9	111.9	7.5	0.0	7.5	0.0

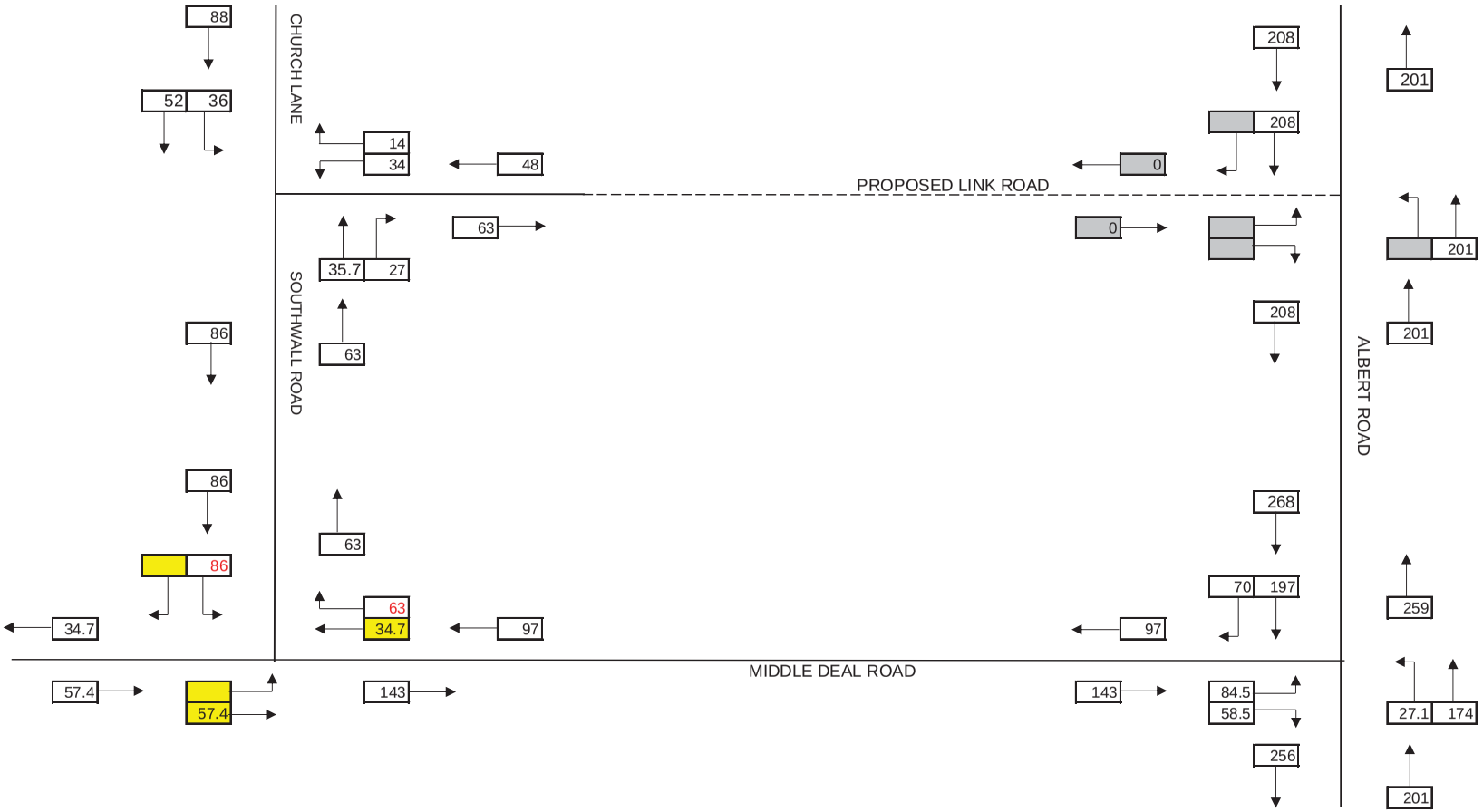
Demand Set: 2020 PM Peak BASE + DEV
Modelling Period: 16:45-18:15

Stream	Total Demand (veh)	Total Demand (veh/h)	Queueing Delay (min)	Queueing Delay (min/veh)	Inclusive Delay (min)	Inclusive Delay (min/veh)
B-AC	66.1	44.0	9.2	0.1	9.2	0.1
C-AB	5.5	3.7	0.6	0.1	0.6	0.1
C-A	-	-	-	-	-	-
A-B	33.0	22.0	-	-	-	-
A-C	20.6	13.8	-	-	-	-
All	158.3	105.5	9.8	0.1	9.8	0.1

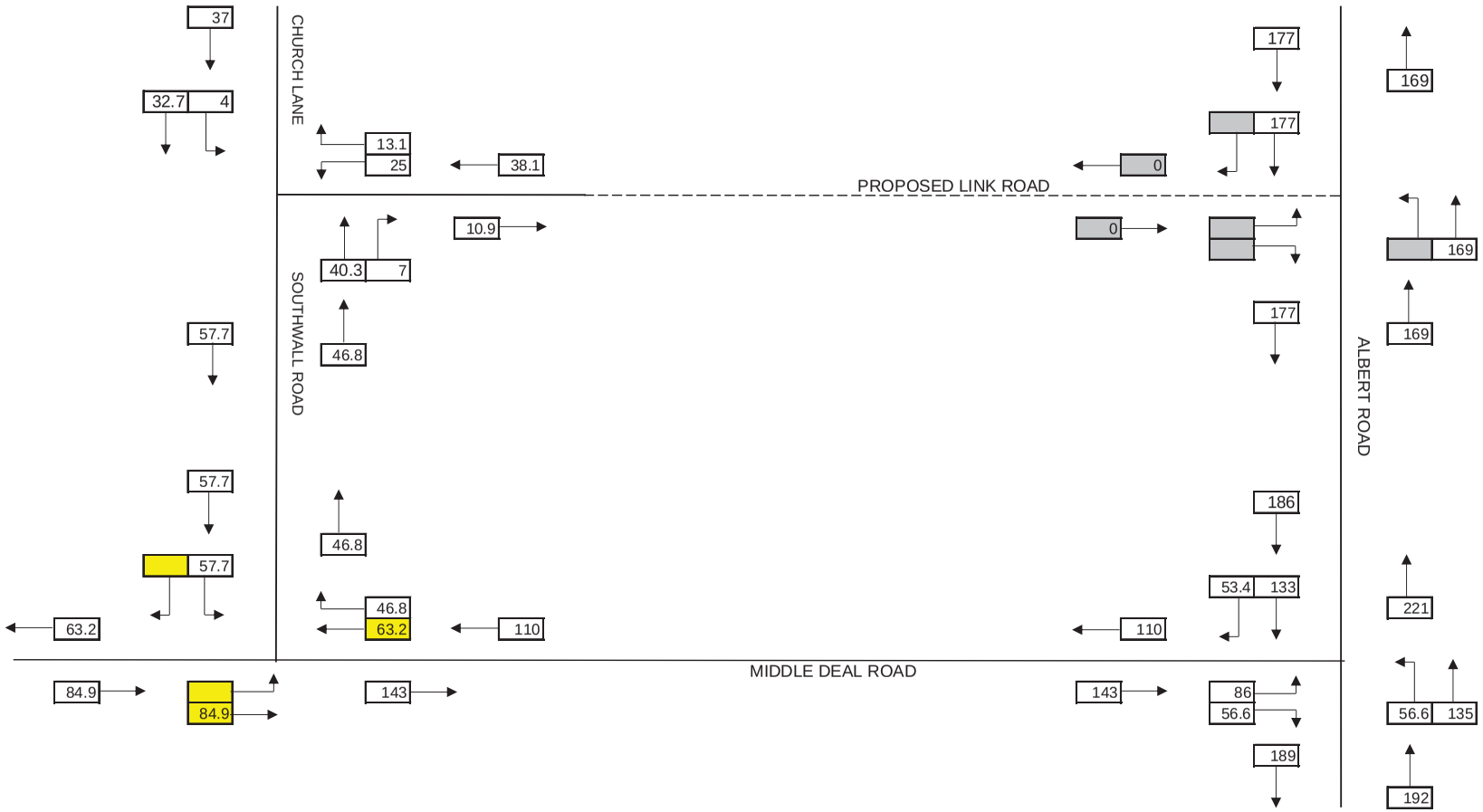
Delay is that occurring only within the time period.
Inclusive delay includes delay suffered by vehicles which are still queuing after the end of the time period.
These will only be significantly different if there is a large queue remaining at the end of the time period.

PICADY 5 Run Successful

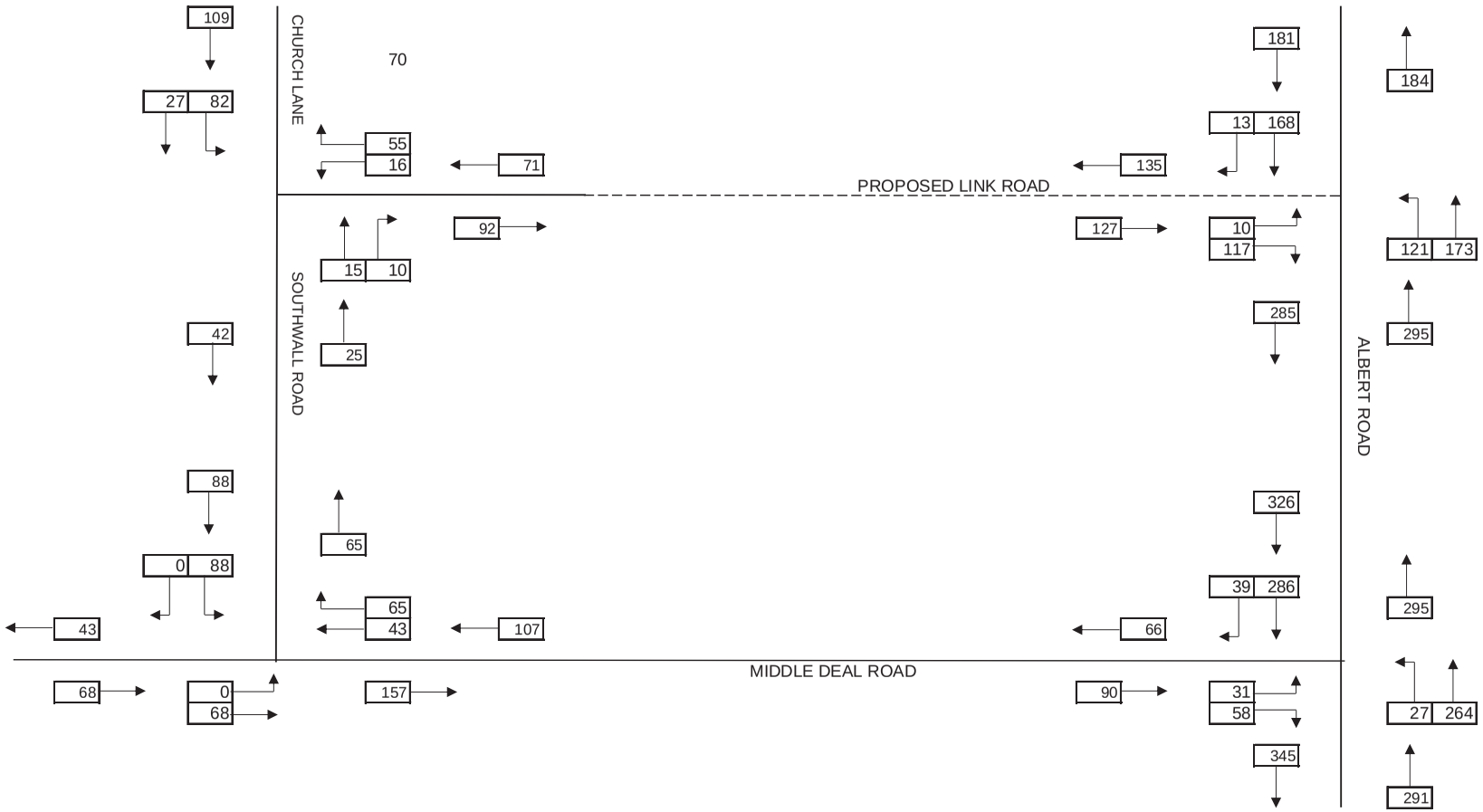
Figures



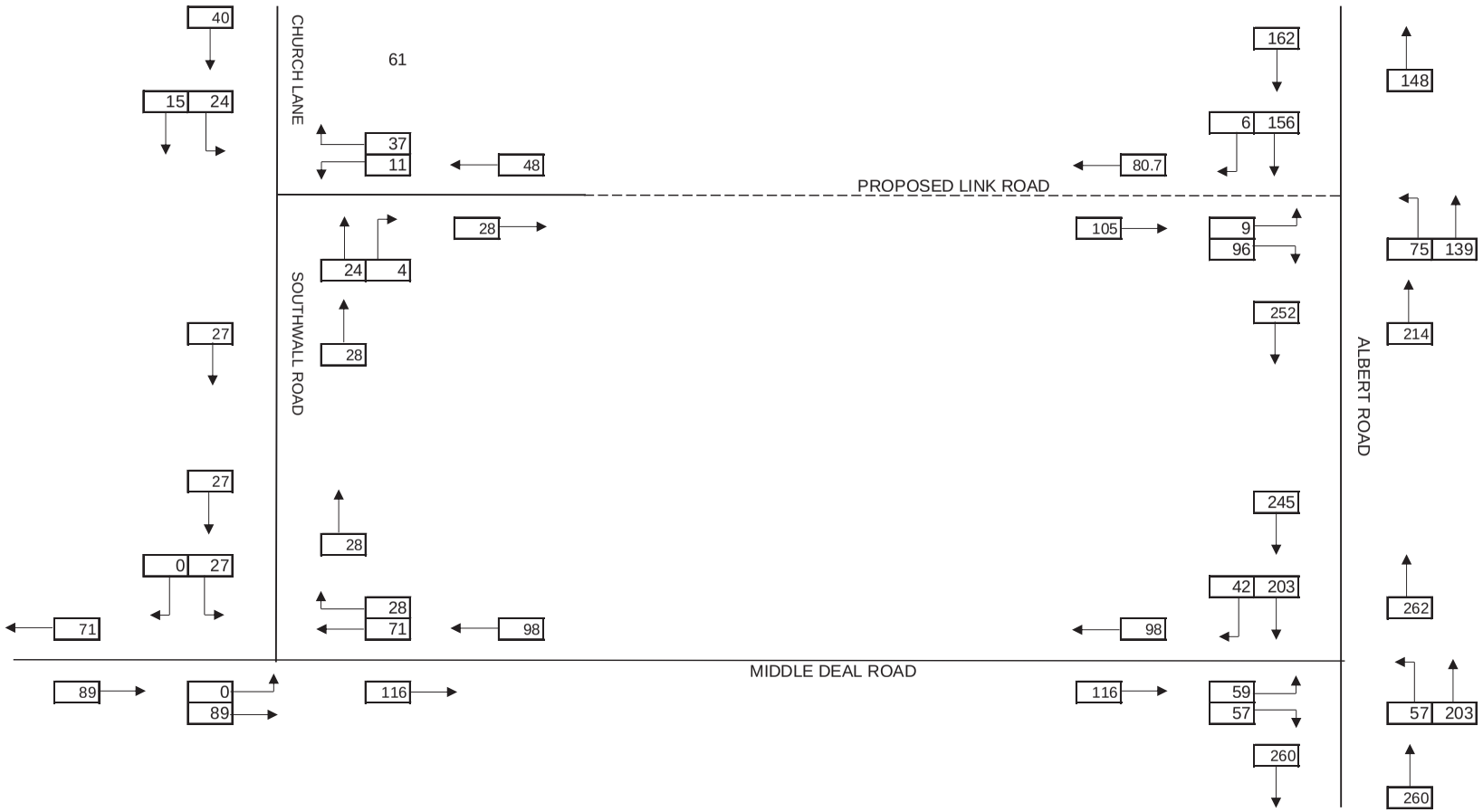
	11025 MIDDLE DEAL ACCESS **2020 ASSESSMENT YEAR TRAFFIC FLOWS** **0800-0900**	Fig 6-1



	11025 MIDDLE DEAL ACCESS **2020 ASSESSMENT YEAR TRAFFIC FLOWS** **1700-1800**	Fig 6-2



	11025 MIDDLE DEAL ACCESS **2020 + Proposed Development + Commercial Redistribution Traffic Flows** **0800-0900**	Fig 6-3



11025 MIDDLE DEAL ACCESS

2020 + Proposed Development + Commercial Redistribution Traffic Flows

1700-1800

Fig 6-4

Appendix F
Additionality Spreadsheet Appraisal Tool

Jobs

Shop/nursery	Office	Construction
18	40	12
1	6	3
17	34	9
3	5	1
15	29	8
3	8	2
18	37	10

Assumptions:	Shop/nu	Office	Construction
Leakage	5%	15%	25%
Displace	15%	15%	15%
Sub	0	0	0
Mutipler	1.21	1.29	1.25

GVA £14,679.00

shop/nursery	Office	Construction
£264,222.00	£587,160.00	£176,148.00
£13,211.10	£88,074.00	£44,037.00
£251,010.90	£499,086.00	£132,111.00
£37,651.64	£74,862.90	£19,816.65
£213,359.27	£424,223.10	£112,294.35
£44,805.45	£123,024.70	£28,073.59
£258,164.71	£547,247.80	£140,367.94
GVA per head	£14,342.48	£14,790.48	£14,036.79

Consumer - shop/nursery

Date	Percentage	GVA increase	GVA 5 yrs	GVA per yr* each person
2016-2021	11.97%	£16,059.28	£1,716.80	£6,180.46
2021-2026	12.65%	£18,090.78	£2,031.50	£7,313.40
2026-2031	13.62%	£20,554.74	£2,463.96	£8,870.27
2031-2036	13.76%	£23,383.07	£2,828.33	£10,182.00
2036-4041	13.47%	£26,532.77	£3,149.70	£11,338.92
2041-2046	10.41%	£29,294.84	£2,762.06	£9,943.42

Consumer - office

Date	Percentage	GVA increase
2016-2021	11.97%	£16,560.90
2021-2026	12.65%	£18,655.86
2026-2031	13.62%	£21,196.78
2031-2036	13.76%	£24,113.46
2036-4041	13.47%	£27,361.54
2041-2046	10.41%	£30,209.88

GVA 5 yrs	GVA per yr*each person		Date	Construction Percentage	GVA increase	GVA 5 yrs	GVA per yr*each person	
£1,770.42		£13,101.11	2016-2021	11.76%	£15,687.52	£1,650.73		£3,301.45
£2,094.95		£15,502.66	2021-2026	9.35%	£17,154.30	£1,466.78		£2,933.57
£2,540.93		£18,802.86	2026-2031	10.58%	£18,969.23	£1,814.93		£3,629.85
£2,916.68		£21,583.41	2031-2036	11.11%	£21,076.71	£2,107.48		£4,214.96
£3,248.08		£24,035.82	2036-4041	11.13%	£23,422.55	£2,345.84		£4,691.68
£2,848.34		£21,077.69	2041-2046	10.41%	£25,860.84	£2,438.29		£4,876.57

Date	Road Construction	Construction Jobs	GVA - Construction Jobs	Discounted 2015	Office Jobs	GVA - Office
2016	£1,800,000.00	10	£140,367.94	£140,367.94		
2017	£1,800,000.00	10	£140,367.94	£138,756.51		
2018					37	£547,247.80
2019					37	£547,247.80
2020					37	£547,247.80
2021					57	£843,057.42
2022					57	£843,057.42
2023					57	£843,057.42
2024					57	£843,057.42
2025					57	£843,057.42
2026					57	£843,057.42
2027					57	£843,057.42
2028					57	£843,057.42
2029					57	£843,057.42
2030					77	£1,138,867.04
2031					77	£1,138,867.04
2032					77	£1,138,867.04
2033					77	£1,138,867.04
2034					77	£1,138,867.04
2035					77	£1,138,867.04
2036					77	£1,138,867.04
2037					77	£1,138,867.04
2038					77	£1,138,867.04
2039					77	£1,138,867.04
2040					77	£1,138,867.04
2041					77	£1,138,867.04
2042					77	£1,138,867.04
2043					77	£1,138,867.04
2044					77	£1,138,867.04
2045					77	£1,138,867.04

Total		£280,735.88	£279,124.45	£27,451,132.84

GVA Benefits	£31,793,382.67
Reference Case	£9,390,272.78
Road Cost	£1,800,000.00
Additionaility	£22,403,109.89
BCR	12.4

NB: those figures

Office Jo
57 jobs
£14,169.71
£807,673.36
£779,404.79

Discounted 2015	Nusery Jobs	GVA - Nursery	Discounted 2015	Shop Jobs	GVA - Shop	Discounted 2015
£547,247.80			£114,739.87			£129,082.36
£541,195.24			£116,904.44			£130,744.94
£535,354.52			£118,993.25			£132,349.33
£529,718.22	8	£114,739.87	£121,008.95	9	£129,082.36	£133,897.56
£524,279.20	8	£114,739.87	£122,954.10	9	£129,082.36	£135,391.61
£792,505.90	8	£114,739.87	£124,831.17	9	£129,082.36	£136,833.37
£780,270.85	8	£114,739.87	£127,775.47	9	£129,082.36	£139,357.60
£768,464.03	8	£114,739.87	£130,616.73	9	£129,082.36	£141,793.48
£757,070.45	8	£114,739.87	£133,358.54	9	£129,082.36	£144,144.10
£746,075.65	8	£114,739.87	£136,004.38	9	£129,082.36	£146,412.45
£735,465.66	8	£114,739.87	£138,557.63	9	£129,082.36	£148,601.41
£728,527.23	8	£114,739.87	£142,578.38	9	£129,082.36	£152,270.63
£721,831.64	8	£114,739.87	£146,458.41	9	£129,082.36	£155,811.43
£715,370.39	8	£114,739.87	£150,202.63	9	£129,082.36	£159,228.30
£951,357.20	8	£114,739.87	£153,815.81	9	£129,082.36	£162,525.58
£936,862.56	8	£114,739.87	£157,302.53	9	£129,082.36	£165,707.46
£925,655.78	8	£114,739.87	£161,978.94	9	£129,082.36	£170,089.69
£914,841.24	8	£114,739.87	£166,491.67	9	£129,082.36	£174,318.55
£904,405.21	8	£114,739.87	£170,846.46	9	£129,082.36	£178,399.40
£894,334.44	8	£114,739.87	£175,048.83	9	£129,082.36	£182,337.42
£884,616.15	8	£114,739.87	£179,104.12	9	£129,082.36	£186,137.60
£877,690.40	8	£114,739.87	£184,174.39	9	£129,082.36	£190,961.71
£871,007.05	8	£114,739.87	£189,067.21	9	£129,082.36	£195,616.97
£864,557.62	8	£114,739.87	£193,788.78	9	£129,082.36	£200,109.30
£858,333.92	8	£114,739.87	£198,345.09	9	£129,082.36	£204,444.39
£852,328.05	8	£114,739.87	£202,741.93	9	£129,082.36	£208,627.76
£843,574.26	8	£114,739.87	£205,589.39	9	£129,082.36	£211,269.21
£835,126.85	8	£114,739.87	£208,337.18	9	£129,082.36	£213,818.21
£826,975.10	8	£114,739.87	£210,988.80	9	£129,082.36	£216,277.99
£819,108.66	8	£114,739.87	£213,547.62	9	£129,082.36	£218,651.69

£22,395,708.23	£3,097,976.53	£4,445,515.12	£3,485,223.59	£4,673,034.86

highlighted in red are not accounted for in the additionality, merely used to ensure discount is correct

ɔb Inflation

77 jobs
£12,550.36
£966,377.55
£932,554.33

Reference Case

Date	Timber Jobs	GVA - Timber	Discount 2015
2016	22	£323,804.06	£323,804.06
2017	22	£323,804.06	£320,222.79
2018	22	£323,804.06	£316,766.86
2019	22	£323,804.06	£313,431.89
2020	22	£323,804.06	£310,213.64
2021	22	£323,804.06	£307,108.03
2022	22	£323,804.06	£305,532.11
2023	22	£323,804.06	£304,011.34
2024	22	£323,804.06	£302,543.79
2025	22	£323,804.06	£301,127.62
2026	22	£323,804.06	£299,761.00
2027	22	£323,804.06	£300,394.94
2028	22	£323,804.06	£301,006.69
2029	22	£323,804.06	£301,597.02
2030	22	£323,804.06	£302,166.70
2031	22	£323,804.06	£302,716.43
2032	22	£323,804.06	£304,892.16
2033	22	£323,804.06	£306,991.75
2034	22	£323,804.06	£309,017.84
2035	22	£323,804.06	£310,973.03
2036	22	£323,804.06	£312,859.78
2037	22	£323,804.06	£316,131.57
2038	22	£323,804.06	£319,288.85
2039	22	£323,804.06	£322,335.62
2040	22	£323,804.06	£325,275.76
2041	22	£323,804.06	£328,112.99
2042	22	£323,804.06	£329,100.61
2043	22	£323,804.06	£330,053.67
2044	22	£323,804.06	£330,973.36
2045	22	£323,804.06	£331,860.87

Enhanced Reference Case Assuming 40 Staff

Date	Timber Jobs	GVA - Timber
2016	49	£719,564.58
2017	49	£719,564.58
2018	49	£719,564.58
2019	49	£719,564.58
2020	49	£719,564.58
2021	49	£719,564.58
2022	49	£719,564.58
2023	49	£719,564.58
2024	49	£719,564.58
2025	49	£719,564.58
2026	49	£719,564.58
2027	49	£719,564.58
2028	49	£719,564.58
2029	49	£719,564.58
2030	49	£719,564.58
2031	49	£719,564.58
2032	49	£719,564.58
2033	49	£719,564.58
2034	49	£719,564.58
2035	49	£719,564.58
2036	49	£719,564.58
2037	49	£719,564.58
2038	49	£719,564.58
2039	49	£719,564.58
2040	49	£719,564.58
2041	49	£719,564.58
2042	49	£719,564.58
2043	49	£719,564.58
2044	49	£719,564.58
2045	49	£719,564.58

£9,714,121.83 £9,390,272.78 £21,586,937.40

	GVA	14,679
A	By 18	£264,222.00
B=A*leak	Leakage	£13,211.10
C=A-B		£251,010.90
D=C*disp	Displacement	£0.00
E=C-D	Net local	£251,010.90
F=E*multi	Multiplier	£72,793.16
G=E+F	Net GVA	£323,804.06
	GVA per head	£14,718.37

GVA	£14,679.00
A	£587,160.00
B=A*leak	£29,358.00
C=A-B	£557,802.00
D=C*dis	£0.00
E=C-D	£557,802.00
F=E*mul	£161,762.58
G=E+F	£719,564.58
GVA per he	£14,684.99

	Consumer GDP increase				
Date	Percentage	GVA increase	GVA 5 yrs	GVA per yr*each person	
2016-2021	11.97%	£16,480.15	£1,761.79	£7,751.87	
2021-2026	12.65%	£18,564.89	£2,084.74	£9,172.85	
2026-2031	13.62%	£21,093.43	£2,528.54	£11,125.57	
2031-2036	13.76%	£23,995.89	£2,902.46	£12,770.81	
2036-4041	13.47%	£27,228.14	£3,232.25	£14,221.88	
2041-2046	10.41%	£30,062.58	£2,834.45	£12,471.58	

	Consumer GDP increase	
Date	Percentage	GVA increase
2016-2021	11.97%	£16,442.78
2021-2026	12.65%	£18,522.80
2026-2031	13.62%	£21,045.60
2031-2036	13.76%	£23,941.48
2036-4041	13.47%	£27,166.39
2041-2046	10.41%	£29,994.42

Discount 2015

£719,564.58
£711,606.20
£703,926.35
£696,515.31
£689,363.65
£682,462.30
£678,960.24
£675,580.75
£672,319.54
£669,172.48
£666,135.56
£667,544.31
£668,903.75
£670,215.60
£671,481.55
£672,703.18
£677,538.14
£682,203.88
£686,706.32
£691,051.17
£695,243.95
£702,514.60
£709,530.78
£716,301.39
£722,835.02
£729,139.98
£731,334.70
£733,452.59
£735,496.37
£737,468.60

£20,867,272.85

GVA 5 yrs	GVA per yr* each person
£1,757.79	£17,226.38
£2,080.01	£20,384.12
£2,522.80	£24,723.49
£2,895.87	£28,379.57
£3,224.92	£31,604.19
£2,828.02	£27,714.61

Assumed delay in road construction

Date	Road Construction	Construction Jobs	GVA - Construction Jobs	Discounted 2015	Office Jobs	GVA - Office
2016						
2017						
2018						
2019						
2020						
2021	£1,800,000.00	10	£140,367.94	£140,367.94		
2022	£1,800,000.00	10	£140,367.94	£138,756.51		
2023					37	£547,247.80
2024					37	£547,247.80
2025					37	£547,247.80
2026					57	£843,057.42
2027					57	£843,057.42
2028					57	£843,057.42
2029					57	£843,057.42
2030					57	£843,057.42
2031					57	£843,057.42
2032					57	£843,057.42
2033					57	£843,057.42
2034					57	£843,057.42
2035					77	£1,138,867.04
2036					77	£1,138,867.04
2037					77	£1,138,867.04
2038					77	£1,138,867.04
2039					77	£1,138,867.04
2040					77	£1,138,867.04
2041					77	£1,138,867.04
2042					77	£1,138,867.04
2043					77	£1,138,867.04
2044					77	£1,138,867.04
2045					77	£1,138,867.04

Total		£280,735.88	£279,124.45	£21,756,797.63

GVA Benefits	£26,369,646.78
Reference Case	£9,390,272.78
Road Cost	£1,800,000.00
Additionaility	£16,979,374.00
BCR	9.4

NB: those figures

C
57 jobs
£13,754.68
£784,016.95
£756,576.35

Discounted 2015	Nusery Jobs	GVA - Nursery	Discounted 2015	Shop Jobs	GVA - Shop	Discounted 2015
£547,247.80			£114,739.87			£129,082.36
£541,195.24			£116,904.44			£130,744.94
£535,354.52			£118,993.25			£132,349.33
£529,718.22			£121,008.95			£133,897.56
£524,279.20			£122,954.10			£135,391.61
£519,030.54			£124,831.17			£136,833.37
£516,367.13			£127,775.47			£139,357.60
£513,796.94			£130,616.73			£141,793.48
£511,316.71	8	£114,739.87	£133,358.54	9	£129,082.36	£144,144.10
£508,923.28	8	£114,739.87	£136,004.38	9	£129,082.36	£146,412.45
£772,079.01	8	£114,739.87	£138,557.63	9	£129,082.36	£148,601.41
£763,859.11	8	£114,739.87	£142,578.38	9	£129,082.36	£152,270.63
£755,926.91	8	£114,739.87	£146,458.41	9	£129,082.36	£155,811.43
£748,272.33	8	£114,739.87	£150,202.63	9	£129,082.36	£159,228.30
£740,885.66	8	£114,739.87	£153,815.81	9	£129,082.36	£162,525.58
£733,757.53	8	£114,739.87	£157,302.53	9	£129,082.36	£165,707.46
£729,659.43	8	£114,739.87	£161,978.94	9	£129,082.36	£170,089.69
£725,704.76	8	£114,739.87	£166,491.67	9	£129,082.36	£174,318.55
£721,888.50	8	£114,739.87	£170,846.46	9	£129,082.36	£178,399.40
£962,634.73	8	£114,739.87	£175,048.83	9	£129,082.36	£182,337.42
£950,525.93	8	£114,739.87	£179,104.12	9	£129,082.36	£186,137.60
£941,293.34	8	£114,739.87	£184,174.39	9	£129,082.36	£190,961.71
£932,383.89	8	£114,739.87	£189,067.21	9	£129,082.36	£195,616.97
£923,786.27	8	£114,739.87	£193,788.78	9	£129,082.36	£200,109.30
£915,489.56	8	£114,739.87	£198,345.09	9	£129,082.36	£204,444.39
£907,483.24	8	£114,739.87	£202,741.93	9	£129,082.36	£208,627.76
£896,799.02	8	£114,739.87	£205,589.39	9	£129,082.36	£211,269.21
£886,488.75	8	£114,739.87	£208,337.18	9	£129,082.36	£213,818.21
£876,539.33	8	£114,739.87	£210,988.80	9	£129,082.36	£216,277.99
£866,938.15	8	£114,739.87	£213,547.62	9	£129,082.36	£218,651.69

£18,286,432.37	£2,524,277.17	£3,818,328.71	£2,839,811.82	£3,985,761.25

highlighted in red are not accounted for in the additionality, merely used to ensure discount is correct

)ffice Job inflation

77 jobs
£12,664.71
£975,182.72
£941,051.32

Assumed increase in consutrction cost though no uplift in workers

Date	Road Construction	Construction Jobs	GVA - Construction Jobs	Discounted 2015	Office Jobs	GVA - Office
2016	£2,700,000.00	10	£140,367.94	£140,367.94		
2017	£2,700,000.00	10	£140,367.94	£138,756.51		
2018					37	£547,247.80
2019					37	£547,247.80
2020					37	£547,247.80
2021					57	£843,057.42
2022					57	£843,057.42
2023					57	£843,057.42
2024					57	£843,057.42
2025					57	£843,057.42
2026					57	£843,057.42
2027					57	£843,057.42
2028					57	£843,057.42
2029					57	£843,057.42
2030					77	£1,138,867.04
2031					77	£1,138,867.04
2032					77	£1,138,867.04
2033					77	£1,138,867.04
2034					77	£1,138,867.04
2035					77	£1,138,867.04
2036					77	£1,138,867.04
2037					77	£1,138,867.04
2038					77	£1,138,867.04
2039					77	£1,138,867.04
2040					77	£1,138,867.04
2041					77	£1,138,867.04
2042					77	£1,138,867.04
2043					77	£1,138,867.04
2044					77	£1,138,867.04
2045					77	£1,138,867.04

Total		£280,735.88	£279,124.45	£27,451,132.84

GVA Benefits	£31,793,382.67
Reference Case	£9,390,272.78
Road Cost	£2,700,000.00
Additionaility	£22,403,109.89
BCR	8.3

NB: those figures

Office Jo
57 jobs
£14,169.71
£807,673.36
£779,404.79

Discounted 2015	Nusery Jobs	GVA - Nursery	Discounted 2015	Shop Jobs	GVA - Shop	Discounted 2015
£547,247.80			£114,739.87			£129,082.36
£541,195.24			£116,904.44			£130,744.94
£535,354.52			£118,993.25			£132,349.33
£529,718.22	8	£114,739.87	£121,008.95	9	£129,082.36	£133,897.56
£524,279.20	8	£114,739.87	£122,954.10	9	£129,082.36	£135,391.61
£792,505.90	8	£114,739.87	£124,831.17	9	£129,082.36	£136,833.37
£780,270.85	8	£114,739.87	£127,775.47	9	£129,082.36	£139,357.60
£768,464.03	8	£114,739.87	£130,616.73	9	£129,082.36	£141,793.48
£757,070.45	8	£114,739.87	£133,358.54	9	£129,082.36	£144,144.10
£746,075.65	8	£114,739.87	£136,004.38	9	£129,082.36	£146,412.45
£735,465.66	8	£114,739.87	£138,557.63	9	£129,082.36	£148,601.41
£728,527.23	8	£114,739.87	£142,578.38	9	£129,082.36	£152,270.63
£721,831.64	8	£114,739.87	£146,458.41	9	£129,082.36	£155,811.43
£715,370.39	8	£114,739.87	£150,202.63	9	£129,082.36	£159,228.30
£951,357.20	8	£114,739.87	£153,815.81	9	£129,082.36	£162,525.58
£936,862.56	8	£114,739.87	£157,302.53	9	£129,082.36	£165,707.46
£925,655.78	8	£114,739.87	£161,978.94	9	£129,082.36	£170,089.69
£914,841.24	8	£114,739.87	£166,491.67	9	£129,082.36	£174,318.55
£904,405.21	8	£114,739.87	£170,846.46	9	£129,082.36	£178,399.40
£894,334.44	8	£114,739.87	£175,048.83	9	£129,082.36	£182,337.42
£884,616.15	8	£114,739.87	£179,104.12	9	£129,082.36	£186,137.60
£877,690.40	8	£114,739.87	£184,174.39	9	£129,082.36	£190,961.71
£871,007.05	8	£114,739.87	£189,067.21	9	£129,082.36	£195,616.97
£864,557.62	8	£114,739.87	£193,788.78	9	£129,082.36	£200,109.30
£858,333.92	8	£114,739.87	£198,345.09	9	£129,082.36	£204,444.39
£852,328.05	8	£114,739.87	£202,741.93	9	£129,082.36	£208,627.76
£843,574.26	8	£114,739.87	£205,589.39	9	£129,082.36	£211,269.21
£835,126.85	8	£114,739.87	£208,337.18	9	£129,082.36	£213,818.21
£826,975.10	8	£114,739.87	£210,988.80	9	£129,082.36	£216,277.99
£819,108.66	8	£114,739.87	£213,547.62	9	£129,082.36	£218,651.69

£22,395,708.23	£3,097,976.53	£4,445,515.12	£3,485,223.59	£4,673,034.86

highlighted in red are not accounted for in the additionality, merely used to ensure discount is correct

b in flation

77 jobs
£12,550.36
£966,377.55
£932,554.33

Assumed improved reference case

Date	Road Construction	Construction Jobs	GVA - Construction Jobs	Discounted 2015	Office Jobs	GVA - Office
2016	£1,800,000.00	10	£140,367.94	£140,367.94		
2017	£1,800,000.00	10	£140,367.94	£138,756.51		
2018					37	£547,247.80
2019					37	£547,247.80
2020					37	£547,247.80
2021					57	£843,057.42
2022					57	£843,057.42
2023					57	£843,057.42
2024					57	£843,057.42
2025					57	£843,057.42
2026					57	£843,057.42
2027					57	£843,057.42
2028					57	£843,057.42
2029					57	£843,057.42
2030					77	£1,138,867.04
2031					77	£1,138,867.04
2032					77	£1,138,867.04
2033					77	£1,138,867.04
2034					77	£1,138,867.04
2035					77	£1,138,867.04
2036					77	£1,138,867.04
2037					77	£1,138,867.04
2038					77	£1,138,867.04
2039					77	£1,138,867.04
2040					77	£1,138,867.04
2041					77	£1,138,867.04
2042					77	£1,138,867.04
2043					77	£1,138,867.04
2044					77	£1,138,867.04
2045					77	£1,138,867.04

Total		£280,735.88	£279,124.45	£27,451,132.84

GVA Benefits	£31,793,382.67
Reference Case	£20,867,272.85
Road Cost	£1,800,000.00
Additionaility	£10,926,109.82
BCR	6.1

NB: those figures

Office jo
57 jobs
£14,169.71
£807,673.36
£779,404.79

Discounted 2015	Nusery Jobs	GVA - Nursery	Discounted 2015	Shop Jobs	GVA - Shop	Discounted 2015
£547,247.80			£114,739.87			£129,082.36
£541,195.24			£116,904.44			£130,744.94
£535,354.52			£118,993.25			£132,349.33
£529,718.22	8	£114,739.87	£121,008.95	9	£129,082.36	£133,897.56
£524,279.20	8	£114,739.87	£122,954.10	9	£129,082.36	£135,391.61
£792,505.90	8	£114,739.87	£124,831.17	9	£129,082.36	£136,833.37
£780,270.85	8	£114,739.87	£127,775.47	9	£129,082.36	£139,357.60
£768,464.03	8	£114,739.87	£130,616.73	9	£129,082.36	£141,793.48
£757,070.45	8	£114,739.87	£133,358.54	9	£129,082.36	£144,144.10
£746,075.65	8	£114,739.87	£136,004.38	9	£129,082.36	£146,412.45
£735,465.66	8	£114,739.87	£138,557.63	9	£129,082.36	£148,601.41
£728,527.23	8	£114,739.87	£142,578.38	9	£129,082.36	£152,270.63
£721,831.64	8	£114,739.87	£146,458.41	9	£129,082.36	£155,811.43
£715,370.39	8	£114,739.87	£150,202.63	9	£129,082.36	£159,228.30
£951,357.20	8	£114,739.87	£153,815.81	9	£129,082.36	£162,525.58
£936,862.56	8	£114,739.87	£157,302.53	9	£129,082.36	£165,707.46
£925,655.78	8	£114,739.87	£161,978.94	9	£129,082.36	£170,089.69
£914,841.24	8	£114,739.87	£166,491.67	9	£129,082.36	£174,318.55
£904,405.21	8	£114,739.87	£170,846.46	9	£129,082.36	£178,399.40
£894,334.44	8	£114,739.87	£175,048.83	9	£129,082.36	£182,337.42
£884,616.15	8	£114,739.87	£179,104.12	9	£129,082.36	£186,137.60
£877,690.40	8	£114,739.87	£184,174.39	9	£129,082.36	£190,961.71
£871,007.05	8	£114,739.87	£189,067.21	9	£129,082.36	£195,616.97
£864,557.62	8	£114,739.87	£193,788.78	9	£129,082.36	£200,109.30
£858,333.92	8	£114,739.87	£198,345.09	9	£129,082.36	£204,444.39
£852,328.05	8	£114,739.87	£202,741.93	9	£129,082.36	£208,627.76
£843,574.26	8	£114,739.87	£205,589.39	9	£129,082.36	£211,269.21
£835,126.85	8	£114,739.87	£208,337.18	9	£129,082.36	£213,818.21
£826,975.10	8	£114,739.87	£210,988.80	9	£129,082.36	£216,277.99
£819,108.66	8	£114,739.87	£213,547.62	9	£129,082.36	£218,651.69

£22,395,708.23	£3,097,976.53	£4,445,515.12	£3,485,223.59	£4,673,034.86

highlighted in red are not accounted for in the additionality, merely used to ensure discount is correct

)b inflation

77 jobs
£12,550.36
£966,377.55
£932,554.33

Assumed the office jobs are fewer

Date	Road Construction	Construction Jobs	GVA - Construction Jobs	Discounted 2015	Office Jobs	GVA - Office
2016	£1,800,000.00	10	£140,367.94	£140,367.94		
2017	£1,800,000.00	10	£140,367.94	£138,756.51		
2018					18	£266,228.66
2019					18	£266,228.66
2020					18	£266,228.66
2021					38	£562,038.28
2022					38	£562,038.28
2023					38	£562,038.28
2024					38	£562,038.28
2025					38	£562,038.28
2026					38	£562,038.28
2027					38	£562,038.28
2028					38	£562,038.28
2029					38	£562,038.28
2030					58	£857,847.90
2031					58	£857,847.90
2032					58	£857,847.90
2033					58	£857,847.90
2034					58	£857,847.90
2035					58	£857,847.90
2036					58	£857,847.90
2037					58	£857,847.90
2038					58	£857,847.90
2039					58	£857,847.90
2040					58	£857,847.90
2041					58	£857,847.90
2042					58	£857,847.90
2043					58	£857,847.90
2044					58	£857,847.90
2045					58	£857,847.90

Total		£280,735.88	£279,124.45	£19,582,596.92

GVA Benefits	£28,053,205.72
Reference Case	£9,390,272.78
Road Cost	£1,800,000.00
Additionaility	£18,662,932.94
BCR	10.4

NB: those figures

Office Jo
38 jobs
£15,588.06
£592,346.15
£571,614.03

Discounted 2015	Nusery Jobs	GVA - Nursery	Discounted 2015	Shop Jobs	GVA - Shop	Discounted 2015
£266,228.66			£114,739.87			£129,082.36
£270,011.77			£116,904.44			£130,744.94
£273,662.47			£118,993.25			£132,349.33
£277,185.39	8	£114,739.87	£121,008.95	9	£129,082.36	£133,897.56
£280,585.02	8	£114,739.87	£122,954.10	9	£129,082.36	£135,391.61
£584,715.15	8	£114,739.87	£124,831.17	9	£129,082.36	£136,833.37
£579,752.78	8	£114,739.87	£127,775.47	9	£129,082.36	£139,357.60
£574,964.09	8	£114,739.87	£130,616.73	9	£129,082.36	£141,793.48
£570,343.01	8	£114,739.87	£133,358.54	9	£129,082.36	£144,144.10
£565,883.66	8	£114,739.87	£136,004.38	9	£129,082.36	£146,412.45
£561,580.39	8	£114,739.87	£138,557.63	9	£129,082.36	£148,601.41
£560,727.94	8	£114,739.87	£142,578.38	9	£129,082.36	£152,270.63
£559,905.33	8	£114,739.87	£146,458.41	9	£129,082.36	£155,811.43
£559,111.51	8	£114,739.87	£150,202.63	9	£129,082.36	£159,228.30
£842,315.26	8	£114,739.87	£153,815.81	9	£129,082.36	£162,525.58
£831,637.09	8	£114,739.87	£157,302.53	9	£129,082.36	£165,707.46
£824,113.20	8	£114,739.87	£161,978.94	9	£129,082.36	£170,089.69
£816,852.65	8	£114,739.87	£166,491.67	9	£129,082.36	£174,318.55
£809,846.22	8	£114,739.87	£170,846.46	9	£129,082.36	£178,399.40
£803,085.02	8	£114,739.87	£175,048.83	9	£129,082.36	£182,337.42
£796,560.45	8	£114,739.87	£179,104.12	9	£129,082.36	£186,137.60
£792,716.65	8	£114,739.87	£184,174.39	9	£129,082.36	£190,961.71
£789,007.39	8	£114,739.87	£189,067.21	9	£129,082.36	£195,616.97
£785,427.94	8	£114,739.87	£193,788.78	9	£129,082.36	£200,109.30
£781,973.78	8	£114,739.87	£198,345.09	9	£129,082.36	£204,444.39
£778,640.51	8	£114,739.87	£202,741.93	9	£129,082.36	£208,627.76
£772,465.79	8	£114,739.87	£205,589.39	9	£129,082.36	£211,269.21
£766,507.18	8	£114,739.87	£208,337.18	9	£129,082.36	£213,818.21
£760,757.12	8	£114,739.87	£210,988.80	9	£129,082.36	£216,277.99
£755,208.31	8	£114,739.87	£213,547.62	9	£129,082.36	£218,651.69

£18,655,531.29	£3,097,976.53	£4,445,515.12	£3,485,223.59	£4,673,034.86

highlighted in red are not accounted for in the additionality, merely used to ensure discount is correct

ɔb inflation

58 jobs
£14,713.46
£853,380.72
£823,512.39

Assumed construction jobs removed

Date	Road Construction	Office Jobs	GVA - Office	Discounted 2015	Nusery Jobs	GVA - Nursery	Discounted 2015
2016	£1,800,000.00			£547,247.80			£114,739.87
2017	£1,800,000.00			£541,195.24			£116,904.44
2018		37	£547,247.80	£535,354.52			£118,993.25
2019		37	£547,247.80	£529,718.22	8	£114,739.87	£121,008.95
2020		37	£547,247.80	£524,279.20	8	£114,739.87	£122,954.10
2021		57	£843,057.42	£792,505.90	8	£114,739.87	£124,831.17
2022		57	£843,057.42	£780,270.85	8	£114,739.87	£127,775.47
2023		57	£843,057.42	£768,464.03	8	£114,739.87	£130,616.73
2024		57	£843,057.42	£757,070.45	8	£114,739.87	£133,358.54
2025		57	£843,057.42	£746,075.65	8	£114,739.87	£136,004.38
2026		57	£843,057.42	£735,465.66	8	£114,739.87	£138,557.63
2027		57	£843,057.42	£728,527.23	8	£114,739.87	£142,578.38
2028		57	£843,057.42	£721,831.64	8	£114,739.87	£146,458.41
2029		57	£843,057.42	£715,370.39	8	£114,739.87	£150,202.63
2030		77	£1,138,867.04	£951,357.20	8	£114,739.87	£153,815.81
2031		77	£1,138,867.04	£936,862.56	8	£114,739.87	£157,302.53
2032		77	£1,138,867.04	£925,655.78	8	£114,739.87	£161,978.94
2033		77	£1,138,867.04	£914,841.24	8	£114,739.87	£166,491.67
2034		77	£1,138,867.04	£904,405.21	8	£114,739.87	£170,846.46
2035		77	£1,138,867.04	£894,334.44	8	£114,739.87	£175,048.83
2036		77	£1,138,867.04	£884,616.15	8	£114,739.87	£179,104.12
2037		77	£1,138,867.04	£877,690.40	8	£114,739.87	£184,174.39
2038		77	£1,138,867.04	£871,007.05	8	£114,739.87	£189,067.21
2039		77	£1,138,867.04	£864,557.62	8	£114,739.87	£193,788.78
2040		77	£1,138,867.04	£858,333.92	8	£114,739.87	£198,345.09
2041		77	£1,138,867.04	£852,328.05	8	£114,739.87	£202,741.93
2042		77	£1,138,867.04	£843,574.26	8	£114,739.87	£205,589.39
2043		77	£1,138,867.04	£835,126.85	8	£114,739.87	£208,337.18
2044		77	£1,138,867.04	£826,975.10	8	£114,739.87	£210,988.80
2045		77	£1,138,867.04	£819,108.66	8	£114,739.87	£213,547.62

Total		£27,451,132.84	£22,395,708.23	£3,097,976.53	£4,445,515.12

GVA Benefits	£31,514,258.22
Reference Case	£9,390,272.78
Road Cost	£1,800,000.00
Additionaility	£22,123,985.43
BCR	12.3

NB: those figures highlighted in red are not accounted for in the additionality, merely use

Office Job inflation

57 jobs	77 jobs
£14,169.71	£12,550.36
£807,673.36	£966,377.55
£779,404.79	£932,554.33

Shop Jobs	GVA - Shop	Discounted 2015
		£129,082.36
		£130,744.94
		£132,349.33
9	£129,082.36	£133,897.56
9	£129,082.36	£135,391.61
9	£129,082.36	£136,833.37
9	£129,082.36	£139,357.60
9	£129,082.36	£141,793.48
9	£129,082.36	£144,144.10
9	£129,082.36	£146,412.45
9	£129,082.36	£148,601.41
9	£129,082.36	£152,270.63
9	£129,082.36	£155,811.43
9	£129,082.36	£159,228.30
9	£129,082.36	£162,525.58
9	£129,082.36	£165,707.46
9	£129,082.36	£170,089.69
9	£129,082.36	£174,318.55
9	£129,082.36	£178,399.40
9	£129,082.36	£182,337.42
9	£129,082.36	£186,137.60
9	£129,082.36	£190,961.71
9	£129,082.36	£195,616.97
9	£129,082.36	£200,109.30
9	£129,082.36	£204,444.39
9	£129,082.36	£208,627.76
9	£129,082.36	£211,269.21
9	£129,082.36	£213,818.21
9	£129,082.36	£216,277.99
9	£129,082.36	£218,651.69

£3,485,223.59 £4,673,034.86

ed to ensure discount is correct