APPENDICES

APPENDIX A Original 2019 TA Scoping Note

OTTERPOOL PARK

Transport Assessment Scoping Report

OCTOBER 2018

Incorporating

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VERSION CONTROL

Version	Date	Author	Changes
1	8/8/2017	PL	-
2	4/10/2018	PL	Updates following completion of scoping

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1 Introduction and Background

1.1 Introduction

Arcadis Consulting (UK) Limited was appointed in August 2016 to develop a masterplan and planning submission in respect of the proposed garden settlement called Otterpool Park.

A Transport Assessment (TA) will be produced to accompany the planning application, which is anticipated to be submitted in 2018, that will set out the transport issues relating to the development proposals. Measures will be identified to mitigate adverse transport effects of the scheme. Consideration will be given to the effects on all modes of travel.

In August 2017, a Scoping Report[1] was issued to Kent County Council (KCC), Folkstone & Hythe District Council (F&H DC) and Highways England (HE) to provide a description of the work proposed to be undertaken as part of the TA and set out the proposed technical, spatial and temporal scope of the TA. This Report represents a revision of the August 2017 report incorporating comments received during scoping discussions.

1.2 Consultation

A number of consultation meetings have been held with KCC, SDC and Highways England (HE) to allow methodologies and outcomes to be agreed. In addition, consultation events have been held involving wider stakeholders. Comments have also been received from Canterbury City Council. The comments received and the action taken to reach a resolution to each comment is summarised in Table 1 to Table 5.

Table 1 Kent County Council / Folkestone & Hythe District Council Comments on Scope of Transport Assessment

Issue Raised	Resolution
Regional Policy – Growth Without Gridlock has now been superseded by LTP 4 which was adopted by KCC at a cabinet a few weeks ago and should therefore be removed	Noted and removed.
Technical Guidance – I would also suggest you include KCC's Interim Guidance Notes 1, 2 and 3 in your technical reference documents	Noted and included.
Baseline Scenarios – We would also expect there to be a baseline scenario for the year of planning application (2018), you could simply use TEMPro growth figures to increase the traffic count data from the baseline traffic counts	2018 included as baseline year of assessment. TEMPro used to derive growth factors.
Traffic Data – Although the use of October 2016 data is acceptable, it should be subject to TEMPRO growth rates to reflect the baseline condition at the year of application.	
Local Highway Network – The four baseline scenarios should be obtained from SDC from the District Transport Model	Further discussions concluded that forecast traffic is to be calculated using TEMPro adjusted to include the most recent housing and employment forecasts.
Committed Development – Again the future baseline traffic data should be provided by SDC from the District Transport Model	
Assessment years and scenarios – Do we know what is the completion date of the Otterpool Park development? If this is different to 2037 then it may need to be included in the assessment year scenario.	Completion year of 2044 to be included in assessment.

[1] Otterpool Park Garden Settlement Transport Assessment Scoping Report (Arcadis, August 2017)

Issue Raised	Resolution
Operation Stack is an emergency procedure I do not think it is appropriate to include this within the assessment.	Noted and agreed.
We feel that the following two junctions need to be included in the junction assessment together with the proposed capacity improvements by the South Canterbury site: 1) Nackington Road / Old Dover Road 2) Old Dover Road / The Drive / St Lawrence Road	These two junctions have been included in the assessment.

Table 2 Folkstone & Hythe District Council Comments on Scope of Transport Assessment

Issue Raised	Resolution
On the Lorry Park issue we do not think it needs to be scoped in at this stage. The main caveat to this is if details emerge later on and the ES needs to be reviewed at some point then this position might be subject to change but at the moment we can't speculate on what the outcome of the consultation will be and it is too early in the process.	Noted and agreed.
Merge/diverge assessments will be required.	Noted and included in assessment.

Table 3 Highways England Comments on Scope of Transport Assessment

Issue Raised	Resolution
The baseline is proposed to be 2017 - this should be reflective of the year of submission e.g. 2018	2018 included as baseline year of assessment.
Future forecast year is proposed to be 2037 to reflect end of local plan period. The 2037 forecast will include the full development scheme. We will required information on what phases / proportion of the development will be built by 2037 and what will be after that. If a significant proportion of the development will be post-2037 we may require a further future year forecast.	Completion year of 2044 to be included in assessment.
Peak hours are to be assessed (0800-0900 and 1700-1800) – agreed this is sensible however will need to be confirmed on review of traffic survey data.	This has been confirmed through analysis of traffic survey data.
Committed development is to be taken into account. This should include consideration of the overnight parking element of the Lorry Holding Area (500 spaces) and all sites allocated within relevant Local Plan(s). We would also wish to receive your thoughts on how Otterpool will incorporate resilience such that it continues to be able to operate when the likes of Operation Stack (or it's successors) are implemented.	A strategy to maintain resilience during periods of implementation of Operation Stack will be included.
Dependant on traffic flow volumes, there may be a requirement for merge / diverge assessments as per DMRB TD22/06 at relevant junctions.	Noted and included in assessment.

Issue Raised	Resolution
The assessment of M20 J9 in terms of percentage increases in flows is not agreed – in terms of the percentage impact approach, a small percentage increase in a large volume of traffic could be a large number of additional vehicles. Equally in some places a single additional vehicle could cause safety and/ or operational issues at a junction. Therefore percentage increases in flows are not considered appropriate when assessing impacts/mitigation. While increase in traffic volume is an element which needs to be considered a key concern will be the impact of the development on safety and operation, which relates to changes in queues and delays. We will therefore require evidence that the proposed development will not increase queues and delays to a point where they impact the safety and operation of the SRN.	M20 Junction 9 is included in the assessment. Effects of the development will be summarised in terms of changes in queues and delays between the 'Do Minimum' forecast year without Otterpool Park development and the 'Do Something' forecast year with Otterpool Park development.
Consideration of the impact of the development on M20 J10a should also be included.	M20 Junction 10A is included in the assessment.
We would question any forecasting based upon SERTM. This model is effectively a base from which more detailed models can be produced as it has limited disaggregation of matrices and limited network coverage. Any forecasts even those produced recently are likely to be out of date as Local Authority OANs locally (Ashford, Shepway and Dover for example) are evolving all the time	Forecast traffic has been calculated using TEMPro adjusted to include the most recent housing and employment forecasts.
Use of TEMPro factors would be acceptable but you will need to check that the household and employment assumptions are correct. Given that OAN is calculated locally they can be out of date on TEMPro release or soon after.	

Table 4 Ashford Borough Council Comments on Scope of Transport Assessment

Issue Raised	Resolution
We point out the importance of considering the impacts of this development on the rural road network, particularly in its westward movements along the B2067 along the Saxon Shore, and along the Roman Road which runs through Aldington.	Impacts on the B2067 Aldington Road at the junction with Otterpool Lane has been included in the assessment, as agreed with KCC.

Table 5 Canterbury City Council Comments on Scope of Transport Assessment

Issue Raised	Resolution
Committed growth in the Canterbury District Local Plan 2017 should be considered.	Most recent forecasts of housing and employment for Canterbury have been used to derive TEMPro forecasts.
This growth will need to be taken account of in the assessment if developments are within a reasonable distance of the Otterpool Park site and are considered likely to have the potential to generate significant traffic effects.	The significance of likely effects generated by Otterpool Park on routes into Canterbury was investigated and discussed with KCC. It was subsequently agreed to include the Nackington

Issue Raised	Resolution
modelling includes routes into Canterbury, particularly Stone Street and Nackington Road.	Road / Old Dover Road and Old Dover Road / The Drive / St Lawrence Road junctions within the assessment. Information submitted as part of this scoping process is included in Appendix A to this Scoping Report.

This revised Scoping Report incorporates the comments and changes described above.

1.3 Structure of this Note

The remainder of this Note is structured as follows:

Chapter 2 Policy and Technical Content

Chapter 3 Baseline

Chapter 4 Assessment Methods and Forecasting

2 Policy and Technical Content

2.1 Policy

The TA will include a summary of current transport planning policy and planning guidance in the context of the sites and the surrounding area. The TA will demonstrate how the development complies with transport and other relevant policies.

Relevant transport policies at the national, regional and local level will be outlined. The following documents will be consulted:

National Policy:

1. National Planning Policy Framework (NPPF) (March 2012 and various updates);
2. The Strategic Road Network and the Delivery of Sustainable Development – Department for Transport (DfT) Circular 02/13 (DfT, September 2013);
3. The Strategic Road Network: Planning for the Future (Highways England, September 2015);

Regional Policy:

4. Local Transport Plan 4: Delivering Growth without Gridlock 2016-2031, (KCC, October 2016);
5. Supplementary Planning Guidance SPG4: Kent Vehicle Parking Standards (KCC, July 2006);

Local Policy:

6. Folkstone & Hythe Core Strategy, (F&H DC, 2013);
7. Folkstone & Hythe District Council Transport Strategy, (F&H DC, February 2011);
8. Places and Policies Local Plan, Preferred Options, (F&H DC, October 2016).

2.2 Technical Guidance

KCC guidelines for the preparation of TAs for development[2] have been archived along with the national guidelines[3] produced by the DfT. TA guidance is now incorporated into the NPPF. Paragraph 32 of the NPPF states:

> *"All developments that generate significant amounts of movement should be supported by a Transport Statement or Transport Assessment. 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. "*

[2] Guidance on Transport Assessments and Travel Plans (KCC, October 2008)
[3] Guidance on Transport Assessment (DfT, 2007)

A set of Planning Practice Guidance has been published to inform how the principle of the NPPF should be practiced. Those that specifically relate to transport matters are:

1. Travel Plans, Transport Assessments and Statements in Decision-Taking (March 2014); and
2. Transport Evidence Bases in Plan Making and Decision Taking (October 2014).

These guidelines provide a common approach which are aimed at ensuring that all relevant issues have been addressed within an assessment.

The TA for the Otterpool Park site will adopt the national guidelines and approaches where possible, taking account of the specific nature of the development. If divergence from the guidelines is required to address project-specific issues, an alternative approach will be discussed and agreed with KCC prior to the planning application submission.

Where appropriate a range of other technical reference documents will be consulted in developing the assessment and mitigation proposals. These may include:

1. The Kent Design Guide (Kent Design Initiative, December 2005);
2. Kent County Council Interim Guidance Notes 1, 2 and 3;
3. The Design Manual for Roads and Bridges, (DfT, various dates);
4. The Manual for Streets, (Department for Communities and Local Government (DCLG) / DfT, 2007);
5. The Manual for Streets 2, CIHT, 2010 – a companion guide to Manual for Streets (DCLG / DfT, 2010); and
6. Travel Plan Guidelines, (DfT, various dates).

3 Baseline

3.1 Introduction

Existing transport conditions in and around the site will be established to provide baseline data against which the potential effects arising from the scheme can be assessed.

Baseline observations will be informed by site visits, collation of available information from KCC, SDC and other sources and on-site data collection.

The following sections describe the baseline data to be provided within the TA report.

3.2 Data Collection

A variety of methods will be used to collect data that may be relevant to the preparation of the TA. These divide into two primary sources; ‘desk-top’ information and ‘on-site’ information.

3.2.1 Desk-top information

This information includes:

1. Accident record data for the most recent 36 months covering an area within the site boundary and up to 500m from it;
2. Bus timetable and routing information. Bus patronage data will be included if the data is made available;
3. Rail timetable and routing information. Rail patronage data will be included if the data is made available;
4. Traffic flow data provided by F&H DC, as listed in Appendix B;
5. Traffic flow data provided by Corinthian Mountfield Ltd, as listed in Appendix B;
6. Traffic signal timing data for all signalled junctions included in the scope of the highway capacity modelling. The list of junctions in included in in Chapter 4; and
7. Pedestrian and cycle route networks.

3.2.2 On-site information

A programme of on-site data collection has been developed through discussion with KCC/ F&H DC with the aim of undertaking the majority of the necessary field work prior to the end of September 2017.

The data to be collected is described in the following sections.

1. Manual classified vehicle turning counts: This data is being collected at junctions that are included in the scope of the highway capacity modelling, as described in Chapter 4. A list of junctions at which this data is to be collected in contained in Appendix C;
2. Automatic number plate recognition (ANPR) surveys: Locations at which ANPR data is to be collected is shown in Appendix D;
3. Pedestrian flow surveys: This data will be collected on the existing pedestrian network in the vicinity of the site. Appendix E presents the extent of the network on which survey data may be collected.

3.3 Baseline Scenarios

Four baseline scenarios will be created to inform the assessment. These will comprise:

1. 2018 pre-construction ‘no scheme’ baseline, drawing on existing data;
2. A future year ‘no scheme’ baseline, reflecting anticipated baseline conditions in 2037 at the end of the Local Plan period. The future year ‘no scheme’ baseline will make allowance for the effects of committed development or infrastructure schemes;
3. A future year ‘no scheme’ baseline, reflecting anticipated baseline conditions in 2044, the year of full build-out for the main scheme, including allowance for the effects of committed development or infrastructure schemes; and
4. A future year ‘no scheme’ baseline, reflecting anticipated baseline conditions in 2046, the year of full build-out for the aspirational masterplan scheme, including allowance for the effects of committed development or infrastructure schemes.

3.4 Site Location and Description

The TA will describe and illustrate the geographical location of the proposed site in relation to current land uses and the local transport networks and amenities.

3.5 Pedestrian and Cycle Networks

The TA will describe existing walking and cycling networks and facilities, including pedestrian / Toucan crossings, cycle routes and cycle parking.

Pedestrian and cycle flows derived from data collection sources will be presented.

3.6 Public Transport

The TA will outline existing public transport services operating in the area surrounding the site together with known proposals for new services.

The geographic threshold for considering public transport services will reflect the thresholds considered as accessible to the site, typically covering distances of 400m and 960m from the site for bus and rail services respectively.

Information will be provided on the routes/lines and frequency of nearby mainline rail services.

A review of the existing bus network will be undertaken to provide details on bus routes and frequencies to form the baseline for assessment. Any current enhancement proposals likely to be implemented during the construction period will be identified and included. This will be undertaken in conjunction with KCC and SDC.

Details of existing bus stop and stand locations and bus priority measures within the site boundary will be recorded.

Details of any specific taxi infrastructure, such as rank locations, will be included in the baseline conditions.

3.7 Local Highway Network

The TA will identify the road hierarchy, authority responsibilities and key elements of the surrounding highway network.

Existing traffic conditions on the local highway network will be established from traffic surveys and modelled data.

As agreed, baseline traffic forecasts for the four baseline scenarios will be obtained from KCC from the regional traffic model.

3.8 Adjacent Developments

The TA will identify existing access provision for parking and servicing at properties adjacent to the development to ensure that any effects on access to these properties are identified as part of the assessment.

3.9 On-Street Parking

The TA will identify existing on-street parking within the site boundary.

It will outline existing parking conditions, including on-street loading provision and controls.

3.10 Road Safety

The TA will include an analysis of accident data for the local roads within the site boundary and within 500 metres of it for the most recent 36 months of data available.

The analysis will consider the severity, casualty type and location of recorded accidents.

3.11 Committed Developments

The assessment will include traffic generation of committed and planned developments. Further information is provided in Chapter 4 of this Note.

The following committed transport infrastructure/improvement schemes will be taken into account:

1. New M20 Junction 10A and associated changes to the surrounding road network, including M20 Junction 10;
2. New signalised site access junction on A20 Hythe Road for Willesborough Lees development;
3. Traffic calming proposals and new site accesses through Sellindge Village proposed for the Sellindge residential development;
4. Adjustments to the flare length on the A261 Hythe Road at the junction with A20 Ashford Road required for the Land East of Ashford Road development;
5. A2034 Cheriton Road / A20 Cherry Garden Avenue junction and link proposals for the Folkstone Seafront masterplan;
6. Military Way parking suspension east of junction with Scanlons Bridge Road; and
7. Nackington Road / Old Dover Road and Old Dover Road / St Lawrence Road / The Drive proposals for the Mountfield Park development.

4 Assessment Methods and Forecasting

4.1 Development Proposals

The TA will include a description of the development proposals, including site layout, access strategies for vehicles, pedestrians and public transport, as well as outline parking and servicing proposals.

The TA will demonstrate the adequacy of access points in relation to capacity and vehicle manoeuvring. It will provide preliminary junction layouts and consider safety for all users.

4.2 Temporal Scope of Assessment

For each assessment year a weekday morning peak period (0800 to 0900) and a weekday evening peak period (1700 to 1800) will be assessed. This aligns with the local network peak periods as calculated from traffic survey data.

4.3 Trip Generation, Mode Share and Distribution

The method for the calculation of trip generation, the determination of trip mode share and the distribution of trips is described in a series of technical notes[4][5][6] that form the agreement to the methods for use in the assessment with KCC and SDC.

These notes will be updated to reflect the agreed methods once discussions have been completed and provided as appendices to the Scoping Note once the scope is agreed.

4.4 Method of Assessment

4.4.1 General Approach

The methodology for the assessment will vary depending upon the mode of transport being examined. However, the general approach will be to assess the proposals, identify effects, determine any additional or different mitigation necessary, and revise the assessments accordingly.

4.4.2 Pedestrian and Cycle Routes

The TA will outline the assessed effects on pedestrian and cycle networks within the development site after full build-out and occupation, taking into account any committed pedestrian and cycle improvement schemes and any mitigation measures proposed as part of the Otterpool Park development. Consideration will also be given to linkages to key pedestrian or cycle destinations that would be affected by the project.

The assessment will identify the likely effects on pedestrians and cyclists in terms of severance, safety, altered journey times and the needs of mobility-impaired users.

4.4.3 Public Transport

The assessment of the public transport networks will identify the expected additional loads on local rail and bus connections based on the agreed mode share and assignment methodology. Where relevant, the assessment will use the outcomes of the highway network assessment to indicate whether road-based public transport services would be likely to experience changes in journey time.

The assessment will take account of any changes to infrastructure, network routing and frequencies resulting from committed public transport proposals and proposals that form part of the public transport access strategy for Otterpool Park.

[4] Otterpool Park Garden Settlement Trip Generation Calculation Method Technical Note (Arcadis, September 2018)

[5] Otterpool Park Garden Settlement Method for deriving Mode Splits (Arcadis, October 2018)

[6] Otterpool Park Garden Settlement Method for the Distribution of External Vehicle Trips (Arcadis, October 2018)

4.4.4 Highway Capacity

4.4.4.1 Method and Scope of assessment

The extent of highway network to be included in the assessment was discussed with KCC, F&H DC and HE. KCC requested that a VISSIM model be produced to assess the local junctions most likely to be impacted by the development while a number of other junctions would be assessed using the appropriate LinSig, Arcady or Picady software. Merge/diverge assessments will be undertaken as appropriate. presents the existing and committed junctions identified for assessment.

Model validation reports were submitted to KCC, F&H DC and HE in May 2018. As of October 2018, discussions with HE on the VISSIM model are ongoing. If the VISSIM modelling is not completed in time for submission in the TA, the results and conclusions will be provided post-submission.

4.4.4.2 Method of Development Trip Assignment

The distribution of development vehicle flows between the site and a number of off-site origins/destinations has been calculated using a gravity model method. This distribution will be input a VISUM model to distribute the development flows on the network and allow us to identify the likely routing. The development flow distribution will be extracted from the VISUM model and input the LinSig, Arcady and VISSIM models statically. The VISUM model will be validated against the observed turning counts and journey time captured on site. The proposed extent of the VISUM and VISSIM models are shown in Appendix F.

4.4.4.3 Assessment years and scenarios

As described in Chapter 3, we anticipate the creation of four baseline scenarios; for 2018, 2037, 2044 and 2046. The 2044 scenario will form the main assessment, while the 2046 scenario will consider a sensitivity test of an extended masterplan scenario. Future year ‘no-scheme’ baseline scenarios will be created and used as the basis for forecasting the ‘with-scheme’ situation for each assessment year.

The assessment will add the expected transport network activity to the future year baseline scenarios.

The following assessment scenarios will be undertaken for each assessment year:

1. Base traffic flows + committed development traffic flows; and
2. Base traffic flows + committed development traffic flows + Otterpool Park development flows.

It was agreed with KCC and F&H DC that construction vehicle movements would occur outside of the local peak network periods and therefore would not be included in the assessment.

4.4.4.4 Traffic Data and Forecasting

The baseline and future baseline scenarios will be developed using traffic survey data to produce a set of baseline information to which forecast scheme traffic can be added.

Traffic count data for a number of the junctions in has been provided by F&H DC. This data was collected in October 2016 and it has been agreed that it is suitable for use for the assessment of the Otterpool Park development. Further traffic data has been collected in June 2017. The results of the surveys will be validated against the 2016 traffic counts. The data collected in June 2017 included Automatic Number Plate Recognition data for roundabouts, gyratories and all entries/exits to/from the VISSIM model area.

Initially it was agreed with KCC, SDC and HE that the future year base traffic flows would be provided from the strategic highway model. During the development of the modelling, HE suggested to obtain the future year base flows from the baseline flows applying TEMPro growth factors. Employment and household forecasts obtained from KCC were used to generate TEMPro growth factors. HE also suggested that a growth factor of 0.6% should be assumed for heavy goods vehicle traffic on the M20.

Table 6 Junctions to be Assessed

ID	Junction Name
J1	M20 J10
J2	M20 J11
J3	Ashford Road (A20) / Swan Lane
J4	Ashford Road (A20) / Stone Hill
J5	Hythe Road (A20) / Station Road / Church Road
J6	Hythe Road (A20) / Meersham
J7a	A2070 Kenniton Road / The Street
J7b	Hythe Road (A20) / The Street
J8	A20 Ashford Road / B2067 Otterpool Lane
J9	B2067 Otterpool Lane / Aldington Road
J10	Aldington Road / Stone Street
J11a	A20 Ashford Road / A261 Hythe Road / Stone Street
J11b	A20 Ashford Road / A261 Hythe Road / Stone Street
J12	Aldington Road / Lympne Hill
J13	A261 Hythe Road / Aldington Road
J14	A261 London Road / Barrack Hill
J15	A259 / Dymchurch Road / Military Road
J16	A259 Prospect Road / A259 East Road / Station Road / High Street
J17	A20 Ashford Road / A20 J11 offslip
J18	Ashford Road (A20) / Sandling Road
J19	M20 J11A
J20	M20 J12
J21a	M20 J13
J21b	M20 J13
J22	A20 Ashford Road / Stone Street
J23	M20 J9
J24	B2064 Cheriton High Street / B2063 Risborough Lane
J25	B2064 Cheriton High Street / A2034 Cherry Garden Avenue
J26	A259 Prospect Road / Stade Street
J27	Barrow Hill 1-way
SH18	A260 Spitfire Way / White Horse Hill / A20 Slip Roads
SH19	Alkham Valley Road / A20 slip roads
SH16	A260 Canterbury Road / Alkham Valley Road
J31	A20 Ashford Road access to P1B & P7
J32	A20 Ashford Road access to P6
J33	A20 Ashford Road Link Road west
J34	A20 Ashford Road access to P1A & P2A
J35	A20 Ashford Road Link Road east
J36	A20 Ashford Road Business Park access
J37	Otterpool Lane access to P1B
J38	Otterpool Lane access to P2B & P3B
J39	A20 Ashford Road Link Road / High Street
J40	Otterpool Lane P9 north
J41	Otterpool Lane P9 south
J42	M20 J10A
J43	A20 Ashford Rd small roundabout
J44	Nackington Road / Old Dover / Road Old Dover Rd / St Lawrence Rd / The Drive

4.4.4.5 Operation Stack / Lorry Park Proposals

It was agreed with KCC, F&H DC and HE that the effects of Operation Stack would not be assessed as it is an emergency procedure and is therefore not appropriate to include this within the assessment. As requested by HE, a strategy will be proposed to mitigate the effect of Operation Stack where possible if it occurs.

Since there are no committed scheme proposals for a Lorry Park and no planned scheme proposals are available, it is not possible to consider the potential affects of a Lorry Park in the assessment.

4.4.4.6 Highway mitigation

Where the assessment identifies effects which will require mitigation, appropriate mitigation solutions will be developed and discussed with KCC, F&H DC and, where necessary, HE.

Agreement will be sought on the most appropriate solutions to mitigate effects and the agreed solutions will be re-assessed and reported in the TA. If it is not possible to conclude discussions on mitigation requirements prior to submission of the TA, discussions will continue following submission.

4.5 Implementation Plan

The TA will present a proposed strategy for the coordination and implementation of the mitigation measures identified from the assessment.

This Implementation Plan will integrate the key elements of the construction logistics strategy, construction activity programme and identified mitigation measures to present a comprehensive strategy for managing and mitigation transport effects arising from the scheme.

The Implementation Plan is intended to act as the ‘umbrella’ under which more detailed discussions can take place with stakeholders during the construction phase. It will recognise the need for flexibility to respond to changing circumstances during the construction period, to allow all parties to review progress and address transport issues that may arise.

APPENDIX A

Scoping information submitted to KCC to agree scope of work required in Canterbury

Longman, Phillip

From:	Longman, Phillip
Sent:	12 July 2018 13:15
To:	colin.finch@kent.gov.uk; James.Hammond@folkestone-hythe.gov.uk; Matt.Hogben@kent.gov.uk; sally.benge@kent.gov.uk
Cc:	Kearney, Rebecca; Collins, Chad; Maria Rosa Gallego
Subject:	Otterpool Park Canterbury Trip Distribution Assessment
Attachments:	Otterpool Park Canterbury Trip Distribution v1.1.xlsx
Follow Up Flag:	Follow up
Flag Status:	Completed

Dear All

Following the request from Canterbury City Council to consider the impact of Otterpool Park on the City, I have extended our vehicle trip distribution model to include Canterbury in more detail. Previously, Canterbury was included in our distribution model as a single zone, which did not provide the vehicle routing of trips in enough detail to consider impact on individual junctions in Canterbury. We have now included Canterbury in our distribution model as 23 individual zones. The zones have been chosen by generating clusters of Lower Level Super Output Areas, as defined in Census 2011, according to the likely vehicle routing to each cluster. The attached spreadsheet shows the location of the centre of each zone in the sheet called "GM Zone Centres".

The 23 zones have been included in our three gravity models (one for incoming commuting trips, one for outgoing commuting trips and one for residential trips for non-work purposes), enabling us to determine the number of vehicle trips expected to be generated by the Otterpool Park development to/from each zone. The routes vehicles would take between each zone and Otterpool Park were determined using the vehicle routing tool on Google Maps.

This method of vehicle trip distribution is the method agreed with KCC, Folkstone & Hythe DC and Highways England for all other zones within our assessment area, including Ashford and Folkstone for which it had been necessary to consider likely vehicle routing in a similar level of detail.

You sent us a junction plan taken from the South Canterbury application (shown in sheet "Canterbury Junctions" in the spreadsheet) that identifies 11 existing junctions. The spreadsheet shows the distribution of Otterpool Park vehicle trips through these junctions for the AM and PM peak (sheets "AM Peak Devt Flows" and "PM Peak Devt Flows"). These flows are for full occupation of Otterpool Park at the end year (2044) of our main assessment.

We then extracted future base flows from the Mountfield Park Transport Assessment (sheet "2031 baseline"). These are the 2031 Base + Development flows for 4,000 homes + 45,000sqm commercial space. Sheets "2031 AM Base" and "2031 PM Base" show these trips on our network. We then compared our 2044 development trips to the 2031 baseline trips and calculated a percentage flow increase on each arm of each junction (sheets "Future AM %" and "Future PM %").

Our development flows through the junctions are low and the percentage flow increases range from less than 1% to up to 5%. As we are comparing 2044 development flows against a 2031 baseline, I would expect the flow increase against a 2044 baseline to be even lower.

I would be very grateful if you could review this information and let me know your thoughts on the requirement for further testing of these junctions in the Otterpool Park Transport Assessment.

Kind regards,

Phil

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Be green, leave it on the screen.

OTTERPOOL PARK GARDEN SETTLEMENT

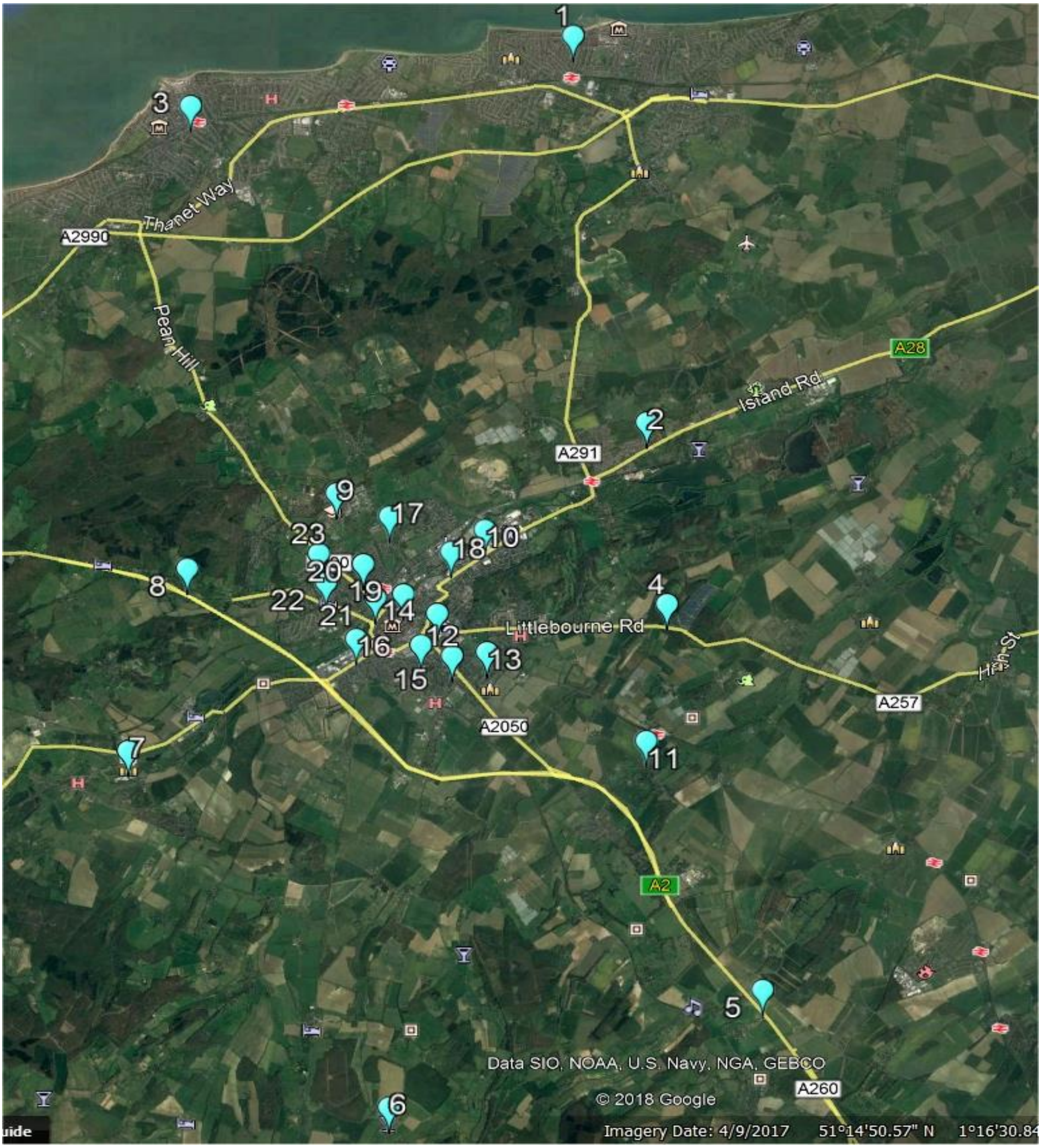
Canterbury Trip Distribution

v1.1

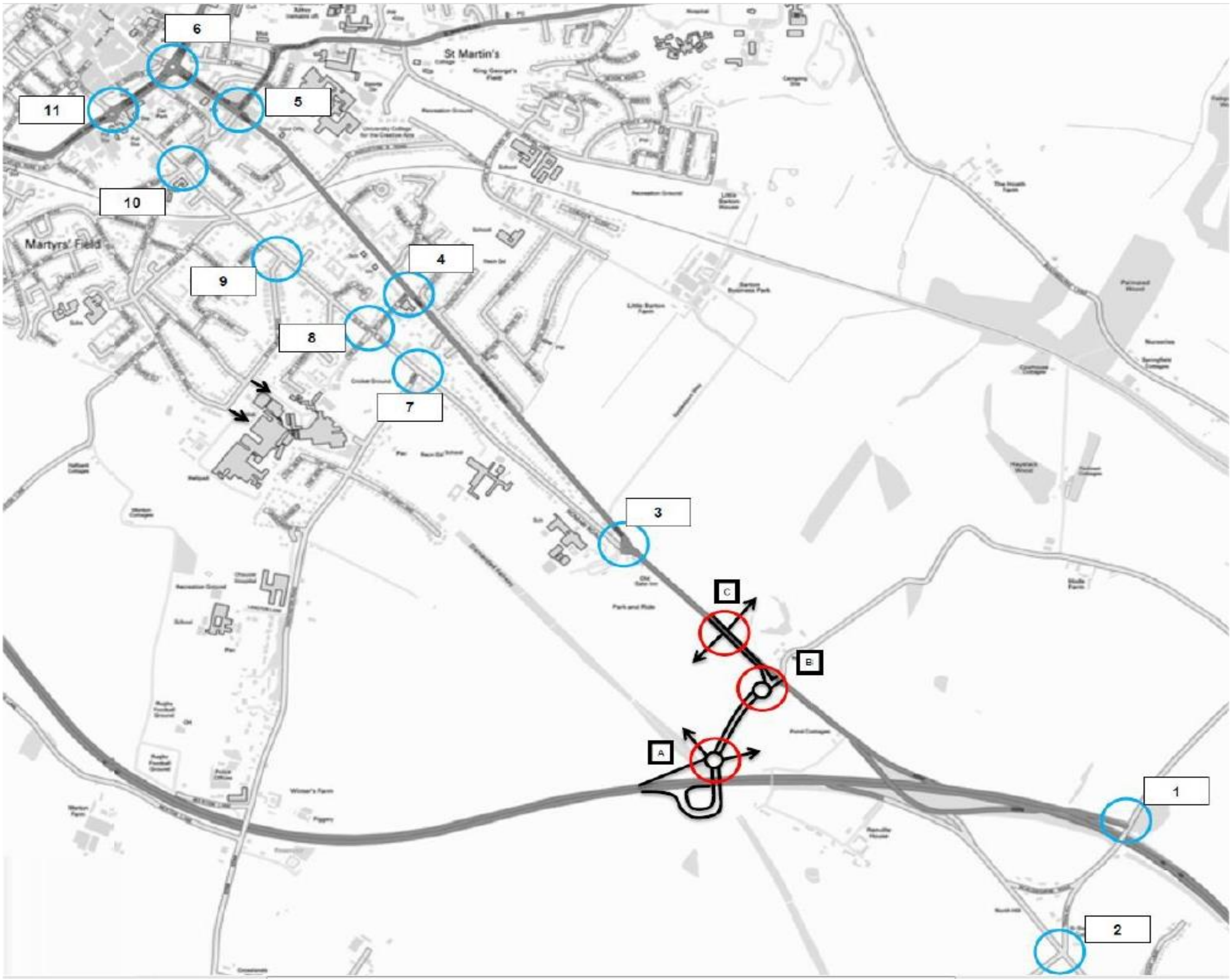
12 July 2018

Incorporating

Zone Centroids used in Trip Distribution Gravity Models

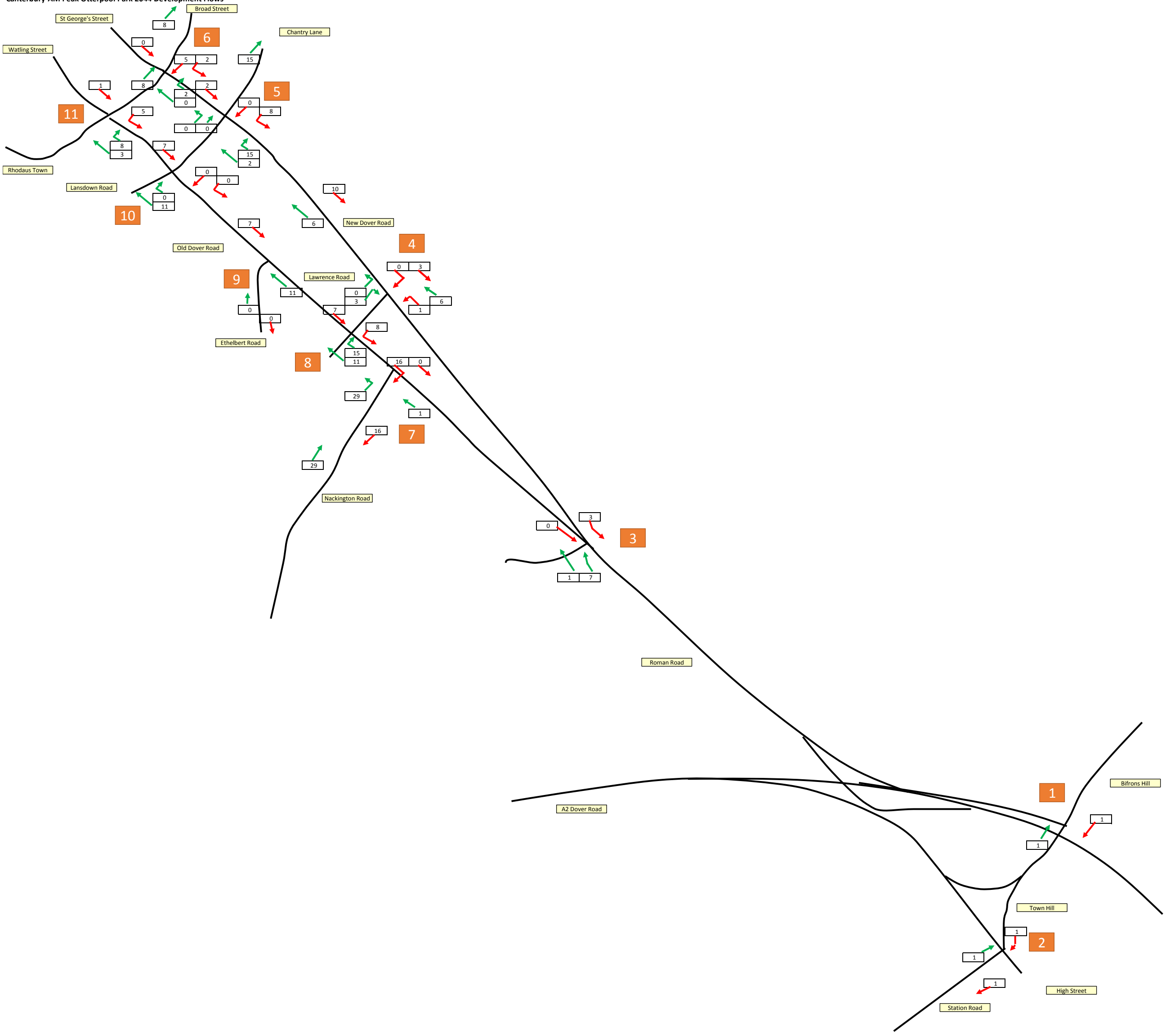


Canterbury Junctions for Analysis

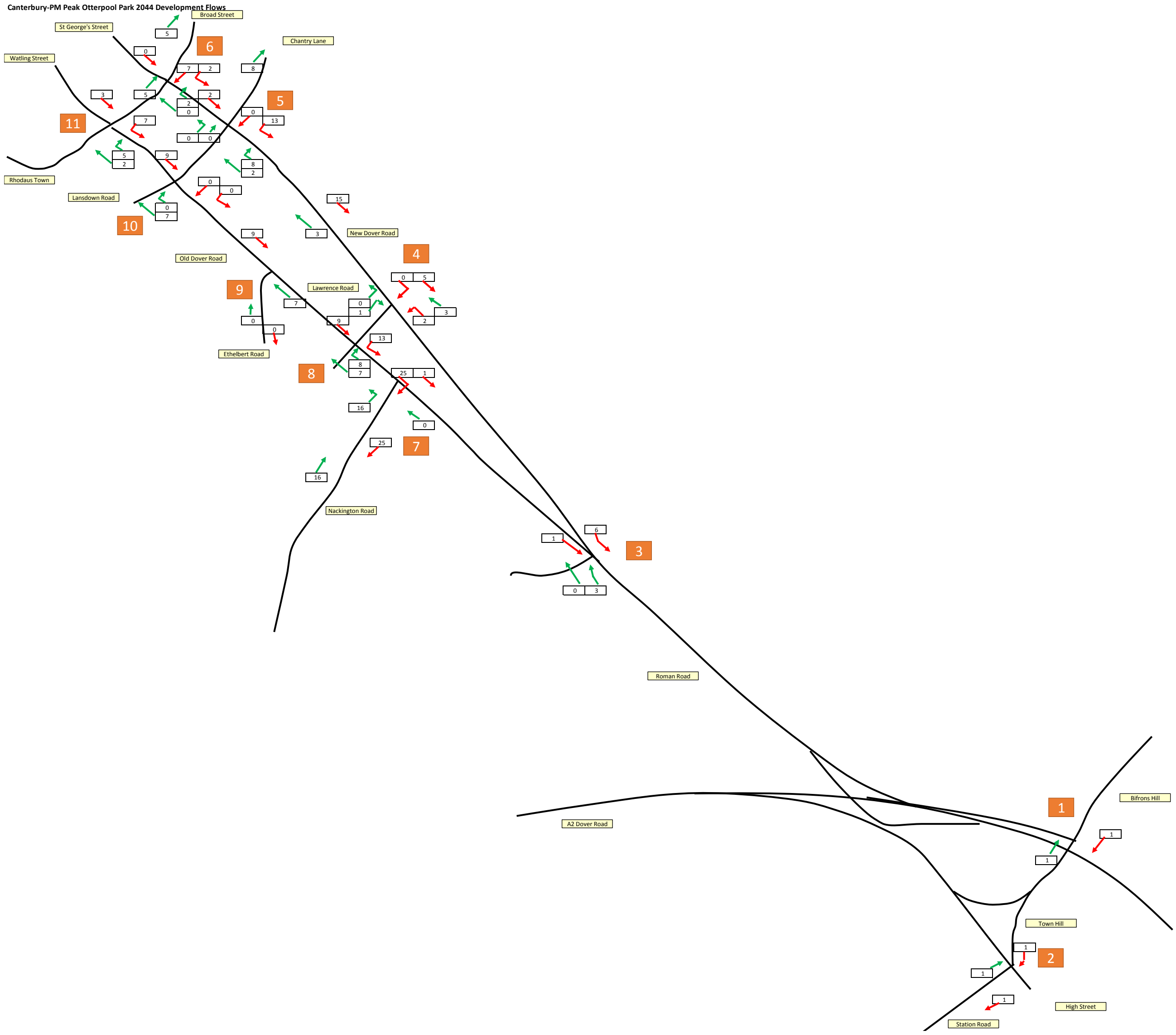


Ref.	
Junction 1	Bekesbourne Road/ A2 eastbound slip road
Junction 2	High Street/ Station Road/ Town Hill
Junction 3	Old Dover Road/ New Dover Road/ The Gate Inn/ P&R
Junction 4	New Dover Road/ St Lawrence Road
Junction 5	New Dover/ St George's Place/ Lower Chantry Lane
Junction 6	St George's Place/ A28 Lower Bridge Street
Junction 7	Old Dover Road/ Nackington Road
Junction 8	Old Dover Road/ St Lawrence Road
Junction 9	Ethelbert Road/ Old Dover Road
Junction 10	Old Dover Road/ Nunnery Fields/ Oaten Hill
Junction 11	Old Dover Road/ A28 Upper Bridge St

Canterbury-AM Peak Otterpool Park 2044 Development Flows



Canterbury-PM Peak Otterpool Park 2044 Development Flows



Canterbury 2031 Baseline Flows

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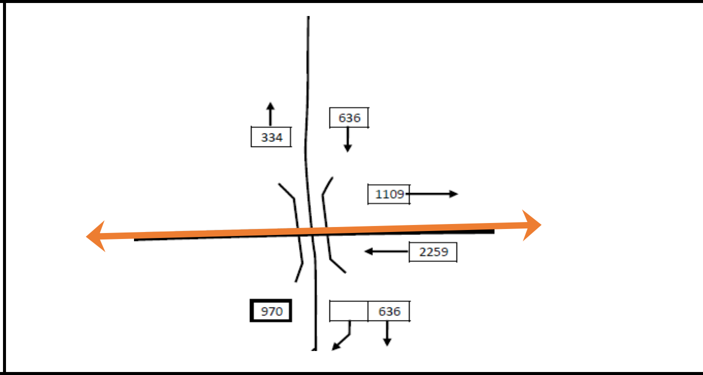
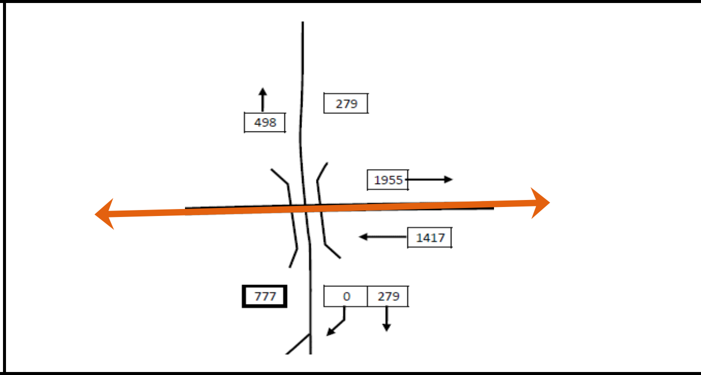
<tr><td></td><td>
</td><td>
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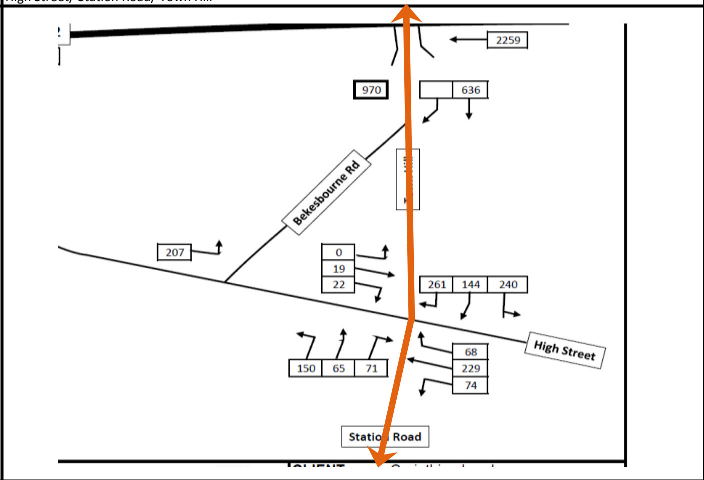
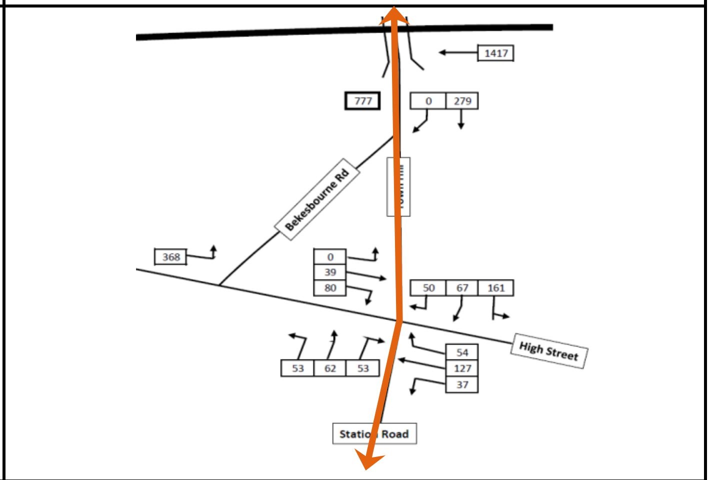
<tr><td></td><td>
</td><td>
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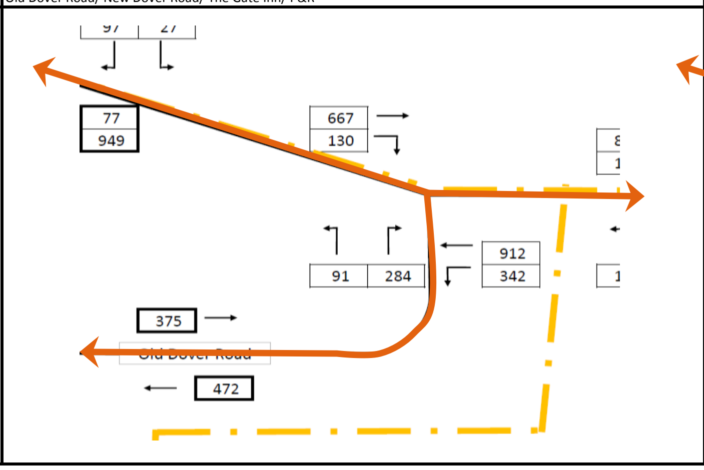
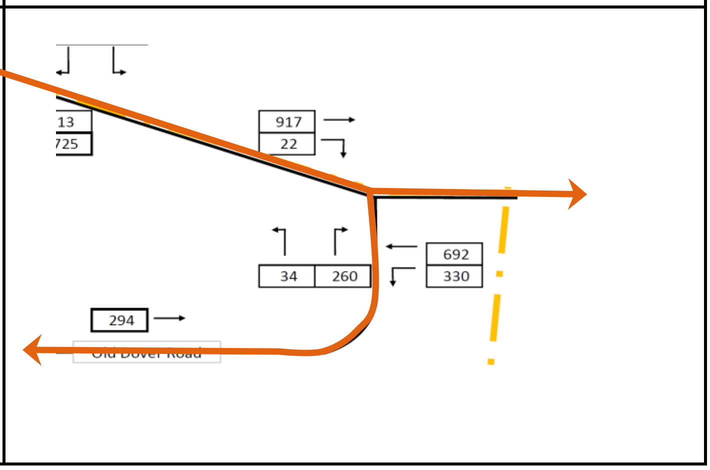
<tr><td></td><td>
</td><td>
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Canterbury 2031 Baseline Flows

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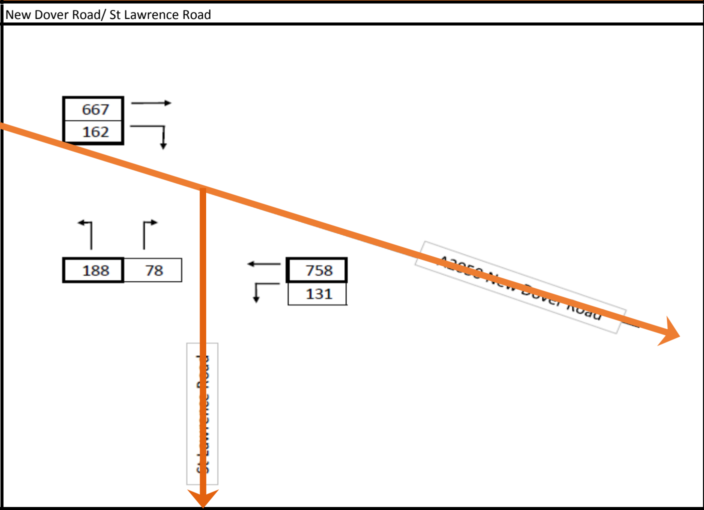

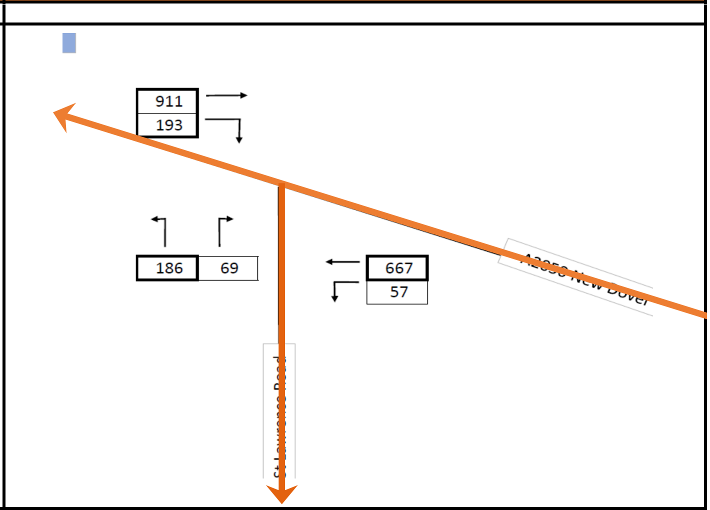

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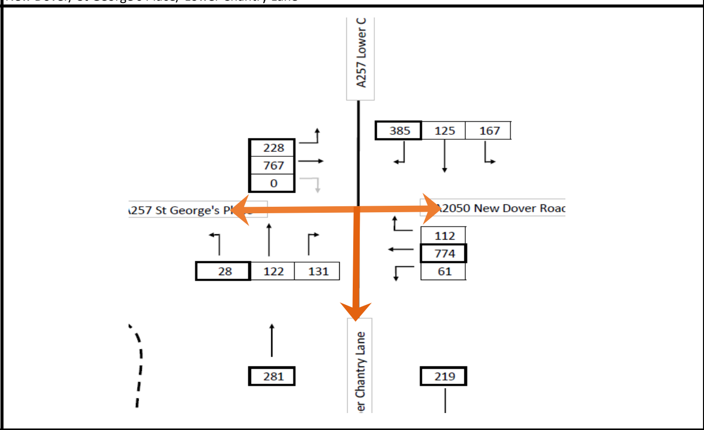
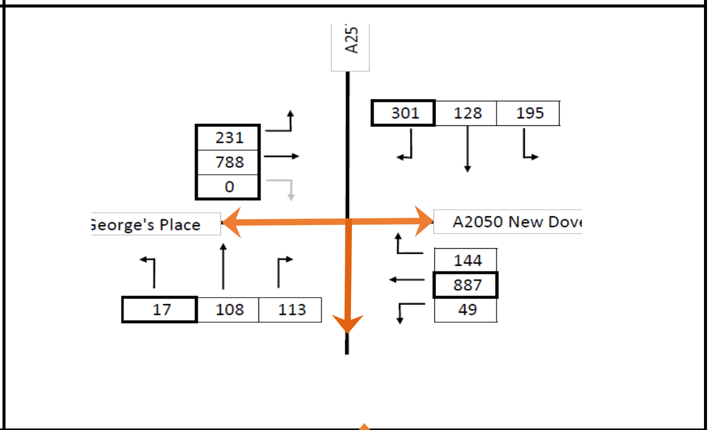
Junction 5	New Dover/ St George's Place/ Lower Chantry Lane	





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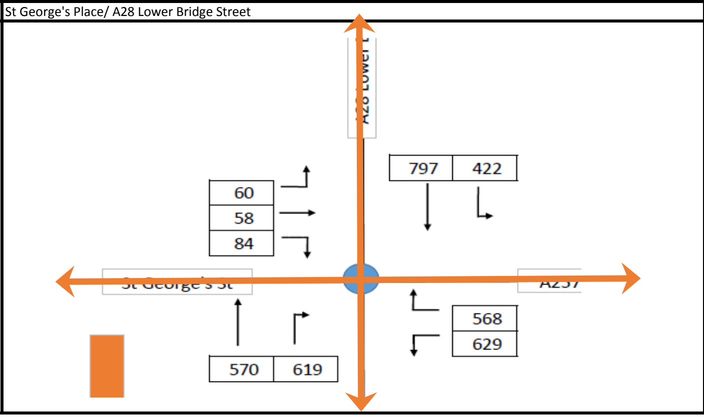
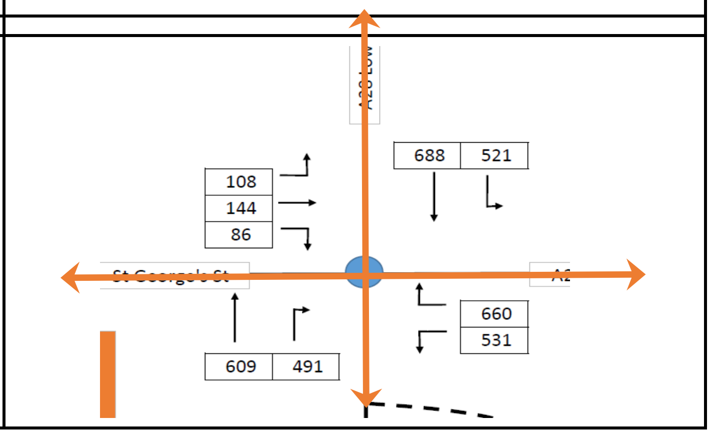
Junction 6	St George's Place/ A28 Lower Bridge Street	





Canterbury 2031 Baseline Flows

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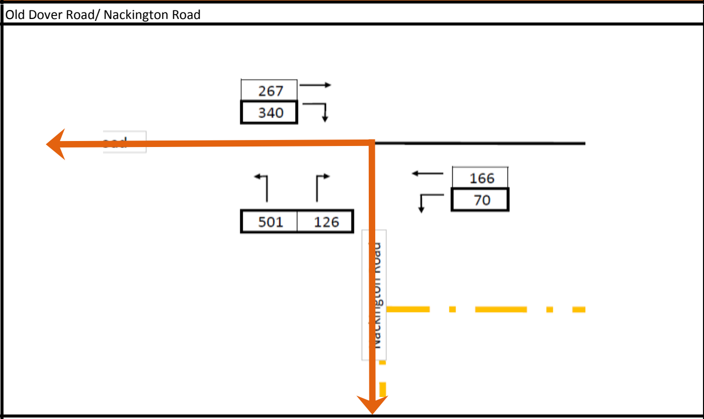
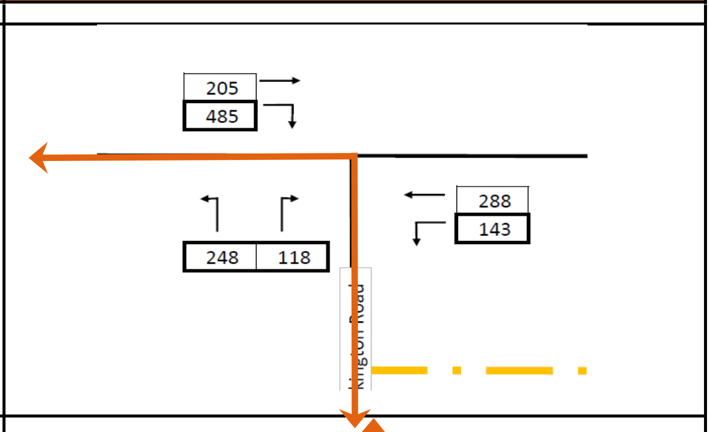
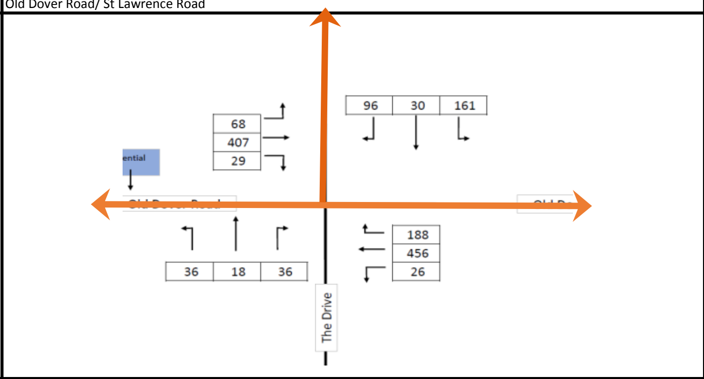
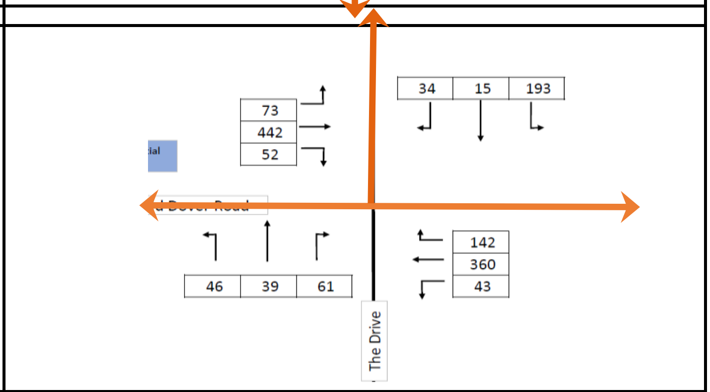
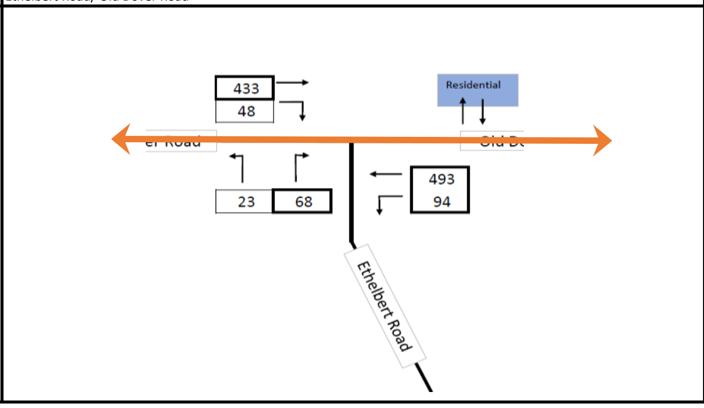
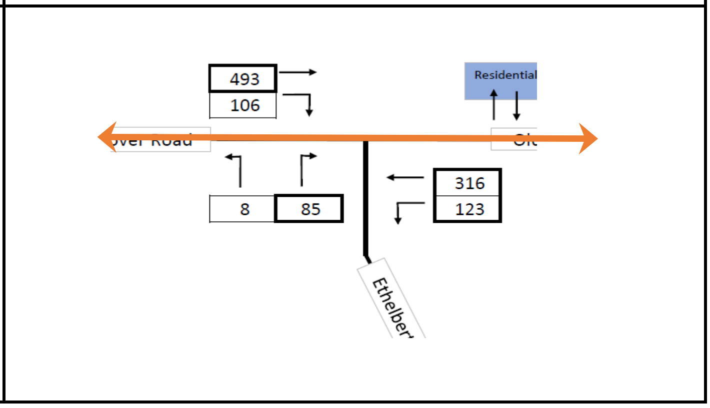
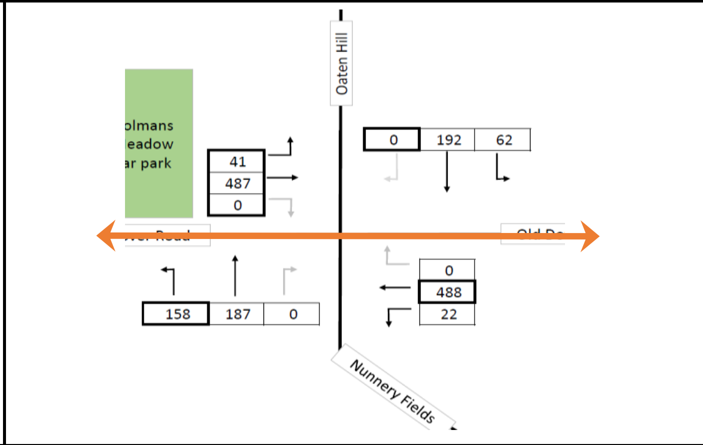
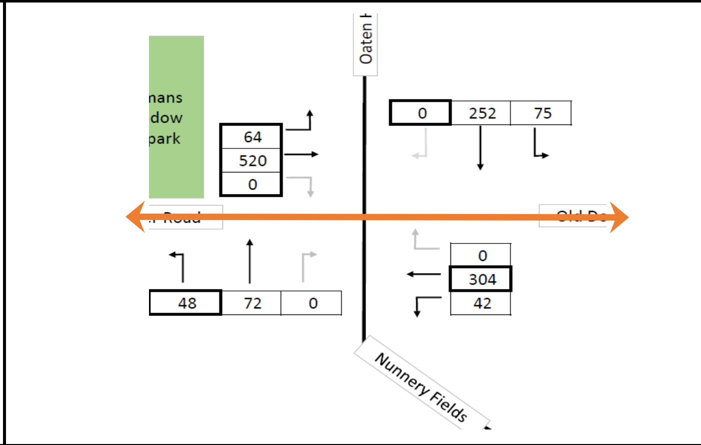
		
Junction 8	Old Dover Road/ St Lawrence Road	
		
Junction 9	Ethelbert Road/ Old Dover Road	
		

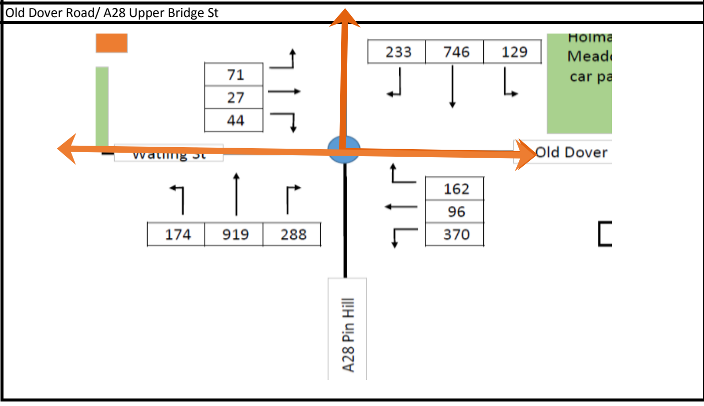
Canterbury 2031 Baseline Flows

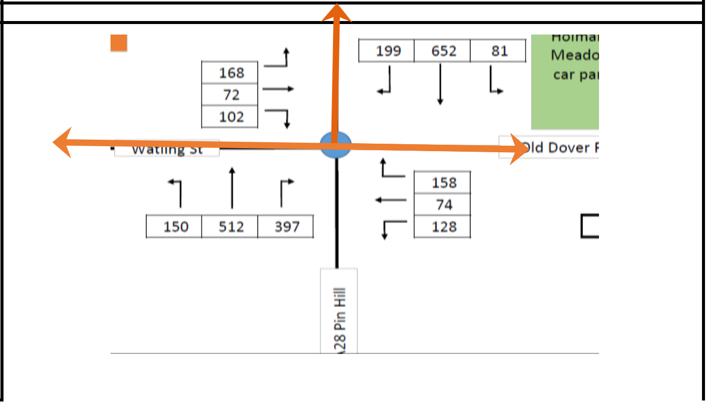
Ref.	AM - 0800 to 0900	PM - 1700 to 1800
Junction 10	Old Dover Road/ Nunnery Fields/ Oaten Hill	





Ref.	AM - 0800 to 0900	PM - 1700 to 1800
Junction 11	Old Dover Road/ A28 Upper Bridge St	





Canterbury-AM Peak Future Base 2031 Flows

Canterbury-PM Peak Future Base 2031 Flows

Canterbury-AM Peak % impact 2031 Base + 2044 Development

Canterbury-PM Peak % impact 2031 Base + 2044 Development

Longman, Phillip

From:	Matt.Hogben@kent.gov.uk
Sent:	13 July 2018 09:04
To:	Longman, Phillip; colin.finch@kent.gov.uk; James.Hammond@folkestone-hythe.gov.uk; sally.benge@kent.gov.uk
Cc:	Kearney, Rebecca; Collins, Chad; Maria Rosa Gallego
Subject:	RE: Otterpool Park Canterbury Trip Distribution Assessment
Follow Up Flag:	Follow up
Flag Status:	Completed

Hi Phil

Thank you for the e-mail. I have spoken to Colin on this matter. We feel that the following two junctions need to be included in the junction assessment together with the proposed capacity improvements by the South Canterbury site:

1) Nackington Road / Old Dover Road
2) Old Dover Road / The Drive / St Lawrence Road

Full details of the capacity improvements can be found in the South Canterbury Transport Assessment and Transport Assessment Addendum.

This is because the impact on these junctions is 5% and 4% respectively in the AM peak.

Furthermore we will be expecting the applicant to fund the provision of two new directional signs to the New Dover Road Park and Ride site from Faussett Hill and Bridge Road to sign drivers to use this route to access the Park and Ride site. This can be secured through a planning condition when planning permission is eventually granted for this site.

Regards

Matthew Hogben | Principal Transport and Development Planner | Ashford and Shepway | Highways and Transportation | Kent County Council | Ashford Highway Depot, 4 Javelin Way, Henwood Industrial Estate, Ashford, Kent, TN24 8AD | 03000 41 81 81 | www.kent.gov.uk

---

From: Longman, Phillip <Phillip.Longman@arcadis.com>
Sent: 12 July 2018 13:15
To: Finch, Colin - GT HTW <colin.finch@kent.gov.uk>; James.Hammond@folkestone-hythe.gov.uk; Hogben, Matt - GT HTW <Matt.Hogben@kent.gov.uk>; Benge, Sally - GT HTW <sally.benge@kent.gov.uk>
Cc: Kearney, Rebecca <rebecca.kearney@arcadis.com>; Collins, Chad <Chad.Collins@arcadis.com>; Maria Rosa Gallego <MariaRosa.Gallego@arcadis.com>
Subject: Otterpool Park Canterbury Trip Distribution Assessment

Dear All

Following the request from Canterbury City Council to consider the impact of Otterpool Park on the City, I have extended our vehicle trip distribution model to include Canterbury in more detail. Previously, Canterbury was included in our distribution model as a single zone, which did not provide the vehicle routing of trips in enough detail to consider impact on individual junctions in Canterbury. We have now included Canterbury in our distribution model as 23 individual zones. The zones have been chosen by generating clusters of Lower Level Super

Output Areas, as defined in Census 2011, according to the likely vehicle routing to each cluster. The attached spreadsheet shows the location of the centre of each zone in the sheet called "GM Zone Centres".

The 23 zones have been included in our three gravity models (one for incoming commuting trips, one for outgoing commuting trips and one for residential trips for non-work purposes), enabling us to determine the number of vehicle trips expected to be generated by the Otterpool Park development to/from each zone. The routes vehicles would take between each zone and Otterpool Park were determined using the vehicle routing tool on Google Maps.

This method of vehicle trip distribution is the method agreed with KCC, Folkstone & Hythe DC and Highways England for all other zones within our assessment area, including Ashford and Folkstone for which it had been necessary to consider likely vehicle routing in a similar level of detail.

You sent us a junction plan taken from the South Canterbury application (shown in sheet "Canterbury Junctions" in the spreadsheet) that identifies 11 existing junctions. The spreadsheet shows the distribution of Otterpool Park vehicle trips through these junctions for the AM and PM peak (sheets "AM Peak Devt Flows" and "PM Peak Devt Flows"). These flows are for full occupation of Otterpool Park at the end year (2044) of our main assessment.

We then extracted future base flows from the Mountfield Park Transport Assessment (sheet "2031 baseline"). These are the 2031 Base + Development flows for 4,000 homes + 45,000sqm commercial space. Sheets "2031 AM Base" and "2031 PM Base" show these trips on our network. We then compared our 2044 development trips to the 2031 baseline trips and calculated a percentage flow increase on each arm of each junction (sheets "Future AM %" and "Future PM %").

Our development flows through the junctions are low and the percentage flow increases range from less than 1% to up to 5%. As we are comparing 2044 development flows against a 2031 baseline, I would expect the flow increase against a 2044 baseline to be even lower.

I would be very grateful if you could review this information and let me know your thoughts on the requirement for further testing of these junctions in the Otterpool Park Transport Assessment.

Kind regards,

Phil

Phillip Longman
Associate Technical Director
Transport Planning & Urban Design

Phillip.Longman@arcadis.com
Arcadis Consulting (UK Limited)
Bernard Weatherill House, 8 Mint Walk, Croydon CR0 1EA

T: 020 3014 9100
www.arcadis.com

APPENDIX B

Vehicle Traffic Survey Data Provided by Folkstone & Hythe District Council

	Classified turning counts
1	B2067 Aldington Road / B2067 Otterpool Lane
2	Aldington Road / Stone Street
3	Aldington Road / Lympne Hill
4	A20 Ashford Road / B2067 Otterpool Lane
5	A20 Ashford Road / Swan Lane
6	A20 Ashford Road / Stone Street / Hythe Road
7	A20 roundabout
8	M20 / A20 / B2068
9	A20 Ashford Road / Sandling Road
10	A260 Canterbury Road / Alkham Valley Road
11	White Horse Hill / A20 EB slips / A260 / A260 Spitfire Way
12	A20 WB slips / Alkham Valley Road
13	M20 WB off slip / A259 Churchill Avenue / A2034 Cherry Garden Avenue / M20 WB on slip / A20 Castle Hill Bridge
14	Eurotunnel EB slip road (Eurotunnel entry flow)
15	Eurotunnel WB slip road (Eurotunnel exit flow)
16	A20 Cheriton Interchange / B2064 Cheriton High Street
17	M20 J12
	Classified link counts
1	A20 Ashford rd (Cheriton lt)
2	A20 (N of Sadling) E
3	A20 (N of Sadling) W
4	Stone Street N
5	Stone Street S
6	Aldington Road W
7	Aldington Road E
8	B2067 Aldington Road W
9	B2067 Aldington Road E
10	A20 Barron Hill N
11	A20 Barron Hill S
12	A20 Ashford rd (W Sellindge)
13	Hythe Road W
14	Hythe Road E
15	M20 J13 EB
16	M20 J13 WB
17	B2064 Cheriton App N
18	B2064 Cheriton App S
19	M20 (W OF J11)
20	M20 (N of Sandling)

Vehicle Traffic Survey Data Provided by Corinthian Mountfield Ltd

	Classified link counts
1	Nackington Road
2	Old Dover Road

APPENDIX C

Vehicle Traffic Survey Data Collected July 2017

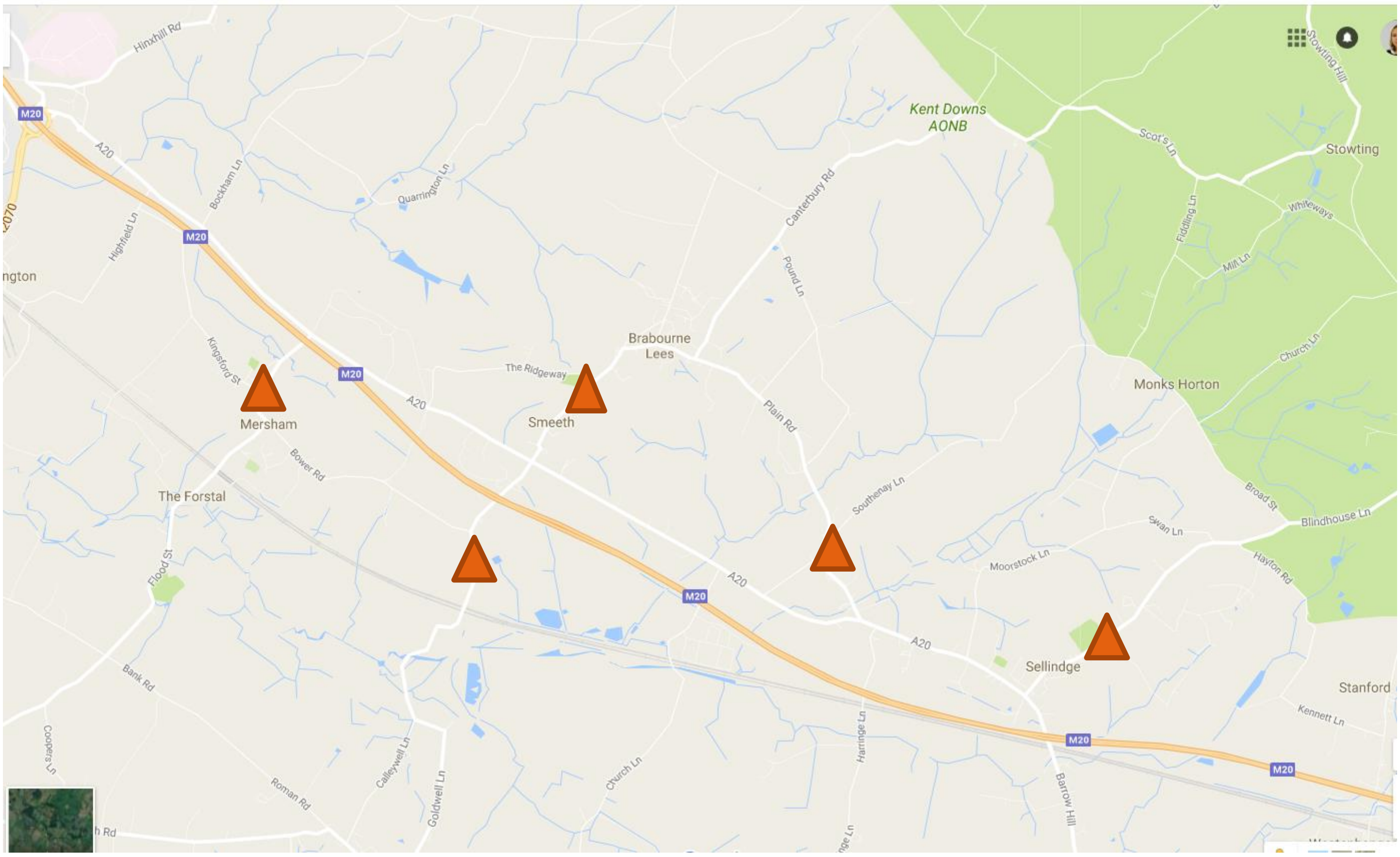
M20 J10- signalised roundabout- full OD (including underpass)
Ashford Rd (A20)/ Stone Hill- priority- turning count
Ashford Rd (A20)/ Station Rd/ Church Rd- priority- turning counts
Hythe Rd (A20)/ Meersham- priority- turning counts
Hythe Rd (A20)/ The Street- priority- turning counts (2 junctions A and B)
A20 Ashford Rd/ A261 Hythe Rd/Stone St- priority- turning counts
A261 London Rd/ Barrak Hill- priority- turning counts
A259/ Dymchurch Rd/ Military Rd gyratory- signalised- full OD
A259 Prospect Rd/ A259 Seabrook Rd/ Station Rd/ High St- priority roundabout- full OD
A20 Ashford Rd/ A20 J11 offslip- priority- turning counts
M20 J11A- priority full OD required including all on/ offslips and M20 overpass
M20 J12- priority full OD required including all on/ offslips and M20 overpass
M20 J13- priority full OD required including all on/ offslips and M20 overpass
A20 Ashford Rd/ Stone Street- priority- turning counts
M20 J9- signalised full OD including all on/ offslips and M20 overpass
B2064 Cheriton High street / B2063 Risborough Lane – priority – turning counts
B2064 Cheriton High street / A2034 Cherry Garden avenue – priority – turning counts
A259 Prospect Road / Stade Street – priority – turning counts

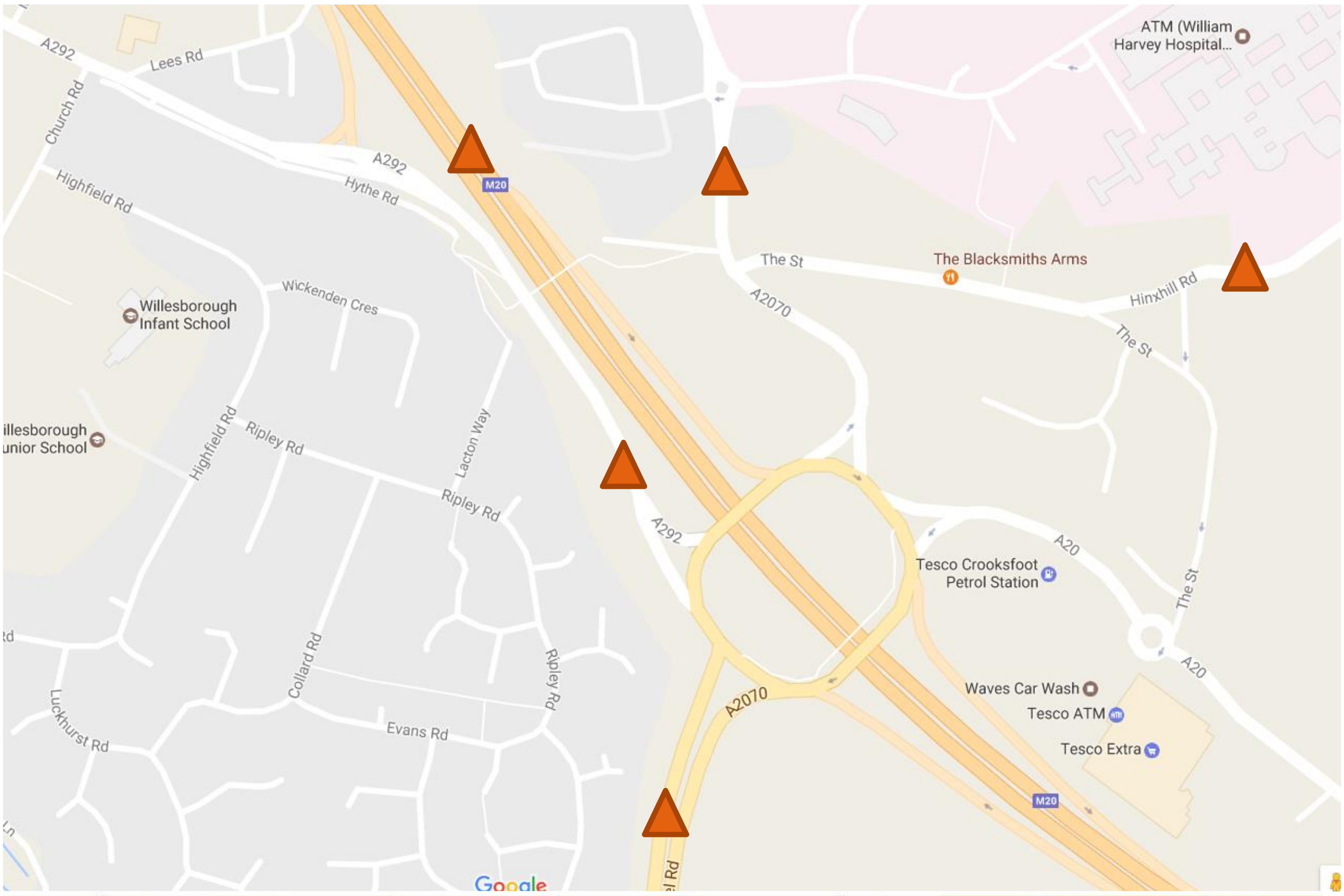
Otterpool Park
Transport Assessment Scoping Report

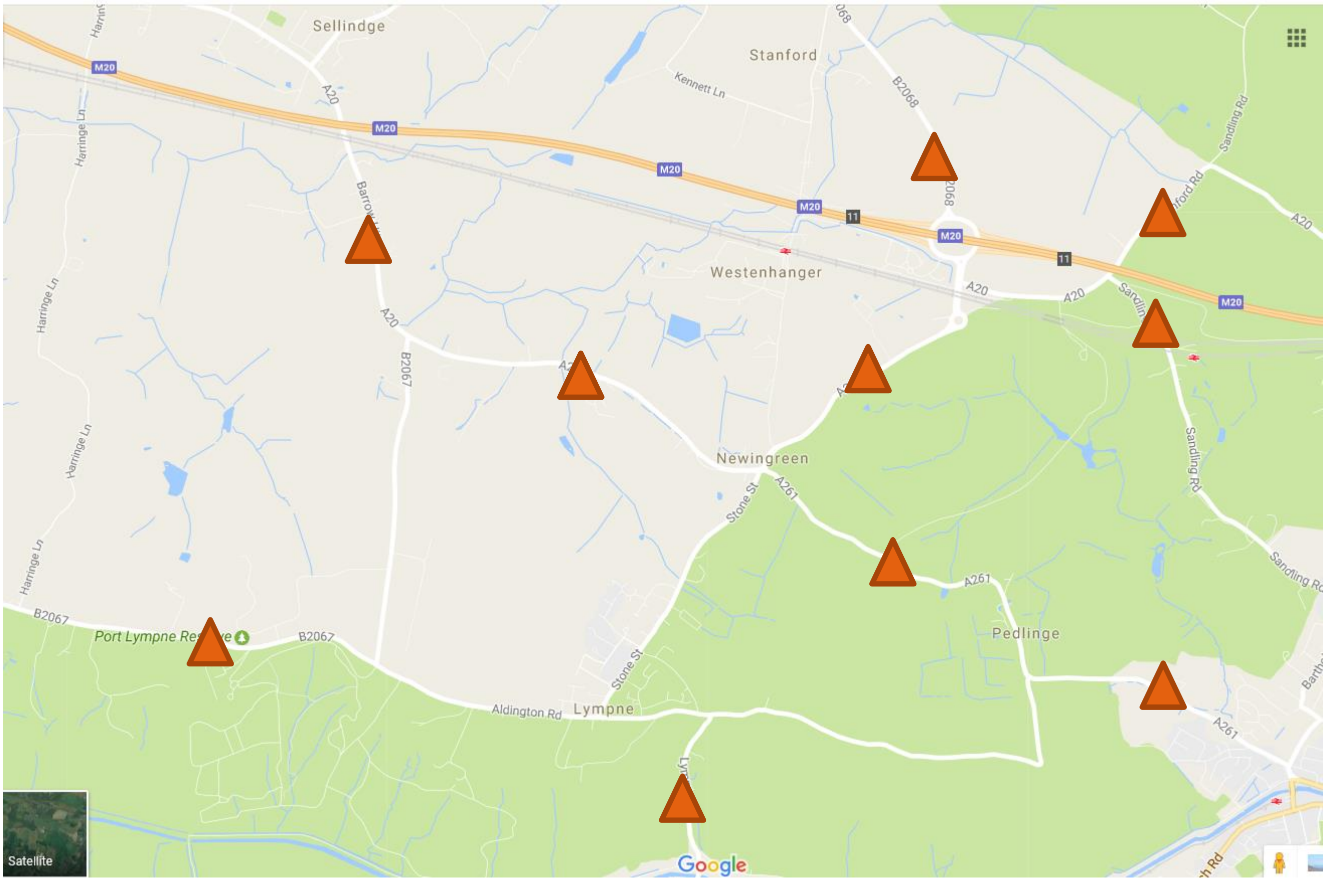
APPENDIX D

ANPR Data Collected July 2017

ANPR data collection locations marked as




A292
Lees Rd
Church Rd
A292
Hythe Rd
M20
Highfield Rd
Willesborough Infant School
Wickenden Cres
The St
A2070
The Blacksmiths Arms
Hinxhill Rd
The St
ATM (William Harvey Hospital...
illesborough unior School
Highfield Rd
Ripley Rd
Lacton Way
Ripley Rd
A292
A20
Tesco Crooksfoot Petrol Station
The St
A20
Collard Rd
Ripley Rd
Evans Rd
Luckhurst Rd
A2070
Waves Car Wash
Tesco ATM
Tesco Extra
M20


Sellindge
Stanford
Kennett Ln
B2068
M20
A20
Harringe Ln
Westenhanger
A20
B2067
Newingreen
Stone St
A261
Pedlinge
Sandling Rd
Port Lympne Reserve
B2067
Aldington Rd
Lympne
Stone St
A261
Satellite

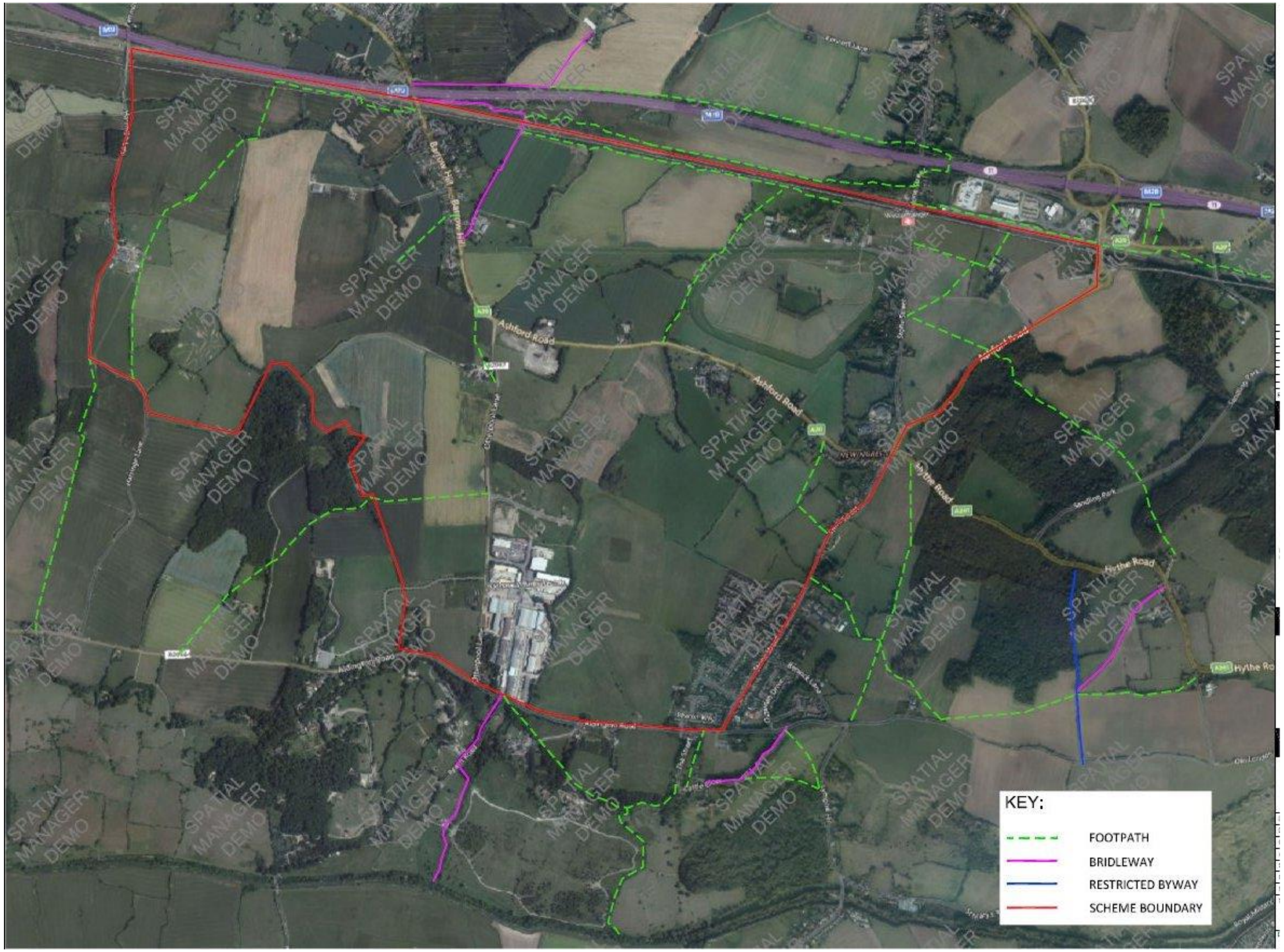

Peene
Newington
Frogholt
Eurotunnel Service Station
M20
A20
A259
Bargrove
B2064
B2063
Cheriton Rd
A2034
Folkestone
Sandgate
Hythe
North Rd
Twiss Hill
Blackhouse Hill
A261
Princes Parade
South Rd
Stade St
Sandling Rd


North Rd
Hillcrest Rd
Sir John Moore Ave
St Leonards Church
Church Rd
Hillside St
Sainsbury's
A259
Hythe
Dental St
High St
Aldi
Chapel St
Waitrose
Twiss Ave
Twiss Rd
Dymchurch Rd
Fort Rd
Portland Rd
Royal Military Canal
Cricket Ground
The Green
Albert Rd
Albert Ln
Stade St
South Rd

Otterpool Park
Transport Assessment Scoping Report

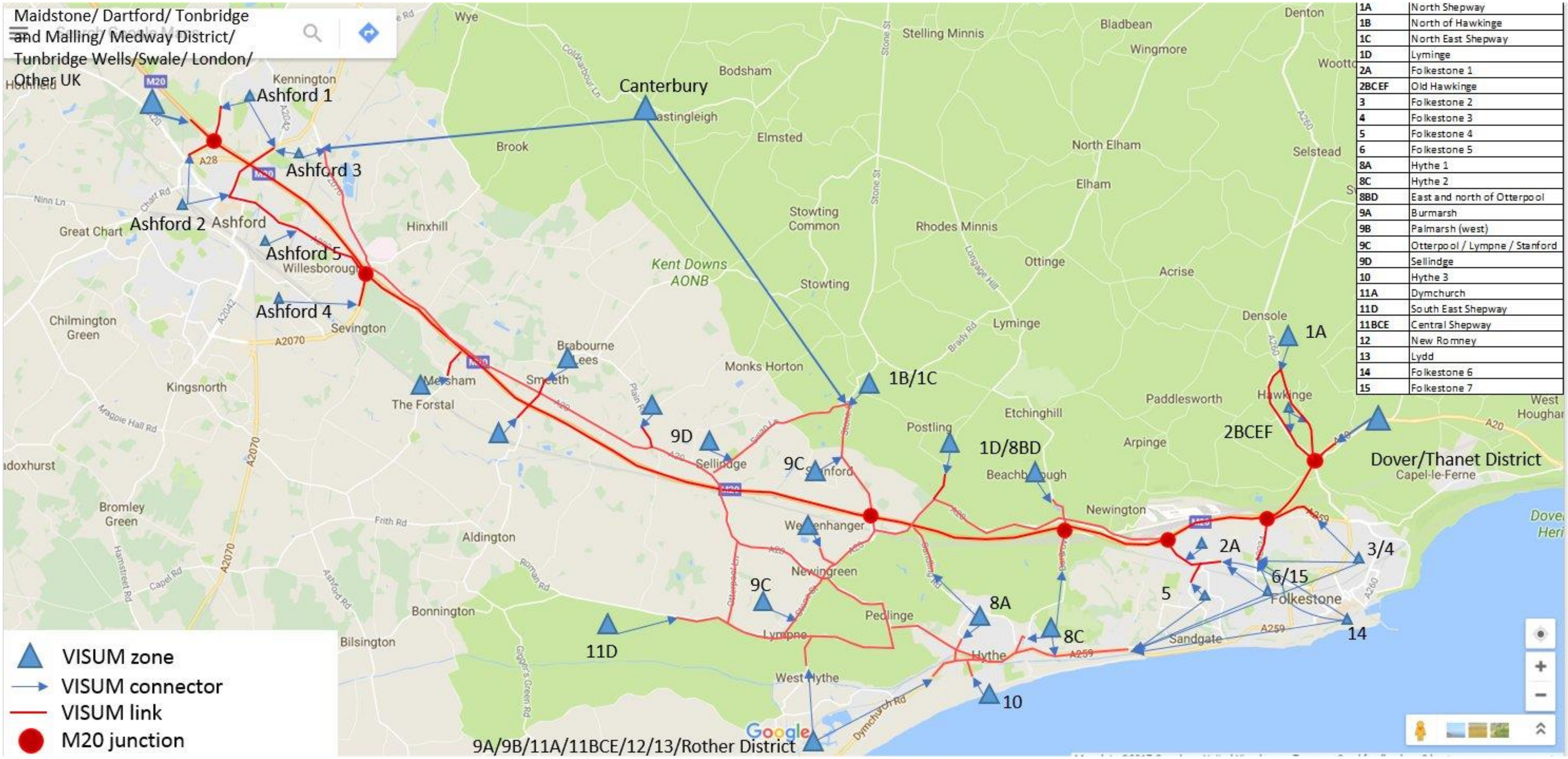
APPENDIX E

Local Footpaths and Bridleways



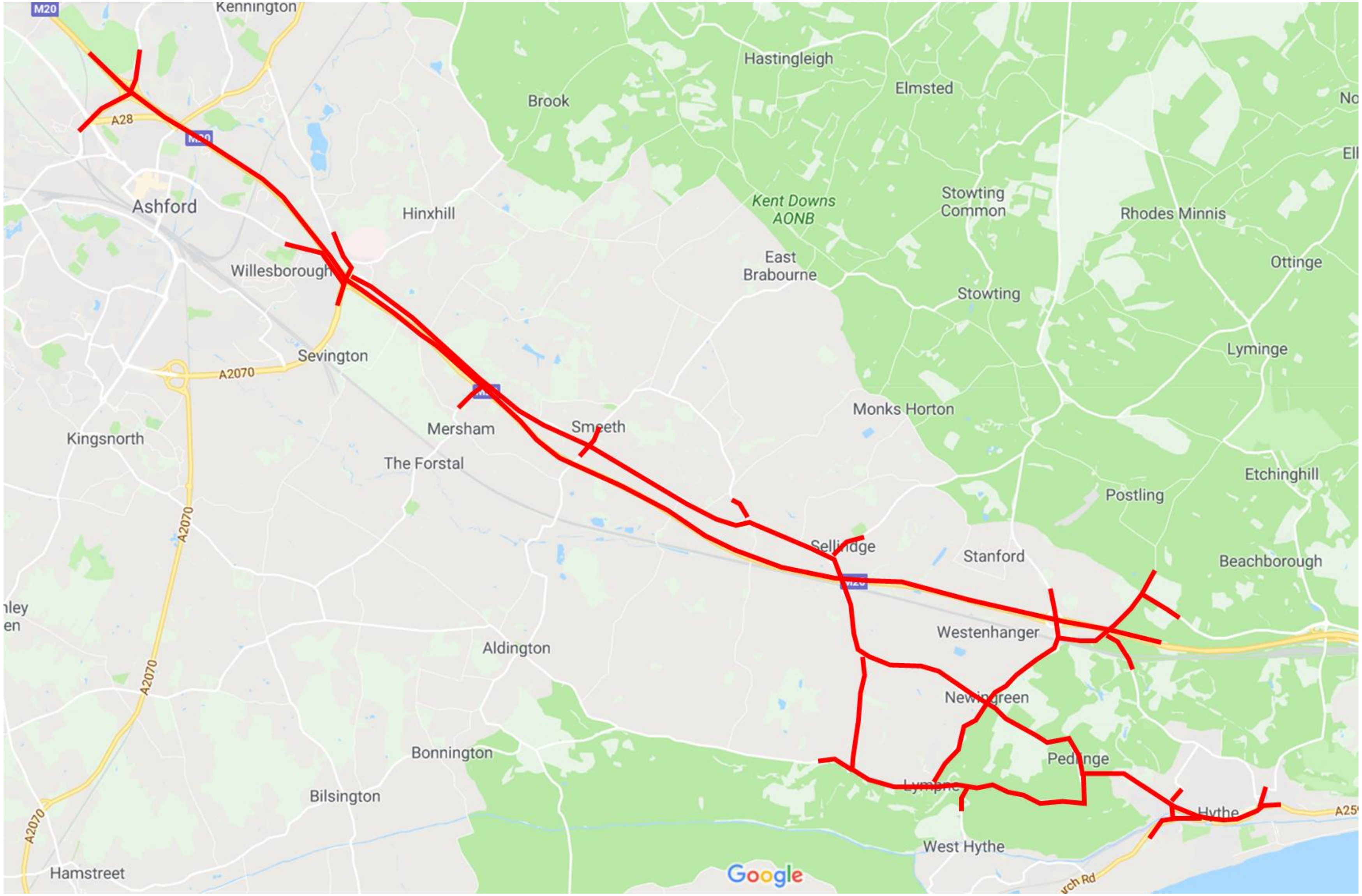
APPENDIX F

Extent of VISUM model



Otterpool Park
Transport Assessment Scoping Report

Extent of VISSIM model



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34 York Way
London N1 9AB
United Kingdom

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APPENDIX B Policy Review Note

Transport Policy and Guidance

Introduction

This note provides a summary of the policy and legislation which provides the context for the Otterpool Park development.

1. National Policy

National Planning Policy Framework, 2021

1.1.1. The NPPF sets out the Government's planning policies for England and how these are expected to be applied. The NPPF provides a framework within which locally-prepared plans for housing and other development can be produced.

1.1.2. Paragraph 104 sets out the transport issues which should be addressed within Development Plans and decisions so that:

- *"The potential impacts of development on transport networks can be addressed;*
- *Opportunities from existing or proposed transport infrastructure, and changing transport technology and usage, are realised – for example in relation to the scale, location or density of development that can be accommodated;*
- *Opportunities to promote walking, cycling and public transport use are identified and pursued;*
- *The environmental impacts of traffic and transport infrastructure can be identified, assessed and taken into account – including appropriate opportunities for avoiding and mitigating any adverse effects, and for net environmental gains; and*
- *Patterns of movement, streets, parking and other transport considerations are integral to the design of schemes and contribute to making high quality places".*

1.1.3. Paragraph 105 of Chapter 9 'Promoting sustainable transport' states:

"Significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes. This can help to reduce congestion and emissions and improve air quality and public health".

1.1.4. Whilst considering sites for specific development proposals, paragraph 110 outlines that it should be ensured that:

- *"Appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location;*
- *Safe and suitable access to the site can be achieved for all users; and*
- *Any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree".*

1.1.5. Paragraph 111 states that:

"Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe".

1.1.6. Within this context Paragraph 112 finds that applications for development should:

- *"Give priority first to pedestrian and cycle movements, both within the scheme and with neighbouring areas; and second – so far as possible – to facilitating access to high quality public transport, with layouts that maximise the catchment area for bus or other public transport services, and appropriate facilities that encourage public transport use;*

- *Address the needs of people with disabilities and reduced mobility in relation to all modes of transport;*
- *Create places that are safe, secure and attractive – which minimise the scope for conflicts between pedestrians, cyclists and vehicles, avoid unnecessary street clutter, and respond to local character and design standards;*
- *Allow for the efficient delivery of goods, and access by service and emergency vehicles; and*
- *Be designed to enable charging of plug-in and other ultra-low emission vehicles in safe, accessible and convenient locations".*

1.1.7. Paragraph 113 sets out that:

"All developments that will generate significant amounts of movement should be required to provide a travel plan, and the application should be supported by a transport statement or transport assessment so that the likely impacts of the proposal can be assessed".

1.1.8. The NPPF defines a Transport Assessment as:

"A comprehensive and systematic process that sets out transport issues relating to a proposed development. It identifies measures required to improve accessibility and safety for all modes of travel, particularly for alternatives to the car such as walking, cycling and public transport, and measures that will be needed deal with the anticipated transport impacts of the development".

1.1.9. The NPPF defines a Travel Plan as:

"A long-term management strategy for an organisation or site that seeks to deliver sustainable transport objectives and is regularly reviewed".

1.1.10. The relevant national guidelines on Transport Assessments and Travel Plans is provided in Section 2.5.

The Strategic Road Network and the Delivery of Sustainable Development – Department for Transport Circular 02/13

1.1.11. The Department for Transport (DfT) Circular explains how the Highways Agency (now National Highways) will participate in all stages of the planning process with Government Offices, regional and local planning authorities, local highway/transport authorities, public transport providers and developers to ensure national and regional aims and objectives can be aligned and met.

1.1.12. The Circular sets out that proposals should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe.

1.1.13. It is identified that a robust travel plan that promotes use of sustainable modes is an effective means of managing the impact of development on the road network and reducing the need for major transport infrastructure. National Highways expects the promoters of development to put forward initiatives that manage down the traffic impact of proposals to support the promotion of sustainable transport and the development of accessible sites.

1.1.14. Further guidance on engagement with National Highways on planning matters is contained in the document 'The strategic road network: Planning for the Future', published in September 2015.

Decarbonising Transport, Department for Transport, 2021

1.1.15. The DfT published this document in July 2021 which sets out the UK Government's commitments and actions needed to decarbonise the entire transport system in the UK.

1.1.16. This document includes the pathway to net zero transport in the UK and includes commitments towards the following:

- Increasing walking and cycling;

- Delivering decarbonisation through places;
- Future transport – more choice better efficiency.

2. Regional Policy

Kent Local Transport Plan 4: Delivering Growth without Gridlock 2016-2031, 2016

2.1.1. The Kent Local Transport Plan (LTP) sets out how the County will achieve its transport vision over the coming years, bringing together transport policies and local and nationally significant schemes.

2.1.2. Kent's transport policies identify a series of improvements (strategic, countywide and local) to increase the overall capacity of transport networks and systems, enabling them to accommodate the additional trips generated by development.

2.1.3. Relevant to this development the LTP states:

"There is substantial future housing growth in the district, including the proposed Otterpool Park garden town, which will require considerable infrastructure investment to support this new town, including upgrading Westenhanger Station".

2.1.4. Transport priorities identified for Folkestone & Hythe relevant to the development are:

- Upgrading of Westenhanger Rail Station;
- Upgrades to Junction 11 of the M20; and
- Newingreen junction highway improvements.

Kent Rail Strategy, 2021

2.1.5. The Rail Strategy sets out how Kent will influence train services for their passenger network over the next 10 years. It aligns with both local and national transport policies, which recognise rail as a key part of Kent's transport priorities.

2.1.6. This document presents a proposed train service plan that includes High Speed service at Westenhanger Station to meet the increased demand which will arise from the Otterpool Park Development.

3. Local Policy

Folkestone & Hythe District Council Transport Strategy, 2011

3.1.1. The Transport Strategy published January 2011, provided a robust evidence base which informed the Core Strategy document. The role of the Transport Strategy has been to inform the District Council of the transport related issues and opportunities predicted to result from the delivery of the Core Strategy, identifying appropriate transport measures, where necessary.

3.1.2. The strategy considers both transport matters which relate to the existing district area, as well as those relating to the potential Strategic Site allocations which have been made for future development.

Walking

3.1.3. Four initial options were suggested for walking:

- Improvements to road crossing points;
- Improvements to signage and clutter reductions;
- Completions of selected links; and
- Enhancements of the environment of the town centres.

Cycling

3.1.4. Six initial options were suggested for cycling:

- Creation of a comprehensive District wide cycle network;

- Enhancement of road crossing facilities;
- Enhancement of signage;
- Promotion of parking facilities at destinations;
- Consideration of cycle hire; and
- Promotion of safety awareness.

Parking

3.1.5. Folkestone & Hythe District Council, working with Kent County Council as the highway authority for the district, provide and manage parking across Folkestone & Hythe. Key measures identified by the parking strategy included:

- Promotion of Workplace Travel Plans for existing sites;
- Promotion of balanced parking provision at new developments;
- Integration of management of on and off-street parking;
- Review of management of car parking at Westenhanger Rail station – including formalising parking at the station, reviewing parking management on Stone Street, and promoting access to station in connection with three local Core Strategy sites; and
- Promotion of 'visible' parking provision for use by tourists.

3.1.6. In relation to potential strategic development sites within the district, it is stated as necessary for the respective applicant team to prepare detailed Transport Assessments and Travel Plans, to be reviewed by Folkestone & Hythe District Council as the planning authority, Kent County Council as the highway authority, as well as National Highways.

3.1.7. As potential strategic development sites come forward, it will be necessary for the respective applicant team prepare a detailed Transport Assessment and Travel Plan. Subsequently the strategy recommends:

"…that in parallel to the Transport Assessments being undertaken, site Travel Plans are also prepared. These documents should seek to set sustainable travel targets for the developments covering the delivery and early occupation of the site (usually a minimum of five years from first occupation)".

Local Plan Written Statement – Appendix 6: Kent County Council Vehicle Parking Standards, 2009

3.1.8. Appendix 6, of the full Local Plan Review written statement sets out the parking standards which were saved under the March 2009 Direction from the Secretary of State following the adoption of the Core Strategy Local Plan 2013. Policy TR12 states that:

"New development, redevelopment or a change of use will only be permitted if it makes provision for off street parking on or near the site in accordance with the current maximum vehicle parking standards, as set out in Appendix 6. These standards may be varied where:

a) The location is well served by public transport and there would be no adverse effect on road safety or traffic management.

b) This would allow development which would preserve or enhance the character or appearance of a conservation area or assist the re-use of a building of architectural or historic interest.

c) A commuted sum payment is made for improvements to or measures to assist the use of public transport, cycling or walking".

3.1.9. The District Planning Authority will apply the Kent 2003 standards, as set out in Appendix 6, to the Otterpool Park development.

Residential Parking Standards

3.1.10. The current parking provision for residential uses is based on the more recent Kent County Council Interim Guidance Note 3 (November 2008) on parking, giving indicative minimum and maximum residential parking guidelines depending on location. The policy for residential uses is based on categories of places from city/ town centre through to suburban edge/ village/ rural. Residential parking standards (Table 13.1 of the Draft Submission) for residential provision is identified in Table 1.

Table 1 Residential Parking Provision

	Location			
	City / Town Centre	Edge of Centre	Suburban	Suburban Edge / Village / Rural
On-street Controls	On-street controls preventing all (or all long stay) parking	On-street controls, residents' scheme and/or existing saturation (3)	No, or very limited, on-street controls	No on-street controls, but possibly a tight street layout
Nature of Guidance	Maximum (1)	Maximum	Minimum (6)	Minimum (6)
1 and 2 bed flats	1 space per unit	1 space per unit	1 space per unit	1 space per unit
Form	Controlled (2)	Not allocated	Not allocated	Not allocated
1 and 2 bed houses	1 space per unit	1 space per unit	1 space per unit	1.5 spaces per unit
Form	Controlled (2)	Allocation possible	Allocation possible	Allocation of one space per unit possible
3 bed houses	1 space per unit	1 space per unit	1.5 spaces per unit	2 independently accessible spaces per unit
Form	Controlled (2)	Allocation possible	Allocation of one space per unit possible	Allocation of one or both spaces possible
4+ bed houses	1 space per unit	1.5 spaces per unit	2 independently accessible spaces per unit	2 independently accessible spaces per unit
Form	Controlled (2)	Allocation of one space per unit possible	Allocation of both spaces possible (7)	Allocation of both spaces possible (7)

(1) Reduced, or even nil provision is encouraged in support of demand management and the most efficient use of land.
(2) Parking/garage courts, probably with controlled entry.
(3) Reduced, or even nil provision acceptable for rented properties, subject to effective tenancy controls.
(4) Open car ports or car barns acceptable at all locations, subject to good design.
(5) May be reduced where main provision is not allocated. Not always needed for flats.
(6) Lower provision may be considered if vehicular trip rate constraints are to be applied in connection with a binding and enforceable Travel Plan.
(7) Best provided side by side, or in another independently accessible form. Tandem parking arrangements are often under-utilised.

Source: Kent County Council Interim Guidance Note 3 (Kent County Council, 2008)

3.1.11. The current parking standards for cycles will be provided in the development in accordance with the Local Plan, as presented in Table 2. These are based on Kent County Council's Supplementary Policy Guidance SPG4 which seeks to encourage the use of bicycles by:

- Making them more easily accessible to users;
- Protecting them from theft; and
- Ensuring parking facilities are well-integrated into the design of the development.

3.1.12. A high standard of security is recommended to avoid the need to rake bicycles a long way into a building.

Table 2 Residential Cycle Parking Standards

Land Use	Cycle Parking Standard
Individual residential developments	1 space per bedroom
Sheltered accommodation	1 space per 5 units

Core Strategy Review 2022

3.1.13. The Core Strategy Review has been published for consultation under Regulation 19 of the Planning and Compulsory Purchase Act 2004 (Ref 16-9). In March 2020 the Core Strategy Review was submitted to the Secretary of State for Communities and Local Government for examination by a planning inspector. The purpose of the document is to allocate sufficient land to meet the identified development needs of the district for the period up to 2037.

3.1.14. This draft follows the previous public consultation on the 'Preferred Options' stage in March 2018.It is an update of the adopted Core Strategy Local Plan (2013) and continues to include policies for strategic development sites. Proposed policies include the provision for a garden settlement within the North Downs character area, comprising the Otterpool Park development.

3.1.15. Proposed policy SS1 District Spatial Strategy states:

"Housing will be delivered through a new sustainable, landscape-led settlement, with supporting town centre and community uses, based on garden town principles in the North Downs Area, in accordance with policies SS6-SS9. The garden town will maximise opportunities arising from the location, access to London and continental Europe and strategic infrastructure. Housing and supporting community uses will also be delivered through growth in Sellindge (policy CSD9)"

3.1.16. In addition, Proposed Policy SS6 finds that the Development would present the major opportunity to secure a high-speed rail service between Westenhanger and London St Pancras. The council is pursuing this with train operating companies, infrastructure providers and stakeholders. A transport hub could potentially be provided at the existing Westenhanger station, allowing easy transfer between walking, cycling, bus and train journeys.

3.1.17. The railway station upgrade and hub will potentially deliver:

- Lengthening of the existing platforms;
- New and refurbished station buildings with improved customer facilities;
- A new footbridge between platforms; and
- Car parking to meet the needs of the new town and nearby villages.

3.1.18. Policy SS7 outlines the place shaping principles for sustainable access and movement for the new Otterpool Park settlement:

- *"The development shall be underpinned by a movement strategy which prioritises walking, cycling and access to public transport and demonstrates how this priority* *has informed the design of the new settlement. All homes shall be within 800 metres/10 minutes' walk of a local neighbourhood centre with an aspiration that all homes are within 400 metres/5 minutes' walk of such facilities;*

- *Development shall incorporate smart infrastructure to provide real-time and mobile-enabled public transport information in accordance with smart town principles (Policy SS9 (2));*
- *A permeable network of tree-lined streets, lanes, pathways, bridleways, cycleways and spaces will be created that provides connections between neighbourhoods, the town centre, employment opportunities and public transport facilities. Footpaths, cycleways and bridleways should link to existing public rights of way, nearby villages and the wider countryside, including the North Downs Way and the SUSTRANS national cycle route network, taking account of the findings of the access strategy (Policy SS7 (1)) on sensitive habitats;*
- *Road infrastructure should be designed for a low speed environment, with priority given to pedestrians and cyclists through the use of shared space in ultra-low speed environments and dedicated cycle routes and separate pedestrian walkways where appropriate. The use of grade separations, roundabouts, highway furniture and highway signage should be minimised;*
- *A parking strategy shall be developed that balances the necessity of car ownership with the need to avoid car parking that dominates the street scene to the detriment of local amenity. The parking strategy shall deliver well-designed and accessibly-located cycle parking facilities within the town and neighbourhood centres, at Westenhanger Station and transport hub, as well as at employment developments;*
- *Westenhanger Station shall be upgraded at the earliest opportunity to provide a high-speed service ready integrated transport hub, in partnership with Network Rail, the rail operator and Kent County Council, which gives priority to pedestrians, cyclists, bus and train users. The council will continue to work with Network Rail to introduce high-speed rail services from Westenhanger to central London, subject to discussions with stakeholders; and*
- *The existing bus network that serves the surrounding towns and villages will be upgraded and new services provided as an integral element of the transport hub and settlement. All new homes shall be within a five-minute walk of a bus stop."*

3.1.19. Policy SS9 sets out the infrastructure, delivery and management requirements of a new garden settlement:

- A smart town – New dwellings shall provide adaptable space suitable for home working and other buildings (including shops, cafes, commercial buildings and community facilities) shall provide facilities for working on the move; and
- Long-term management and governance – Infrastructure, the urban realm, open spaces including informal pedestrian and cycle pathways, and facilities shall be designed to take into account long-term management and maintenance requirements.

Places and Policies Local Plan, Adopted 2020

3.1.20. The Places and Policies Local Plan was adopted in September 2020 to support the delivery of the Core Strategy and sets out the preferred options ready for consultation.

3.1.21. The Places and Policies Local Plan identifies more than 50 sites across the district where the district's future needs in terms of housing, employment, community use and leisure could be met.

3.1.22. The Places and Policies Local Plan has two functions:

- *"To allocate enough land for future development to meet the requirements set out in the Core Strategy for residential, employment, community and other needs"; and*

- *"To provide development management policies that will be used to assess planning applications and guide future development."*

3.1.23. The Places and Policies Local Plan contains transport policies in Chapter 13 for:

- The street hierarchy and site layout.
- Parking standards for residential and non-residential and commercial developments.
- Residential garages.
- Parking for Heavy Goods Vehicles (HGVs).
- Cycle parking standards.

3.1.24. The document re-iterates the expectations of new development to prioritise walking, cycling and public transport modes before private cars. Policy T1 Street Hierarchy and Site Layout states that a safe environment for all street users is created, meeting the needs of all and not allowing vehicles to dominate.

Electric Vehicle Parking Requirement

3.1.25. Policy T2 also sets out the requirement for electric vehicle charging points. Residential applications must demonstrate that *"A charging point for electric vehicles is provided at a ratio of 1 per dwelling as far as is reasonably practicable"*.

3.1.26. Whilst, under non-residential and commercial proposals the requirement includes *"A minimum of 10 per cent of spaces for active and 10 per cent passive Electric Vehicle Charging points"*.

3.1.27. It also identifies potential opportunities for new development to make use of street lighting columns to permit on-street electric vehicle charging.

4. Guidance

Travel Plans, Transport Assessment and Statements, 2014

4.1.1. A set of National Planning Practice Guidance (NPPG) has been published to inform how the principle of the NPPF should be practiced. Those that specifically relate to transport matters are:

- Travel Plans, Transport Assessments and Statements in Decision-Taking (March 2014); and
- Transport Evidence Bases in Plan Making and Decision Taking (October 2014).

4.1.2. These guidelines provide a common approach which are aimed at ensuring that all relevant issues have been addressed within an assessment. This Transport Assessment adopts the national guidelines and approaches where possible, taking account of the specific nature of the development.

4.1.3. Kent County Council guidelines for the preparation of Transport Assessments for development[1] have been archived along with the national guidelines[2] produced by the DfT. Transport Assessment guidance is now incorporated into the NPPF.

A Charter for Otterpool Park, 2017

4.1.4. Although not planning policy, Folkestone & Hythe District Council has produced a Charter setting out its aspirations for Otterpool Park (2017). The Charter included principles focusing on creating a place that is environmentally, socially and economically sustainable.

4.1.5. In relation to access and movement, the Charter suggests that Otterpool Park will aspire to comprise the following four policies set out in the Core Strategy Local Plan Review (2018):

- SS6: New Garden Settlement – Development Requirements;
- SS7: New Garden Settlement – Place Shaping Principles;

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[1] Guidance on Transport Assessments and Travel Plans (Kent County Council, October 2008)
[2] Guidance on Transport Assessment (DfT, 2007)

- SS8: New Garden Settlement – Sustainability and Healthy New Town Principles; and
- SS9: New Garden Settlement – Infrastructure, Delivery and Management.

4.1.6. In order to prioritise walking, cycling and sustainable transport the Charter states that:

"a travel plan shall be prepared that has walking, cycling and access to public transport as a priority in the layout and design of the new settlement, with challenging targets set for non-car use as a percentage of all journeys".

Other Guidance

4.1.7. Where appropriate a range of other technical reference documents have been consulted in developing the assessment and mitigation proposals. These include:

- The Kent Design Guide (Kent Design Initiative, December 2005), adopted by Folkestone and Hythe District Council in 2007
- Kent County Council Interim Guidance Notes 1, 2 and 3 (2008)
- The Design Manual for Roads and Bridges, (DfT, various dates)
- The Manual for Streets, (Department for Communities and Local Government (DCLG) / DfT, 2007)
- The Manual for Streets 2, CIHT, 2010 – a companion guide to Manual for Streets (DCLG / DfT, 2010)
- Travel Plan Guidelines, (DfT, various dates).

APPENDIX C Canterbury Model Validation Report

OTTERPOOL PARK

Operational Modelling Validation Report: Canterbury

SEPTEMBER 2018

Incorporating

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1 Introduction

1.1 Background

Arcadis Consulting (UK) Limited was appointed to develop a masterplan and planning submission in respect of the proposed development called Otterpool Park.

In December 2016, a Feasibility and Capacity Study undertaken as part of Stage 1 of the masterplanning process included a high-level assessment of the capacity of the M20 Junction 11, investigating the existing operation of the junction and testing a number of development scenarios using trip forecasts from a high-level trip generation calculation exercise based on vehicle trip rates provided by Shepway District Council.

Following the initial high-level capacity assessment in January 2017, a Trip Model was developed to calculate the number of trips generated by the site, the mode of travel in which the trips will occur and the spatial distribution of the trips. The masterplan has been developed further and a planning application is due to be submitted in 2018.

Scoping discussions with Kent County Council (KCC), Folkstone & Hythe District Council (F&HDC) and Highways England to agree the transport requirements for the planning application were conducted between May 2017 and June 2018. A Transport Assessment scoping note1 containing the proposed modelling study area was issued in August 2017. Technical notes describing the proposed trip generation2 and distribution3 method were submitted in May 2017 and July 2017 respectively. These reports will be updated prior to planning application submission.

In June 2016, Canterbury City Council provided scoping opinion to F&HDC requesting further analysis of the effect of the Otterpool Park proposals in Canterbury. Following further scoping discussion with KCC, it was agreed that traffic modelling of the following two signalised junctions would be required:

a) Old Dover Road / The Drive / St Lawrence Road; and

b) Old Dover Road / Nackington Road.

1.2 Purpose of this Note

The purpose of this note is to provide a high-level assessment of the existing conditions at the site and develop a suitable 2018 base model for assessing the potential impacts of Otterpool Park development traffic on the road network at this location.

A calibrated and validated base model for the Old Dover Road/ The Drive junction to Old Dover Road / Nackington Road junction was developed as part of the 2014 Mountfield Park Transport Assessment and has been used as the basis for this assessment. This note outlines how a new 2018 baseline year was established using the traffic conditions and base junction modelling undertaken in 2014 and provides an assessment of 2018 traffic conditions and flows.

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[1] *Otterpool Park Garden Settlement Transport Assessment Scoping Report (August 2017)*

[2] *Otterpool Park Garden Settlement Trip Generation Calculation Method Technical Note (May 2017)*

[3] *Otterpool Park Garden Settlement Method for the Distribution of External Vehicle Trips (July 2017)*

1.3 Study Area

The Old Dover Road/The Drive junction is situated next to Canterbury Cricket Club (a mile south-east of Canterbury city). There is a large proportion of residential housing along with shops and services supplying the local area. The locations of the two junctions are shown in Figure 1. Table 1 presents the type of each junction.

Figure 1 Site Location

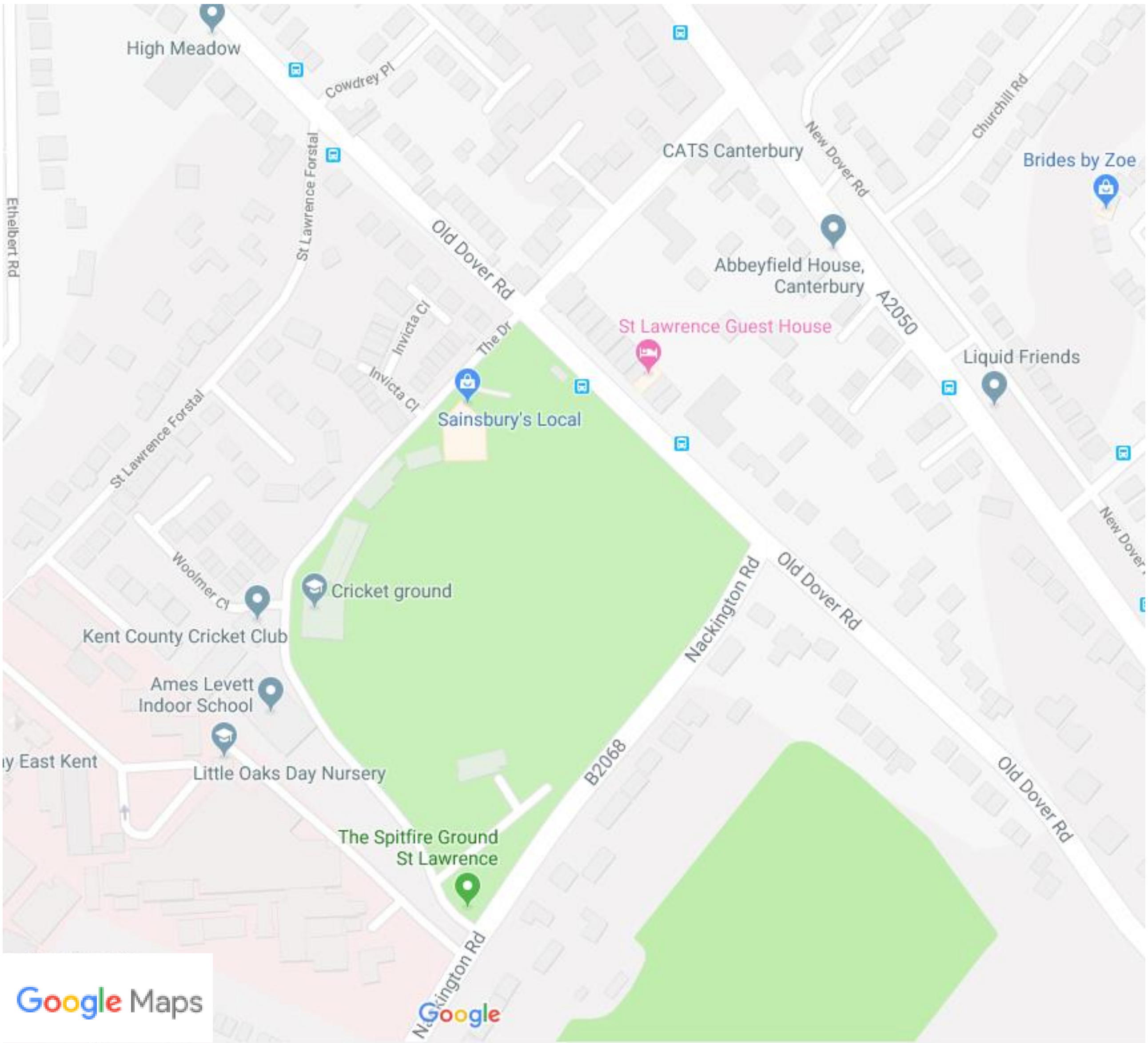
Table 1 Junction Name and Type

No.	Junction	Type
Junction 1	Old Dover Road / The Drive / St Lawrence Road	Signalised Crossroads
Junction 2	Old Dover / Nackington Road	Signalised T Junction

1.4 Road Network

The Old Dover Road / The Drive / St Lawrence Road junction is a four-arm signalised crossroad that is linked to the three arm signalised Old Dover Road / Nackington Road T-junction via Old Dover Road. The road network shown Figure 2.

Figure 2 Road Network



1.4.1 Old Dover Road

Old Dover Road runs from the Rhoadus Town/Upper Bridge Street roundabout on the south east of Canterbury Town Centre to the Old Gate Inn roundabout with New Dover Road to the south east of Canterbury. It is approximately 2km long and operates as a mixture of UAP3 and UAP4 link road with traffic calming between the Old Gate Inn roundabout to the south east and the junction with Nackington Road.

In the vicinity of the study site, Old Dover Road runs northwest – southeast and is the connecting link arm between the Old Dover Road / The Drive / St Lawrence Road junction and the Old Dover Road / Nackington Road junction. The Old Dover Road northwest approach to the Old Dover Road / The Drive junction has a 3.4m single lane with an advanced stopline for cyclists. Similarly, the southeast approach to the Old Dover Road / The Drive junction is a single lane approach with an advanced stopline for cyclists but with an approximate lane width of 3m. A straight-over signalised pedestrian crossing operates on the southeast approach with a crossing distance of approximately 10m.

The 170m section of Old Dover Road between the Old Dover Road/ The Drive / St Lawrence Road and Old Dover Road / Nackington Road junctions is slightly wider with a two-way carriageway width of approximately 9m. This is to accommodate on street parking on the northern side of the carriageway. There are also bus stops in both directions on Old Dover Road between the two junctions.

Southbound on approach to the Old Dover Road / Nackington Road junction, Old Dover Road flares to two lanes. This provides a 60m right-turn lane into Nackington Road that operates on an indicative right-turn signal. South of the Nackington Road junction there are traffic calming measures and the centre line on Old Dover Road is removed.

1.4.2 St Lawrence Road

St Lawrence Road runs between New Dover and Old Dover Road in a north east – south west direction. It is approximately 162m long with double yellow lines on both sides of the carriageway throughout its length except for a small amount of permit holder parking bays on the northern side of the carriageway. The carriageway is approximately 6m wide with single 3m lanes running in each direction. It has a single lane approach to the Old Dover Road junction with an advanced stopline for cyclists.

1.4.3 The Drive

The Drive is a narrow access road to residential cul de sacs and the Kent County Cricket Club. It has a single lane approach to the Old Dover Road / The Drive / St Lawrence Road junction, approximately 2.2m wide, with an advanced stopline for cyclists.

1.4.4 Nackington Road

Nackington Road is a key link road connecting Canterbury with villages and towns to the south. It is a two-way single lane carriageway with approximately 3m wide lanes. On approach to the junction with Old Dover Road it widens to two lanes to provide a short 30m right-turn flare with an advanced stopline for cyclists.

2 Baseline Conditions

2.1 Introduction

As part of the Mountfield Park planning application a technical note detailing the 2014 baseline traffic survey results was included. The raw traffic data collected for the site is provided as part of the appendices and includes data for both the Old Dover Road / The Drive / St Lawrence Road and Old Dover / Nackington Road junctions.

It was agreed with the KCC Highways Team that 2014 survey data collected as part of the Mountfield Park Transport Assessment (TA) could be used for the Otterpool Park assessment provided that they are validated against 2018 count data. In this Chapter, we present and compare the 2014 and 2018 traffic flow data.

2.2 2014 Traffic Surveys

The raw survey data from the Mountfield Park TA included classified turning counts for the Old Dover Road / The Drive / St Lawrence Road and Old Dover / Nackington Road junctions (see Appendix A). This data was extracted and factored to obtain turning volumes in Passenger Car Units (PCUs) which is approximately a single car length of 5.75m. These turning counts were used as the 2014 base traffic flow demands. The AM and PM peak hours were 08:00 – 0900 hours and 17:00 – 18:00 hours respectively. Table 2 and Flows in red indicate key movements.

Table 3 present the traffic flows in PCUs on each of the arms during the AM peak and PM peak hours.

Table 2 2014 AM Peak Hour Origin -Destination Matrix (PCUs)

Approach From	Travelling To					
	A – St Lawrence Road	B – Old Dover Road South	C – Nackington Road	D – The Drive	E – Old Dover Road North	Total
A – St Lawrence Road	0	40	102	26	122	290
B – Old Dover Road South	43	0	71	6	162	282
C – Nackington Road	102	102	0	16	316	536
D – The Drive	15	9	22	0	32	78
E – Old Dover Road North	53	70	180	25	0	328
Total	**213**	**221**	**375**	**73**	**632**	**1514**

Flows in red indicate key movements.

Table 3 2014 PM Peak Hour Origin -Destination Matrix (PCUs)

Approach From	Travelling To					
	A – St Lawrence Road	B – Old Dover Road South	C – Nackington Road	D – The Drive	E – Old Dover Road North	Total
A – St Lawrence Road	0	62	104	14	25	205
B – Old Dover Road South	36	0	105	20	92	253
C – Nackington Road	56	100	0	33	134	323
D – The Drive	34	21	33	0	40	128
E – Old Dover Road North	68	155	271	46	0	540
Total	**194**	**338**	**513**	**113**	**291**	**1449**

Flows in red indicate key movements.

Figure 3 provides a visual representation of the predominant traffic flows recorded at the junctions. It shows that the predominant traffic flows were as follows:

a) Old Dover Road North to Nackington Road – AM and PM peak hours;

b) Nackington Road to Old Dover Road North – AM and PM peak hours;

c) Old Dover Road South to Old Dover Road North – AM peak hour; and

d) Old Dover Road North to Old Dover Road South – PM peak hour.

The key movements indicate that there is a tidal flow pattern along Old Dover Road with heavier northbound movements in the AM peak hour (towards Canterbury) and southbound movements in the PM peak hour. Movements to and from Nackington Road and Old Dover North were heavy in both the AM and PM peak hours.

Figure 3 Key Traffic Flow Movements

As part of the traffic surveys, 15-minute queue data was also collected at the two junctions. The observed data is presented in Table 4. The data indicates that the longest queues average and maximum queues in the AM peak hour formed on Nackington Road. Long queues also formed on the Old Dover South and North approaches. In the PM peak hour, the longest queues formed on Old Dover North, Nackington Drive and The Drive.

Table 4 Observed Queue Results

Approach		Queue Lengths			
		AM Peak Hour		PM peak Hour	
		Average	Maximum	Average	Maximum
A	St Lawrence Road	5	5	4	5
B	Old Dover Road South	9	10	6	8
C	Nackington Road	14	17	11	15
D	The Drive	3	4	9	10
E	Old Dover Road North	9	14	13	16

2.3 2014 Base Traffic Model Results

A calibrated and validated base model for the Old Dover Road / The Drive / St Lawrence Road junction to Old Dover / Nackington Road junction was developed as part of the Mountfield Park TA. Using the base LinSig model outputs from the TA a 2014 base model for the Old Dover Road / The Drive / St Lawrence Road and Old Dover / Nackington Road junctions was developed for the Otterpool Park assessment. This model retained the network layout, saturation flows and signal coordination which had previously been approved. Signal timing sheets, signal layout drawings, and any other supplementary signal data provided by the Local Authority were checked and used to input the phases and associated phase delays, phase minimums and intergreen matrices. These are included in Appendix B. It has been assumed that since no network changes have been implemented at this location since 2014 and therefore that the model provides a reasonable representation of existing network conditions. Table 5 and Table 6 provide a comparison of the base model Degree of Saturation (DoS) and Mean Maximum Queue length (MMQ) results and observed average and maximum queue lengths. Full model outputs are provided in Appendix C.

The base model results indicate that the network is fully saturated, particularly in the AM peak hour. The model indicates that four approaches, St Lawrence Road, Old Dover Road South, Nackington Road and Old Dover Road North are operating above practical capacity in the 2014 baseline conditions all with a DoS above 90%. The model also predicts long sustained queues on these approaches, which is in line with the observed average and maximum queue data. However, it should be noted that the observed average and maximum queue lengths on St Lawrence Road were lower than those predicted in the base LinSig model. A comparison with typical peak hour traffic using the Google Traffic application on Google Maps, shown in Figure 4, indicates that the base model is consistent with current typical peak hour traffic conditions. The entire network is shown in amber with red on the St Lawrence Road, Old Dover Road South and Nackington Road approaches. This indicates heavy congestion on the surrounding road network and the approaches identified in the base LinSig model.

The base model results for the PM peak hour also indicate that the network is operating at capacity, with one approach, Old Dover North, predicted to be operating above practical capacity with a DoS of 100.7%. The modelled MMQ for each of the approaches are consistent with those observed on site with the longest queues forming on Old Dover North.

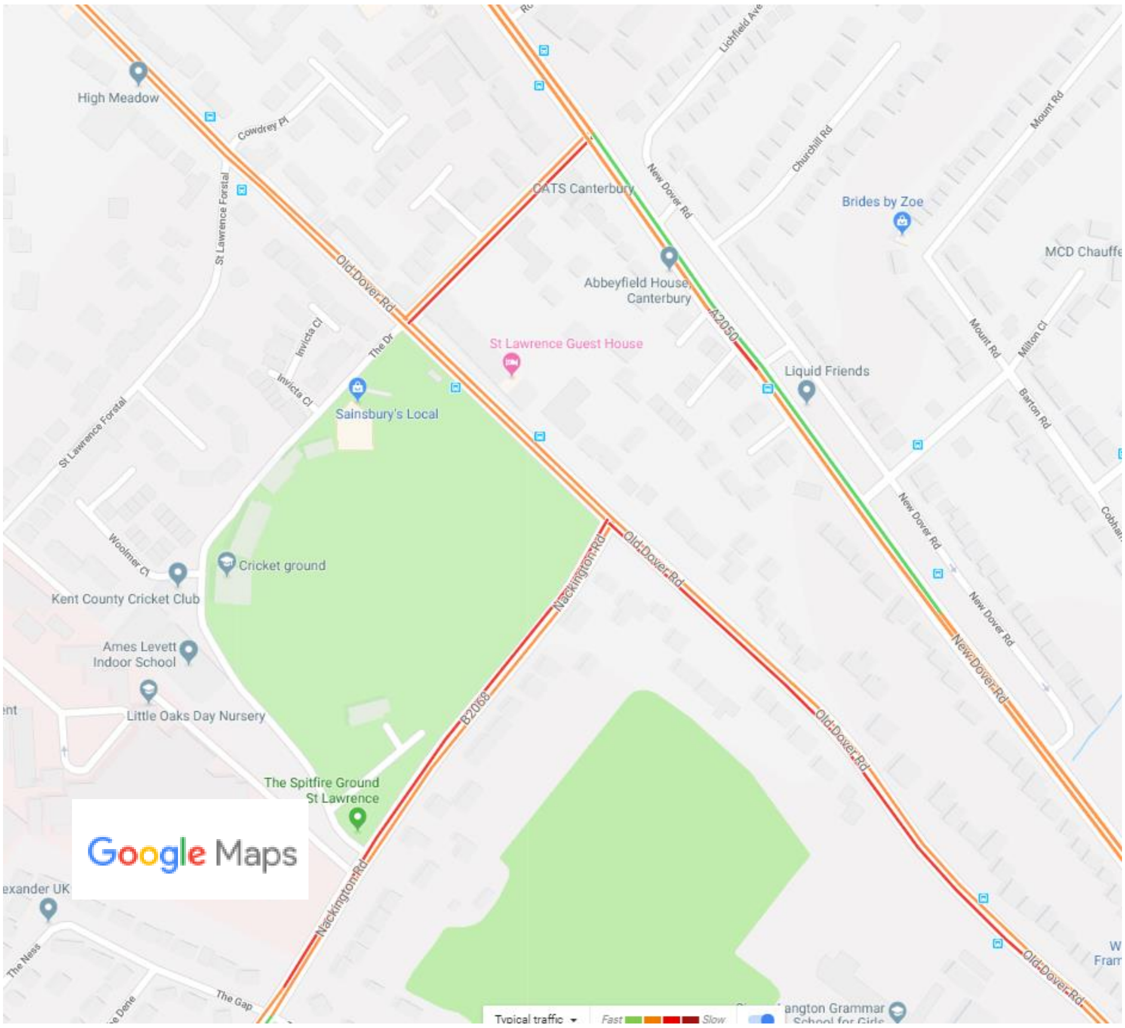
Table 5 2014 AM Base Traffic Model and Observed Results

Approach		AM Peak Hour			
		Modelled		Observed	
		DoS (%)	Mean Max Queue (PCU)	Average Queue (Vehicles)	Max Queue (Vehicles)
A	St Lawrence Road	99	16	5	5
B	Old Dover Road South	64	9	9	11
C	Nackington Road	94	9	14	17
D	The Drive	49	3	3	4
E	Old Dover Road North	95	15	9	14
-	Old Dover Internal Link Northbound	98	27	9	10
-	Old Dover Internal Link Southbound	64	9	7	8

Table 6 2014 PM Base Traffic Model and Observed Results

Approach		PM Peak Hour			
		Modelled		Observed	
		DoS (%)	Mean Max Queue (PCU)	Average Queue (Vehicles)	Max Queue (Vehicles)
A	St Lawrence Road	77	8	4	5
B	Old Dover Road South	85	10	6	7
C	Nackington Road	78	6	11	15
D	The Drive	89	7	9	10
E	Old Dover Road North	101	29	13	16
-	Old Dover Internal Link Northbound	82	6	6	8
-	Old Dover Internal Link Southbound	68	6	8	10

Figure 4 Google Traffic Typical Traffic conditions: AM Peak Hour



2.4 2018 Baseline Conditions

Since the traffic data used in the 2014 Mountfield Park TA is greater than 3 years old, KCC requested that it should be compared with 2018 traffic count data and adjusted accordingly to establish a new 2018 baseline for the network.

Automated Traffic Count (ATC) data was collected in March 2018 at the locations shown in Figure 5. Whilst only two of the five entrances to the network were covered by the 2018 ATCs, these are considered to the be two critical entrances and exits to the network. The ATC on Old Dover Road captures all of the traffic routing to and from the centre of Canterbury. The ATC on Nackington Road captures strategic traffic from south of Canterbury which is where the proposed Otterpool development is located. The ATCs are close enough to the junctions to assume that there would not be a significant leakage in network traffic and would therefore provide a robust method to assess network traffic growth.

Figure 5 2018 ATC Locations

Figure 6 shows a comparison of the rolling hour traffic flow profiles for each movement for each weekday as well as the weekday average. The data indicates that daily traffic profiles for each movement are consistent across each of the observed weekdays. The traffic flow profiles for Old Dover Road Northbound and Southbound show a tidal movement in the AM and PM peak hours with heavier flows northbound in the AM and southbound in the PM. As the flow profiles across each of the weekdays are similar, the average flow across the weekdays has been used for the purposes of this assessment.

Figure 6 2018 ATC Rolling Hour Traffic Flow Profiles (PCUs)

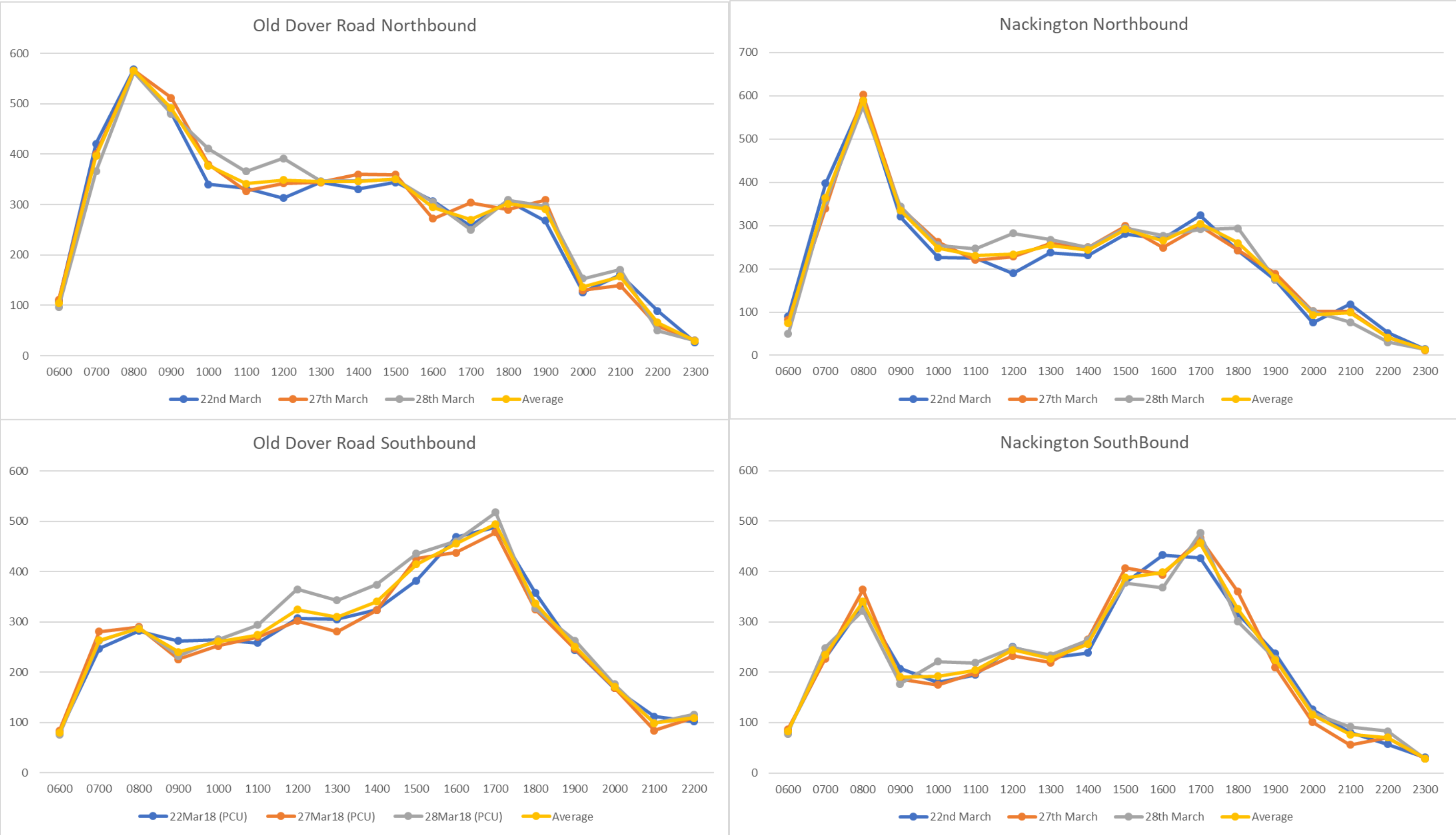
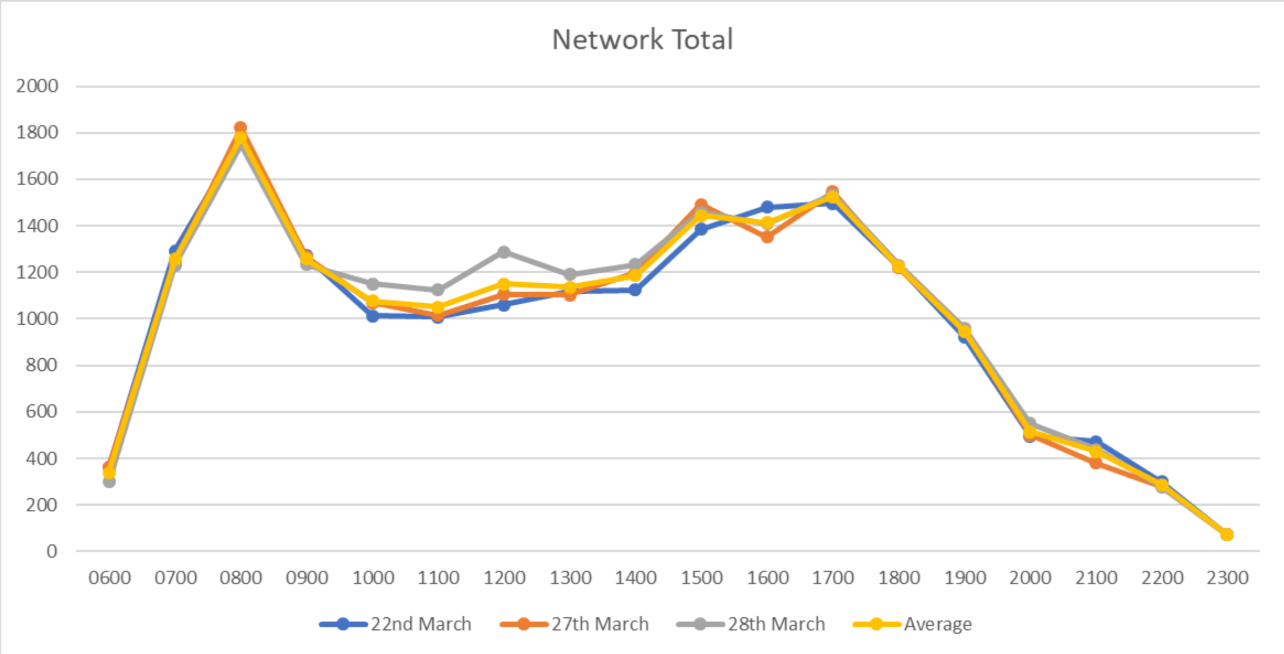


Figure 7 shows the network 'rolling hour' total flow profile for each weekday. These are also consistent across weekdays and indicate the peak hours are still 08:00 – 09:00 and 17:00 – 18:00 for the AM and PM peak hours respectively.

Figure 7 2018 Rolling Hour Network Total Traffic Flow Profiles (PCUs)



This comparison is shown in Table 7.

Table 7 Comparison between 2014 and 2018 traffic flow data

Direction	AM Peak Hour				PM Peak Hour			
	Traffic Flow (PCU)		Flow Difference		Traffic Flow (PCU)		Flow Difference	
	2014	2018	Vehicles	%	2014	2018	Vehicles	%
Nackington Road SB	376	340	-36	-9.6%	512	456	-55	-10.8%
Nackington Road NB	535	589	54	10.1%	317	305	-13	-3.9%
Old Dover Road SB	329	288	-41	-12.4%	530	518	-12	-2.3%
Old Dover Road NB	631	591	-41	-6.4%	291	277	-14	-4.8%
Total	1871	1808	-63	-3.4%	1650	1556	-94	-5.7%

The data indicates that there has been little change in traffic flows along Old Dover Road and Nackington Road between 2014 and 2018. The results indicate a net decrease in traffic demand of -3.4% and -5.7% in the AM and PM peak hours respectively.

Although a decrease in traffic demand or volume is not typically expected, it reflects the constraints on the network. The network results in the 2014 base LinSig model indicate that the network is fully saturated and without network improvements additional traffic would not be able to be accommodated through these junctions. It is therefore a reasonable assumption there has been no growth in peak hour traffic flows at this location as there is not enough capacity on the network to accommodate further growth. There may have been an increase in demand in the shoulder peaks either side of the peak hour, however this does not affect the peak hour growth assumptions.

A review of the available annual count data in the vicinity of the site found that one DfT count point was in close proximity to the site. DfT count point ID 26110, shown in

, is located to the south east of the site. The annual count data for 2012 – 2017 for this location was extracted and is presented Figure 8. The data indicates that there was a reduction in yearly flows between 2014 and 2017. This is consistent with the reduction observed between the 2018 ATC data and 2014 junction turning counts.

Figure 8 DfT Count Point 26110 Location

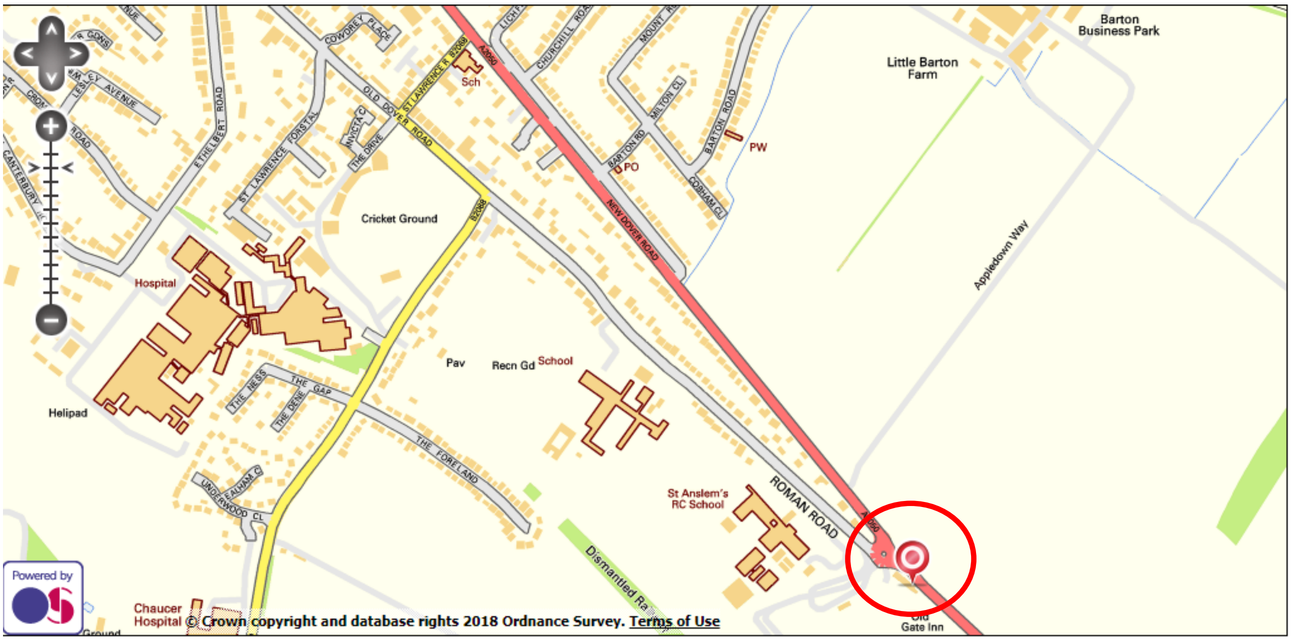
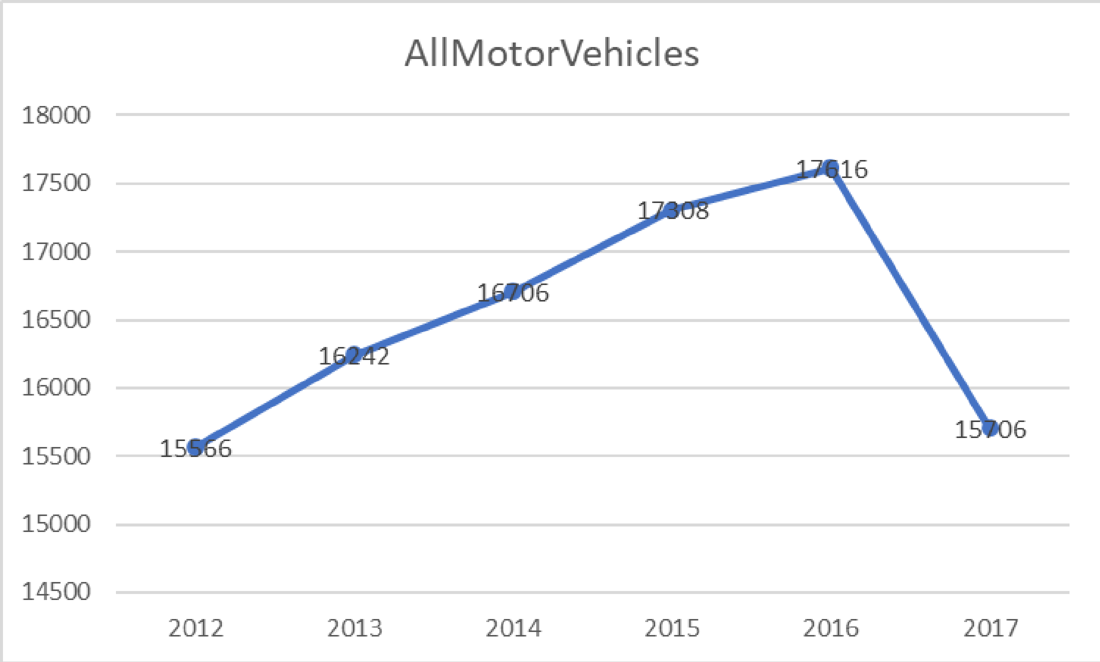


Figure 9 DfT Annual Traffic Flows at Count Point 26110



Therefore, based upon this assessment it is considered that no network traffic growth should be applied to the 2018 baseline and that the 2014 base model and traffic flows are considered a reasonable representation of the existing conditions at the site. It is also considered the worst-case scenario as the 2014 flows are higher than those recorded in 2018.

3 Summary and Conclusion

3.1 Summary

Arcadis Consulting (UK) Limited was appointed to undertake a traffic modelling assessment of the network surrounding Canterbury Cricket Club. Specifically, the Old Dover Road/ The Drive junction to the B2068 Nackington Road junction.

A calibrated and validated base model for the Nackington Road / Old Dover Road T-Junction to Old Dover Road / The Drive / St Lawrence Road junction was developed as part of the Mountfield Park TA. Using the base LinSig model outputs from the TA a 2014 base model for the junctions was developed. This model retained the network layout, saturation flows and signal coordination which had previously been approved.

The base model results indicate that the network is fully saturated, particularly in the AM peak hour. The model indicates that four approaches, St Lawrence Road, Old Dover Road South, B2068 Nackington Road and Old Dover Road North are operating above practical capacity in the 2014 baseline conditions all with a DoS above 90%.

In order to establish a new 2018 baseline for the network, the 2014 traffic count data was compared with 2018 ATC data. The comparison indicated that there has been little change in traffic flows along Old Dover Road and Nackington Road between 2014 and 2018. The results indicate a net decrease in traffic demand of 3.4% and 5.7% in the AM and PM peak hours respectively.

3.2 Conclusion

Based upon this assessment it is considered that no network traffic growth should be applied to the 2018 baseline and that the 2014 base model and traffic flows are considered a representation of the existing conditions at the site and fit to be used for the Otterpool Park assessment work for the Nackington Road / Old Dover Road and Old Dover Road / The Drive / St Lawrence Road junctions.

APPENDIX A

Mountfield Park Raw Traffic Data

JUNCTI Old Dover Road (NORTH) / St Lawrence Road

AM

Old Dover Road (NORTH

		Left to St Lawrence									Ahead ODR (S)									Right The Drive										
TIME		P/CY	M/C	CAR	LGV	OGV	OGV	BUS	TOT/	PCU	P/CY	M/C	CAR	LGV	OGV	OGV	BUS	TOT/	PCU	P/CY	M/C	CAR	LGV	OGV	OGV	BUS	TOT/	PCU	Total	
800 -	815	0	0	3	1	0	0	0	4	4	1	0	58	1	1	1	2	63	67	0	0	7	2	0	0	0	9	9		
815 -	830	0	0	17	0	0	0	0	17	17	5	2	74	2	0	0	1	79	80	0	0	4	2	0	0	0	6	6		
830 -	845	0	0	21	0	0	0	1	22	23	1	0	45	3	0	0	6	54	62	0	0	4	0	0	0	0	4	4	Total	
845 -	900	0	0	8	1	0	0	0	9	9	0	0	32	7	2	0	0	41	42	2	0	5	1	0	0	0	6	6.4	TOT/	PCU
Hourly	Total	0	0	49	2	0	0	1	52	53	7	2	209	13	3	1	9	237	250	2	0	20	5	0	0	0	25	25	314	329

St Lawrence

		Left									Ahead									Right										
TIME		P/CY	M/C	CAR	LGV	OGV	OGV	BUS	TOT/	PCU	P/CY	M/C	CAR	LGV	OGV	OGV	BUS	TOT/	PCU	P/CY	M/C	CAR	LGV	OGV	OGV	BUS	TOT/	PCU	Total	
800 -	815	0	1	30	3	1	0	0	35	35	0	0	4	0	0	0	0	4	4	0	0	29	0	0	0	0	29	29		
815 -	830	0	0	35	5	1	0	1	42	44	1	0	11	1	0	0	0	12	12	2	0	30	0	0	0	0	30	30		
830 -	845	0	0	32	2	1	0	0	35	36	0	0	3	0	0	0	0	3	3	1	0	28	0	0	0	0	28	28		
845 -	900	1	0	22	1	0	0	2	25	28	0	0	5	2	0	0	0	7	7	0	0	34	0	0	0	0	34	34	TOT/	PCU T
Hourly	Total	1	1	119	11	3	0	3	137	142	1	0	23	3	0	0	0	26	26	3	0	121	0	0	0	0	121	122	284	289

Old Dover F

		Left									Ahead									Right										
TIME		P/CY	M/C	CAR	LGV	OGV	OGV	BUS	TOT/	PCU	P/CY	M/C	CAR	LGV	OGV	OGV	BUS	TOT/	PCU	P/CY	M/C	CAR	LGV	OGV	OGV	BUS	TOT/	PCU	Total	
800 -	815	0	0	8	1	0	0	0	9	9	0	2	101	4	0	0	1	108	108	0	0	37	4	0	0	0	41	41		
815 -	830	0	0	4	1	0	0	0	5	5	1	0	80	6	1	0	8	95	106	0	0	28	3	0	0	0	31	31		
830 -	845	0	0	4	0	0	0	0	4	4	0	0	85	5	2	0	5	97	105	0	1	42	2	0	0	1	46	47	Total	
845 -	900	0	0	3	1	0	0	0	4	4	0	0	115	7	1	2	14	139	160	0	0	22	4	0	0	0	26	26	TOT/	PCU
Hourly	Total	0	0	19	3	0	0	0	22	22	1	2	381	22	4	2	28	439	478	0	1	129	13	0	0	1	144	145	605	645

The Drive					Left									Ahead									Right							
TIME		P/CY	M/C	CAR	LGV	OGV	OGV	BUS	TOTA	PCU	P/CY	M/C	CAR	LGV	OGV	OGV	BUS	TOTA	PCU	P/CY	M/C	CAR	LGV	OGV	OGV	BUS	TOTA	PCU	Total	
800 -	815	0	0	8	4	1	0	0	13	14	1	0	6	0	0	0	0	7	6.2	0	0	11	1	0	0	0	12	12		
815 -	830	0	0	4	0	0	0	0	4	4	0	0	3	0	0	0	0	3	3	0	0	11	0	0	0	0	11	11		
830 -	845	1	0	5	2	0	0	0	8	7.2	0	0	5	0	0	0	0	5	5	0	0	5	1	0	0	0	6	6	Total	
845 -	900	1	0	7	0	0	0	0	8	7.2	0	0	0	1	0	0	0	1	1	0	0	2	0	0	0	0	2	2	TOTA	PCU
Hourly	Total	2	0	24	6	1	0	0	33	32	1	0	14	1	0	0	0	16	15	0	0	29	2	0	0	0	31	31	80	78

Formula PCU	PCU	0.2	0.4	1	1	1.5	2	2.3		PCU	0.2	0.4	1	1	1.5	2	2.3		PCU	0.2	0.4	1	1	1.5	2	2.3	

PM

Old Dover Road (NORTH					Left									Ahead									Right							
TIME		P/CY	M/C	CAR	LGV	OGV	OGV	BUS	TOTA	PCU	P/CY	M/C	CAR	LGV	OGV	OGV	BUS	TOTA	PCU	P/CY	M/C	CAR	LGV	OGV	OGV	BUS	TOTA	PCU	Total	
1700 -	1715	0	0	20	0	0	0	0	20	20	1	0	97	4	0	0	0	101	101	0	0	7	2	0	0	0	9	9		
1715 -	1730	0	1	14	0	0	0	0	15	14	0	0	94	6	0	0	0	100	100	0	0	7	0	0	0	0	7	7		
1730 -	1745	0	0	16	0	0	0	1	17	18	0	0	109	7	0	0	1	117	118	0	0	9	1	0	0	0	10	10	Total	
1745 -	1800	0	0	11	1	0	0	0	12	12	0	0	98	2	0	0	1	101	102	0	0	17	1	0	0	0	18	18	TOTA	PCU
Hourly	Total	0	1	61	1	0	0	1	64	65	1	0	398	19	0	0	2	419	422	0	0	40	4	0	0	0	44	44	527	530

St Lawrence					Left									Ahead									Right							
TIME		P/CY	M/C	CAR	LGV	OGV	OGV	BUS	TOTA	PCU	P/CY	M/C	CAR	LGV	OGV	OGV	BUS	TOTA	PCU	P/CY	M/C	CAR	LGV	OGV	OGV	BUS	TOTA	PCU	Total	
1700 -	1715	0	0	31	0	0	0	0	31	31	0	0	3	0	0	0	0	3	3	0	0	5	0	0	0	0	5	5		
1715 -	1730	0	0	46	3	0	0	1	50	51	0	0	3	0	0	0	0	3	3	0	0	8	0	0	0	0	8	8		
1730 -	1745	1	0	35	1	0	0	0	36	36	0	0	2	0	0	0	0	2	2	1	0	4	0	0	0	0	4	4.2	Total	
1745 -	1800	1	0	42	1	0	0	1	44	46	0	0	5	0	0	0	0	5	5	0	0	7	0	0	0	0	7	7	TOTA	PCU
Hourly	Total	2	0	154	5	0	0	2	161	164	0	0	13	0	0	0	0	13	13	1	0	24	0	0	0	0	24	24	198	201

Old Dover F			Left									Ahead									Right										
	TIME		P/CY	M/C	CAR	LGV	OGV	OGV	BUS	TOTA	PCU	P/CY	M/C	CAR	LGV	OGV	OGV	BUS	TOTA	PCU	P/CY	M/C	CAR	LGV	OGV	OGV	BUS	TOTA	PCU	Total	
1700 -	1715		0	0	12	0	0	0	0	12	12	0	0	36	1	0	0	2	39	42	0	0	23	2	0	0	0	25	25		
1715 -	1730		0	0	11	0	0	0	0	11	11	2	0	49	2	0	0	2	53	56	1	0	23	3	0	0	0	26	26		
1730 -	1745		0	0	10	13	0	0	0	23	23	0	0	48	3	0	0	4	55	60	1	0	28	0	0	0	0	28	28	Total	
1745 -	1800		0	0	8	1	0	0	0	9	9	0	0	65	3	0	0	1	69	70	1	0	14	3	0	0	0	17	17	TOTA	PCU
Hourly	Total		0	0	41	14	0	0	0	55	55	2	0	198	9	0	0	9	216	228	3	0	88	8	0	0	0	96	97	367	379

The Drive			Left									Ahead									Right										
	TIME		P/CY	M/C	CAR	LGV	OGV	OGV	BUS	TOTA	PCU	P/CY	M/C	CAR	LGV	OGV	OGV	BUS	TOTA	PCU	P/CY	M/C	CAR	LGV	OGV	OGV	BUS	TOTA	PCU	Total	
1700 -	1715		0	0	17	0	0	0	0	17	17	0	0	15	0	0	0	0	15	15	0	0	21	1	0	0	0	12	22		
1715 -	1730		0	0	7	1	0	0	0	8	8	0	0	2	0	0	0	0	2	2	0	0	14	0	0	0	0	11	14		
1730 -	1745		1	0	6	1	0	0	0	7	7.2	0	0	9	0	0	0	0	9	9	0	0	5	0	0	0	0	6	5	Total	
1745 -	1800		0	0	6	1	0	0	0	7	7	0	0	6	1	0	0	0	7	7	0	0	11	2	0	0	0	2	13	TOTA	PCU
Hourly	Total		1	0	36	3	0	0	0	39	39	0	0	32	1	0	0	0	33	33	0	0	51	3	0	0	0	31	54	103	126
												PCU	0.4	1	1	1.5	2	2.3													

JUNCTI(Nackington Approach / Old Dover Road South

AM

Nackington Appro			Left to ODR (NORTH)									Right to ODR (SOUTH)											
	TIME		P/CY	M/C	CAR	LGV	OGV	OGV	BUS	TOTA	PCU	P/CY	M/C	CAR	LGV	OGV	OGV	BUS	TOTA	PCU	Total		
800 -	815		0	0	99	7	0	0	1	107	108	1	0	31	1	0	0	0	32	32			
815 -	830		0	0	90	4	2	0	2	98	102	0	0	16	1	0	0	1	18	19			
830 -	845		0	1	96	7	0	0	1	105	106	0	0	30	2	0	0	0	32	32		Total	
845 -	900		0	0	92	9	2	1	5	109	118	0	0	16	0	0	0	1	17	18		TOTA	PCU
Hourly	Total		0	1	377	27	4	1	9	419	433	1	0	93	4	0	0	2	99	102		518	535

Old Dover Road (N			Ahead to ODR (Sth)									Right To Nackington											
	TIME		P/CY	M/C	CAR	LGV	OGV	OGV	BUS	TOTA	PCU	P/CY	M/C	CAR	LGV	OGV	OGV	BUS	TOTA	PCU	Total		
800 -	815		1	0	40	1	0	0	1	42	44	1	1	59	9	2	1	1	73	76			
815 -	830		5	0	35	1	0	0	0	36	37	0	3	79	8	1	0	2	93	94			
830 -	845		0	0	23	1	0	0	1	25	26	0	0	59	5	1	0	4	69	75		Total	
845 -	900		2	0	11	1	0	0	0	12	12	1	0	48	6	1	0	2	57	60		TOTA	PCU
Hourly	Total		8	0	109	4	0	0	2	115	119	2	4	245	28	5	1	9	292	305		407	424

Old Dover Road Sc		Left to Nackington									Ahead to Old Dover Road (Nrth)											
TIME		P/CY	M/C	CAR	LGV	OGV	OGV	BUS	TOTA	PCU	P/CY	M/C	CAR	LGV	OGV	OGV	BUS	TOTA	PCU	Total		
800 -	815	1	0	9	0	0	0	1	11	12	0	2	43	5	0	0	1	51	51			
815 -	830	0	0	15	0	0	0	0	15	15	0	0	27	3	0	1	6	37	46			
830 -	845	0	0	19	1	0	0	2	22	25	0	0	32	3	0	0	6	41	49		Total	
845 -	900	0	0	18	2	0	0	0	20	20	1	0	47	1	0	0	7	55	64		TOTA	PCU
Hourly	Total	1	0	61	3	0	0	3	68	71	1	2	149	12	0	1	20	184	210		252	281

PM

Nackir Approach		Left to ODR (North)									Right to ODR (South)											
TIME		P/CY	M/C	CAR	LGV	OGV	OGV	BUS	TOTA	PCU	P/CY	M/C	CAR	LGV	OGV	OGV	BUS	TOTA	PCU	Total		
1700 -	1715	0	0	40	3	0	0	0	43	43	0	0	32	1	0	0	0	33	33			
1715 -	1730	1	0	46	5	0	0	1	52	54	0	0	20	0	0	0	1	21	22			
1730 -	1745	2	0	59	3	0	0	0	62	62	0	0	23	1	0	0	1	25	26		Total	
1745 -	1800	1	0	55	0	0	0	0	55	55	0	0	19	0	0	0	1	20	21		TOTA	PCU
	Total	4	0	200	11	0	0	1	212	214	0	0	94	2	0	0	3	99	103		311	317

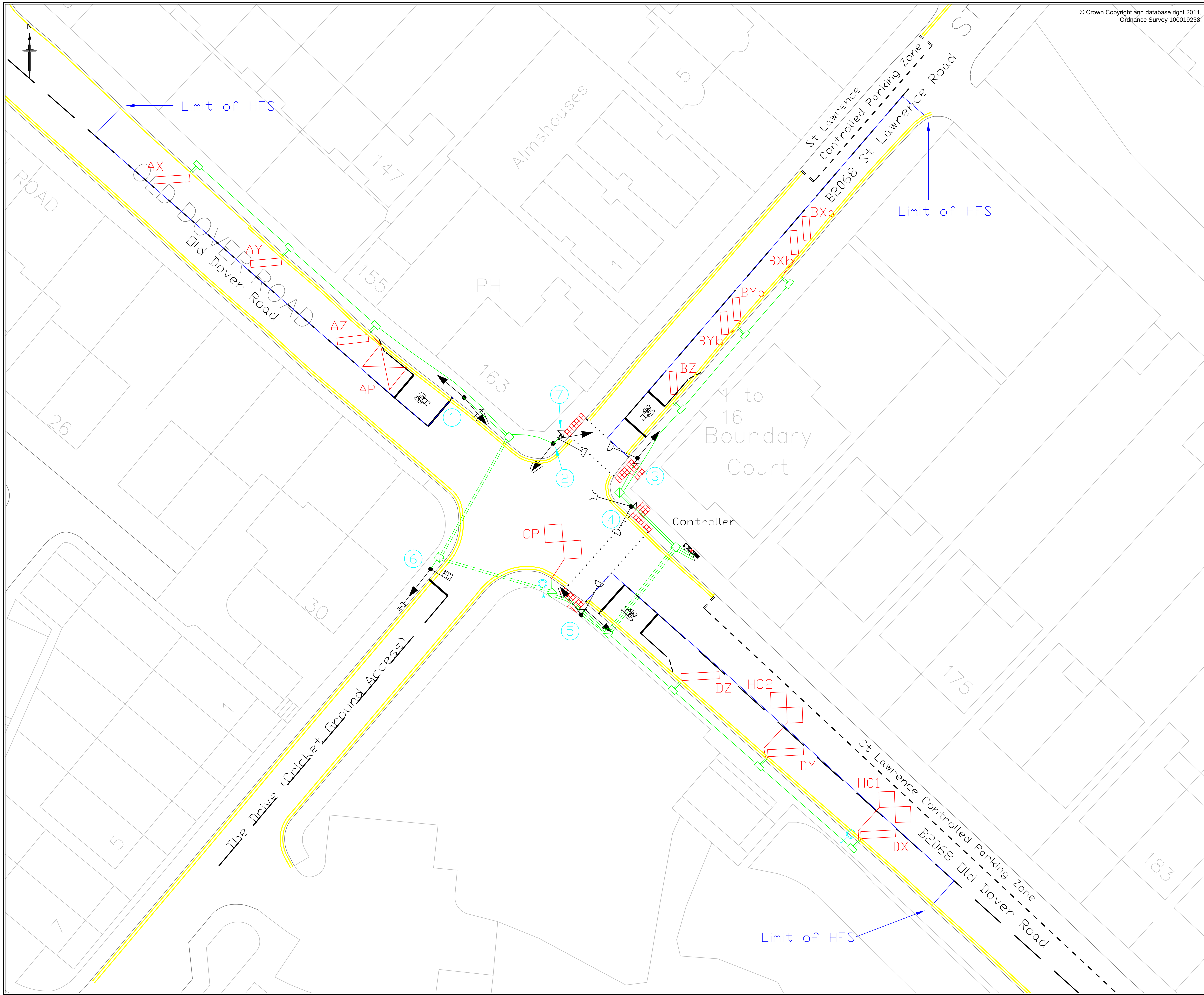
Old Dover Road N		Ahead to ODR (South)									Right to Nackington											
TIME		P/CY	M/C	CAR	LGV	OGV	OGV	BUS	TOTA	PCU	P/CY	M/C	CAR	LGV	OGV	OGV	BUS	TOTA	PCU	Total		
1700 -	1715	0	0	63	4	0	0	0	67	67	0	0	90	1	0	0	0	91	91			
1715 -	1730	0	0	55	3	0	0	0	58	58	0	0	94	5	0	0	0	99	99			
1730 -	1745	0	0	54	3	0	0	1	58	59	1	0	106	3	0	0	0	109	109		Total	
1745 -	1800	0	0	49	3	0	0	0	52	52	1	0	100	3	0	0	1	104	106		TOTA	PCU
Hourly	Total	0	0	221	13	0	0	1	235	236	2	0	390	12	0	0	1	403	405		638	641

Old Dover Road Sc		Left to Nackington									Ahead to ODR (North)											
TIME		P/CY	M/C	CAR	LGV	OGV	OGV	BUS	TOTA	PCU	P/CY	M/C	CAR	LGV	OGV	OGV	BUS	TOTA	PCU	Total		
1700 -	1715	0	1	22	0	0	0	1	24	25	2	0	22	0	0	0	2	24	27			
1715 -	1730	1	0	26	1	0	0	1	28	30	0	0	33	0	0	0	2	35	38			
1730 -	1745	0	0	18	0	1	0	1	20	22	0	0	27	2	1	0	3	33	37		Total	
1745 -	1800	0	0	29	2	0	0	0	31	31	0	0	32	3	1	0	1	37	39		TOTA	PCU
Hourly	Total	1	1	95	3	1	0	3	103	107	2	0	114	5	2	0	8	129	141		232	248

Total

APPENDIX B

Signal Configuration Plans



Drawing number

ITS/2014/S/06-0061

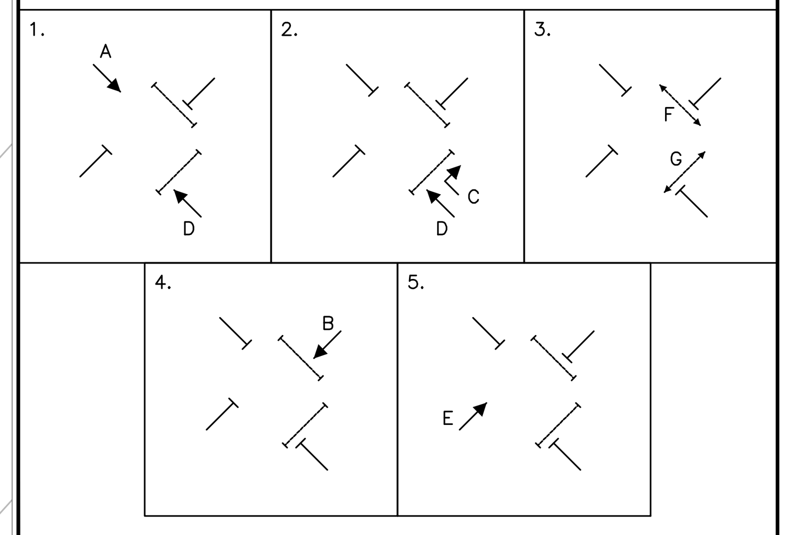
Notes

Key

- Junction box 550 mm depth (no under kerb ducts)
- Junction box 550 mm depth (with under kerb ducts)
- Junction pit 900 mm depth (no under kerb ducts)
- Junction pit 900 mm depth (with under kerb ducts)
- Junction pit 550 mm depth (no under kerb ducts)
- Junction pit 550 mm depth (with under kerb ducts)
- Duct FW/1 100 mm dia
- Duct FW/2 100 mm dia
- Duct FW/3 100 mm dia
- Duct CW/2 100 mm dia
- Duct CW/3 100 mm dia
- Duct CW/4 100 mm dia
- Signal controller cabinet
- Electricity supply pillar
- BT termination pillar
- AX Vehicle detector loop and identity
- Traffic signal and pole
- Traffic signal with secondary hoods
- Pedestrian signal
- Short pole
- Pedestrian push button unit
- Microwave vehicle detector
- Pedestrian / cycle on crossing detector
- Visual pedestrian or vehicle presence detector
- Photo electric cell
- Bus priority receiver
- Layout of blister tactile surface modules (red)
- Roadstuds
- Existing lighting column
- Guardrail type PG/1 – HV (staggered infill bars)
- HFS (HFS beyond stopline must be coloured Grey)

Notes

1. This drawing is based on Ordnance Survey digital data supplemented by additional base detail measured on site. Original drawing 2862/S/1F.
2. High Friction Surface (HFS) shall extend 50m in advance of the stopline on each approach.
   The HFS shall extend to the first row of pedestrian studs beyond the stopline. On High Speed Roads, the HFS shall extend to the second row of pedestrian studs beyond the stopline. All HFS beyond the stopline shall be coloured grey.
3. This drawing shall be read in conjunction with KCC Standard Details:-
   KCC/400/002 - Pedestrian guardrail.
   KCC/500/020 to /025 - Ducting and Junction Pits.
   KCC/1100/007 - Tactile paving at controlled pedestrian crossing points.
   KCC/1200/007 and /008 - Installation of signal equipment.
   KCC/1200/009 - Traffic Signal Pole Retention Socket.
4. This drawing shall be read in conjunction with the Contract Specification Appendices:-
   Appendix 5/2 - Service Duct requirements.
   Appendix 12/3 - Traffic Signs: Studs.
   Appendix 12/5 - Traffic Signs: Traffic Signals.
   Appendix 14/5 - Electrical Equipment.
5. Bus priority cable shall terminate in pole 6 and be tagged at the pole and in the controller 'Bus Priority'.
6. Ducting shall be adjusted locally to avoid existing Statutory Undertakers Plant.
7. The details of any existing services shown on this drawing are based upon information supplied by the statutory bodies and other authorities concerned. The accuracy of this information cannot be guaranteed and the presence of other apparatus, in particular service connections to individual properties, should be expected.



Rev	Revision Date	Purpose of revision	Drawn	Checked	Approved
1	19/10/14	Revised OS base information Adjusted location of Pole 6 for new layout	IB		
0	08/04/14	As built drawing transferred to current frame TrafficCam fitted to pole 6 replacing EP loop	IB		

Kent County Council
kent.gov.uk

Kent County Council
Aylesford Highway Depot
St. Michael's Close
Aylesford ME20 7BU
Tel: 03000 41 81 81

Project

Intelligent Transport Systems

Drawing title

B2068 Old Dover Road/ St Lawrence Road, Canterbury
Site Ref: 06/0061

Drawing status

As Built

Scale: 1:200 at A1 — Do not scale

Drawing number: ITS/2014/S/06-0061 — Rev 1

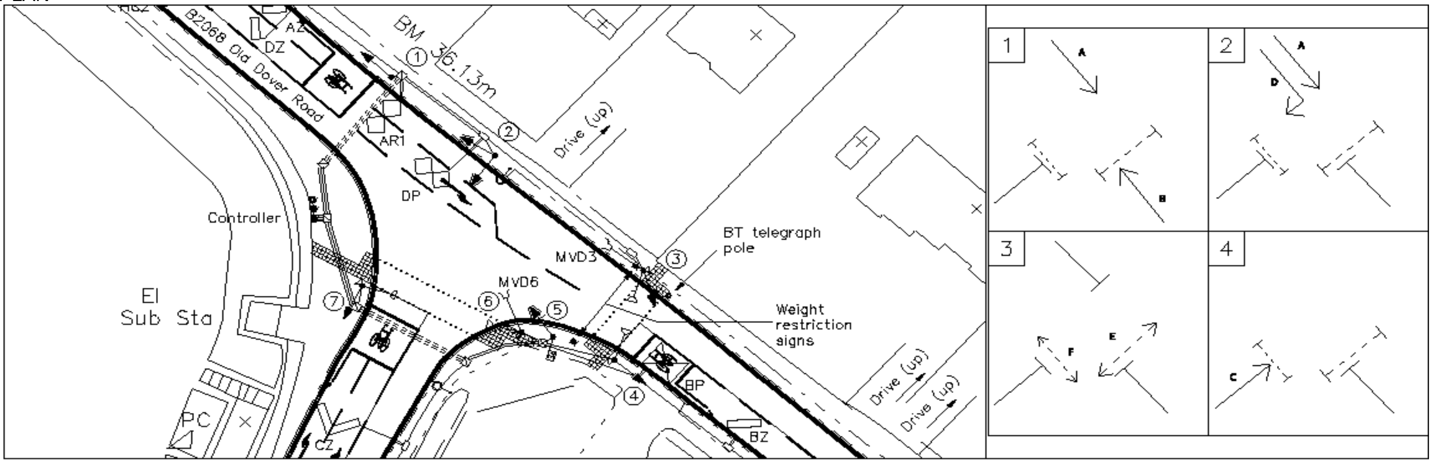
C:\Changes\060061\OSBase.dwg

A1

	KENT COUNTY COUNCIL **TRAFFIC SIGNAL DATA SHEET**	CONTROLLER MANUFACTURER **Siemens** TYPE **ST800**

REF NO	SITE	TOWN
06/ 0060	**B2068 Old Dover Road/ Nackington Road**	**Canterbury**

PLAN



APPROACH	PHASE	MIN	PED B/OUT	MAX A	MAX B	MAX C	MAX D	EXT	DEMANDED BY DET NO	DEMANDED BY DET NAME	EXTENDED BY DET NO	EXTENDED BY DET NAME
Old Dover Road (NW) Ahead	A	7	-	20	15	15	15	1.6	2,3	AY,AZ	1,2,3	AX,AY,AZ
Old Dover Road (SE)	B	7	-	25	15	15	15	1.6	3,4,5,6	BX.BY,BZ,BP	3,4,5	BX,BY,BZ
Nackington Road	C	7	-	35	15	20	15	1.6	7,8,9	CX,CY,CZ	7,8,9	CX,CY,CZ
Old Dover Road (NW) RT IGA	D	4	-	20	10	35	10	1.6	13	DP	10,11,12	DX,DY,DZ
Peds across Old Dover Road (SE)	E	6	4	6	6	6	6	-	51,52	PB3E,PB4E	-	-
Peds across Nackington Road	F	7	8	7	7	7	7	-	53,54	PB6F,PB7F	-	-
Dummy All Red	G	1	-	1	1	1	1	-	-	-	50	MVD6
	H											
	I											
	J											
	K											
	L											
	M											
	N											
	O											
	P											

STAGE INTERGREEN TIMES

FROM \ TO	1	2	3	4	5	6	7	8	9	10
1	X	5	9-17	7						
2	6	X	9-17	7						
3	14	14	X	14						
4	5	5	9	X						
5					X					
6						X				
7							X			
8								X		
9									X	
10										X

ADDITIONAL PHASE DELAYS

NO	DELAY PHASE	FROM STAGE	TO STAGE	BY (SECS)
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

SPECIAL FEATURES

- Hurry Call is demanded by **call cancel units** HC1 and HC2 output true together

Timetable

Mo - Fr	0730	MAX
	0930	MBX
	1500	MCX
	1830	MDX
Sa	0730	MBX
	1900	MDX
Su	0830	MBX
	1830	MDX

DETECTOR MONITOR (AS SEEN ON ENGINEERS TERMINAL)

IOP	7	6	5	4	3	2	1	0
0	CX	BP	BZ	BY	BX	AZ	AY	AX
1	HC1	AR1	DP	DZ	DY	DX	CZ	CY
6	BPA	PB7F	PB6F	PB4E	PB3E	MVD6	MVD3	HC2
7	-	-	-	-	-	BPD	BPC	BPB

HURRY CALLS

HC	STAGE	DEM'D	CALL DELAY	HOLD	P'VENT
0	2	#	0	30	80
1					

BUS PRIORITY CALLS

UNIT	PHASE	EXT	MAX	COMP	INHIBIT	DFM(s)
0	A	10	30	-	120	600
1	B	10	30	-	120	600
2	C	10	30	-	120	600
3	D	10	30	-	120	600

REVERSION STAGE	DFM PERIOD (HRS)	STARTING INTERGR'N (S)	F.T. TO CURRENT VA MAX?	F.T. MODE STAGE GREEN TIME
1	1/18	13	☑	

COMMISSIONED	23 May 2003	PC
CONFIG NUMBER	E62260 5.0.21	
DATA PREPARED	17 Jan 11	PC
FILE REFERENCE	06/0060	

MANUAL CONTROL

PB	1	2	3	4	5	6	7	8
STAGE	1	2	3	4				

UTC DATA

OTU X No	X31210
LINK LIST	-
BT CIRCUIT	01227 478511
AutoCAD file	As Built Dwg 06-0060

Administration

General Specifications

Customer Name	Kent County Council
Intersection/ General Description	B2068 Old Dover / St Lawrence Rd, Canterbury. 06/061
Controller	(•) New ( ) Modification
Area Specifications/ Customer Drawings	Drawing No. 2862/S/1E
Specification Section	KCC General Specification Issue 3.0
Contract/Tender Ref:	
Quotation No.	
Works Order No.	5790/484/3
Customer Order No.	
Controller/ Serial Number	
S.T.S. /EM Number	66221 Issue 10
Equipment Installation by	Signal Company
Slot Cutting by	Signal Company
Civil Works by	Civil Contractor
Customer's Engineer	Paul Clark
Telephone Number	01622 666063

Signal Company Use Only

Signal Engineer	marco Gmys
(IF PROM Label as >) PROM Number	16274
PROM Variant	174
Configuration Check Value	2B BD 74 C6

Controller Options

Hardware	T800
Firmware Type and Issue	PB800 ISS 19
Other Options	KTD LO

ST950/ST900/ST750 Series Cabinet Options

Cabinet/Rack

Kit Type Options ( ) ( ) ( ) ( )

Cabinet/Rack Variant

Cuckoo Options ☐

Mains Supply	230 Volts 50 Hz
Peak Lamp Current	9 Amps
Average Lamp Power	1600 Watts
Total Average Power	1600 Watts
Dimming Voltage	160
Low Inrush Transformer	☐
Answer Issue	0
Edit Issue	46
Date Created	11/02/03

Power feed fuse rating: requires 30 Amp minimum for controller, 15 Amp minimum for pelican/lightly loaded controller

Phases, Stages and Streams

Phases, Stages and Streams

Add/Delete/Insert Streams:

Streams

(●) Current Number of Streams: 1

Phases

( ) Current Total Number of Phases: 11

(●) Number of Real Phases: 7

( ) Number of Dummy Phases: 4

Stages

( ) Current Number of stages (inc. ALL-RED stages): 6

Switched Signs

( ) Number of Switched Signs: 0

Action

[Add At] [Delete At]

Facilities/Modes Enabled and Mode Priority Levels

Facilities

UTC
- [x] Serial/Internal UTMC OTU
- [ ] Free-standing OTU
- [ ] Integral TC12 OTU
- [x] Serial MOVA

- [x] Master Time Clock
- [ ] Holiday Clock
- [x] FT To Current MAX
- [ ] Linked Fixed Time

- [ ] Lamp Monitoring
- [ ] RED Lamp Monitoring
- [ ] Pelican/Puffin/Toucan
- [ ] Standalone Manual

- [x] Extend All Red
- [ ] Speed Measurement
- [ ] Ripple Change
- [ ] London IMU

- [ ] Non-UK
- [ ] Fail to Part Time
- [ ] Fail To Hardware Flashing
- [ ]
- [ ] Download To Level 3

12 Starting Intergreen

Mode Priority

Enabled	Mode	1	2	3	4	5	6	7	8	9	10	11	12	13
[ ]	Part Time													
[ ]	Emergency Vehicles													
[x]	Hurry Call		●											
[ ]														
[x]	Priority Vehicle						●							
[x]	Manual Control	●												
[ ]	Manual Step On													
[x]	Selected FT or VA or CLF			●										
[x]	UTC				●									
[ ]														
[x]	CLF (Non-Base Time)					●								
[ ]	CLF (Base Time)													
[x]	Vehicle Actuated							●						
[x]	Fixed Time											●		

Configuration Complexity

( ) Low ( ) Medium ( ) High (●) Maximum

standard.8DF
Default PROM data file

Correspondence Monitoring to inc.

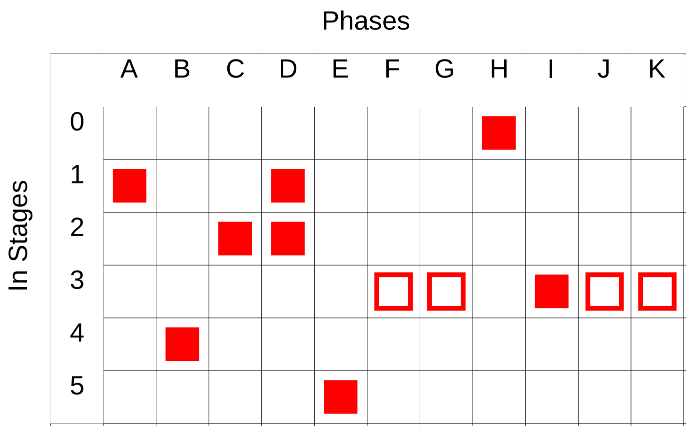
- [x] Reds
- [x] Ambers
- [ ] Switched Signs
- [ ] Ignore Reds and Ambers durin

Flash Rate (ms)

400 Off 400 On

Works Order : 5790/484/3
EM Number : 66221
Engineer : marco Gmys
Intersection : B2068 Old Dover / St Lawrence Rd, Canterbury. 06/061

Phases in Stages



Works Order : 5790/484/3
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Engineer : marco Gmys
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Stages in Streams

Stages in Streams

	0	1	2	3	4	5	6	7
Phase or Stage to revert to in absence of demands/extensions	1							
Startup Stage	1							
Switch Off Stage								
Standalone Pedestrian	☐	☐	☐	☐	☐	☐	☐	☐

Note: For a Stand-Alone Stream, the reversion must be to All Red stage or Traffic stage/phase to meet the relevant standard or specification.

Stages

In Stream	0	1	2	3	4	5
0	■	■	■	■	■	■

Works Order : 5790/484/3
EM Number : 66221
Engineer : marco Gmys
Intersection : B2068 Old Dover / St Lawrence Rd, Canterbury. 06/061

Phase Type and Conditions

Phase Type and Conditions

(●) Phases A to P ( )

Phase	Title	Type	App. Type	Term. Type	Assoc. Phase
A	Old Dover Rd NW	0 - UK Traffic	0	0 - I	
B	St Lawrence Rd	0 - UK Traffic	0	0 - I	
C	Old Dover Rd SE RT	2 - UK GreenArrow	0	2 - I	D
D	Old Dover Rd SE	0 - UK Traffic	0	0 - I	
E	The Drive	0 - UK Traffic	0	0 - I	
F	Peds across St Lawrence Rd	1 - UK Far Side Pedestrian	2	0 - I	
G	Peds across Old Dover Rd SE	1 - UK Far Side Pedestrian	2	0 - I	
H	Dummy All Red	2 - UK GreenArrow	0	0 - I	
I	Fixed Phase to appear in Stage 3	1 - UK Far Side Pedestrian	0	0 - I	
J	Phase F dummy	1 - UK Far Side Pedestrian	1	0 - I	
K	Phase G dummy	1 - UK Far Side Pedestrian	1	0 - I	

1) App Types: 0 = Always Appears, 1 = Appears if dem'd prior to interstage, 2 = If dem'd, 3 = If dem'd before end of window time
2) Term Types: 0 = Term's at end of stage, 1 = Term's when Assoc phase gains R.O.W, 2 = Term's when Assoc phase loses R.O.W.
3) The H/W Fail Flash fields are for information only on all but ST900ELV Controllers. For other controllers, physical switches or links (etc.) select which aspects flash and these need to be set up manually.

Works Order : 5790/484/3
EM Number : 66221
Engineer : marco Gmys
Intersection : B2068 Old Dover / St Lawrence Rd, Canterbury. 06/061

Opposing and Conflicting Phases

Select Stream(s) To Configure

○ All ○ 0 ○ ○ ○ ○ ○ ○ ○

Initialise

To Phase

From Phase

	A	B	C	D	E	F	G	H	I	J	K
A		Co	Co	o	Co	Co	Co	o	o	o	o
B	Co		Co	Co	Co	Co	Co	o	o	o	o
C	Co	Co		o	Co	Co	Co	o	o	o	o
D	o	Co	o		Co	Co	Co	o	o	o	o
E	Co	Co	Co	Co		Co	Co	o	o	o	o
F	Co	Co	Co	Co	Co		o	o	o	o	o
G	Co	Co	Co	Co	Co	o		o	o	o	o
H	o	o	o	o	o	o	o		o	o	o
I	o	o	o	o	o	o	o	o		o	o
J	o	o	o	o	o	o	o	o	o		o
K	o	o	o	o	o	o	o	o	o	o	

Works Order : 5790/484/3
EM Number : 66221
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Intersection : B2068 Old Dover / St Lawrence Rd, Canterbury. 06/061

Phase Minimums, Maximums, Extensions, Ped Leaving Periods

Phase Minimums, Maximums, Extensions, Ped Leaving Periods

(•) Phases A to P ( )

Phase	Min Green	Min Ped Clr	Extensions	Maximums A	B	C	D	E	F	G	H	Pre-timed
A	7	0	1.6	30	20	40	20	0	0	0	0	☐
B	7	0	1.0	20	15	15	12	0	0	0	0	☐
C	4	0	0.0	15	10	10	10	0	0	0	0	☐
D	7	0	1.6	60	40	45	20	0	0	0	0	☐
E	7	0	0.6	12	12	12	12	0	0	0	0	☐
F	6	4	0.0	6	6	6	6	0	0	0	0	☐
G	6	7	0.0	6	6	6	6	0	0	0	0	☐
H	1	0	0.0	1	1	1	1	0	0	0	0	☐
I	3	0	0.0	0	0	0	0	0	0	0	0	☐
J	6	0	0.0	0	0	0	0	0	0	0	0	☐
K	6	0	0.0	0	0	0	0	0	0	0	0	☐
												☐
												☐
												☐
												☐
												☐

Note: For Standalone Streams see Help for use of Max Sets.

Works Order : 5790/484/3
EM Number : 66221
Engineer : marco Gmys
Intersection : B2068 Old Dover / St Lawrence Rd, Canterbury. 06/061

Phase Intergreen Times

Select Stream(s) To Configure

○ All ○ 0 ○ ○ ○ ○ ○ ○ ○

Note: On a Stand Alone Pelican/Toucan/Puffin Stream the Intergreens between Pedestrian and Traffic Phases are controlled by the timings (PBT, PIT, CMX, CDY, CRD and PAR), therefore 0 should be entered for the appropriate intergreen times in grid below.

To Phase

From Phase	A	B	C	D	E	F	G	H	I	J	K
A		6	5		6	8	8	3	8	8	8
B	5		5	5	6	5	7	3	7	5	7
C	6	5			6	8	5	3	8	8	5
D		5			6	8	5	3	8	8	5
E	5	5	5	5		7	8	3	8	7	8
F	8	8	8	8	8			4			
G	12	12	12	12	12			7			
H	0	0	3	3	0	0	0				
I											
J											
K											

Works Order : 5790/484/3
EM Number : 66221
Engineer : marco Gmys
Intersection : B2068 Old Dover / St Lawrence Rd, Canterbury. 06/061

Intergreen Handset Limits

HIGH 199

Copy Intergreen Values

To Phase

From Phase

	A	B	C	D	E	F	G	H	I	J	K
A		5	5		5	6	6	3	6	6	6
B	5		5	5	5	5	5	3	5	5	5
C	5	5			5	6	5	3	6	6	5
D		5			5	6	5	3	6	6	5
E	5	5	5	5		5	6	3	6	5	6
F	6	6	6	6	6			4			
G	9	9	9	9	9			5			
H			3	3							
I											
J											
K											

Works Order : 5790/484/3
EM Number : 66221
Engineer : marco Gmys
Intersection : B2068 Old Dover / St Lawrence Rd, Canterbury. 06/061

Phase Timing Handset Ranges

Phase Timing Handset Ranges

Initialise Min Green Limits

Phase	Min. Green Min.	Min. Green Max.	Phase	Min. Green Min.	Min. Green Max.
A	3	255	Q		
B	3	255	R		
C	3	255	S		
D	3	255	T		
E	3	255	U		
F	3	255	V		
G	3	255	W		
H	1	255	X		
I	3	255	Y		
J	3	255	Z		
K	3	255	A2		
L			B2		
M			C2		
N			D2		
O			E2		
P			F2		

	Min.	Max.
Max. Green	0	255
Vehicle Extension	0.0	10.0
Phase Delay	0	10
Starting I/G	4	12
Min Pedestrian Clearance (PBT)	0	12
Traffic Phase Leaving	3.0	3.0
Traffic Phase Red/Amber	2	2

Works Order : 5790/484/3
EM Number : 66221
Engineer : marco Gmys
Intersection : B2068 Old Dover / St Lawrence Rd, Canterbury. 06/061

VA Demand and Extend Definitions

VA Demand and Extend Definitions

(selected) Phases A to P

Demands

For Unlatched demands precede the name with a #.
Conditioning MUST be used to specify unlatched demands.

Phase	Demands				Extensions			
A	AX	AY	AZ	BPA	AX	AY	AZ	
B	BX	BY	BPB		BX	BY	BZ	
C	BPC				CP			
D	DX	DY	DZ	BPD	DX	DY	DZ	
E					MVD6			
F								
G								
H								
I								
J	PB2F	PB3F						
K	PB4G	PB5G						

Works Order : 5790/484/3
EM Number : 66221
Engineer : marco Gmys
Intersection : B2068 Old Dover / St Lawrence Rd, Canterbury. 06/061

Phase Internal/Revertive Demands

Phase Internal/Revertive Demands

Start-up Vehicle Responsive Demands

A	B	C	D	E	F	G	H	I	J	K					
☑	☑	☑	☑	☑	☐	☐	☐	☐	☑	☑	☐	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Demands Inserted When Leaving Manual and Fixed Time Modes

A	B	C	D	E	F	G	H	I	J	K					
☑	☑	☑	☑	☑	☐	☐	☐	☐	☑	☑	☐	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Unlatched Demands that Start Max Timers

A	B	C	D	E	F	G	H	I	J	K					
☑	☑	☑	☑	☑	☑	☑	☐	☐	☑	☑	☐	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Revertive Phase Demands

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
	B	D	D												

Q	R	S	T	U	V	W	X	Y	Z	A2	B2	C2	D2	E2	F2

Works Order : 5790/484/3
EM Number : 66221
Engineer : marco Gmys
Intersection : B2068 Old Dover / St Lawrence Rd, Canterbury. 06/061

Stages - Prohibited, Alternative, Ignored Moves

Stages - Prohibited, Alternative, Ignored Moves

Sets

- (•) 1
- ( ) 2
- ( ) 3
- ( ) 4

Modes	Restrictions Apply To:	No Restrictions
	(•)	( )
	(•)	( )
	(•)	( )
	(•)	( )
	(•)	( )
	( )	( )

Modes	Restrictions Apply To:	No Restrictions
Manual	(•)	( )
	(•)	( )
	( )	( )
	( )	( )
	( )	( )

To Stage

From Stage	0	1	2	3	4	5
0	■					
1		■				
2		0	■			
3				■		
4					■	
5						■

Works Order : 5790/484/3
EM Number : 66221
Engineer : marco Gmys
Intersection : B2068 Old Dover / St Lawrence Rd, Canterbury. 06/061

Stages - Prohibited, Alternative, Ignored Moves

Stages - Prohibited, Alternative, Ignored Moves

Sets
- ○ 1
- ◉ 2
- ○ 3
- ○ 4

Modes	Restrictions Apply To:	No Restrictions
Urban Traffic Control	◉	○
Cableless Linking	◉	○
	◉	○
	◉	○
	◉	○
	○	○

Modes	Restrictions Apply To:	No Restrictions
	◉	○
	◉	○
	○	○
	○	○
	○	○

To Stage

From Stage	0	1	2	3	4	5
0	■					
1	P	■				
2		0	■			
3	P			■		
4	P				■	
5	P					■

Works Order : 5790/484/3
EM Number : 66221
Engineer : marco Gmys
Intersection : B2068 Old Dover / St Lawrence Rd, Canterbury. 06/061

Stages - Prohibited, Alternative, Ignored Moves

Stages - Prohibited, Alternative, Ignored Moves

Sets

- ○ 1
- ○ 2
- ◉ 3
- ○ 4

Modes	Restrictions Apply To:	No Restrictions
	◉	○
	◉	○
Vehicle Actuated	◉	○
Hurry Call	◉	○
Fixed Time	◉	○
	○	○

Modes	Restrictions Apply To:	No Restrictions
	◉	○
Priority	◉	○
	○	○
	○	○
	○	○

To Stage

From Stage	0	1	2	3	4	5
0						
1	X					
2		0				
3	X					
4	X					
5	X					

Works Order : 5790/484/3
EM Number : 66221
Engineer : marco Gmys
Intersection : B2068 Old Dover / St Lawrence Rd, Canterbury. 06/061

Stage Internal Demands/Pedestrian Window Times

Stage Internal Demands/Pedestrian Window Times

Start-up Vehicle Responsive Demands

0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Demands Inserted When Leaving Manual and Fixed Time Modes

0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Unlatched Demands that Start Maximum Timers

0 ☑ 1 ☑ 2 ☑ 3 ☑ 4 ☑ 5 ☑ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Window Times

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
0	0	0	0	0	0										

16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31

Exceptional Stages

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Fixed Time

Fixed Time

Stage Moves & Times (Not Fixed Time to Current Max)

Current Stage	0	1	2	3	4	5	6	7
Next Stage								
Time								

Current Stage	8	9	10	11	12	13	14	15
Next Stage								
Time								

Current Stage	16	17	18	19	20	21	22	23
Next Stage								
Time								

Current Stage	24	25	26	27	28	29	30	31
Next Stage								
Time								

Phases Demanded and Extended under Fixed Time to Current Max.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Demand	☑	☑	☑	☑	☑	☐	☐	☐	☐	☑	☑	☐	☐	☐	☐	☐
Extend	☑	☑	☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

	Q	R	S	T	U	V	W	X	Y	Z	A2	B2	C2	D2	E2	F2
Demand	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Extend	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

UTC General Data

UTC General Data

Type of UTC

- (•) 106
- ( ) 316

Integral OTU Address

2 Number of Control Words

3 Number of Reply Words

- [ ] Controller to respond to TC bit.
- [ ] Introduction of UTC to be disabled by Priority and LR

Non UTC RTC synchronisation input name

RTC Synchronisation Times

Clock Synchronise Time (UTC TS input)

Day	Time
Time Only	12:00:00

Clock Confirm Time (UTC RT output)

Day	Time
Time Only	12:00:00

Works Order : 5790/484/3
EM Number : 66221
Engineer : marco Gmys
Intersection : B2068 Old Dover / St Lawrence Rd, Canterbury. 06/061

UTC Control and Reply Data Format

UTC Control and Reply Data Format

Control Words

	Bit 1	Bit 2	Bit 3	Bit 4	Bit 5	Bit 6	Bit 7	Bit 8
Word 1	F1	#F2	#F3	#F4	#F5	D2	D3	D4
Word 2	D5	DX1	TS					
Word 3								
Word 4								

Reply Words

	Bit 1	Bit 2	Bit 3	Bit 4	Bit 5	Bit 6	Bit 7	Bit 8
Word 1	G1	G2	G3	G4	G5	DR2	DR3	DR4
Word 2	DR5	DF	CCT	SP1	RR	LF1	LF2	BD1
Word 3	BD2	BD3	BD4	CC				
Word 4								
Word 5								
Word 6								
Word 7								
Word 8								
Word 9								
Word 10								
Word 11								
Word 12								
Word 13								
Word 14								

Works Order : 5790/484/3
EM Number : 66221
Engineer : marco Gmys
Intersection : B2068 Old Dover / St Lawrence Rd, Canterbury. 06/061

UTC Phase Demand and Extend Definitions

UTC Demand and Extend Definitions

(•) Phases A to P ( )

Demands

For Unlatched demands, preceed the name with a #.
Conditioning MUST be used to specify unlatched demands.

Phase	Demands				Extensions			
A	DX1				DX1			
B	DX1	D4			DX1	D4		
C	DX1	D2			DX1	D2		
D	DX1				DX1			
E	DX1	D5			DX1	D5		
F								
G								
H								
I								
J	DX1	D3						
K	DX1	D3						

Works Order : 5790/484/3
EM Number : 66221
Engineer : marco Gmys
Intersection : B2068 Old Dover / St Lawrence Rd, Canterbury. 06/061

UTC Stage and Mode Data Definitions

UTC Stage and Mode Data Definitions

Stage	Force Bit	Green Confirm Bit	Demand Confirm Bit	Stage	Force Bit	Green Confirm Bit	Demand Confirm Bit
0				16			
1	F1	G1		17			
2	#F2	G2	DR2	18			
3	#F3	G3	DR3	19			
4	#F4	G4	DR4	20			
5	#F5	G5	DR5	21			
6				22			
7				23			
8				24			
9				25			
10				26			
11				27			
12				28			
13				29			
14				30			
15				31			

Mode Data Definitions

Manual Mode Operative:
☐ G1/G2 ☑ RR ☐

Manual Mode Selected:
☐ G1/G2 ☑ RR ☐

No Lamp Power, or Lamps Off due to RLM or Part Time:
☑ G1/G2 ☐ ☐

Detector Fault:
☐ ☐ ☑ DF

Normal NOT selected on the Manual Panel:
☐ G1/G2 ☑ RR ☐

RR Button Selected:
☐ G1/G2 ☐ RR ☐

If UTC Reply Confirms are required for a Controller Fault (CF) OR for separate MC and RR replies, Conditioning must be used.

MTC - Time Switch Parameters

MTC - Time Switch Parameters

	Type	Event
0	Alternate Max	MAXSETB
1	Alternate Max	MAXSETC
2	Alternate Max	MAXSETD
3	Alternate DFM	ALTDFMB
4	Alternate DFM	ALTDFMC
5	Alternate DFM	ALTDFMD
6	No Action	
7	No Action	
8	No Action	
9	No Action	
10	No Action	
11	No Action	
12	No Action	
13	No Action	
14	No Action	
15	No Action	

	Type	Event
16	No Action	
17	No Action	
18	No Action	
19	No Action	
20	No Action	
21	No Action	
22	No Action	
23	No Action	
24	No Action	
25	No Action	
26	No Action	
27	No Action	
28	No Action	
29	No Action	
30	No Action	
31	No Action	

Works Order : 5790/484/3
EM Number : 66221
Engineer : marco Gmys
Intersection : B2068 Old Dover / St Lawrence Rd, Canterbury. 06/061

MTC - Time Switch Parameters Array

Parameters

Events	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
MAXSETB		■																														
MAXSETC			■																													
MAXSETD				■																												
ALTDFMB		■																														
ALTDFMC			■																													
ALTDFMD				■																												
Unused																																
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MTC - Day Type

MTC - Day Type

No.	Mon	Tue	Wed	Thu	Fri	Sat	Sun
0	☐	☐	☐	☐	☐	☑	☐
1	☐	☐	☐	☐	☐	☐	☑
2	☑	☐	☐	☐	☐	☐	☐
3	☐	☑	☐	☐	☐	☐	☐
4	☐	☐	☑	☐	☐	☐	☐
5	☐	☐	☐	☑	☐	☐	☐
6	☐	☐	☐	☐	☑	☐	☐
7	☑	☑	☑	☑	☑	☑	☑
8	☑	☑	☑	☑	☑	☐	☑
9	☑	☑	☑	☑	☑	☐	☐
10	☐	☐	☐	☐	☐	☐	☐
11	☐	☐	☐	☐	☐	☐	☐
12	☐	☐	☐	☐	☐	☐	☐
13	☐	☐	☐	☐	☐	☐	☐
14	☐	☐	☐	☐	☐	☐	☐
15	☐	☐	☐	☐	☐	☐	☐

Works Order : 5790/484/3
EM Number : 66221
Engineer : marco Gmys
Intersection : B2068 Old Dover / St Lawrence Rd, Canterbury. 06/061

MTC - Timetable

MTC - Timetable

View Timetable Settings

(•) 0 - 15 ( ) 16 - 31 ( ) 32 - 47 ( ) 48 - 63

No.	Day Type	Time	Description	Function Code	Plan/ Parameter
0	9	07:30:00	Introduce Max Set A	2	0
1	9	09:30:00	Introduce Max Set B	2	1
2	9	15:00:00	Introduce Max Set C	2	2
3	9	18:30:00	Introduce Max Set D	2	3
4	0	07:30:00	Introduce Max Set B	2	1
5	0	19:00:00	Introduce Max Set D	2	3
6	1	08:30:00	Introduce Max Set B	2	1
7	1	18:30:00	Introduce Max Set D	2	3
8	0		Introduce Plan 1	1	1
9	0		Introduce Plan 2	1	2
10	0		Introduce Plan 3	1	3
11	0		Introduce Plan 4	1	4
12	0		Isolate	0	0
13	0		Introduce Plan 2	1	2
14	0		Introduce Plan 4	1	4
15	0		Isolate	0	0

Function Codes:

0 = Isolate From CLF

1 = Introduce a CLF Plan

2 = Introduce a Parameter (Combination of event switches)

3 = Selects an Individual event switch to be set

4 = Selects an Individual event switch to be cleared.

Priority and Emergency Vehicle - General

Priority and Emergency Vehicle - General

	Input Name	Type Priority / Emergency P	E	Phase	DFM Time (x10)	Gap Time	DFM Self Reset	Demands Sets 0	1	2	3	Revertive Demands Sets 0	1	2	3	Revertive Demands to Start Inhibit Timer Sets 0	1	2	3
Unit 0	BPA	◉	○	A	60	4	0	☑	☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐
Unit 1	BPB	◉	○	B	60	4	0	☑	☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐
Unit 2	BPC	◉	○	C	60	4	0	☑	☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐
Unit 3	BPD	◉	○	D	60	4	0	☑	☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐
Unit 4		◉	○		30	4	0	☑	☑	☑	☑	☑	☑	☑	☑	☐	☐	☐	☐
Unit 5		◉	○		30	4	0	☑	☑	☑	☑	☑	☑	☑	☑	☐	☐	☐	☐
Unit 6		◉	○		30	4	0	☑	☑	☑	☑	☑	☑	☑	☑	☐	☐	☐	☐
Unit 7		◉	○		30	4	0	☑	☑	☑	☑	☑	☑	☑	☑	☐	☐	☐	☐

☐ Inputs From Conditioning

Note:
Bus Priority Unit values will not be used unless a valid Input Name is specified
If Bus Unit is to generate a VA demand, then input name must also be specified on VA demands screen

Note:
Valid values for DFM Self Reset: 1 or 0 for PB800, 0-255 for PB801 and later

Works Order : 5790/484/3
EM Number : 66221
Engineer : marco Gmys
Intersection : B2068 Old Dover / St Lawrence Rd, Canterbury. 06/061

Priority - Delays, Unit Inhibits and Associations

Priority - Delays, Unit Inhibits and Associations

Delay Time

	First	Second
Unit 0		
Unit 1		
Unit 2		
Unit 3		
Unit 4		
Unit 5		
Unit 6		
Unit 7		

Priority Units Inhibited

	0	1	2	3	4	5	6	7
Unit 0	☑	☐	☐	☐	☐	☐	☐	☐
Unit 1	☐	☑	☐	☐	☐	☐	☐	☐
Unit 2	☐	☐	☑	☐	☐	☐	☐	☐
Unit 3	☐	☐	☐	☑	☐	☐	☐	☐
Unit 4	☐	☐	☐	☐	☐	☐	☐	☐
Unit 5	☐	☐	☐	☐	☐	☐	☐	☐
Unit 6	☐	☐	☐	☐	☐	☐	☐	☐
Unit 7	☐	☐	☐	☐	☐	☐	☐	☐

Associated Priority Units

	0	1	2	3	4	5	6	7
Unit 0	☐	☐	☐	☐	☐	☐	☐	☐
Unit 1	☐	☐	☐	☐	☐	☐	☐	☐
Unit 2	☐	☐	☐	☐	☐	☐	☐	☐
Unit 3	☐	☐	☐	☐	☐	☐	☐	☐
Unit 4	☐	☐	☐	☐	☐	☐	☐	☐
Unit 5	☐	☐	☐	☐	☐	☐	☐	☐
Unit 6	☐	☐	☐	☐	☐	☐	☐	☐
Unit 7	☐	☐	☐	☐	☐	☐	☐	☐

Handset Delay Limits

First Delay Handset Range Min Max Second Delay Handset Range Min Max

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EM Number : 66221
Engineer : marco Gmys
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Priority Time Sets

Priority Time Sets

Sets

(•) 0 ( ) 2
( ) 1 ( ) 3

Copy Set

Priority Unit	0	1	2	3	4	5	6	7
Maximum time (secs)	30	30	30	30	15	15	15	15
Extension time (secs)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Inhibit Time (secs)	120	120	120	120	50	50	50	50

Compensation Times

Priority Units

	A	B	C	D	E	F	G	H	I	J	K
0											
1											
2											
3											
4											
5											
6											
7											

Priority Time Sets

Priority Time Sets

Sets

- ○ 0
- ○ 2
- ◉ 1
- ○ 3

Copy Set

Priority Unit	0	1	2	3	4	5	6	7
Maximum time (secs)	30	30	30	30	15	15	15	15
Extension time (secs)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Inhibit Time (secs)	120	120	120	120	50	50	50	50

Compensation Times

Priority Units	A	B	C	D	E	F	G	H	I	J	K
0											
1											
2											
3											
4											
5											
6											
7											

Works Order : 5790/484/3
EM Number : 66221
Engineer : marco Gmys
Intersection : B2068 Old Dover / St Lawrence Rd, Canterbury. 06/061

Priority Time Sets

Priority Time Sets

Sets

- ○ 0
- ○ 1
- ◉ 2
- ○ 3

Copy Set

Priority Unit	0	1	2	3	4	5	6	7
Maximum time (secs)	30	30	30	30	15	15	15	15
Extension time (secs)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Inhibit Time (secs)	120	120	120	120	50	50	50	50

Compensation Times

Priority Units

	A	B	C	D	E	F	G	H	I	J	K
0											
1											
2											
3											
4											
5											
6											
7											

Works Order : 5790/484/3
EM Number : 66221
Engineer : marco Gmys
Intersection : B2068 Old Dover / St Lawrence Rd, Canterbury. 06/061

Priority Time Sets

Priority Time Sets

Sets

- ○ 0
- ○ 1
- ○ 2
- ◉ 3

Copy Set

Priority Unit	0	1	2	3	4	5	6	7
Maximum time (secs)	30	30	30	30	15	15	15	15
Extension time (secs)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Inhibit Time (secs)	120	120	120	120	50	50	50	50

Compensation Times

Priority Units	A	B	C	D	E	F	G	H	I	J	K
0											
1											
2											
3											
4											
5											
6											
7											

Works Order : 5790/484/3
EM Number : 66221
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Priority - Allowed and Enforced Demands

Phase

Priority Unit

	A	B	C	D	E	F	G	H	I	J	K
0											
1											
2											
3											
4											
5											
6											
7											

Works Order : 5790/484/3
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Hurry Call

Hurry Call

Hurry Call	Stage Called	Call Input Name	Cancel Input Name	Confirm Output Name	Delay Time	Hold Time	Prevent Time
0	2	*SCRT10	CANCLHC0		0	30	0
1	1	*SCRT12			15	7	0
2					0	0	0
3					0	0	0
4					0	0	0
5					0	0	0
6					0	0	0
7					0	0	0

Hurry Call Limit Values

	Min.	Max.
Call Delay	0	255
Call Hold	0	255
Call Prevent	0	255

Works Order : 5790/484/3
EM Number : 66221
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Manual Panel

Manual Panel

Stage Buttons and LEDs

Button No.	Title	Called Stage for Stream 0	1	2	3	4	5	6	7
0	All Red	0							
1	Old Dover Road	1							
2	Old Dover Rd SE + RT	2							
3	Pedestrians	3							
4	St Lawrence	4							
5	The Drive	5							
6									
7									

General LEDs

	AUX 1	AUX 2	AUX 3	AUX 4 (Hurry Call)	AUX 5 (Higher Priority)
Conditioned	☐	☑	☑	☐	☑

Manual Mode Enable

- (•) Always
- ( ) When Handset Plugged in (Note 1)
- ( ) When 'MND' Command Entered

NOTE:
For this to operate Special Conditioning is required.

General Buttons

	None	SW1	SW2	SW3
Momentary		☐	☐	☐
Dim Override	( )	(•)	( )	( )
RR	(•)	( )	( )	( )

Manual Signals On

- ( ) Immediate Signals On
- (•) As Start-Up

Mode Select Switches Disabled

☐ VA ☐ Fixed Time ☐ CLF

Works Order : 5790/484/3
EM Number : 66221
Engineer : marco Gmys
Intersection : B2068 Old Dover / St Lawrence Rd, Canterbury. 06/061

Manual Mode - Optional Phases Appearance

Manual Mode - Optional Phases Appearance

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Never Appears	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Demand Dependant	○	○	○	○	○	◉	◉	○	○	○	○	○	○	○	○	○
Always Appears	◉	◉	◉	◉	◉	○	○	◉	◉	◉	◉	○	○	○	○	○

	Q	R	S	T	U	V	W	X	Y	Z	A2	B2	C2	D2	E2	F2
Never Appears	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Demand Dependant	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Always Appears	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

Works Order : 5790/484/3
EM Number : 66221
Engineer : marco Gmys
Intersection : B2068 Old Dover / St Lawrence Rd, Canterbury. 06/061

Extend All Red - General

Extend All Red - General

Auto Extend to Max

Part Time	☐
Emergency Vehicle	☐
Hurry Call	☐
LRT	☐
Priority	☐
Manual	☐
Manual Step On	☐
UTC	☐
MOVA	☐
CLF	☐
VA*	☐
Fixed Time	☑

All Red Timings

Stream	0	1	2	3	4	5	6	7
Extension Time	0.0							
Max Time	8							

* Selecting Extend to Max on VA mode will also cause Extend to Max on CLF, UTC and Priority modes.

Detectors Associated with All Red Extension Units

Unit	Associated Detectors							
1	MVD4	CP						
2	MVD4							
3	CP							
4								
5								
6								
7								

The association between detectors and extension units must be performed in special conditioning.

Works Order : 5790/484/3
EM Number : 66221
Engineer : marco Gmys
Intersection : B2068 Old Dover / St Lawrence Rd, Canterbury. 06/061

Extend All Red - Stage To Stage Moves

To Stage

From Stage	0	1	2	3	4	5
0						
1				1		
2				3		
3						
4						
5				2		

Works Order : 5790/484/3
EM Number : 66221
Engineer : marco Gmys
Intersection : B2068 Old Dover / St Lawrence Rd, Canterbury. 06/061

Extend All Red - Independent Intergreens

Phase Not Affected by Hold

Phase Terminating	A	B	C	D	E	F	G	H	I	J	K
A											
B											
C											
D											
E											
F											
G											
H											
I											
J											
K											

Special Conditioning

```
; USE OF SCRATCH BITS
; -------------------
;SCRT0
;SCRT1
;SCRT2
;SCRT3
;SCRT4
;SCRT5
;SCRT6
;SCRT7
;SCRT8
;SCRT9
;SCRT10 = REQUEST HURRY CALL 0
;SCRT11 = CONFIRMATION THAT HURRY CALL 0 HAS RUN, SO AS TO ALLOW HURRY CALL 1
;SCRT12 = REQUEST HURRY CALL 1
;SCRT13 =
;SCRT14 =
;SCRT15 =

; HURRY CALL CONDITIONING
; ======================

; REQUEST HURRY CALL 0
; --------------------
CCTO4.CCTO5.NOT(PHASEF).NOT(PHASEG).NOT(CNDTMA21)=SCRT10 ; HURRY CALL 0 IS REQUESTED, BY SCRT10, IF
                                                         ; BOTH HURRY CALL CALL CANCEL INPUTS ARE TRUE
                                                         ; AND PHASE F IS NOT GREEN
                                                         ; AND PHASE G IS NOT GREEN
                                                         ; AND HURRY CALL PREVENT CONDITIONING TIMER 1
                                                         ; IS NOT RUNNING

; HURRY CALL 0 PREVENT PERIOD
; ---------------------------
IFT HRYSTT1 EQL<1> THN                ; IF HURRY CALL 0 IS TIMING REQUEST OR FORCING HURRY MODE
RUN<20>                               ; REPEATEDLY START CONDITIONING TIMER 0
END

IFT (HRYSTT1 EQL<2>).CNDTER20 THN    ; IF HURRY CALL 0 IS TIMING HOLD PERIOD AND CONDITIONING TIMER 0
RUN<21>                               ; HAS JUST TERMINATED THEN START CONDITIONING TIMER 1
END

; CANCEL HURRY CALL 0
; -------------------
IFT HRYSTT1 EQL<2> THN                       ; IF HURRY CALL 0 IS TIMING HOLD PERIOD THEN
IFT (NOT(HC1).NOT(HC2))+(LCPHJ+LCPHK) THN   ; HURRY CALL 0 IS CANCELLED IF EITHER
TRUE=CANCLHC0                                ; LOOPS HC1 AND HC2 ARE BOTH UNOCCUPIED
END                                          ; OR
END                                          ; PHASE J OR PHASE K (F OF G) ARE DEMANDED

; REQUEST HURRY CALL 1
; --------------------
; HURRY CALL 1 MAY BE ENABLED/ DISABLED BY HANDSET USING THE
; CONDITIONING FACILTIY ENABLE COMMAND "CFE".
; CONTROLLER CFE0 DEFAULT VALUE IS NORMALLY "0" (DISABLED)
; WHEREAS THE REQUIRED DEFAULT STATE FOR HURRY CALL 1 IS ENABLED.
; THEREFORE IN CONDITIONING THE RESULTANT STATE OF CFE0 HAS BEEN INVERTED
```

Special Conditioning

```
; TO ALLOW THE DEFAULT VALUE OF "0" TO MEAN ENABLED.
;
; TO DISABLE HURRY CALL 1 SET CFE0 TO "1"
; TO ENABLE HURRY CALL 1 SET CFE0 TO "0"
;
IFT NOT(CFE0 EQL<1>) THN    ; IF HURRY CALL 1 CONDITIONING IS ENABLED THEN
IFT HRYSTT1 EQL<2> THN      ; IF HURRY CALL 0 IS TIMING HOLD PERIOD THEN
RUN<22>                      ; REPEATEDLY START CONDITIONING TIMER 2
END

IFT CNDTER22 THN         ; IF CONDITIONING TIMER 2 HAS JUST TERMINATED THEN
TRUE=SCRT11             ; SET SCRATCH BIT SCRT11 TRUE
END

IFT NOT(PREVB).PHASEB.SCRT11 THN    ; IF PHASE B HAS JUST GONE TO GREEN AND
TRUE=SCRT12                         ; SCRATCH BIT SCRT11 IS TRUE THEN
ELS                                 ; SET SCRATCH BIT SCRT12 TRUE
FALSE=SCRT12                        ; OTHERWISE SET SCRATCH BIT SCRT12 TO FALSE
END

IFT PHASEA THN                      ; IF PHASE A IS AT GREEN THEN
FALSE=SCRT11                        ; RESET SCRATCH BIT SCRT11 TO FALSE
END

END

; STAGE 1 REVERSION WITH UNSATISFIED PED DEMAND
;~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
STAGE3.(LCPHJ+LCPHK).(NOT(LCPHB+UCPHB+LCPHC+UCPHC+LCPHE+UCPHE))=+LCPHA  ;ALLOW REVERT TO STAGE 1 IF A PED PHASE DEMAND AT I
                                                              ;STAGE TO STAGE 3.

MAUXSW1=MIL22                                  ;AUX 1 LED LIT WHEN SWITCH 1 OPERATED ( dimming overide )
(MODE0 EQL<6>)=MIL23                           ;AUX 2 LED LIT WHEN UTC ACTIVE
(MODE0 EQL<3>)=MIL05                           ;AUX 3 LED LIT WHEN RUNNING CLF
(MODE0 EQL<13>)=MIL17                          ;BUS PRIORITY LIGHTS HIGHER PRIORITY LED

; CALL / CANCEL UNIT OPERATION
; ----------------------------
CCTO0=+LCPHA                                   ;CALL CANCEL UNIT 0 INSERTS A LATCHED DEMAND FOR PHASE B
CCTO1=+LCPHB

; UTC REPLIES
; ==========
LMPON.LPSPRD.SWLMPS.Not(FLF17).NOT(STAGE1)=G1     ;LAMPS OFF AND STAGE CONFIRMS FOR UTC G1 _G2 BITS
LMPON.LPSPRD.SWLMPS.Not(FLF17).NOT(STAGE2)=G2

NOT((MODE0 EQL<1>+MODE0 EQL<2>+MODE0 EQL<4>))=RR  ;RR BIT REPLIES MANUAL,F.T AND VA MODES

; UTC BUS PRIORITY REPLIES
; ------------------------
NOT(MODE0 EQL<13>)=SP1                         ;SP1 BIT REPLIES WHEN IN PRIORITY MODE

NOT(BPA)=BD1                                  ;BD1 REPLIES WHEN INPUT BPA IS ACTIVE
NOT(BPB)=BD2                                  ;BD2 REPLIES WHEN INPUT BPB IS ACTIVE
NOT(BPC)=BD3                                  ;BD3 REPLIES WHEN INPUT BPC IS ACTIVE
NOT(BPD)=BD4                                  ;BD4 REPLIES WHEN INPUT BPD IS ACTIVE
```

Works Order : 5790/484/3
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Intersection : B2068 Old Dover / St Lawrence Rd, Canterbury. 06/061

Special Conditioning

```
NOT(LMPANY0)=LF1                                  ;ANY LAMP FAIL REPLIES UTC LF1 BIT.
NOT(LMP2RED0)=LF2                                 ;SECOND RED LAMP FAIL REPLIES UTC LF2 BIT.

; EXTEND ALL RED S[ECIAL CONDITIONING FOR UNITS 1 TO 3
; ------------------------------------------------------
MVD4+MVD4_ext+CP+CP_ext+SSFIX   =IGEO1           ; UNIT 1
 (MVD4+MVD4_ext+CP+CP_ext+SSFIX)=IGEC1
MVD4+MVD4_ext+SSFIX             =IGEO2           ; UNIT 2
MVD4+MVD4_ext+SSFIX             =IGEC2
CP+CP_ext+SSFIX                 =IGEO3           ; UNIT 3
CP+CP_ext+SSFIX                 =IGEC3

; RTC SYNC CONFIRM SIGNAL
; ~~~~~~~~~~~~~~~~~~~~~~~
; CONFIRM SIGNALS AFTER SYNC TIME AS FOLLOWS -

;SUNDAY----- FOR  3 SECONDS
;MONDAY----- FOR  5 SECONDS
;TUESDAY---- FOR  7 SECONDS
;WEDNESDAY-- FOR  9 SECONDS
;THURSDAY--- FOR 11 SECONDS
;FRIDAY----- FOR 13 SECONDS
;SATURDAY--- FOR 15 SECONDS

IFT 1SCRT254.NOT CC THN
    TRUE=1SCRT255
END

1SCRT254.NOT(1SCRT255)=CCT

NOT(MODE0 EQL<8>)=+1SCRT254

NOT((RTCDYS EQL<1>).(RTCSEC GRT<2>))=.1SCRT255   ; RESET FLAG - SUNDAY
NOT((RTCDYS EQL<2>).(RTCSEC GRT<4>))=.1SCRT255   ; RESET FLAG - MONDAY
NOT((RTCDYS EQL<3>).(RTCSEC GRT<6>))=.1SCRT255   ; RESET FLAG - TUESDAY
NOT((RTCDYS EQL<4>).(RTCSEC GRT<8>))=.1SCRT255   ; RESET FLAG - WEDNESDAY
NOT((RTCDYS EQL<5>).(RTCSEC GRT<10>))=.1SCRT255  ; RESET FLAG - THURSDAY
NOT((RTCDYS EQL<6>).(RTCSEC GRT<12>))=.1SCRT255  ; RESET FLAG - FRIDAY
NOT((RTCDYS EQL<0>).(RTCSEC GRT<14>))=.1SCRT255  ; RESET FLAG - SATURDAY
```

Special Conditioning

```
; EXTERNAL  LAMP MONITORING FACILITY
; -------------------------------------
     RF2:.PHASEF=1AUXCMDF4                              ; DOUBLE RED FAIL SENDS ALL PEDESTRIAN PHASES TO RED
        *.PHASEG=1AUXCMDG4

     RF2:+LCPHJ=+1WTCTRLF                               ; WAIT INDICATORS LIT IF DEMAND EXISTS
        *+LCPHK=+1WTCTRLG                               ; FOR ASSOCIATED DUMMY PHASE(S) OR IF RF2 PRESENT

       FALSE:::=.LCPHF                                  ; REMOVES ALL PEDESTRIAN PHASE DEMANDS UNTIL
              *=.UCPHF                                  ; FOLLOWING BLOCK INSERTS THEM
              *=.LCPHG
              *=.UCPHG

   PHASEJ.((NOT CNDTMA32)+(NOT RF1)).(NOT RF2)=+UCPHF    ; DEMAND REAL PEDESTRIAN PHASE WHEN DUMMY REACHES
                                                        ; GREEN IF RF1 ABSENT OR AFTER DELAY TIMER IF RF1 PRESENT
                                                        ; DO NOT DEMAND AT ALL IF RF2 PRESENT
   PHASEK.((NOT CNDTMA33)+(NOT RF1)).(NOT RF2)=+UCPHG    ; DEMAND REAL PEDESTRIAN PHASE WHEN DUMMY REACHES
                                                        ; GREEN IF RF1 ABSENT OR AFTER DELAY TIMER IF RF1 PRESENT
                                                        ; DO NOT DEMAND AT ALL IF RF2 PRESENT

     RF2:+LCPHF=PRVPHF                                  ; PREVENT PEDESTRIAN PHASES FROM APPEARING IF RF2
        *+LCPHG=PRVPHG                                  ; PRESENT OR IF A LATCHED DEMAND EXISTS

   IFT (NOT PHASEJ) THN                                 ; RESET RLMU DELAY TIMERS IF ASSOCIATED DUMMY PHASES
   RUN <32>                                              ; ARE NOT AT GREEN
   END
   IFT (NOT PHASEK) THN
   RUN <33>
   END

   (NOT RF2):::.PRSLMPAF=+UCPHJ                         ; WAIT LAMP LIT ON REAL PHASE DEMANDS DUMMY PHASE
              *.PRSLMPAG=+UCPHK                         ; PROVIDING RF2 NOT PRESENT
              *.PRSLMPAF=+LCPHJ
              *.PRSLMPAG=+LCPHK
       (NOT RF2):::=.LCPHJ                              ; REMOVE ALL DUMMY PHASE DEMANDS IF RF2 PRESENT
                  *=.UCPHJ
                  *=.LCPHK
                  *=.UCPHK

   INC 1SCRTCH30                                        ; IF THE LMU SIGNALS A RED FAIL
   (RF1+RF2).1SCRT241=CABLMP                            ; FLASH THE DFM LAMP
   (NOT(MODE0 EQL <8>)):::.LF=1PEDFLF0                  ; ANY LAMP FAIL SETS FLF23=1
                         *.RF1=1PEDFLF1                 ; SINGLE RED FAIL SETS FLF23=2
                         *.RF2=1PEDFLF2                 ; DOUBLE RED FAIL SETS FLF23=4
                                                        ; N.B. MULTIPLE FAILURES COULD GIVE OTHER VALUES
   NOT(LF).NOT(RF1)=LF1                                 ; ANY LAMP FAIL REPLIES LF1
   NOT(RF2)=LF2                                         ; 2ND RED FAIL REPLIES LF2
```

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Special Conditioning

```
; ADDITIONAL DETECTOR DEMANDS / EXTENSIONS
; ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
BZ:=+EXOB
   *=+EXCB
```

Works Order : 5790/484/3
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Special Conditioning Timers

Special Conditioning Timers

Timers

0-31

No	Value	Min	Max	200ms	Description	No	Value	Min	Max	200ms	Description
0		0	255	☐		16		0	255	☐	
1		0	255	☐		17		0	255	☐	
2		0	255	☐		18		0	255	☐	
3		0	255	☐		19		0	255	☐	
4		0	255	☐		20	1	0	255	☐	Timer used to start Timer 21
5		0	255	☐		21	50	0	255	☐	Hurry Call 0 prevent timer
6		0	255	☐		22	1	0	255	☐	Timer used to request Hurry Call 1
7		0	255	☐		23		0	255	☐	
8		0	255	☐		24		0	255	☐	
9		0	255	☐		25		0	255	☐	
10		0	255	☐		26		0	255	☐	
11		0	255	☐		27		0	255	☐	
12		0	255	☐		28		0	255	☐	
13		0	255	☐		29		0	255	☐	
14		0	255	☐		30		0	255	☐	
15		0	255	☐		31		0	255	☐	

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Special Conditioning Timers

Special Conditioning Timers

Timers

32-63

No	Value	Min	Max	200ms	Description	No	Value	Min	Max	200ms	Description
32	2	0	255	☐	Phase F RLM delay timer	48		0	255	☐	
33	2	0	255	☐	Phase G RLM delay timer	49		0	255	☐	
34		0	255	☐		50		0	255	☐	
35		0	255	☐		51		0	255	☐	
36		0	255	☐		52		0	255	☐	
37		0	255	☐		53		0	255	☐	
38		0	255	☐		54		0	255	☐	
39		0	255	☐		55		0	255	☐	
40		0	255	☐		56		0	255	☐	
41		0	255	☐		57		0	255	☐	
42		0	255	☐		58		0	255	☐	
43		0	255	☐		59		0	255	☐	
44		0	255	☐		60		0	255	☐	
45		0	255	☐		61		0	255	☐	
46		0	255	☐		62		0	255	☐	
47		0	255	☐		63		0	255	☐	

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Special Instructions

66221

Board	Position	Skt	Port	Type I or O	Line	Cable	Block
CPU	A	X3I	0	I	00 - 07	101	1TBG
CPU	A	X3I	1	I	08 - 15		1TBH
CPU	A	X3O	11	O	88 - 91	105	1TBX
IO1	B	B	2	I	16 - 23	103	1TBJ
IO1	B	E	4	O	32 - 39		1TBK
IO1	B	C	3	I	24 - 31	103	1TBL
IO1	B	D	5	O	40 - 47		1TBM
IO2	C	B	6	I	48 - 55	103	1TBN
IO2	C	E	8	O	64 - 71		1TBP
IO2	C	C	7	I	56 - 63	103	1TBR
IO2	C	D	9	O	72 - 79		1TBS

The socket X3 on the CPU pcb is the double stacked one
X3I = Inner (nearest the board)
X3O = Outer

The Item List is included for reference only.

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Special Instructions

ST800 CONTROLLER ITEMS LIST SHEET 1 (*I*L*)

ITEM	DRAWING NUMBER	DESCRIPTION	QTY	TOT	REMARKS
1					
2	667/1/27000/001	Cabinet 8 Phase wired 16 Phase	1		
3	667/1/27000/002	Cabinet 24 Phase wired 32 Phase			
4	667/1/27001/001	Rack 8 Phase wired 16 Phase			
5	667/1/27001/002	Rack 24 Phase wired 32 Phase			
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24	667/1/27002/000	Lamp Switch Kit 8 Phase			
25	667/1/27003/000	I/O Kit	2		
26	667/1/27005/000	SDE Facility Kit			
27	667/1/27004/000	Integral OTU Kit			
28					
29					
30					
31					
32					
33					
34					
35					
36					
37					
38					
39	667/1/16274/174	Configuration Eprom (Issue 4. 0)	1		
40					

Note 1:
Please refer to special instruction pages for additional information on items marked with an '*'.

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Special Instructions

ST800 CONTROLLER ITEMS LIST SHEET 2 (*I*L*)

ITEM	DRAWING NUMBER	DESCRIPTION	QTY	TOT	REMARKS	
41						
42	667/1/27056/001	Manual Panel Assy (Intersection Cont)				
43	667/1/27056/010	Manual Panel Assy (Sigs on/off)				
44	667/1/27056/000	Manual Panel Blanking Kit				
45						
46						Note 2:
47						Ancillary Processor PLD
48						Variants
49						101 OTU & LMU
50						102 OTU Only
51						103 LMU Only
52	667/7/25171/000	Current Transformer				104 OTU & LMU + Up/Download
53						105 OUT Only + Up/DownLoad
54						NB Controller Has built in LMU
55						So LMU on Ancillary Processor
56						Not required included for info
57						only.
58						
59						
60						Note 3:
61	667/1/27000/101	Cabinet Export 8 Phase wired 16 Phase				Fit Current Transformer
62	667/1/27000/102	Cabinet Export 24 Phase wired 32 Phase				starting from position
63	667/1/27001/101	Rack Export 8 Phase wired 16 Phase				TLB/z/16 on the first phase
64	667/1/27001/102	Rack Export 24 Phase wired 32 Phase				driver PCB. if more than 3
65	667/1/27002/100	Export Lamp Switch Kit				sensors are called up fit the
66	667/1/27084/001	Dimming Assembly (1.5KVA)(Fit Std UK)				4th sensor to the second
67	667/1/27084/002	Dimming Assembly (2.0KVA)				Phases driver PCB, and so on
68	667/1/27084/003	Dimming Assembly (3.0KVA)				until all sensors have been
69	667/1/27130/000	30A Controller Kit				used up.
70						TLB/b/14 - 1st sensor terminal
71	667/1/27001/310	ST800 SE Export Rack up to 8 Phase				TLB/z/16 - 2nd sensor terminal
72	667/1/27223/003	ST800 SE 8 Phase Driver No LMU				TLB/z/14 - 3rd sensor terminal
73	667/1/27223/403	ST800 SE 4 Phase Driver No LMU				TLB/z/12 - 4th sensor terminal
74						TLB/z/12 - 4th sensor terminal
75						
76						
77	667/1/27000/301	ST800 P In a Cabinet 4Ph 1 Stream PED				TLB/z/12 - 4th sensor terminal
78	667/1/27012/000	PED 2nd Stream Kit for ST800 P				
79	667/1/27001/300	ST800 P Rack Only 4Ph 1 Stream PED				

Special Instructions

```
Configuration Complexity Number is 209
```

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EM Number : 66221
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Special Instructions

LAMP MONITORING
===============
Lamp monitoring is provided by an extenral Microsense I2LM unit.
Therefore the controllers lamp monitoring facilities are not being used and the red lamp monitoring functions
are provided through special conditioning as described below:-

Dummy phase(s) K and L are duplicate of pedestrian phase(s) F and G.
Any timing changes made to the real phase MUST be duplicated on the dummy phase.
Note that the dummy phase does not need any leaving intergreens.
The real ped phase is configured with a type 2 appearance code so conditioning can control when it
appears and for this reason the PHD handset command MUST NOT be used for ped phase(s) F or G or J as although the stage will not appea

Under normal operation when the dummy phase goes to green it will demand the real phase which will
then go straight to green. However if a 1st red lamp failure exists the demand is delayed by a
PIR timer to give the extra intergreen. When a 2nd red lamp failure exists the demand will never
occur. If a 2nd red lamp failure occurs during the ped green the real phase will be terminated once
it's minimum green time has expired.

Lighting wait indicators and flashing the DFM lamp will operate as normal except that a DFM fault
will cause the flashing to cease.

Lamp failure indications from the Microsense I2LM do not set the normal fault log flags so the special
pedestrian fault flag (FLF23) has been used instead.

    FLF23=1 indicates any lamp fail.
    FLF23=2 indicates a 1st red lamp failure.
    FLF23=4 indicates a 2nd red lamp failure.

Multiple failures will give a combination od these values, therefore it is easier to read if displayed in binary.

The I2LM fault outputs may be returned via the OTU to provide LF1 and LF2 replies.

I2LM CONNECTIONS
================

Connect any lamp fail output to :LF 1TBR/6 - I/P61 & input common.

Connect 1st red lamp failure output to :RF1 1TBR/7 - I/P62 & input common.

Connect 2nd red lamp failure output to :RF2 1TBR/8 - I/P63 & input common.

NB. These outputs MUST be open circuit for active.

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Call Cancel

Call Cancel

Unit No.	Input Name	Call Delay	Cancel Delay	Phase Demanded (Unlatched Demand)
0	AP	3	0	
1	BZ	3	0	
2	CP	3	2	C
3	EP	3	0	E
4	HC1	15	0	
5	HC2	15	0	
6		0	0	
7		0	0	

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Inputs and Outputs

Inputs and Outputs

☐ Enable Signal Required Check boxes

Port Number & Type

Port: 0

○ ○

◉ Inputs & Outputs

	DET No	Bit No	Type I or O	Name	Req'd	BP	Inv	U/D	Misc	DFM	DFM Group	Ext time	Used By Phs	UTC	SDE	Pri	HC	CC	IG	UD	LRT	Term Block	Terminal No
○	0	0	I	AX	☑	☐	☐	☐	☐	A	0	0.0	☑	☐	☐	☐	☐	☐	☐	☐	☐	1TBG	1
○	1	1	I	AY	☑	☐	☐	☐	☐	A	0	0.0	☑	☐	☐	☐	☐	☐	☐	☐	☐	1TBG	2
○	2	2	I	AZ	☑	☐	☐	☐	☐	A	0	0.0	☑	☐	☐	☐	☐	☐	☐	☐	☐	1TBG	3
○	3	3	I	AP	☑	☐	☐	☐	☐	A	0	0.0	☐	☐	☐	☐	☐	☑	☐	☐	☐	1TBG	4
○	4	4	I	BX	☑	☐	☐	☑	☐	A	0	0.0	☑	☐	☐	☐	☐	☐	☐	☐	☐	1TBG	5
○	5	5	I	BXu	☑	☐	☐	☐	☐	I	0	0.0	☐	☐	☐	☐	☐	☐	☐	☑	☐	1TBG	6
○	6	6	I	BY	☑	☐	☐	☑	☐	A	0	0.0	☑	☐	☐	☐	☐	☐	☐	☐	☐	1TBG	7
○	7	7	I	BYu	☑	☐	☐		☐	I	0	0.0	☐	☐	☐	☐	☐	☐	☐	☑	☐	1TBG	8

Add | Delete | Move | Clear Used By

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Inputs and Outputs

Inputs and Outputs

☐ Enable Signal Required Check boxes

Port Number & Type

Port: 1

○ ○
◉ Inputs & Outputs

	DET No	Bit No	Type I or O	Name	Req'd	BP	Inv	U/D	Misc	DFM	DFM Group	Ext time	Used By Phs	UTC	SDE	Pri	HC	CC	IG	UD	LRT	Term Block	Terminal No
○	8	0	I	BZ	☑	☐	☐	☐	☐	A	0	0.0	☑	☐	☐	☐	☐	☑	☐	☐	☐	1TBH	1
○	9	1	I	CP	☑	☐	☐	☐	☐	A	0	2.0	☑	☐	☐	☐	☐	☑	☑	☐	☐	1TBH	2
○	10	2	I	DX	☑	☐	☐	☐	☐	A	0	0.0	☑	☐	☐	☐	☐	☐	☐	☐	☐	1TBH	3
○	11	3	I	DY	☑	☐	☐	☐	☐	A	0	0.0	☑	☐	☐	☐	☐	☐	☐	☐	☐	1TBH	4
○	12	4	I	DZ	☑	☐	☐	☐	☐	A	0	0.0	☑	☐	☐	☐	☐	☐	☐	☐	☐	1TBH	5
○	13	5	I	EP	☑	☐	☐	☐	☐	A	1	0.0	☐	☐	☐	☐	☐	☑	☐	☐	☐	1TBH	6
○	14	6	I	HC1	☑	☐	☐	☐	☐	I	0	0.0	☐	☐	☐	☐	☐	☑	☐	☐	☐	1TBH	7
○	15	7	I	HC2	☑	☐	☐		☐	I	0	0.0	☐	☐	☐	☐	☐	☑	☐	☐	☐	1TBH	8

Add | Delete | Move | Clear Used By

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Inputs and Outputs

Inputs and Outputs

☐ Enable Signal Required Check boxes

Port Number & Type

Port: 3

◯ ◯ ◉ Inputs & Outputs

	DET No	Bit No	Type I or O	Name	Req'd	BP	Inv	U/D	Misc	DFM	DFM Group	Ext time	Used By Phs	UTC	SDE	Pri	HC	CC	IG	UD	LRT	Term Block	Terminal No
◯	24	0	I		☐	☐	☐	☐	☐				☐	☐	☐	☐	☐	☐	☐	☐	☐	1TBL	1
◯	25	1	I		☐	☐	☐	☐	☐				☐	☐	☐	☐	☐	☐	☐	☐	☐	1TBL	2
◯	26	2	I		☐	☐	☐	☐	☐				☐	☐	☐	☐	☐	☐	☐	☐	☐	1TBL	3
◯	27	3	I	CANCLHC0	☑	☐	☐	☐	☐	N		0.0	☐	☐	☐	☐	☑	☐	☐	☐	☐	1TBL	4
◯	28	4	I		☐	☐	☐	☐	☐				☐	☐	☐	☐	☐	☐	☐	☐	☐	1TBL	5
◯	29	5	I		☐	☐	☐	☐	☐				☐	☐	☐	☐	☐	☐	☐	☐	☐	1TBL	6
◯	30	6	I		☐	☐	☐	☐	☐				☐	☐	☐	☐	☐	☐	☐	☐	☐	1TBL	7
◯	31	7	I		☐	☐	☐		☐				☐	☐	☐	☐	☐	☐	☐	☐	☐	1TBL	8

Add | Delete | Move | Clear Used By

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Intersection : B2068 Old Dover / St Lawrence Rd, Canterbury. 06/061

Inputs and Outputs

Inputs and Outputs

☐ Enable Signal Required Check boxes

Port Number & Type

Port: 6

○ ○

◉ Inputs & Outputs

	DET No	Bit No	Type I or O	Name	Req'd	BP	Inv	U/D	Misc	DFM	DFM Group	Ext time	Used By Phs	UTC	SDE	Pri	HC	CC	IG	UD	LRT	Term Block	Terminal No
○	48	0	I	MVD4	☑	☐	☐	☐	☐	A	0	0.6	☐	☐	☐	☐	☐	☐	☑	☐	☐	1TBN	1
○	49	1	I	MVD6	☑	☐	☐	☐	☐	A	1	0.0	☑	☐	☐	☐	☐	☐	☐	☐	☐	1TBN	2
○	50	2	I	PB2F	☑	☐	☐	☐	☐	A	1	0.0	☑	☐	☐	☐	☐	☐	☐	☐	☐	1TBN	3
○	51	3	I	PB3F	☑	☐	☐	☐	☐	A	1	0.0	☑	☐	☐	☐	☐	☐	☐	☐	☐	1TBN	4
○	52	4	I	PB4G	☑	☐	☐	☐	☐	A	1	0.0	☑	☐	☐	☐	☐	☐	☐	☐	☐	1TBN	5
○	53	5	I	PB5G	☑	☐	☐	☐	☐	A	1	0.0	☑	☐	☐	☐	☐	☐	☐	☐	☐	1TBN	6
○	54	6	I		☐	☐	☐	☐	☐				☐	☐	☐	☐	☐	☐	☐	☐	☐		
○	55	7	I	BPA	☑	☐	☐		☐	I	2	0.0	☑	☐	☐	☑	☐	☐	☐	☐	☐	1TBN	8

Add | Delete | Move | Clear Used By

Works Order : 5790/484/3
EM Number : 66221
Engineer : marco Gmys
Intersection : B2068 Old Dover / St Lawrence Rd, Canterbury. 06/061

Inputs and Outputs

Inputs and Outputs

☐ Enable Signal Required Check boxes

Port Number & Type

Port: 7

○ ○ ◉ Inputs & Outputs

DET No	Bit No	Type I or O	Name	Req'd	BP	Inv	U/D	Misc	DFM	DFM Group	Ext time	Used By Phs	UTC	SDE	Pri	HC	CC	IG	UD	LRT	Term Block	Terminal No
56	0	I	BPB	☑	☐	☐	☐	☐	I	2	0.0	☑	☐	☐	☑	☐	☐	☐	☐	☐	1TBR	1
57	1	I	BPC	☑	☐	☐	☐	☐	I	2	0.0	☑	☐	☐	☑	☐	☐	☐	☐	☐	1TBR	2
58	2	I	BPD	☑	☐	☐	☐	☐	I	2	0.0	☑	☐	☐	☑	☐	☐	☐	☐	☐	1TBR	3
59	3	I		☐	☐	☐	☐	☐				☐	☐	☐	☐	☐	☐	☐	☐	☐		
60	4	I		☐	☐	☐	☐	☐				☐	☐	☐	☐	☐	☐	☐	☐	☐	1TBR	5
61	5	I	LF	☑	☐	☑	☐	☐	N		0.0	☐	☐	☐	☐	☐	☐	☐	☐	☐	1TBR	6
62	6	I	RF1	☑	☐	☑	☐	☐	N		0.0	☐	☐	☐	☐	☐	☐	☐	☐	☐	1TBR	7
63	7	I	RF2	☑	☐	☑		☐	N		0.0	☐	☐	☐	☐	☐	☐	☐	☐	☐	1TBR	8

Add Delete Move Clear Used By

Works Order : 5790/484/3
EM Number : 66221
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Intersection : B2068 Old Dover / St Lawrence Rd, Canterbury. 06/061

Aspect Drives

Aspect Drives

(●) A-L ( ) M-X ( ) Y-F2

Phase Driver Card 1

	Used For	Term Block	Term No
A - Red	Phase	1TBA	1
A - Amber	Phase	1TBA	2
A - Green	Phase	1TBA	3
B - Red	Phase	1TBA	4
B - Amber	Phase	1TBA	5
B - Green	Phase	1TBA	6
C - Red	Phase	1TBA	7
C - Amber	Phase	1TBA	8
C - Green	Phase	1TBA	9
D - Red	Phase	1TBA	10
D - Amber	Phase	1TBA	11
D - Green	Phase	1TBA	12

Phase Driver Card 1

	Used For	Term Block	Term No
E - Red	Phase	1TBB	1
E - Amber	Phase	1TBB	2
E - Green	Phase	1TBB	3
F - Red	Phase	1TBB	4
F - Amber	Phase	1TBB	5
F - Green	Phase	1TBB	6
G - Red	Phase	1TBB	7
G - Amber	Phase	1TBB	8
G - Green	Phase	1TBB	9
H - Red			
H - Amber			
H - Green			

Phase Driver Card 2

	Used For	Term Block	Term No
I - Red			
I - Amber			
I - Green			
J - Red			
J - Amber			
J - Green			
K - Red			
K - Amber			
K - Green			
L - Red			
L - Amber			
L - Green			

Works Order : 5790/484/3
EM Number : 66221
Engineer : marco Gmys
Intersection : B2068 Old Dover / St Lawrence Rd, Canterbury. 06/061

I/O - DFM Group Timings

I/O - DFM Group Timings

Input Group	State	SET A	SET B	SET C	SET D
Group 0	Active (Mins)	60	60	60	60
	InActive (Hrs)	18	18	18	18
Group 1	Active (Mins)	60	60	60	60
	InActive (Hrs)				
Group 2	Active (Mins)	10	10	10	10
	InActive (Hrs)				
Group 3	Active (Mins)	30	30	30	30
	InActive (Hrs)	18	18	18	18
Group 4	Active (Mins)	30	30	30	30
	InActive (Hrs)	18	18	18	18
Group 5	Active (Mins)	30	30	30	30
	InActive (Hrs)	18	18	18	18
Group 6	Active (Mins)	30	30	30	30
	InActive (Hrs)	18	18	18	18
Group 7	Active (Mins)	30	30	30	30
	InActive (Hrs)	18	18	18	18

Note - 255 or blank disables DFM monitoring of that state (active or inactive) during that timeset (A to D)

Handset Limiting Values

State	Min	Max
Active (Mins)	0	255
InActive (Hrs)	0	255

Index

Works Order : 53624
EM Number : 62260
Engineer : Marco Gmys
Intersection : B2068 Old Dover Road / Nackington Road - Canterbury. 06/060

Administration

General Specifications

Customer Name	Kent County Council	Customer Order No.	
Intersection/ General Description	B2068 Old Dover Road / Nackington Road - Canterbury. 06/060	Controller/ Serial Number	
		S.T.S. /EM Number	62260 Issue 6
Controller	(●) New ( ) Modification	Equipment Installation by	Signal Company
Area Specifications/ Customer Drawings	2861/S/1C	Slot Cutting by	Signal Company
Specification Section		Civil Works by	Civils Contractor
Contract/Tender Ref:		Customer's Engineer	P.Clark
Quotation No.		Telephone Number	01622-666063
Works Order No.	53624		

Signal Company Use Only

Signal Engineer: Marco Gmys

(IF PROM Label as >) PROM Number: 16260 PROM Variant: 0

Configuration Check Value: B9 15 59 6D

Controller Options

Hardware: T800 Firmware Type and Issue: PB800 ISS 18 Other Options: KTD LO

ST950/ST900/ST750 Series Cabinet Options

Cabinet/Rack

Kit Type Options ( ) ( ) ( ) ( )

Cabinet/Rack Variant

Cuckoo Options ☐

Mains Supply	240	Volts	50	Hz				
Peak Lamp Current	4	Amps	Dimming Voltage	160	Answer Issue	2	Date Created	17/01/03
Average Lamp Power	600	Watts			Edit Issue	25		
Total Average Power	800	Watts	Low Inrush Transformer	☐				

Power feed fuse rating: requires 30 Amp minimum for controller, 15 Amp minimum for pelican/lightly loaded controller

Phases, Stages and Streams

Phases, Stages and Streams

Add/Delete/Insert Streams:

Streams

(●) Current Number of Streams: 1

Phases

( ) Current Total Number of Phases: 10

(●) Number of Real Phases: 6

( ) Number of Dummy Phases: 4

Stages

( ) Current Number of stages (inc. ALL-RED stages): 5

Switched Signs

( ) Number of Switched Signs: 0

Action

Add At | Delete At

Works Order : 53624
EM Number : 62260
Engineer : Marco Gmys
Intersection : B2068 Old Dover Road / Nackington Road - Canterbury. 06/060

Facilities/Modes Enabled and Mode Priority Levels

Facilities

UTC

- [x] Serial/Internal UTMC OTU
- [ ] Free-standing OTU
- [ ] Integral TC12 OTU
- [x] Serial MOVA

- [x] Master Time Clock
- [ ] Holiday Clock
- [x] FT To Current MAX
- [ ] Linked Fixed Time

- [ ] Lamp Monitoring
- [ ] RED Lamp Monitoring
- [ ] Pelican/Puffin/Toucan
- [ ] Standalone Manual

- [x] Extend All Red
- [ ] Speed Measurement
- [ ] Ripple Change
- [ ] London IMU

- [ ] Non-UK
- [ ] Fail to Part Time
- [ ] Fail To Hardware Flashing
- [ ]
- [ ] Download To Level 3

13 Starting Intergreen

Mode Priority

Mode	Enabled	Priority level (1–13)
Part Time	☐	
Emergency Vehicles	☐	
Hurry Call	☑	2
	☐	
Priority Vehicle	☑	6
Manual Control	☑	1
Manual Step On	☐	
Selected FT or VA or CLF	☑	3
UTC	☑	4
	☐	
CLF (Non-Base Time)	☑	5
CLF (Base Time)	☐	
Vehicle Actuated	☑	7
Fixed Time	☑	11

Configuration Complexity

○ Low ○ Medium ○ High ● Maximum

standard.8DF

Default PROM data file

Correspondence Monitoring to inc.

- [x] Reds
- [ ] Switched Signs
- [x] Ambers
- [ ] Ignore Reds and Ambers durin

Flash Rate (ms)

400 Off 400 On

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Phases in Stages

Phases

In Stages	A	B	C	D	E	F	G	H	I	J
0							■			
1	■	■								
2	■			■						
3					□	□		■	□	□
4			■							

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Stages in Streams

Stages in Streams

	0	1	2	3	4	5	6	7
Phase or Stage to revert to in absence of demands/extensions	1							
Startup Stage	1							
Switch Off Stage								
Standalone Pedestrian	☐	☐	☐	☐	☐	☐	☐	☐

Note: For a Stand-Alone Stream, the reversion must be to All Red stage or Traffic stage/phase to meet the relevant standard or specification.

Stages

In Stream	0	1	2	3	4
0	■	■	■	■	■

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Phase Type and Conditions

Phase Type and Conditions

(•) Phases A to P ( )

Phase	Title	Type	App. Type	Term. Type	Assoc. Phase
A	Old Dover Road N/W Ahead	0 - UK Traffic	0	0 - I	
B	Old Dover Road S/E	0 - UK Traffic	0	0 - I	
C	Nackington Road	0 - UK Traffic	0	0 - I	
D	Old Dover Road N/W Right Turn	2 - UK GreenArrow	0	2 - I	A
E	Peds across Old Dover Road S/E	1 - UK Far Side Pedestrian	2	0 - I	
F	Peds across Nackington Road	1 - UK Far Side Pedestrian	2	0 - I	
G	Dummy All Red	0 - UK Traffic	0	0 - I	
H	Dummy for Stage 3 Peds	1 - UK Far Side Pedestrian	0	0 - I	
I	Phase E dummy	1 - UK Far Side Pedestrian	1	0 - I	
J	Phase F dummy	1 - UK Far Side Pedestrian	1	0 - I	

1) App Types: 0 = Always Appears, 1 = Appears if dem'd prior to interstage, 2 = If dem'd, 3 = If dem'd before end of window time
2) Term Types: 0 = Term's at end of stage, 1 = Term's when Assoc phase gains R.O.W, 2 = Term's when Assoc phase loses R.O.W.
3) The H/W Fail Flash fields are for information only on all but ST900ELV Controllers. For other controllers, physical switches or links (etc.) select which aspects flash and these need to be set up manually.

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Opposing and Conflicting Phases

Select Stream(s) To Configure

○ All ○ 0 ○ ○ ○ ○ ○ ○ ○

Initialise

To Phase

From Phase

	A	B	C	D	E	F	G	H	I	J
A		o	Co	o	Co	Co	o	o	o	o
B	o		Co	Co	Co	Co	o	o	o	o
C	Co	Co		Co	Co	Co	o	o	o	o
D	o	Co	Co		Co	Co	o	o	o	o
E	Co	Co	Co	Co		o	o	o	o	o
F	Co	Co	Co	Co	o		o	o	o	o
G	o	o	o	o	o	o		o	o	o
H	o	o	o	o	o	o	o		o	o
I	o	o	o	o	o	o	o	o		o
J	o	o	o	o	o	o	o	o	o	

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Phase Minimums, Maximums, Extensions, Ped Leaving Periods

Phase Minimums, Maximums, Extensions, Ped Leaving Periods

(●) Phases A to P ( )

Phase	Min Green	Min Ped Clr	Extensions	Maximums A	B	C	D	E	F	G	H	Pre-timed
A	7	0	1.6	20	15	15	15	0	0	0	0	☐
B	7	0	1.6	25	15	15	15	0	0	0	0	☐
C	7	0	1.6	35	15	20	15	0	0	0	0	☐
D	4	0	1.6	20	10	35	10	0	0	0	0	☐
E	6	4	0.0	6	6	6	6	0	0	0	0	☐
F	7	8	0.0	7	7	7	7	0	0	0	0	☐
G	1	0	0.0	1	1	1	1	0	0	0	0	☐
H	1	0	0.0	0	0	0	0	0	0	0	0	☐
I	6	0	0.0	0	0	0	0	0	0	0	0	☐
J	7	0	0.0	0	0	0	0	0	0	0	0	☐

Note: For Standalone Streams see Help for use of Max Sets.

Works Order : 53624
EM Number : 62260
Engineer : Marco Gmys
Intersection : B2068 Old Dover Road / Nackington Road - Canterbury. 06/060

Phase Intergreen Times

Select Stream(s) To Configure

○ All ○ 0 ○ ○ ○ ○ ○ ○ ○

Note: On a Stand Alone Pelican/Toucan/Puffin Stream the Intergreens between Pedestrian and Traffic Phases are controlled by the timings (PBT, PIT, CMX, CDY, CRD and PAR), therefore 0 should be entered for the appropriate intergreen times in grid below.

To Phase

From Phase	A	B	C	D	E	F	G	H	I	J
A	■		7		9	9	3	9	9	9
B		■	7	5	5	8	3	5	5	8
C	5	5	■	5	9	5	3	5	9	5
D		6	7	■	9	9	3	9	9	9
E	9	9	9	9	■		4			
F	13	13	13	13		■	8			
G	0	0	0	0	0	0	■	0		
H	0	0	0	0			0	■		
I									■	
J										■

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Intergreen Handset Limits

HIGH 199

Copy Intergreen Values

To Phase

From Phase	A	B	C	D	E	F	G	H	I	J
A			7		9	9	3	3	9	9
B			7	5	5	8	3	3	5	8
C	5	5		5	9	5	3	3	9	5
D		6	7			9	3	3		9
E	9	9	9				4			
F	13	13	13	13			8			
G				3				3		
H										
I										
J										

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Phase Timing Handset Ranges

Phase Timing Handset Ranges

Initialise Min Green Limits

Phase	Min. Green Min.	Min. Green Max.	Phase	Min. Green Min.	Min. Green Max.
A	3	255	Q		
B	3	255	R		
C	3	255	S		
D	3	255	T		
E	3	255	U		
F	3	255	V		
G	1	255	W		
H	1	255	X		
I	0	255	Y		
J	0	255	Z		
K			A2		
L			B2		
M			C2		
N			D2		
O			E2		
P			F2		

	Min.	Max.
Max. Green	0	255
Vehicle Extension	0.0	10.0
Phase Delay	2	10
Starting I/G	4	14
Min Pedestrian Clearance (PBT)	0	12
Traffic Phase Leaving	3.0	3.0
Traffic Phase Red/Amber	2	2

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VA Demand and Extend Definitions

VA Demand and Extend Definitions

(●) Phases A to P ( )

Demands

For Unlatched demands precede the name with a #.
Conditioning MUST be used to specify unlatched demands.

Phase				
A	AY	AZ		BPA
B	BX	BY	BZ	BPB
C	CX	CY	CZ	BPC
D				BPD
E				
F				
G				
H				
I	PB3E	PB4E		
J	PB6F	PB7F		

Extensions

Phase				
A	AX	AY	AZ	
B	BX	BY	BZ	
C	CX	CY	CZ	
D				DP
E				
F				
G				
H				
I				
J				

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Phase Internal/Revertive Demands

Phase Internal/Revertive Demands

Start-up Vehicle Responsive Demands

A	B	C	D	E	F	G	H	I	J						
☑	☑	☑	☑	☐	☐	☐	☐	☑	☑	☐	☐	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Demands Inserted When Leaving Manual and Fixed Time Modes

A	B	C	D	E	F	G	H	I	J						
☑	☑	☑	☑	☐	☐	☐	☐	☑	☑	☐	☐	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Unlatched Demands that Start Max Timers

A	B	C	D	E	F	G	H	I	J						
☑	☑	☑	☑	☑	☑	☐	☐	☑	☑	☐	☐	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Revertive Phase Demands

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
A	B	C	A												

Q	R	S	T	U	V	W	X	Y	Z	A2	B2	C2	D2	E2	F2

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Engineer : Marco Gmys
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Stages - Prohibited, Alternative, Ignored Moves

Stages - Prohibited, Alternative, Ignored Moves

Sets
- (•) 1
- ( ) 2
- ( ) 3
- ( ) 4

Modes	Restrictions Apply To:	No Restrictions
	(•)	( )
	(•)	( )
	(•)	( )
	(•)	( )
	(•)	( )
	( )	( )

Modes	Restrictions Apply To:	No Restrictions
Manual	(•)	( )
	(•)	( )
	( )	( )
	( )	( )
	( )	( )

To Stage

From Stage	0	1	2	3	4
0	■				
1		■			
2		0	■		
3				■	
4					■

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Intersection : B2068 Old Dover Road / Nackington Road - Canterbury. 06/060

Stages - Prohibited, Alternative, Ignored Moves

Stages - Prohibited, Alternative, Ignored Moves

Sets
○ 1
◉ 2
○ 3
○ 4

Modes	Restrictions Apply To:	No Restrictions
Urban Traffic Control	◉	○
Cableless Linking	◉	○
Vehicle Actuated	◉	○
Hurry Call	◉	○
Fixed Time	◉	○
	○	○

Modes	Restrictions Apply To:	No Restrictions
	◉	○
Priority	◉	○
	○	○
	○	○
	○	○

To Stage

From Stage	0	1	2	3	4
0					
1	X				
2		0			
3	X				
4	X				

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Engineer : Marco Gmys
Intersection : B2068 Old Dover Road / Nackington Road - Canterbury. 06/060

Stage Internal Demands/Pedestrian Window Times

Stage Internal Demands/Pedestrian Window Times

Start-up Vehicle Responsive Demands

0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐

Demands Inserted When Leaving Manual and Fixed Time Modes

0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐

Unlatched Demands that Start Maximum Timers

0 ☑ 1 ☑ 2 ☑ 3 ☑ 4 ☑

Window Times

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
0	0	0	0	0											
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31

Exceptional Stages

Works Order : 53624
EM Number : 62260
Engineer : Marco Gmys
Intersection : B2068 Old Dover Road / Nackington Road - Canterbury. 06/060

Fixed Time

Fixed Time

Stage Moves & Times (Not Fixed Time to Current Max)

Current Stage	0	1	2	3	4	5	6	7
Next Stage								
Time								
Current Stage	8	9	10	11	12	13	14	15
Next Stage								
Time								
Current Stage	16	17	18	19	20	21	22	23
Next Stage								
Time								
Current Stage	24	25	26	27	28	29	30	31
Next Stage								
Time								

Phases Demanded and Extended under Fixed Time to Current Max.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Demand	☑	☑	☑	☑	☐	☐	☐	☐	☑	☑	☐	☐	☐	☐	☐	☐
Extend	☑	☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

	Q	R	S	T	U	V	W	X	Y	Z	A2	B2	C2	D2	E2	F2
Demand	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Extend	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Works Order : 53624
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Intersection : B2068 Old Dover Road / Nackington Road - Canterbury. 06/060

CLF - Demand Dependent Moves

Clear Grid Data

Notes:
If no data is entered for a stage then a demand for any phases in that stage will be considered. The data specified on this screen will also change the screen CLF - Demands to Consider with Demand Dependent Stage Moves.

Phases

Stages	A	B	C	D	E	F	G	H	I	J
0										
1										
2				■						
3					■	■			■	■
4			■							

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UTC General Data

UTC General Data

Type of UTC

- (•) 106
- ( ) 316

Integral OTU Address

2 — Number of Control Words

3 — Number of Reply Words

- [ ] Controller to respond to TC bit.
- [ ] Introduction of UTC to be disabled by Priority and LR

Non UTC RTC synchronisation input name

RTC Synchronisation Times

Clock Synchronise Time (UTC TS input)

Day	Time
Time Only	12:00:00

Clock Confirm Time (UTC RT output)

Day	Time
Time Only	12:00:00

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UTC Control and Reply Data Format

UTC Control and Reply Data Format

Control Words

	Bit 1	Bit 2	Bit 3	Bit 4	Bit 5	Bit 6	Bit 7	Bit 8
Word 1	F1	#F2	#F3	#F4	D2	D3	D4	DX1
Word 2	TS							
Word 3								
Word 4								

Reply Words

	Bit 1	Bit 2	Bit 3	Bit 4	Bit 5	Bit 6	Bit 7	Bit 8
Word 1	G1	G2	G3	G4	SD2	SD3	SD4	DF
Word 2	CCC	SP1	RR	LF1	LF2	BD1	BD2	BD3
Word 3	BD4	CC						
Word 4								
Word 5								
Word 6								
Word 7								
Word 8								
Word 9								
Word 10								
Word 11								
Word 12								
Word 13								
Word 14								

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UTC Phase Demand and Extend Definitions

UTC Demand and Extend Definitions

Phases A to P

Demands

For Unlatched demands, preceed the name with a #.
Conditioning MUST be used to specify unlatched demands.

Phase	Demands				Extensions			
A	DX1				DX1			
B	DX1				DX1			
C	DX1	D4			DX1	D4		
D	DX1	D2			DX1	D2		
E								
F								
G								
H								
I	DX1	D3						
J	DX1	D3						

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UTC Stage and Mode Data Definitions

UTC Stage and Mode Data Definitions

Stage	Force Bit	Green Confirm Bit	Demand Confirm Bit	Stage	Force Bit	Green Confirm Bit	Demand Confirm Bit
0				16			
1	F1	G1		17			
2	#F2	G2	SD2	18			
3	#F3		SD3	19			
4	#F4	G4	SD4	20			
5				21			
6				22			
7				23			
8				24			
9				25			
10				26			
11				27			
12				28			
13				29			
14				30			
15				31			

Mode Data Definitions

Manual Mode Operative:
☐ G1/G2 ☑ RR ☐

Manual Mode Selected:
☐ G1/G2 ☑ RR ☐

No Lamp Power, or Lamps Off due to RLM or Part Time:
☑ G1/G2 ☐ ☐

Detector Fault:
☐ ☐ ☑ DF

Normal NOT selected on the Manual Panel:
☐ G1/G2 ☑ RR ☐

RR Button Selected:
☐ G1/G2 ☐ RR ☐

If UTC Reply Confirms are required for a Controller Fault (CF) OR for separate MC and RR replies, Conditioning must be used.

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UTC Demand Dependent Forces

Clear Grid Data

Notes:
If no data is entered for a stage then a demand for any phases in that stage will be considered. The data specified on this screen will also change the screen CLF - Demands to Consider with Demand Dependent Stage Moves.

Phases

Stages	A	B	C	D	E	F	G	H	I	J
0										
1										
2				■						
3					■	■			■	■
4			■							

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MTC - Time Switch Parameters

MTC - Time Switch Parameters

	Type	Event
0	Alternate Max	MAXSETB
1	Alternate Max	MAXSETC
2	Alternate Max	MAXSETD
3	Alternate DFM	ALTDFMB
4	Alternate DFM	ALTDFMC
5	Alternate DFM	ALTDFMD
6	No Action	
7	No Action	
8	No Action	
9	No Action	
10	No Action	
11	No Action	
12	No Action	
13	No Action	
14	No Action	
15	No Action	

	Type	Event
16	No Action	
17	No Action	
18	No Action	
19	No Action	
20	No Action	
21	No Action	
22	No Action	
23	No Action	
24	No Action	
25	No Action	
26	No Action	
27	No Action	
28	No Action	
29	No Action	
30	No Action	
31	No Action	

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MTC - Time Switch Parameters Array

Parameters

Events	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
MAXSETB		■																														
MAXSETC			■																													
MAXSETD				■																												
ALTDFMB		■																														
ALTDFMC			■																													
ALTDFMD				■																												
Unused																																
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Works Order : 53624
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Intersection : B2068 Old Dover Road / Nackington Road - Canterbury. 06/060

MTC - Day Type

MTC - Day Type

No.	Mon	Tue	Wed	Thu	Fri	Sat	Sun
0	☐	☐	☐	☐	☐	☑	☐
1	☐	☐	☐	☐	☐	☐	☑
2	☑	☐	☐	☐	☐	☐	☐
3	☐	☑	☐	☐	☐	☐	☐
4	☐	☐	☑	☐	☐	☐	☐
5	☐	☐	☐	☑	☐	☐	☐
6	☐	☐	☐	☐	☑	☐	☐
7	☑	☑	☑	☑	☑	☑	☑
8	☑	☑	☑	☑	☑	☑	☐
9	☑	☑	☑	☑	☑	☐	☐
10	☐	☐	☐	☐	☐	☐	☐
11	☐	☐	☐	☐	☐	☐	☐
12	☐	☐	☐	☐	☐	☐	☐
13	☐	☐	☐	☐	☐	☐	☐
14	☐	☐	☐	☐	☐	☐	☐
15	☐	☐	☐	☐	☐	☐	☐

Works Order : 53624
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MTC - Timetable

MTC - Timetable

View Timetable Settings

(•) 0 - 15 ( ) 16 - 31 ( ) 32 - 47 ( ) 48 - 63

No.	Day Type	Time	Description	Function Code	Plan/ Parameter
0	9	07:30:00	MAXSET A	2	0
1	9	09:30:00	MAXSET B	2	1
2	9	15:00:00	MAXSET C	2	2
3	9	18:30:00	MAXSET D	2	3
4	0	07:30:00	MAXSET B	2	1
5	0	19:00:00	MAXSET D	2	3
6	1	08:30:00	MAXSET B	2	1
7	1	18:30:00	MAXSET D	2	3
8	0		PLAN 1	1	1
9	0		PLAN 2	1	2
10	0		PLAN 3	1	3
11	0		PLAN 4	1	4
12	0		ISOLATE	0	0
13	0		PLAN 2	1	2
14	0		PLAN 4	1	4
15	0		ISOLATE	0	0

Function Codes:

0 = Isolate From CLF

1 = Introduce a CLF Plan

2 = Introduce a Parameter (Combination of event switches)

3 = Selects an Individual event switch to be set

4 = Selects an Individual event switch to be cleared.

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Priority and Emergency Vehicle - General

Priority and Emergency Vehicle - General

	Input Name	Type Priority / Emergency P	E	Phase	DFM Time (x10)	Gap Time	DFM Self Reset	Demands Sets 0	1	2	3	Revertive Demands Sets 0	1	2	3	Revertive Demands to Start Inhibit Timer Sets 0	1	2	3
Unit 0	BPA	◉	○	A	60	4	0	☑	☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐
Unit 1	BPB	◉	○	B	60	4	0	☑	☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐
Unit 2	BPC	◉	○	C	60	4	0	☑	☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐
Unit 3	BPD	◉	○	D	60	4	0	☑	☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐
Unit 4		◉	○		30	4	0	☑	☑	☑	☑	☑	☑	☑	☑	☐	☐	☐	☐
Unit 5		◉	○		30	4	0	☑	☑	☑	☑	☑	☑	☑	☑	☐	☐	☐	☐
Unit 6		◉	○		30	4	0	☑	☑	☑	☑	☑	☑	☑	☑	☐	☐	☐	☐
Unit 7		◉	○		30	4	0	☑	☑	☑	☑	☑	☑	☑	☑	☐	☐	☐	☐

☐ Inputs From Conditioning

Note:
Bus Priority Unit values will not be used unless a valid Input Name is specified
If Bus Unit is to generate a VA demand, then input name must also be specified on VA demands screen

Note:
Valid values for DFM Self Reset: 1 or 0 for PB800, 0-255 for PB801 and later

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Priority - Delays, Unit Inhibits and Associations

Priority - Delays, Unit Inhibits and Associations

Delay Time / Priority Units Inhibited

	Delay Time First	Delay Time Second	Inhibited 0	1	2	3	4	5	6	7
Unit 0			☑	☐	☐	☐	☐	☐	☐	☐
Unit 1			☐	☑	☐	☐	☐	☐	☐	☐
Unit 2			☐	☐	☑	☐	☐	☐	☐	☐
Unit 3			☐	☐	☐	☑	☐	☐	☐	☐
Unit 4			☐	☐	☐	☐	☐	☐	☐	☐
Unit 5			☐	☐	☐	☐	☐	☐	☐	☐
Unit 6			☐	☐	☐	☐	☐	☐	☐	☐
Unit 7			☐	☐	☐	☐	☐	☐	☐	☐

Associated Priority Units

	0	1	2	3	4	5	6	7
Unit 0	☐	☐	☐	☐	☐	☐	☐	☐
Unit 1	☐	☐	☐	☐	☐	☐	☐	☐
Unit 2	☐	☐	☐	☐	☐	☐	☐	☐
Unit 3	☐	☐	☐	☐	☐	☐	☐	☐
Unit 4	☐	☐	☐	☐	☐	☐	☐	☐
Unit 5	☐	☐	☐	☐	☐	☐	☐	☐
Unit 6	☐	☐	☐	☐	☐	☐	☐	☐
Unit 7	☐	☐	☐	☐	☐	☐	☐	☐

Handset Delay Limits

First Delay Handset Range Min Max Second Delay Handset Range Min Max

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Priority Time Sets

Priority Time Sets

Sets
(•) 0 ( ) 2
( ) 1 ( ) 3

Copy Set

Priority Unit	0	1	2	3	4	5	6	7
Maximum time (secs)	30	30	30	30	15	15	15	15
Extension time (secs)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Inhibit Time (secs)	120	120	120	120	50	50	50	50

Compensation Times

Priority Units	A	B	C	D	E	F	G	H	I	J
0										
1										
2										
3										
4										
5										
6										
7										

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Priority Time Sets

Priority Time Sets

Sets

- ○ 0
- ◉ 1
- ○ 2
- ○ 3

Copy Set

Priority Unit	0	1	2	3	4	5	6	7
Maximum time (secs)	30	30	30	30	15	15	15	15
Extension time (secs)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Inhibit Time (secs)	120	120	120	120	50	50	50	50

Compensation Times

Priority Units	A	B	C	D	E	F	G	H	I	J
0										
1										
2										
3										
4										
5										
6										
7										

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Priority Time Sets

Priority Time Sets

Sets

- ○ 0
- ◉ 2
- ○ 1
- ○ 3

Copy Set

Priority Unit	0	1	2	3	4	5	6	7
Maximum time (secs)	30	30	30	30	15	15	15	15
Extension time (secs)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Inhibit Time (secs)	120	120	120	120	50	50	50	50

Compensation Times

Priority Units	A	B	C	D	E	F	G	H	I	J
0										
1										
2										
3										
4										
5										
6										
7										

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Priority Time Sets

Priority Time Sets

Sets

○ 0 ○ 2
○ 1 ◉ 3

Copy Set

Priority Unit	0	1	2	3	4	5	6	7
Maximum time (secs)	30	30	30	30	15	15	15	15
Extension time (secs)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Inhibit Time (secs)	120	120	120	120	50	50	50	50

Compensation Times

Priority Units	A	B	C	D	E	F	G	H	I	J
0										
1										
2										
3										
4										
5										
6										
7										

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Priority - Allowed and Enforced Demands

Phase

Priority Unit	A	B	C	D	E	F	G	H	I	J
0										
1										
2										
3										
4										
5										
6										
7										

Hurry Call

Hurry Call

Hurry Call	Stage Called	Call Input Name	Cancel Input Name	Confirm Output Name	Delay Time	Hold Time	Prevent Time
0	2	*SCRT10	CANCLHC0		0	30	0
1	1	*SCRT12			25	7	0
2					0	0	0
3					0	0	0
4					0	0	0
5					0	0	0
6					0	0	0
7					0	0	0

Hurry Call Limit Values

	Min.	Max.
Call Delay	0	255
Call Hold	0	255
Call Prevent	0	255

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Manual Panel

Manual Panel

Stage Buttons and LEDs

Button No.	Title	Called Stage for Stream 0	1	2	3	4	5	6	7
0	All Red Stage	0							
1	Stage 1	1							
2	Stage 2	2							
3	Stage 3	3							
4	Stage 4	4							
5									
6									
7									

General LEDs

	AUX 1	AUX 2	AUX 3	AUX 4 (Hurry Call)	AUX 5 (Higher Priority)
Conditioned	☑	☑	☑	☐	☑

Manual Mode Enable

- (●) Always
- ( ) When Handset Plugged in (Note 1)
- ( ) When 'MND' Command Entered

NOTE:
For this to operate Special Conditioning is required.

General Buttons

	None	SW1	SW2	SW3
Momentary		☐	☐	☐
Dim Override	( )	(●)	( )	( )
RR	(●)	( )	( )	( )

Manual Signals On

- ( ) Immediate Signals On
- (●) As Start-Up

Mode Select Switches Disabled

☐ VA ☐ Fixed Time ☐ CLF

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Manual Mode - Optional Phases Appearance

Manual Mode - Optional Phases Appearance

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Never Appears	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Demand Dependant	○	○	○	○	◉	◉	○	○	○	○	○	○	○	○	○	○
Always Appears	◉	◉	◉	◉	○	○	◉	◉	◉	◉	○	○	○	○	○	○

	Q	R	S	T	U	V	W	X	Y	Z	A2	B2	C2	D2	E2	F2
Never Appears	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Demand Dependant	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Always Appears	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

Extend All Red - General

Extend All Red - General

Auto Extend to Max

Part Time	☐
Emergency Vehicle	☐
Hurry Call	☐
LRT	☐
Priority	☐
Manual	☐
Manual Step On	☐
UTC	☐
MOVA	☐
CLF	☐
VA*	☐
Fixed Time	☑

All Red Timings

Stream	0	1	2	3	4	5	6	7
Extension Time	0.6							
Max Time	8							

* Selecting Extend to Max on VA mode will also cause Extend to Max on CLF, UTC and Priority modes.

Detectors Associated with All Red Extension Units

Unit	Associated Detectors							
1	AR1	MVD3	MVD6					
2								
3								
4								
5								
6								
7								

The association between detectors and extension units must be performed in special conditioning.

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Extend All Red - Stage To Stage Moves

To Stage

From Stage	0	1	2	3	4
0					
1				1	
2				1	
3					
4					

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Extend All Red - Independent Intergreens

Phase Not Affected by Hold

Phase Terminating

	A	B	C	D	E	F	G	H	I	J
A										
B										
C										
D										
E										
F										
G										
H										
I										
J										

Special Conditioning

```
; USE OF SCRATCH BITS
; -------------------
;SCRT0
;SCRT1
;SCRT2
;SCRT3
;SCRT4
;SCRT5
;SCRT6
;SCRT7
;SCRT8
;SCRT9
;SCRT10 = REQUEST HURRY CALL 0
;SCRT11 = CONFIRMATION THAT HURRY CALL 0 HAS RUN, SO AS TO ALLOW HURRY CALL 1
;SCRT12 = REQUEST HURRY CALL 1
;SCRT13 = NOT STAGE3 AND DEMANDS FOR PHASES I  J (E _F)
;SCRT14 = NOT STAGE3 AND DEMANDS FOR PHASE J (F)
;SCRT15 = NOT STAGE3 AND DEMANDS FOR PHASE I (E)

; HURRY CALL CONDITIONING
; ======================

; REQUEST HURRY CALL 0
; --------------------
CCTO2.CCTO3.NOT(PHASEE).NOT(PHASEF).NOT(CNDTMA1)=SCRT10 ; HURRY CALL 0 IS REQUESTED, BY SCRT10, IF
                                                        ; BOTH HURRY CALL CALL CANCEL INPUTS ARE TRUE
                                                        ; AND PHASE E IS NOT GREEN
                                                        ; AND PHASE F IS NOT GREEN
                                                        ; AND HURRY CALL PREVENT CONDITIONING TIMER 1
                                                        ; IS NOT RUNNING

; HURRY CALL 0 PREVENT PERIOD
; ---------------------------
IFT HRYSTT1 EQL<1> THN              ; IF HURRY CALL 0 IS TIMING REQUEST OR FORCING HURRY MODE
RUN<0>                              ; REPEATEDLY START CONDITIONING TIMER 0
END

IFT (HRYSTT1 EQL<2>).CNDTER0 THN    ; IF HURRY CALL 0 IS TIMING HOLD PERIOD AND CONDITIONING TIMER 0
RUN<1>                              ; HAS JUST TERMINATED THEN START CONDITIONING TIMER 1
END

; CANCEL HURRY CALL 0
; -------------------
IFT HRYSTT1 EQL<2> THN                      ; IF HURRY CALL 0 IS TIMING HOLD PERIOD THEN
IFT (NOT(HC1).NOT(HC2))+(LCPHI+LCPHJ) THN   ; HURRY CALL 0 IS CANCELLED IF EITHER
TRUE=CANCLHC0                               ; LOOPS HC1 AND HC2 ARE BOTH UNOCCUPIED
END                                         ; OR
END                                         ; PHASE I OR PHASE J (E OF F) ARE DEMANDED

; REQUEST HURRY CALL 1
; --------------------
; HURRY CALL 1 MAY BE ENABLED/ DISABLED BY HANDSET USING THE
; CONDITIONING FACILTIY ENABLE COMMAND "CFE".
; CONTROLLER CFE0 DEFAULT VALUE IS NORMALLY "0" (DISABLED)
; WHEREAS THE REQUIRED DEFAULT STATE FOR HURRY CALL 1 IS ENABLED.
; THEREFORE IN CONDITIONING THE RESULTANT STATE OF CFE0 HAS BEEN INVERTED
```

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Special Conditioning

```
; TO ALLOW THE DEFAULT VALUE OF "0" TO MEAN ENABLED.
;
; TO DISABLE HURRY CALL 1 SET CFE0 TO "1"
; TO ENABLE HURRY CALL 1 SET CFE0 TO "0"
;
IFT NOT(CFE0 EQL<1>) THN    ; IF HURRY CALL 1 CONDITIONING IS ENABLED THEN
IFT HRYSTT1 EQL<2> THN      ; IF HURRY CALL 0 IS TIMING HOLD PERIOD THEN
RUN<2>                      ; REPEATEDLY START CONDITIONING TIMER 2
END

IFT CNDTER2 THN         ; IF CONDITIONING TIMER 2 HAS JUST TERMINATED THEN
TRUE=SCRT11             ; SET SCRATCH BIT SCRT11 TRUE
END

IFT NOT(PREVC).PHASEC.SCRT11 THN    ; IF PHASE C HAS JUST GONE TO GREEN AND
TRUE=SCRT12                         ; SCRATCH BIT SCRT11 IS TRUE THEN
ELS                                 ; SET SCRATCH BIT SCRT12 TRUE
FALSE=SCRT12                        ; OTHERWISE SET SCRATCH BIT SCRT12 TO FALSE
END

IFT PHASEB THN                      ; IF PHASE B IS AT GREEN THEN
FALSE=SCRT11                        ; RESET SCRATCH BIT SCRT11 TO FALSE
END

END

; STAGE 1 REVERSION WITH UNSATISFIED PED DEMAND
;~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
STAGE3.(LCPHI+LCPHJ).(NOT(LCPHC+UCPHC+LCPHD+UCPHD))=+LCPHB  ;ALLOW REVERT TO STAGE 1 IF A PED PHASE DEMAND AT INTER
                                                             ;STAGE TO STAGE 3.

; UTC G3 REPLY BIT
;~~~~~~~~~~~~~~~~~~

IFT (NOT(NXTSTG0 EQL<3>)).LCPHI.NOT(LCPHJ) THN
     TRUE=SCRT15
ELS
   IFT (NOT(NXTSTG0 EQL<3>)).LCPHJ.NOT(LCPHI) THN
        TRUE=SCRT14
ELS
      IFT (NOT(NXTSTG0 EQL<3>)).LCPHI.LCPHJ THN
           TRUE=SCRT13
      END
   END
END
IFT FROME+FROMF THN
    FALSE=SCRT15
    FALSE=SCRT14
    FALSE=SCRT13
END

NOT(NXTSTG0 EQL<3>.((SCRT15.(NOT(SCRT14)).PHASEE)+(SCRT14.(NOT(SCRT15)).PHASEF)+(SCRT13.PHASEE.PHASEF)))=G3

MAUXSW1=MIL22                                   ;AUX 1 LED LIT WHEN SWITCH 1 OPERATED ( dimming overide )
(MODE0 EQL<6>)=MIL23                            ;AUX 2 LED LIT WHEN UTC ACTIVE
(MODE0 EQL<3>)=MIL05                            ;AUX 3 LED LIT WHEN RUNNING CLF
```

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Special Conditioning

```
(MODE0 EQL<13>)=MIL17                           ;BUS PRIORITY LIGHTS HIGHER PRIORITY LED

CCTO0=+LCPHB                                    ;CALL CANCEL UNIT 0 INSERTS A LATCHED DEMAND FOR PHASE B

LMPON.LPSPRD.SWLMPS.Not(FLF17).NOT(STAGE1)=G1   ;LAMPS OFF AND STAGE CONFIRMS FOR UTC G1 _G2 BITS
LMPON.LPSPRD.SWLMPS.Not(FLF17).NOT(STAGE2)=G2

NOT((MODE0 EQL<1>+MODE0 EQL<2>+MODE0 EQL<4>))=RR  ;RR BIT REPLIES MANUAL,F.T AND VA MODES

NOT(MODE0 EQL<13>)=SP1                          ;SP1 BIT REPLIES WHEN IN PRIORITY MODE

NOT(BPA)=BD1                                   ;BD1 REPLIES WHEN INPUT BPA IS ACTIVE
NOT(BPB)=BD2                                   ;BD2 REPLIES WHEN INPUT BPB IS ACTIVE
NOT(BPC)=BD3                                   ;BD3 REPLIES WHEN INPUT BPC IS ACTIVE
NOT(BPD)=BD4                                   ;BD4 REPLIES WHEN INPUT BPD IS ACTIVE


NOT(LMPANY0)=LF1                                ;ANY LAMP FAIL REPLIES UTC LF1 BIT.
NOT(LMP2RED0)=LF2                               ;SECOND RED LAMP FAIL REPLIES UTC LF2 BIT.

AR1+AR1_EXT+MVD3+MVD6+SSFIX=IGEO1               ;AR1  MVD3 _MVD6 ACTIVE
AR1'+MVD3'+MVD6'+SSFIX=IGEC1                    ;AR1  MVD3 _MVD6 CLEARED

; RTC SYNC CONFIRM SIGNAL
; ~~~~~~~~~~~~~~~~~~~~~~~
; CONFIRM SIGNALS AFTER SYNC TIME AS FOLLOWS -

;SUNDAY----- FOR  3 SECONDS
;MONDAY----- FOR  5 SECONDS
;TUESDAY---- FOR  7 SECONDS
;WEDNESDAY-- FOR  9 SECONDS
;THURSDAY--- FOR 11 SECONDS
;FRIDAY----- FOR 13 SECONDS
;SATURDAY--- FOR 15 SECONDS

IFT 1SCRT254.NOT CC THN
    TRUE=1SCRT255
END

1SCRT254.NOT(1SCRT255)=CCC

NOT(MODE0 EQL<8>)=+1SCRT254

NOT((RTCDYS EQL<1>).(RTCSEC GRT<2>))=.1SCRT255   ; RESET FLAG - SUNDAY
NOT((RTCDYS EQL<2>).(RTCSEC GRT<4>))=.1SCRT255   ; RESET FLAG - MONDAY
NOT((RTCDYS EQL<3>).(RTCSEC GRT<6>))=.1SCRT255   ; RESET FLAG - TUESDAY
NOT((RTCDYS EQL<4>).(RTCSEC GRT<8>))=.1SCRT255   ; RESET FLAG - WEDNESDAY
NOT((RTCDYS EQL<5>).(RTCSEC GRT<10>))=.1SCRT255  ; RESET FLAG - THURSDAY
NOT((RTCDYS EQL<6>).(RTCSEC GRT<12>))=.1SCRT255  ; RESET FLAG - FRIDAY
NOT((RTCDYS EQL<0>).(RTCSEC GRT<14>))=.1SCRT255  ; RESET FLAG - SATURDAY
```

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```
; EXTERNAL  LAMP MONITORING FACILITY
; ------------------------------------
     RF2:.PHASEE=1AUXCMDE4                              ; DOUBLE RED FAIL SENDS ALL PEDESTRIAN PHASES TO RED
        *.PHASEF=1AUXCMDF4

     RF2:+LCPHI=+1WTCTRLE                               ; WAIT INDICATORS LIT IF DEMAND EXISTS
        *+LCPHJ=+1WTCTRLF                               ; FOR ASSOCIATED DUMMY PHASE(S) OR IF RF2 PRESENT

       FALSE:::=.LCPHE                                  ; REMOVES ALL PEDESTRIAN PHASE DEMANDS UNTIL
              *=.UCPHE                                  ; FOLLOWING BLOCK INSERTS THEM
              *=.LCPHF
              *=.UCPHF

   PHASEI.((NOT CNDTMA3)+(NOT RF1)).(NOT RF2)=+UCPHE    ; DEMAND REAL PEDESTRIAN PHASE WHEN DUMMY REACHES
                                                        ; GREEN IF RF1 ABSENT OR AFTER DELAY TIMER IF RF1 PRESENT
                                                        ; DO NOT DEMAND AT ALL IF RF2 PRESENT
   PHASEJ.((NOT CNDTMA4)+(NOT RF1)).(NOT RF2)=+UCPHF    ; DEMAND REAL PEDESTRIAN PHASE WHEN DUMMY REACHES
                                                        ; GREEN IF RF1 ABSENT OR AFTER DELAY TIMER IF RF1 PRESENT
                                                        ; DO NOT DEMAND AT ALL IF RF2 PRESENT

     RF2:+LCPHE=PRVPHE                                  ; PREVENT PEDESTRIAN PHASES FROM APPEARING IF RF2
        *+LCPHF=PRVPHF                                  ; PRESENT OR IF A LATCHED DEMAND EXISTS

   IFT (NOT PHASEI) THN                                 ; RESET RLMU DELAY TIMERS IF ASSOCIATED DUMMY PHASES
   RUN <3>                                              ; ARE NOT AT GREEN
   END
   IFT (NOT PHASEJ) THN
   RUN <4>
   END

   (NOT RF2):::.PRSLMPAE=+UCPHI                         ; WAIT LAMP LIT ON REAL PHASE DEMANDS DUMMY PHASE
              *.PRSLMPAF=+UCPHJ                         ; PROVIDING RF2 NOT PRESENT
              *.PRSLMPAE=+LCPHI
              *.PRSLMPAF=+LCPHJ
       (NOT RF2):::=.LCPHI                              ; REMOVE ALL DUMMY PHASE DEMANDS IF RF2 PRESENT
                  *=.UCPHI
                  *=.LCPHJ
                  *=.UCPHJ

   INC 1SCRTCH30                                        ; IF THE LMU SIGNALS A RED FAIL
   (RF1+RF2).1SCRT241=CABLMP                            ; FLASH THE DFM LAMP
   (NOT(MODE0 EQL <8>))::.LF=1PEDFLF0                   ; ANY LAMP FAIL SETS FLF23=1
                        *.RF1=1PEDFLF1                  ; SINGLE RED FAIL SETS FLF23=2
                        *.RF2=1PEDFLF2                  ; DOUBLE RED FAIL SETS FLF23=4
                                                        ; N.B. MULTIPLE FAILURES COULD GIVE OTHER VALUES
   NOT(LF).NOT(RF1)=LF1                                 ; ANY LAMP FAIL REPLIES LF1
   NOT(RF2)=LF2                                         ; 2ND RED FAIL REPLIES LF2
```

Special Conditioning

```
; ADDITIONAL DETECTOR DEMANDS / EXTENSIONS
; ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
DX+DY+DZ=+LCPHA                               ;DX, DY OR DZ INSERTS A LATCHED DEMAND FOR PHASE A
(DX_EXT+DY_EXT+DZ_EXT).(STAGE1):=+EXOA        ;DX, DY OR DZ EXTENDS PHASE A DURING STAGE 1
                               *=+EXCA
DX_EXT+DY_EXT+DZ_EXT:=+EXOD                   ;DX, DY OR DZ EXTENDS PHASE D DURING STAGE 2
                    *=+EXCD
```

Special Conditioning Timers

Special Conditioning Timers

Timers

0-31

No	Value	Min	Max	200ms	Description	No	Value	Min	Max	200ms	Description
0	1	0	255	☐	Timer used to start Timer 1	16		0	255	☐	
1	50	0	255	☐	Hurry Call 0 prevent timer	17		0	255	☐	
2	1	0	255	☐	Timer used to request Hurry Call 1	18		0	255	☐	
3	2	0	255	☐	Phase E RLM delay timer	19		0	255	☐	
4	2	0	255	☐	Phase F RLM delay timer	20		0	255	☐	
5		0	255	☐		21		0	255	☐	
6		0	255	☐		22		0	255	☐	
7		0	255	☐		23		0	255	☐	
8		0	255	☐		24		0	255	☐	
9		0	255	☐		25		0	255	☐	
10		0	255	☐		26		0	255	☐	
11		0	255	☐		27		0	255	☐	
12		0	255	☐		28		0	255	☐	
13		0	255	☐		29		0	255	☐	
14		0	255	☐		30		0	255	☐	
15		0	255	☐		31		0	255	☐	

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Special Instructions

62260

Board	Position	Skt	Port	Type I or O	Line	Cable	Block
CPU	A	X3I	0	I	00 - 07	101	1TBG
CPU	A	X3I	1	I	08 - 15		1TBH
CPU	A	X3O	11	O	88 - 91	105	1TBX
IO1	B	B	2	I	16 - 23	103	1TBJ
IO1	B	E	4	O	32 - 39		1TBK
IO1	B	C	3	I	24 - 31	103	1TBL
IO1	B	D	5	O	40 - 47		1TBM
IO2	C	B	6	I	48 - 55	103	1TBN
IO2	C	E	8	O	64 - 71		1TBP
IO2	C	C	7	I	56 - 63	103	1TBR
IO2	C	D	9	O	72 - 79		1TBS

The socket X3 on the CPU pcb is the double stacked one
X3I = Inner (nearest the board)
X3O = Outer

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Special Instructions

ST800 CONTROLLER ITEMS LIST SHEET 1 (*I*L*)

ITEM	DRAWING NUMBER	DESCRIPTION	QTY	TOT	REMARKS
1					
2	667/1/27000/001	Cabinet 8 Phase wired 16 Phase	1		
3	667/1/27000/002	Cabinet 24 Phase wired 32 Phase			
4	667/1/27001/001	Rack 8 Phase wired 16 Phase			
5	667/1/27001/002	Rack 24 Phase wired 32 Phase			
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24	667/1/27002/000	Lamp Switch Kit 8 Phase			
25	667/1/27003/000	I/O Kit	2		
26	667/1/27005/000	SDE Facility Kit			
27	667/1/27004/000	Integral OTU Kit			
28					
29					
30					
31					
32					
33					
34					
35					
36					
37					
38					
39	667/1/16260/000	Configuration Eprom (Issue 1. 0)	1		
40					

Note 1:
Please refer to special instruction pages for additional information on items marked with an '*'.

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Special Instructions

ST800 CONTROLLER ITEMS LIST SHEET 2 (*I*L*)

ITEM	DRAWING NUMBER	DESCRIPTION	QTY	TOT	REMARKS	
41						
42	667/1/27056/001	Manual Panel Assy (Intersection Cont)				
43	667/1/27056/010	Manual Panel Assy (Sigs on/off)				
44	667/1/27056/000	Manual Panel Blanking Kit				
45						
46						Note 2:
47						Ancillary Processor PLD
48						Variants
49						101 OTU & LMU
50						102 OTU Only
51						103 LMU Only
52	667/7/25171/000	Current Transformer				104 OTU & LMU + Up/Download
53						105 OUT Only + Up/DownLoad
54						NB Controller Has built in LMU
55						So LMU on Ancillary Processor
56						Not required included for info
57						only.
58						
59						
60						Note 3:
61	667/1/27000/101	Cabinet Export 8 Phase wired 16 Phase				Fit Current Transformer
62	667/1/27000/102	Cabinet Export 24 Phase wired 32 Phase				starting from position
63	667/1/27001/101	Rack Export 8 Phase wired 16 Phase				TLB/z/16 on the first phase
64	667/1/27001/102	Rack Export 24 Phase wired 32 Phase				driver PCB. if more than 3
65	667/1/27002/100	Export Lamp Switch Kit				sensors are called up fit the
66	667/1/27084/001	Dimming Assembly (1.5KVA)(Fit Std UK)				4th sensor to the second
67	667/1/27084/002	Dimming Assembly (2.0KVA)				Phases driver PCB, and so on
68	667/1/27084/003	Dimming Assembly (3.0KVA)				until all sensors have been
69	667/1/27130/000	30A Controller Kit				used up.
70						TLB/b/14 - 1st sensor terminal
71	667/1/27001/310	ST800 SE Export Rack up to 8 Phase				TLB/z/16 - 2nd sensor terminal
72	667/1/27223/003	ST800 SE 8 Phase Driver No LMU				TLB/z/14 - 3rd sensor terminal
73	667/1/27223/403	ST800 SE 4 Phase Driver No LMU				TLB/z/12 - 4th sensor terminal
74						TLB/z/12 - 4th sensor terminal
75						
76						
77	667/1/27000/301	ST800 P In a Cabinet 4Ph 1 Stream PED				TLB/z/12 - 4th sensor terminal
78	667/1/27012/000	PED 2nd Stream Kit for ST800 P				
79	667/1/27001/300	ST800 P Rack Only 4Ph 1 Stream PED				

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Special Instructions

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Special Instructions

```
LAMP MONITORING
===============
Lamp monitoring is provided by an extenral Microsense I2LM unit.
Therefore the controllers lamp monitoring facilities are not being used and the red lamp monitoring functions
are provided through special conditioning as described below:-

Dummy phase(s) I and J are duplicate of pedestrian phase(s) E and F.
Any timing changes made to the real phase MUST be duplicated on the dummy phase.
Note that the dummy phase does not need any leaving intergreens.
The real ped phase is configured with a type 2 appearance code so conditioning can control when it
appears and for this reason the PHD handset command MUST NOT be used for ped phase(s) E or F.

Under normal operation when the dummy phase goes to green it will demand the real phase which will
then go straight to green. However if a 1st red lamp failure exists the demand is delayed by a
PIR timer to give the extra intergreen. When a 2nd red lamp failure exists the demand will never
occur. If a 2nd red lamp failure occurs during the ped green the real phase will be terminated once
it's minimum green time has expired.

Lighting wait indicators and flashing the DFM lamp will operate as normal except that a DFM fault
will cause the flashing to cease.

Lamp failure indications from the Microsense I2LM do not set the normal fault log flags so the special
pedestrian fault flag (FLF23) has been used instead.

    FLF23=1 indicates any lamp fail.
    FLF23=2 indicates a 1st red lamp failure.
    FLF23=4 indicates a 2nd red lamp failure.

Multiple failures will give a combination od these values, therefore it is easier to read if displayed in binary.

The I2LM fault outputs may be returned via the OTU to provide LF1 and LF2 replies.


I2LM CONNECTIONS
================

Connect any lamp fail output to        :LF  1TBR/6 - I/P61 & input common.

Connect 1st red lamp failure output to :RF1 1TBR/7 - I/P62 & input common.

Connect 2nd red lamp failure output to :RF2 1TBR/8 - I/P63 & input common.

NB. These outputs MUST be open circuit for active.
```

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Call Cancel

Call Cancel

Unit No.	Input Name	Call Delay	Cancel Delay	Phase Demanded (Unlatched Demand)
0	BP	3	0	
1	DP	3	2	D
2	HC1	15	0	
3	HC2	15	0	
4		0	0	
5		0	0	
6		0	0	
7		0	0	

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Inputs and Outputs

Inputs and Outputs

☐ Enable Signal Required Check boxes

Port Number & Type

Port: 0

○ ○ ◉ Inputs & Outputs

DET No	Bit No	Type I or O	Name	Req'd	BP	Inv	U/D	Misc	DFM	DFM Group	Ext time	Used By Phs	UTC	SDE	Pri	HC	CC	IG	UD	LRT	Term Block	Terminal No
0	0	I	AX	☑	☐	☐	☐	☐	A	0	0.0	☑	☐	☐	☐	☐	☐	☐	☐	☐	1TBG	1
1	1	I	AY	☑	☐	☐	☐	☐	A	0	0.0	☑	☐	☐	☐	☐	☐	☐	☐	☐	1TBG	2
2	2	I	AZ	☑	☐	☐	☐	☐	A	0	0.0	☑	☐	☐	☐	☐	☐	☐	☐	☐	1TBG	3
3	3	I	BX	☑	☐	☐	☐	☐	A	0	0.0	☑	☐	☐	☐	☐	☐	☐	☐	☐	1TBG	4
4	4	I	BY	☑	☐	☐	☐	☐	A	0	0.0	☑	☐	☐	☐	☐	☐	☐	☐	☐	1TBG	5
5	5	I	BZ	☑	☐	☐	☐	☐	A	0	0.0	☑	☐	☐	☐	☐	☐	☐	☐	☐	1TBG	6
6	6	I	BP	☑	☐	☐	☐	☐	A	0	0.0	☐	☐	☐	☐	☐	☑	☐	☐	☐	1TBG	7
7	7	I	CX	☑	☐	☐		☐	A	0	0.0	☑	☐	☐	☐	☐	☐	☐	☐	☐	1TBG	8

Add | Delete | Move | Clear Used By

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Inputs and Outputs

Inputs and Outputs

☐ Enable Signal Required Check boxes

Port Number & Type

Port: 1

○ ○ ◉ Inputs & Outputs

DET No	Bit No	Type I or O	Name	Req'd	BP	Inv	U/D	Misc	DFM	DFM Group	Ext time	Used By Phs	UTC	SDE	Pri	HC	CC	IG	UD	LRT	Term Block	Terminal No
8	0	I	CY	☑	☐	☐	☐	☐	A	0	0.0	☑	☐	☐	☐	☐	☐	☐	☐	☐	1TBH	1
9	1	I	CZ	☑	☐	☐	☐	☐	A	0	0.0	☑	☐	☐	☐	☐	☐	☐	☐	☐	1TBH	2
10	2	I	DX	☑	☐	☐	☐	☐	A	0	0.0	☐	☐	☐	☐	☐	☐	☐	☐	☐	1TBH	3
11	3	I	DY	☑	☐	☐	☐	☐	A	0	0.0	☐	☐	☐	☐	☐	☐	☐	☐	☐	1TBH	4
12	4	I	DZ	☑	☐	☐	☐	☐	A	0	0.0	☐	☐	☐	☐	☐	☐	☐	☐	☐	1TBH	5
13	5	I	DP	☑	☐	☐	☐	☐	A	0	0.0	☑	☐	☐	☐	☐	☑	☐	☐	☐	1TBH	6
14	6	I	AR1	☑	☐	☐	☐	☐	A	0	1.4	☐	☐	☐	☐	☐	☐	☑	☐	☐	1TBH	7
15	7	I	HC1	☑	☐	☐		☐	I	0	0.0	☐	☐	☐	☐	☐	☑	☐	☐	☐	1TBH	8

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Inputs and Outputs

Inputs and Outputs

☐ Enable Signal Required Check boxes

Port Number & Type

Port: 6

○ ○
◉ Inputs & Outputs

	DET No	Bit No	Type I or O	Name	Req'd	BP	Inv	U/D	Misc	DFM	DFM Group	Ext time	Used By Phs	UTC	SDE	Pri	HC	CC	IG	UD	LRT	Term Block	Terminal No
○	48	0	I	HC2	☑	☐	☐	☐	☐	I	0	0.0	☐	☐	☐	☐	☐	☑	☐	☐	☐	1TBN	1
○	49	1	I	MVD3	☑	☐	☐	☐	☐	A	0	0.0	☐	☐	☐	☐	☐	☐	☑	☐	☐	1TBN	2
○	50	2	I	MVD6	☑	☐	☐	☐	☐	A	0	0.0	☐	☐	☐	☐	☐	☐	☑	☐	☐	1TBN	3
○	51	3	I	PB3E	☑	☐	☐	☐	☐	A	1	0.0	☑	☐	☐	☐	☐	☐	☐	☐	☐	1TBN	4
○	52	4	I	PB4E	☑	☐	☐	☐	☐	A	1	0.0	☑	☐	☐	☐	☐	☐	☐	☐	☐	1TBN	5
○	53	5	I	PB6F	☑	☐	☐	☐	☐	A	1	0.0	☑	☐	☐	☐	☐	☐	☐	☐	☐	1TBN	6
○	54	6	I	PB7F	☑	☐	☐	☐	☐	A	1	0.0	☑	☐	☐	☐	☐	☐	☐	☐	☐	1TBN	7
○	55	7	I	BPA	☑	☐	☐		☐	I	2	0.0	☑	☐	☐	☑	☐	☐	☐	☐	☐	1TBN	8

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Inputs and Outputs

Inputs and Outputs

☐ Enable Signal Required Check boxes

Port Number & Type

Port: 7

○ ○ ◉ Inputs & Outputs

	DET No	Bit No	Type I or O	Name	Req'd	BP	Inv	U/D	Misc	DFM	DFM Group	Ext time	Used By Phs	UTC	SDE	Pri	HC	CC	IG	UD	LRT	Term Block	Terminal No
○	56	0	I	BPB	☑	☐	☐	☐	☐	I	2	0.0	☑	☐	☐	☑	☐	☐	☐	☐	☐	1TBR	1
○	57	1	I	BPC	☑	☐	☐	☐	☐	I	2	0.0	☑	☐	☐	☑	☐	☐	☐	☐	☐	1TBR	2
○	58	2	I	BPD	☑	☐	☐	☐	☐	I	2	0.0	☑	☐	☐	☑	☐	☐	☐	☐	☐	1TBR	3
○	59	3	I	CANCLHC0	☑	☐	☐	☐	☐	N		0.0	☐	☐	☐	☐	☑	☐	☐	☐	☐	1TBR	4
○	60	4	I		☐	☐	☐	☐	☐				☐	☐	☐	☐	☐	☐	☐	☐	☐	1TBR	5
○	61	5	I	LF	☑	☐	☑	☐	☐	N		0.0	☐	☐	☐	☐	☐	☐	☐	☐	☐	1TBR	6
○	62	6	I	RF1	☑	☐	☑	☐	☐	N		0.0	☐	☐	☐	☐	☐	☐	☐	☐	☐	1TBR	7
○	63	7	I	RF2	☑	☐	☑		☐	N		0.0	☐	☐	☐	☐	☐	☐	☐	☐	☐	1TBR	8

Add | Delete | Move | Clear Used By

Works Order : 53624
EM Number : 62260
Engineer : Marco Gmys
Intersection : B2068 Old Dover Road / Nackington Road - Canterbury. 06/060

Aspect Drives

Aspect Drives

(•) A-L ( ) M-X ( ) Y-F2

Phase Driver Card 1

	Used For	Term Block	Term No
A - Red	Phase	1TBA	1
A - Amber	Phase	1TBA	2
A - Green	Phase	1TBA	3
B - Red	Phase	1TBA	4
B - Amber	Phase	1TBA	5
B - Green	Phase	1TBA	6
C - Red	Phase	1TBA	7
C - Amber	Phase	1TBA	8
C - Green	Phase	1TBA	9
D - Red	Phase	1TBA	10
D - Amber	Phase	1TBA	11
D - Green	Phase	1TBA	12

Phase Driver Card 1

	Used For	Term Block	Term No
E - Red	Phase	1TBB	1
E - Amber	Phase	1TBB	2
E - Green	Phase	1TBB	3
F - Red	Phase	1TBB	4
F - Amber	Phase	1TBB	5
F - Green	Phase	1TBB	6
G - Red			
G - Amber			
G - Green			
H - Red			
H - Amber			
H - Green			

Phase Driver Card 2

	Used For	Term Block	Term No
I - Red			
I - Amber			
I - Green			
J - Red			
J - Amber			
J - Green			
K - Red			
K - Amber			
K - Green			
L - Red			
L - Amber			
L - Green			

Works Order : 53624
EM Number : 62260
Engineer : Marco Gmys
Intersection : B2068 Old Dover Road / Nackington Road - Canterbury. 06/060

I/O - DFM Group Timings

I/O - DFM Group Timings

Input Group	State	SET A	SET B	SET C	SET D
Group 0	Active (Mins)	60	60	60	60
	InActive (Hrs)	18	18	18	18
Group 1	Active (Mins)	60	60	60	60
	InActive (Hrs)				
Group 2	Active (Mins)	10	10	10	10
	InActive (Hrs)				
Group 3	Active (Mins)	30	30	30	30
	InActive (Hrs)	18	18	18	18
Group 4	Active (Mins)	30	30	30	30
	InActive (Hrs)	18	18	18	18
Group 5	Active (Mins)	30	30	30	30
	InActive (Hrs)	18	18	18	18
Group 6	Active (Mins)	30	30	30	30
	InActive (Hrs)	18	18	18	18
Group 7	Active (Mins)	30	30	30	30
	InActive (Hrs)	18	18	18	18

Note - 255 or blank disables DFM monitoring of that state (active or inactive) during that timeset (A to D)

Handset Limiting Values

State	Min	Max
Active (Mins)	0	254
InActive (Hrs)	0	254

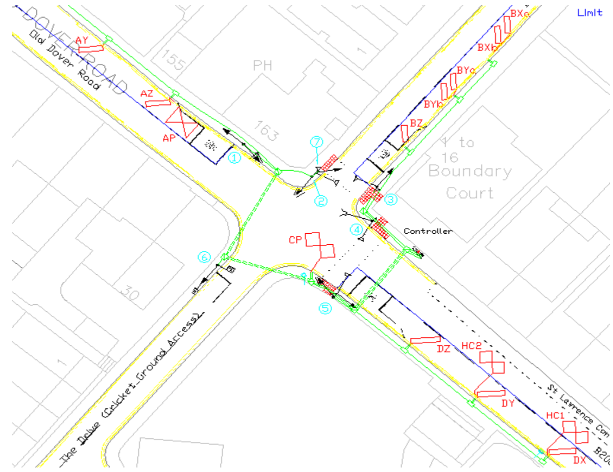
Index

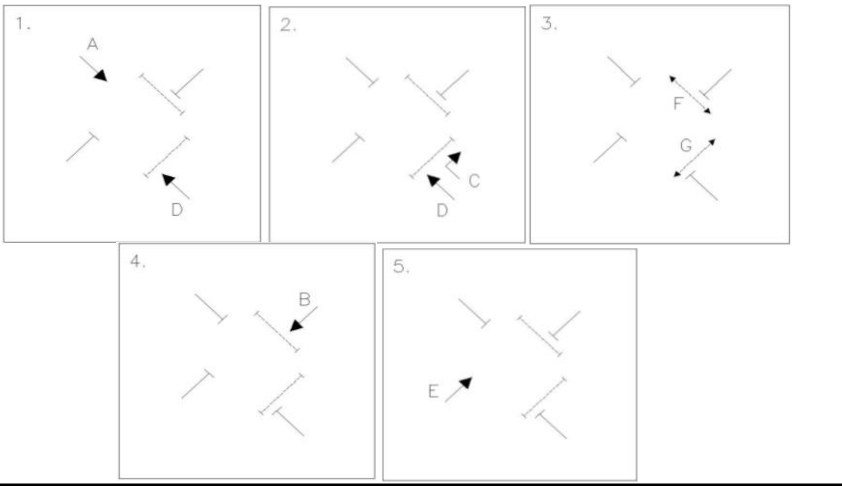
KENT COUNTY COUNCIL

TRAFFIC SIGNAL DATA SHEET

CONTROLLER	
MANUFACTURER	Siemens
TYPE	ST800

REF NO	06/0061	SITE	B2068 Old Dover Road/ St Lawrence	TOWN	Canterbury





APPROACH	PHASE	MIN	PED B/OUT	EXT	MAX A	MAX B	MAX C	MAX D	DEMANDED BY DET NO	DEMANDED BY DET NAME	EXTENDED BY DET NO	EXTENDED BY DET NAME
Old Dover Road NW	A	7		1.6	30	20	40	20	0,1,2,55	AX,AY,AZ,AP,BPA	0,1,2	AX,AY,AZ
St Lawrence Road	B	7		1.0	20	15	15	12	4,6,8,56	BX,BY,BZ,BPB	4,6,8	BX,BY,BZ
Old Dover Road SE RT	C	4			15	10	10	10	9,57	CP,BPC	9	CP
Old Dover Road SE	D	7		1.6	60	40	45	20	10,11,12,58	DX,DY,DZ,BPD	10,11,12	DX,DY,DZ
The Drive	E	7		0.6	12	12	12	12	13	EP	49	MVD6
Peds across St Lawrence Road	F	6	4						50,51	PB2F,PB3F		
Peds across Old Dover Road SE	G	6	7						52,53	PB4G,PB5G		
Dummy All-red	H	1			1	1	1	1				
Dummy for stage 3	I	3										
	J											
	K											
	L											
	M											
	N											
	O											
	P											

STAGE INTERGREEN TIMES

FROM \ TO	1	2	3	4	5	6	7	8	9	10
1	X	5	8*	6	6					
2	6	X	8*	5	6					
3	12	12	X	12	12					
4	5	5	7	X	6					
5	5	5	8*	5	X					
6						X				
7							X			
8								X		
9									X	
10										X

ADDITIONAL PHASE DELAYS

NO	DELAY PHASE	FROM STAGE	TO STAGE	BY (SECS)
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

SPECIAL FEATURES

Hurry call is demanded by both HC1 and HC2 being active
BX & BY are unidirectional
CP has a 3s call, 2s cancel
EP has a 3s call, 0s cancel
AP has a 3s call, 0s cancel
BZ has a 3s call, 0s cancel

* Intergreen can be increased by 8s in 0.6s steps for MVD4 & 2.0s steps for CP
Stage 2 to 1 via all red

M-F	0730	Max A
M-F	0930	Max B
M-F	1500	Max C
M-F	1830	Max D
Sat	0730	Max B
Sat	1900	Max D
Sun	0830	Max B
Sun	1830	Max D

DETECTOR MONITOR (AS SEEN ON ENGINEERS TERMINAL)

IOP	7	6	5	4	3	2	1	0
0	BYu	BY	BXu	BX	AP	AZ	AY	AX
1	HC2	HC1	EP	DZ	DY	DX	CP	BZ
3					CANCLHC0			
6	BPA		PB5G	PB4G	PB3F	PB2F	MVD6	MVD4
7	RF2	RF1	LF			BPD	BPC	BPB

HURRY CALLS

HC	STAGE	DEM'D	CALL DELAY	HOLD	P'VENT
1	2	#	0	15	8
2					

BUS PRIORITY DATA

UNIT	PHASE	EXT	MAX	COMP	INHIBIT	DFM(s)
0	A	10	30		120	600
1	B	10	30		120	600
2	C	10	30		120	600
3	D	10	30		120	600

REVERSION STAGE	DFM PERIOD (HRS)	STARTING INTERGR'N (S)	F.T. TO CURRENT VA MAX?	F.T. MODE STAGE GREEN TIME
1	18	12	✓	

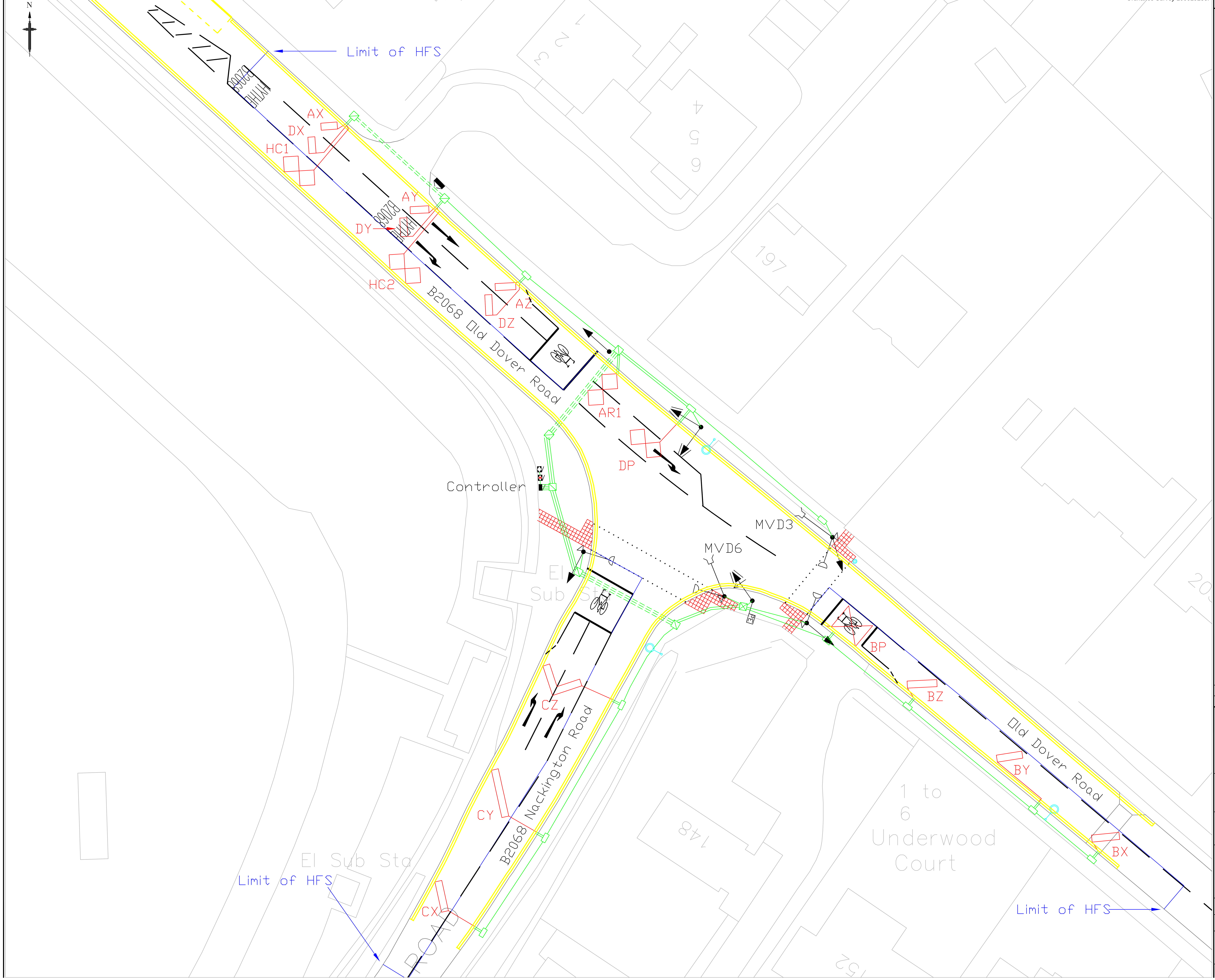
COMMISSIONED/ INIT'LS	23/05/03	PC
CONFIG NUMBER	E66221	
DATA PREPARED/ INIT'LS	19/11/15	IB
FILE REFERENCE	06/0061	

MANUAL CONTROL

PB	1	2	3	4	5	6	7	8
STAGE	1	2	3	4	5			

UTC DATA

OTU X No	X31220
LINK LIST	
BT CIRCUIT	01227 478268
AutoCAD file	06-0061-01 As Built



Drawing number

ITS/2015/S/06-0060

Notes

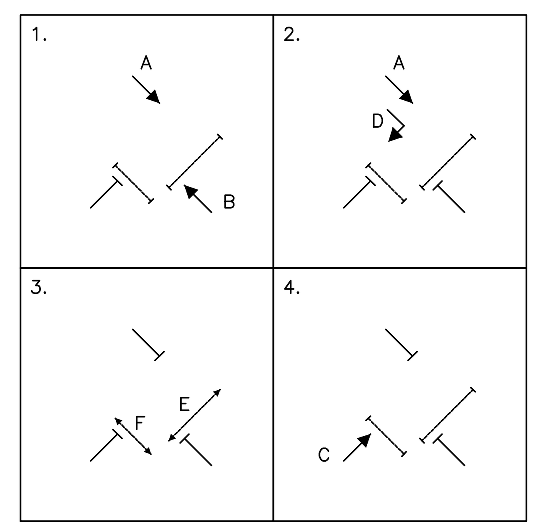
Key

- Junction box 550 mm depth (no under kerb ducts)
- Junction box 550 mm depth (with under kerb ducts)
- Junction pit 900 mm depth (no under kerb ducts)
- Junction pit 900 mm depth (with under kerb ducts)
- Junction pit 550 mm depth (no under kerb ducts)
- Junction pit 550 mm depth (with under kerb ducts)
- Duct FW/1 100 mm dia
- Duct FW/2 100 mm dia
- Duct FW/3 100 mm dia
- Duct CW/2 100 mm dia
- Duct CW/3 100 mm dia
- Duct CW/4 100 mm dia
- Signal controller cabinet
- Electricity supply pillar
- BT termination pillar
- AX Vehicle detector loop and identity
- Traffic signal and pole
- Traffic signal with secondary hoods
- Pedestrian signal
- Pedestrian push button unit
- Microwave vehicle detector
- Pedestrian / cycle on crossing detector
- Visual pedestrian or vehicle presence detector
- PE Photo electric cell
- BUS Bus priority receiver
- Layout of blister tactile surface modules (red)
- Roadstuds
- Existing lighting column
- HFS (HFS beyond stopline must be coloured Grey)

Notes

1. This drawing is based on Ordnance Survey digital data supplemented by additional base detail measured on site. Original drawing 2861/S/1C.
2. High Friction Surface (HFS) shall extend 50m in advance of the stopline on each approach.
   The HFS shall extend to the first row of pedestrian studs beyond the stopline. On High Speed Roads, the HFS shall extend to the second row of pedestrian studs beyond the stopline. All HFS beyond the stopline shall be coloured grey.
3. This drawing shall be read in conjunction with KCC Standard Details:-
   KCC/400/002 - Pedestrian guardrail.
   KCC/500/020 to /025 - Ducting and Junction Pits.
   KCC/1100/007 - Tactile paving at controlled pedestrian crossing points.
   KCC/1200/007 and /008 - Installation of signal equipment.
   KCC/1200/009 - Traffic Signal Pole Retention Socket.
4. This drawing shall be read in conjunction with the Contract Specification Appendices:-
   Appendix 5/2 - Service Duct requirements.
   Appendix 12/3 - Traffic Signs: Studs.
   Appendix 12/5 - Traffic Signs: Traffic Signals.
   Appendix 14/5 - Electrical Equipment.
5. Ducting shall be adjusted locally to avoid existing Statutory Undertakers Plant.
6. The details of any existing services shown on this drawing are based upon information supplied by the statutory bodies and other authorities concerned. The accuracy of this information cannot be guaranteed and the presence of other apparatus, in particular service connections to individual properties, should be expected.
7. Bus priority cable shall terminate in Pole 2 and be tagged at the pole and controller 'Bus Priority'.

Stage diagram



Rev	Revision Date	Purpose of revision	Drawn	Checked	Approved
0	19/10/15	As built Transferred to current frame	IB		

Kent County Council
Aylesford Highway Depot
St. Michael's Close
Aylesford ME20 7BU
Tel: 03000 41 81 81

Project
Intelligent Transport Systems

Drawing title
B2068 Old Dover Road/ Nackingtion Road,
Canterbury
Site Ref 06/0060

Drawing status
As Built

Scale		
	1:200 at A1	Do not scale

Drawing number	Rev
ITS/2015/S/06-0060	0

APPENDIX C

2018 Base LinSig Model Outputs

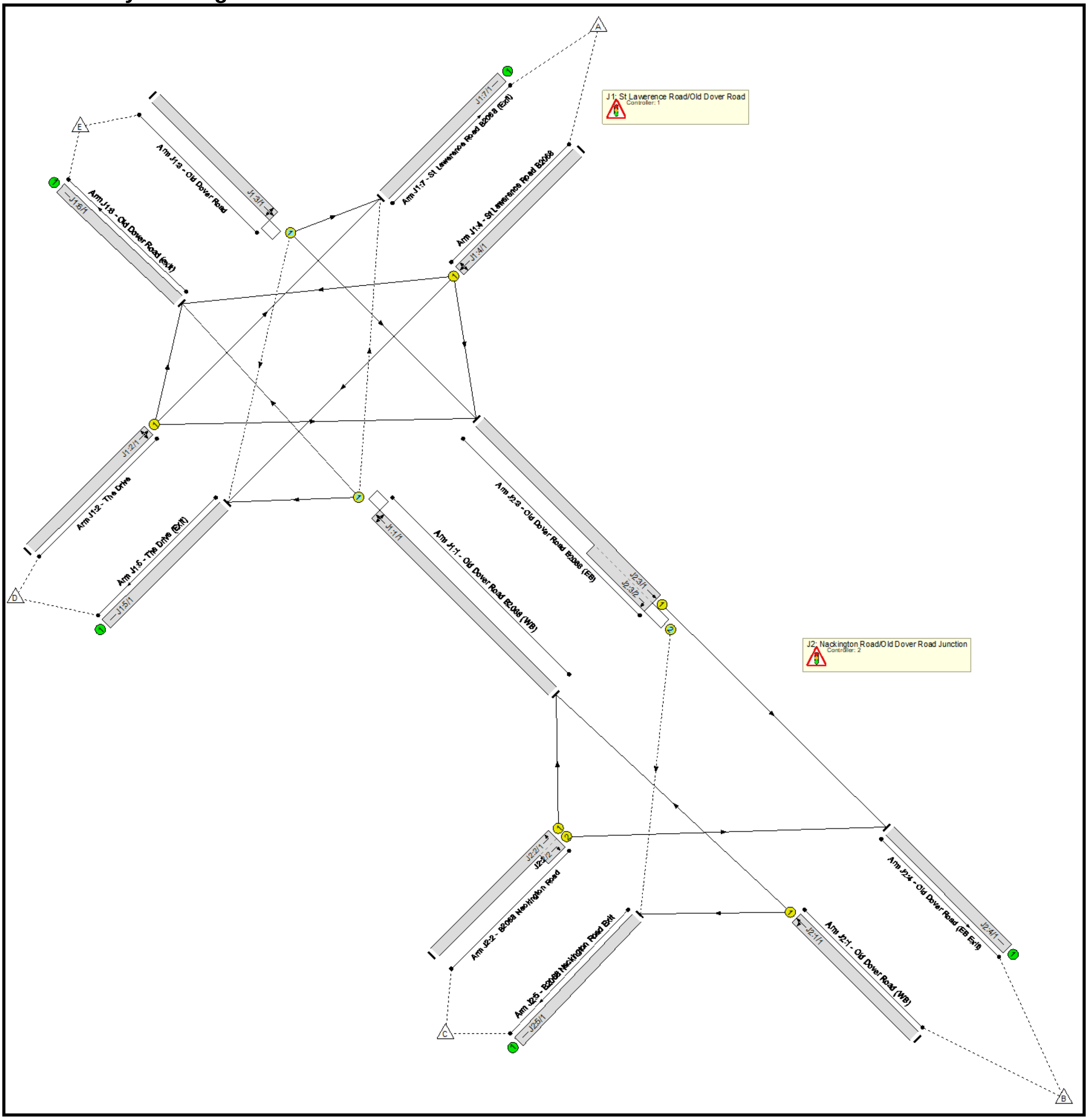
Full Input Data And Results

User and Project Details

Project:	
Title:	
Location:	
Additional detail:	
File name:	Old_Dover_Road_Cantebury_Base_Model_v0.1.lsg3x
Author:	
Company:	
Address:	

Full Input Data And Results

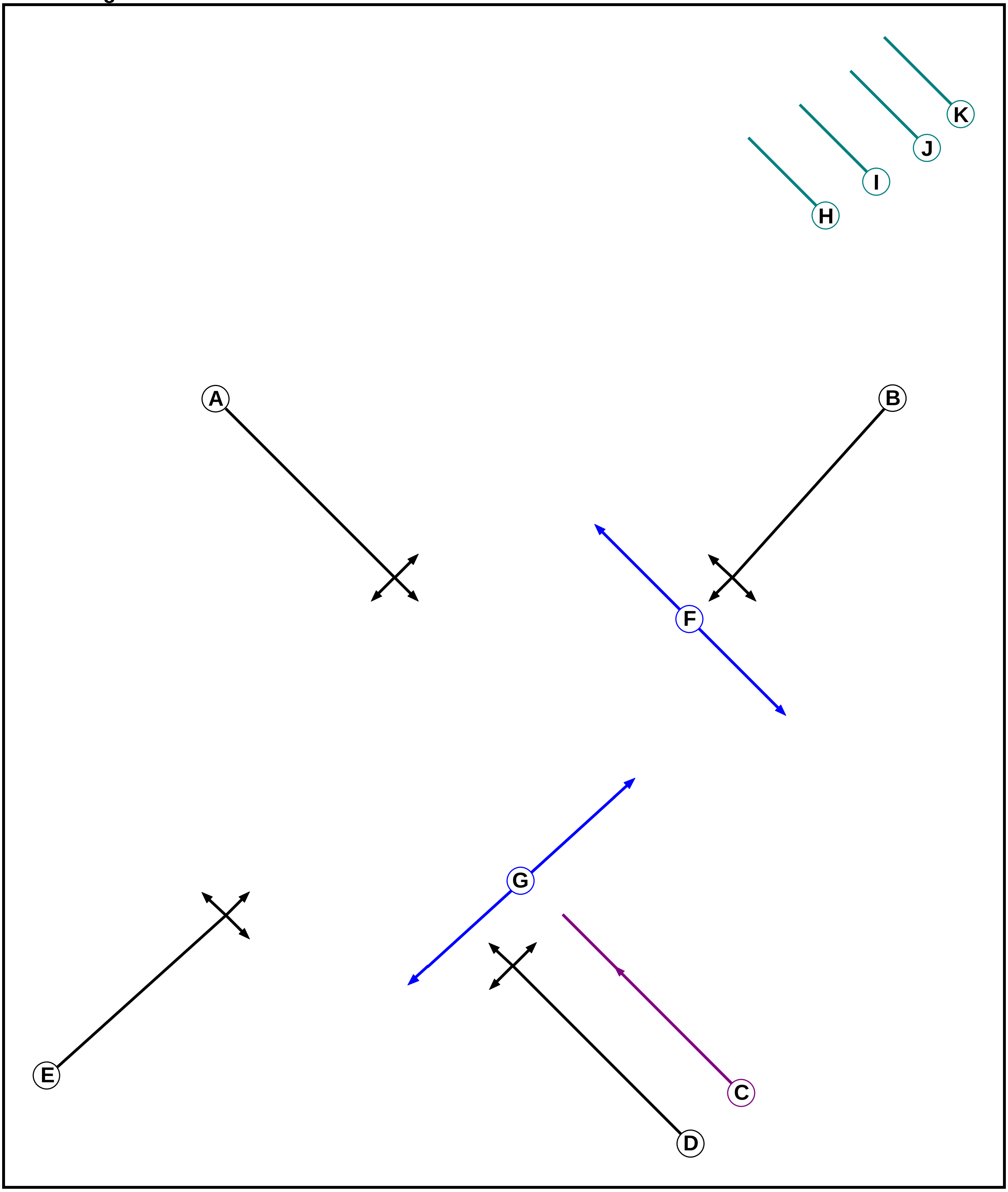
Network Layout Diagram



Full Input Data And Results

C1 - B2068 Old Dover / St Lawrence Rd, Canterbury. 06/0

Phase Diagram



Full Input Data And Results

Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		-9999	7
B	Traffic		-9999	7
C	Ind. Arrow	D	-9999	4
D	Traffic		-9999	7
E	Traffic		-9999	7
F	Pedestrian		-9999	6
G	Pedestrian		-9999	6
H	Dummy		-9999	1
I	Dummy		-9999	3
J	Dummy		-9999	6
K	Dummy		-9999	6

Phase Intergreens Matrix

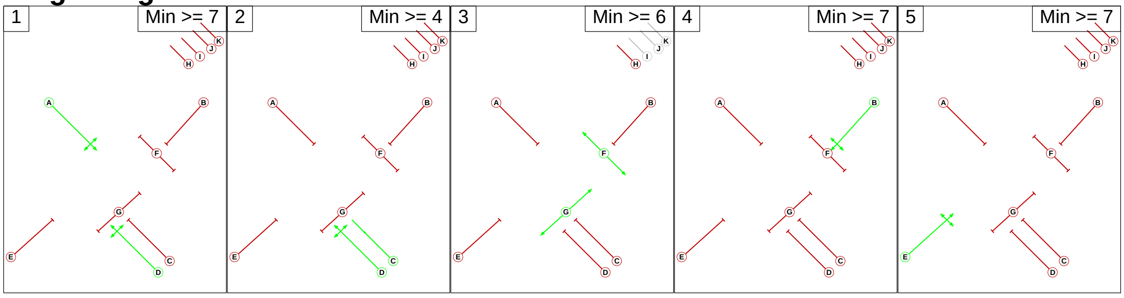
		Starting Phase										
		A	B	C	D	E	F	G	H	I	J	K
Terminating Phase	A		6	5	-	6	8	8	3	8	8	8
	B	5		5	5	6	5	7	3	7	5	7
	C	6	5		-	6	8	5	3	8	8	5
	D	-	5	-		6	8	5	3	8	8	5
	E	5	5	5	5		7	8	3	8	7	8
	F	8	8	8	8	8		-	4	-	-	-
	G	12	12	12	12	12	-		7	-	-	-
	H	0	0	3	3	0	0	0		-	-	-
	I	-	-	-	-	-	-	-	-		-	-
	J	-	-	-	-	-	-	-	-	-		-
	K	-	-	-	-	-	-	-	-	-	-	

Phases in Stage

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

Full Input Data And Results

Stage Diagram



Phase Delays

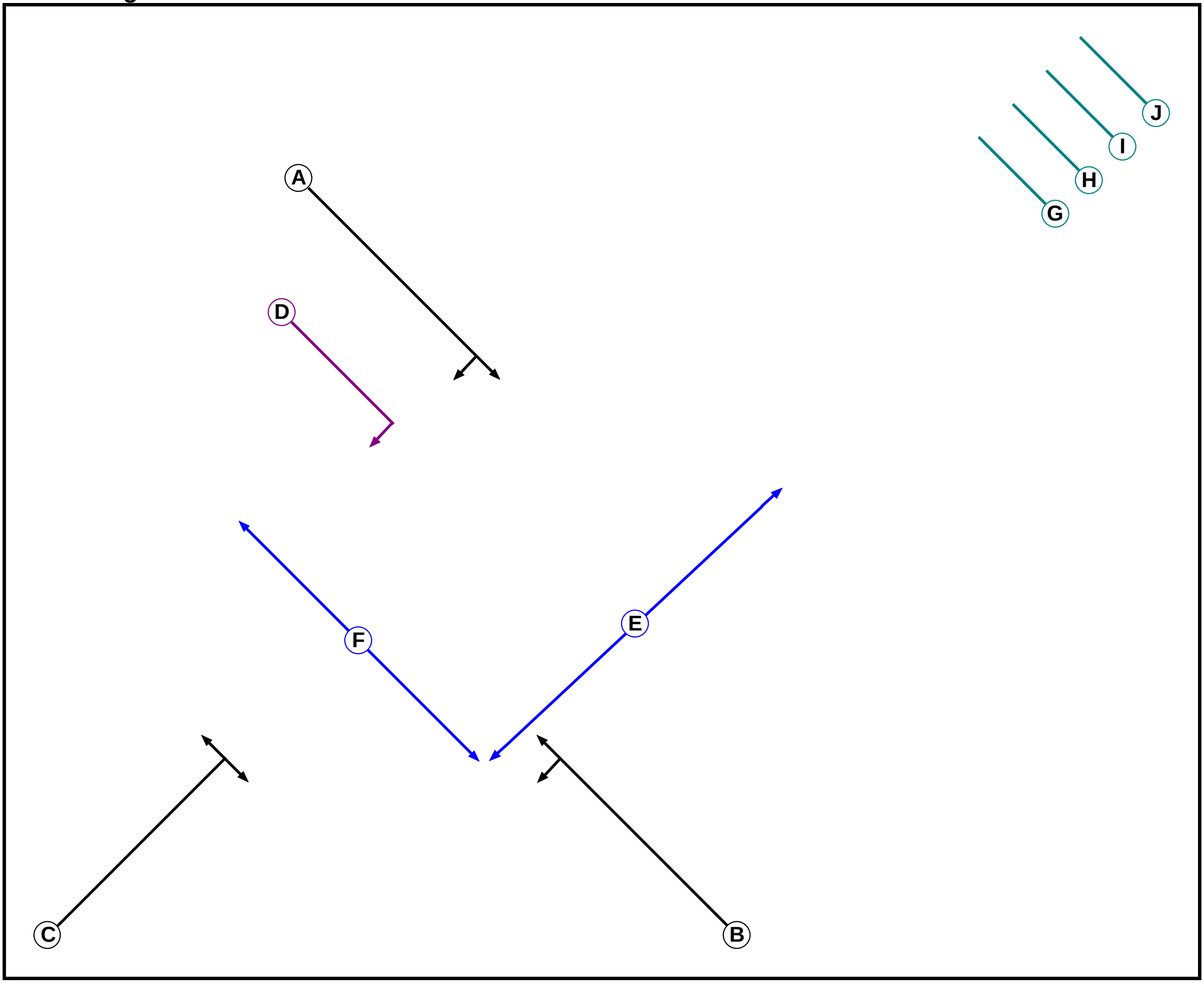
Term. Stage	Start Stage	Phase	Type	Value	Cont value
There are no Phase Delays defined					

Prohibited Stage Change

		To Stage				
		1	2	3	4	5
From Stage	1		5	8	6	6
	2	6		8	5	6
	3	12	12		12	12
	4	5	5	7		6
	5	5	5	8	5	

C2 - B2068 Old Dover Road / Nackington Road - Canterbury. 06/060

Phase Diagram



Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		-9999	7
B	Traffic		-9999	7
C	Traffic		-9999	7
D	Ind. Arrow	A	-9999	4
E	Pedestrian		-9999	6
F	Pedestrian		-9999	7
G	Dummy		-9999	1
H	Dummy		-9999	1
I	Dummy		-9999	6
J	Dummy		-9999	7

Full Input Data And Results

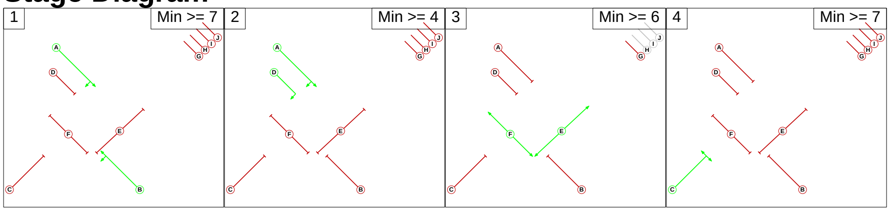
Phase Intergreens Matrix

		Starting Phase									
		A	B	C	D	E	F	G	H	I	J
Terminating Phase	A		-	7	-	9	9	3	9	9	9
	B	-		7	5	5	8	3	5	5	8
	C	5	5		5	9	5	3	5	9	5
	D	-	6	7		9	9	3	9	9	9
	E	9	9	9	9		-	4	-	-	-
	F	13	13	13	13	-		8	-	-	-
	G	0	0	0	0	0	0		0	-	-
	H	0	0	0	0	-	-	0		-	-
	I	-	-	-	-	-	-	-	-		-
	J	-	-	-	-	-	-	-	-	-	

Phases in Stage

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

Stage Diagram



Phase Delays

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

Prohibited Stage Change

		To Stage			
		1	2	3	4
From Stage	1		5	9	7
	2	6		9	7
	3	13	13		13
	4	5	5	9	

Full Input Data And Results

Give-Way Lane Input Data

Junction: J1: St Lawerence Road/Old Dover Road											
Lane	**Movement**	**Max Flow when Giving Way (PCU/Hr)**	**Min Flow when Giving Way (PCU/Hr)**	**Opposing Lane**	**Opp. Lane Coeff.**	**Opp. Mvmnts.**	**Right Turn Storage (PCU)**	**Non-Blocking Storage (PCU)**	**RTF**	**Right Turn Move up (s)**	**Max Turns in Intergreen (PCU)**
J1:1/1 (Old Dover Road B2068 (WB))	J1:7/1 (Right)	1439	0	J1:3/1	1.09	To J1:7/1 (Left) To J2:3/1 (Ahead)	2.00	2.00	0.50	2	2.00
J1:3/1 (Old Dover Road)	J1:5/1 (Right)	1439	0	J1:1/1	1.09	To J1:5/1 (Left) To J1:6/1 (Ahead)	2.00	2.00	0.50	2	2.00

Junction: J2: Nackington Road/Old Dover Road Junction											
Lane	**Movement**	**Max Flow when Giving Way (PCU/Hr)**	**Min Flow when Giving Way (PCU/Hr)**	**Opposing Lane**	**Opp. Lane Coeff.**	**Opp. Mvmnts.**	**Right Turn Storage (PCU)**	**Non-Blocking Storage (PCU)**	**RTF**	**Right Turn Move up (s)**	**Max Turns in Intergreen (PCU)**
J2:3/2 (Old Dover Road B2068 (EB))	J2:5/1 (Right)	1439	0	J2:1/1	1.09	All	3.00	-	0.50	3	3.00

Full Input Data And Results

Lane Input Data

Junction: J1: St Lawerence Road/Old Dover Road												
Lane	**Lane Type**	**Phases**	**Start Disp.**	**End Disp.**	**Physical Length (PCU)**	**Sat Flow Type**	**Def User Saturation Flow (PCU/Hr)**	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Turns**	**Turning Radius (m)**
J1:1/1 (Old Dover Road B2068 (WB))	O	D	2	3	33.0	User	1840	-	-	-	-	-
J1:2/1 (The Drive)	U	E	2	3	60.0	User	1958	-	-	-	-	-
J1:3/1 (Old Dover Road)	O	A	2	3	60.0	User	1623	-	-	-	-	-
J1:4/1 (St Lawerence Road B2068)	U	B	2	3	60.0	User	1805	-	-	-	-	-
J1:5/1 (The Drive (Exit))	U		2	3	60.0	Inf	-	-	-	-	-	-
J1:6/1 (Old Dover Road (exit))	U		2	3	60.0	Inf	-	-	-	-	-	-
J1:7/1 (St Lawerence Road B2068 (Exit))	U		2	3	60.0	Inf	-	-	-	-	-	-

Junction: J2: Nackington Road/Old Dover Road Junction												
Lane	**Lane Type**	**Phases**	**Start Disp.**	**End Disp.**	**Physical Length (PCU)**	**Sat Flow Type**	**Def User Saturation Flow (PCU/Hr)**	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Turns**	**Turning Radius (m)**
J2:1/1 (Old Dover Road (WB))	U	B	2	3	60.0	User	2034	-	-	-	-	-
J2:2/1 (B2068 Nackington Road)	U	C	2	3	60.0	User	1743	-	-	-	-	-
J2:2/2 (B2068 Nackington Road)	U	C	2	3	3.0	User	1787	-	-	-	-	-
J2:3/1 (Old Dover Road B2068 (EB))	U	A	2	3	33.0	User	1915	-	-	-	-	-
J2:3/2 (Old Dover Road B2068 (EB))	O	A D	2	3	10.4	User	1787	-	-	-	-	-
J2:4/1 (Old Dover Road (EB Exit))	U		2	3	60.0	Inf	-	-	-	-	-	-
J2:5/1 (B2068 Nackington Road Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-

Full Input Data And Results

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: 'AM Peak Hour 2014'	08:00	09:00	01:00	
2: 'PM Peak Hour 2014'	17:00	18:00	01:00	

Scenario 1: '2014 AM Peak Hour' (FG1: 'AM Peak Hour 2014', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination						
		A	B	C	D	E	Tot.
Origin	A	0	40	102	26	122	290
	B	43	0	71	6	162	282
	C	102	102	0	16	316	536
	D	15	9	22	0	32	78
	E	53	70	180	25	0	328
	Tot.	213	221	375	73	632	1514

Traffic Lane Flows

Lane	Scenario 1: 2014 AM Peak Hour
Junction: J1: St Lawerence Road/Old Dover Road	
J1:1/1	645
J1:2/1	78
J1:3/1	328
J1:4/1	290
J1:5/1	73
J1:6/1	632
J1:7/1	213
Junction: J2: Nackington Road/Old Dover Road Junction	
J2:1/1	282
J2:2/1 (with short)	536(In) 434(Out)
J2:2/2 (short)	102
J2:3/1 (with short)	423(In) 119(Out)
J2:3/2 (short)	304
J2:4/1	221
J2:5/1	375

Lane Saturation Flows

Junction: J1: St Lawerence Road/Old Dover Road								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
J1:1/1 (Old Dover Road B2068 (WB) Lane 1)	This lane uses a directly entered Saturation Flow						1840	1840
J1:2/1 (The Drive Lane 1)	This lane uses a directly entered Saturation Flow						1958	1958
J1:3/1 (Old Dover Road Lane 1)	This lane uses a directly entered Saturation Flow						1623	1623
J1:4/1 (St Lawerence Road B2068 Lane 1)	This lane uses a directly entered Saturation Flow						1805	1805
J1:5/1 (The Drive (Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:6/1 (Old Dover Road (exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:7/1 (St Lawerence Road B2068 (Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf

Junction: J2: Nackington Road/Old Dover Road Junction								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
J2:1/1 (Old Dover Road (WB) Lane 1)	This lane uses a directly entered Saturation Flow						2034	2034
J2:2/1 (B2068 Nackington Road Lane 1)	This lane uses a directly entered Saturation Flow						1743	1743
J2:2/2 (B2068 Nackington Road Lane 2)	This lane uses a directly entered Saturation Flow						1787	1787
J2:3/1 (Old Dover Road B2068 (EB) Lane 1)	This lane uses a directly entered Saturation Flow						1915	1915
J2:3/2 (Old Dover Road B2068 (EB) Lane 2)	This lane uses a directly entered Saturation Flow						1787	1787
J2:4/1 (Old Dover Road (EB Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:5/1 (B2068 Nackington Road Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 2: '2014 PM Peak Hour' (FG2: 'PM Peak Hour 2014', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	62	104	14	25	205
	B	36	0	105	20	92	253
	C	56	100	0	33	134	323
	D	34	21	33	0	40	128
	E	68	155	271	46	0	540
	Tot.	194	338	513	113	291	1449

Traffic Lane Flows

Lane	Scenario 2: 2014 PM Peak Hour
Junction: J1: St Lawerence Road/Old Dover Road	
J1:1/1	371
J1:2/1	128
J1:3/1	540
J1:4/1	205
J1:5/1	113
J1:6/1	291
J1:7/1	194
Junction: J2: Nackington Road/Old Dover Road Junction	
J2:1/1	253
J2:2/1 (with short)	323(In) 223(Out)
J2:2/2 (short)	100
J2:3/1 (with short)	646(In) 238(Out)
J2:3/2 (short)	408
J2:4/1	338
J2:5/1	513

Full Input Data And Results

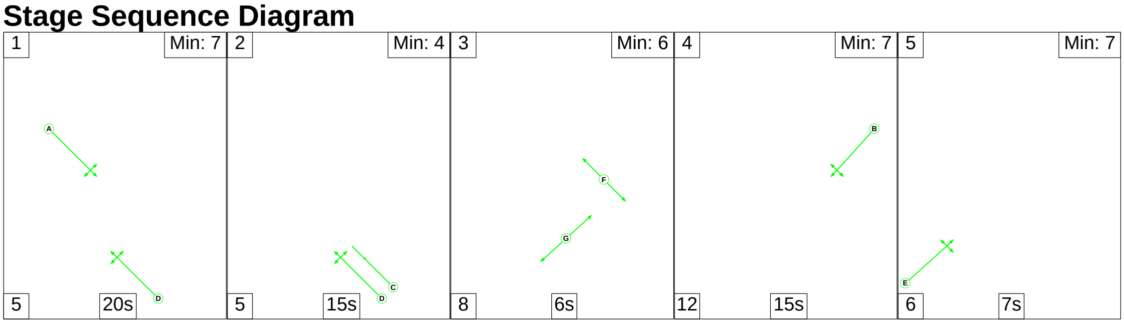
Lane Saturation Flows

Junction: J1: St Lawerence Road/Old Dover Road								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
J1:1/1 (Old Dover Road B2068 (WB) Lane 1)	This lane uses a directly entered Saturation Flow						1840	1840
J1:2/1 (The Drive Lane 1)	This lane uses a directly entered Saturation Flow						1958	1958
J1:3/1 (Old Dover Road Lane 1)	This lane uses a directly entered Saturation Flow						1623	1623
J1:4/1 (St Lawerence Road B2068 Lane 1)	This lane uses a directly entered Saturation Flow						1805	1805
J1:5/1 (The Drive (Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:6/1 (Old Dover Road (exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:7/1 (St Lawerence Road B2068 (Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf

Junction: J2: Nackington Road/Old Dover Road Junction								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
J2:1/1 (Old Dover Road (WB) Lane 1)	This lane uses a directly entered Saturation Flow						2034	2034
J2:2/1 (B2068 Nackington Road Lane 1)	This lane uses a directly entered Saturation Flow						1743	1743
J2:2/2 (B2068 Nackington Road Lane 2)	This lane uses a directly entered Saturation Flow						1787	1787
J2:3/1 (Old Dover Road B2068 (EB) Lane 1)	This lane uses a directly entered Saturation Flow						1915	1915
J2:3/2 (Old Dover Road B2068 (EB) Lane 2)	This lane uses a directly entered Saturation Flow						1787	1787
J2:4/1 (Old Dover Road (EB Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:5/1 (B2068 Nackington Road Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 1: '2014 AM Peak Hour' (FG1: 'AM Peak Hour 2014', Plan 1: 'Network Control Plan 1')
C1 - B2068 Old Dover / St Lawrence Rd, Canterbury. 06/0

Stage Sequence Diagram

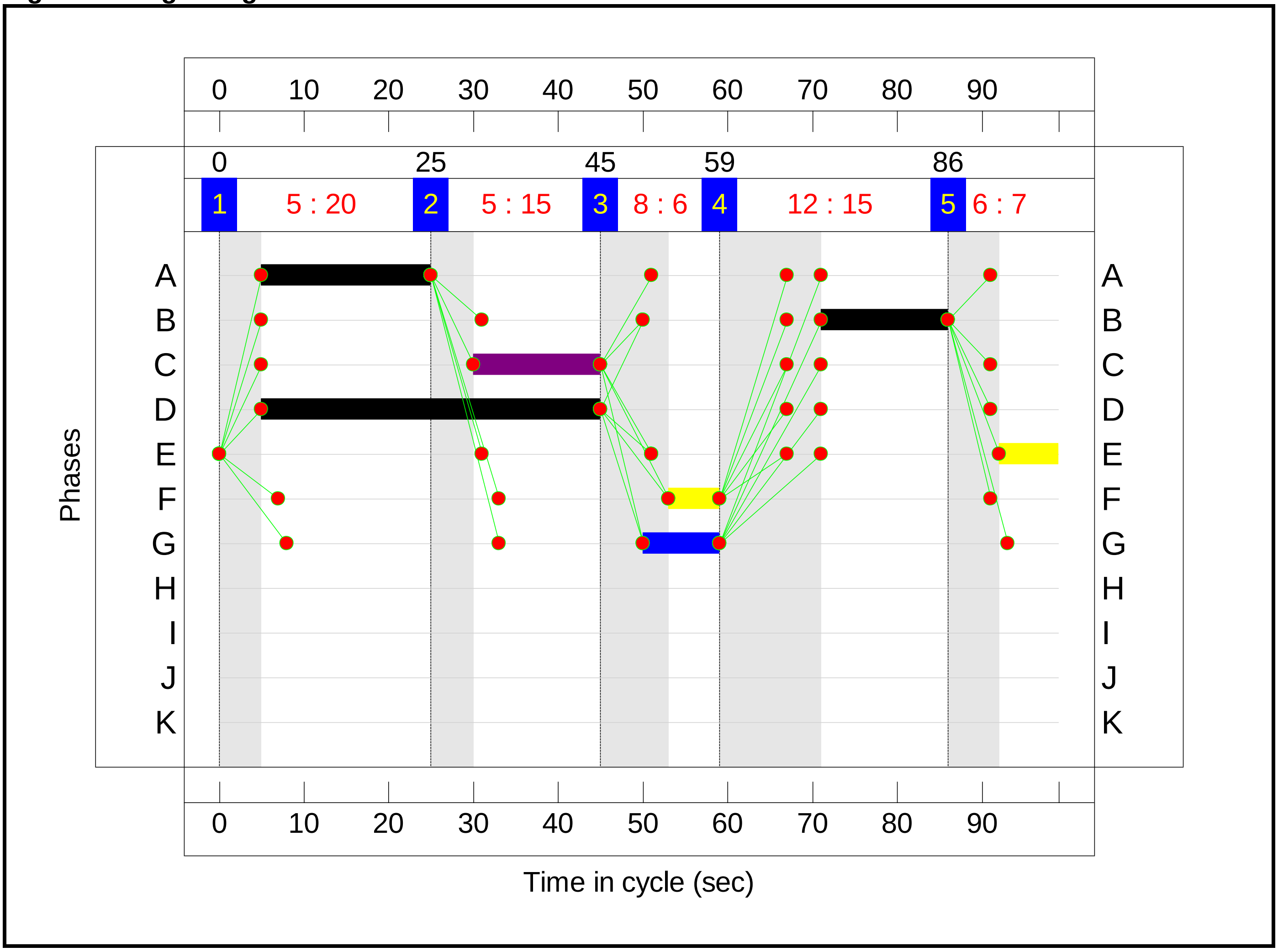


Full Input Data And Results

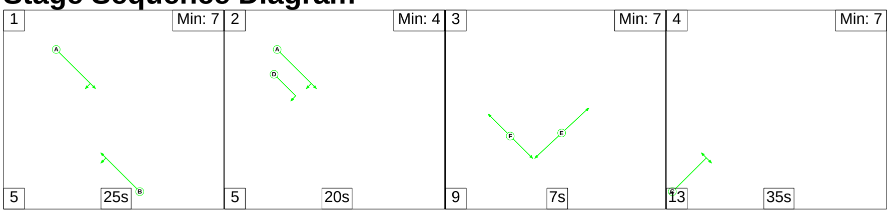
Stage Timings

Stage	1	2	3	4	5
Duration	20	15	6	15	7
Change Point	0	25	45	59	86

Signal Timings Diagram



C2 - B2068 Old Dover Road / Nackington Road - Canterbury. 06/060
Stage Sequence Diagram

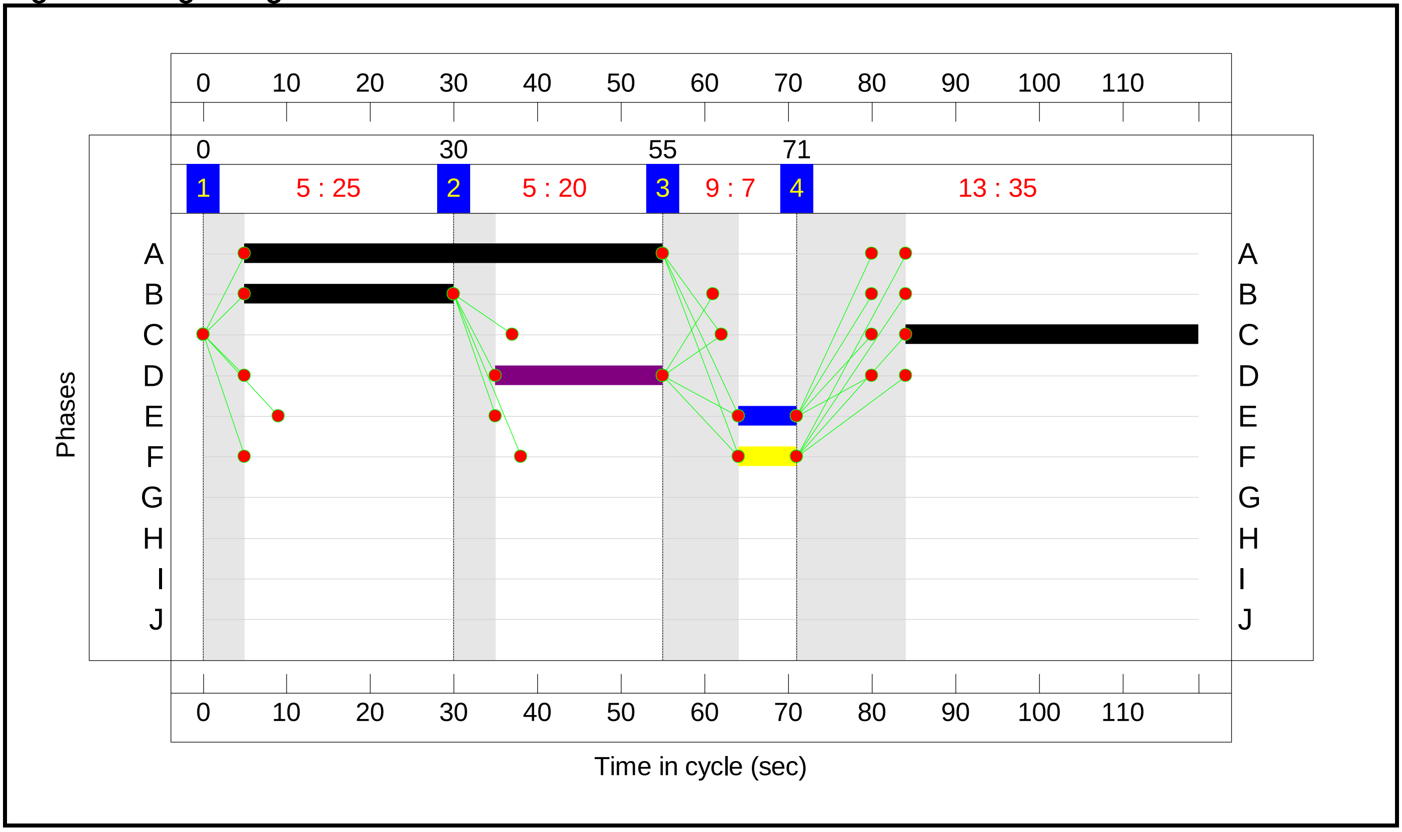


Stage Timings

Stage	1	2	3	4
Duration	25	20	7	35
Change Point	0	30	55	71

Full Input Data And Results

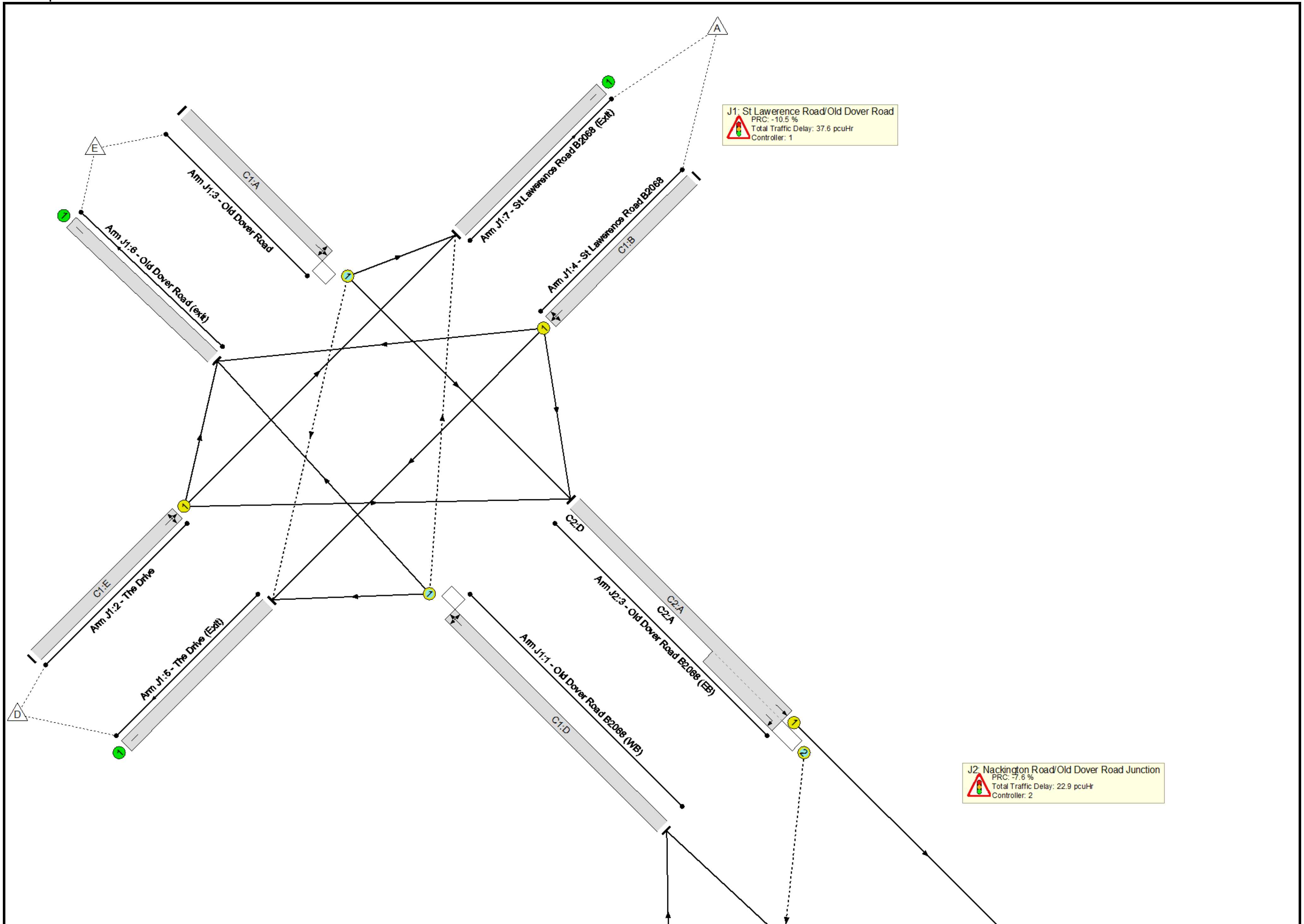
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



Full Input Data And Results

Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	**N/A**	-	-		-	-	-	-	-	-	**99.4%**
J1: St Lawerence Road/Old Dover Road	-	-	**N/A**	-	-		-	-	-	-	-	-	**99.4%**
1/1	Old Dover Road B2068 (WB) Left Ahead Right	O	N/A	N/A	C1:D		1	40	-	645	1840	658	98.0%
2/1	The Drive Left Ahead Right	U	N/A	N/A	C1:E		1	7	-	78	1958	158	49.3%
3/1	Old Dover Road Right Left Ahead	O	N/A	N/A	C1:A		1	20	-	328	1623	344	95.3%
4/1	St Lawerence Road B2068 Ahead Right Left	U	N/A	N/A	C1:B		1	15	-	290	1805	292	99.4%
5/1	The Drive (Exit)	U	N/A	N/A	-		-	-	-	73	Inf	Inf	0.0%
6/1	Old Dover Road (exit)	U	N/A	N/A	-		-	-	-	632	Inf	Inf	0.0%
7/1	St Lawerence Road B2068 (Exit)	U	N/A	N/A	-		-	-	-	213	Inf	Inf	0.0%
J2: Nackington Road/Old Dover Road Junction	-	-	**N/A**	-	-		-	-	-	-	-	-	**96.8%**
1/1	Old Dover Road (WB) Ahead Left	U	N/A	N/A	C2:B		1	25	-	282	2034	444	63.5%
2/1+2/2	B2068 Nackington Road Left Right	U	N/A	N/A	C2:C		1	35	-	536	1743:1787	448+105	96.8 : 96.8%
3/1+3/2	Old Dover Road B2068 (EB) Ahead Right	U+O	N/A	N/A	C2:A	C2:D	1	50	20	423	1915:1787	185+473	64.2 : 64.2%
4/1	Old Dover Road (EB Exit)	U	N/A	N/A	-		-	-	-	221	Inf	Inf	0.0%
5/1	B2068 Nackington Road Exit	U	N/A	N/A	-		-	-	-	375	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**142**	**319**	**13**	**25.5**	**34.0**	**1.0**	**60.4**	**-**	**-**	**-**	**-**
J1: St Lawerence Road/Old Dover Road	**-**	**-**	**37**	**127**	**5**	**12.9**	**24.3**	**0.3**	**37.6**	**-**	**-**	**-**	**-**
1/1	645	645	12	127	5	5.1	9.8	0.3	15.3	85.2	17.4	9.8	27.2
2/1	78	78	-	-	-	0.9	0.5	-	1.4	65.8	2.0	0.5	2.5
3/1	328	328	25	0	0	3.5	5.9	0.1	9.4	103.4	8.8	5.9	14.7
4/1	290	290	-	-	-	3.3	8.1	-	11.4	142.0	7.9	8.1	16.0
5/1	73	73	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	632	632	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	213	213	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
J2: Nackington Road/Old Dover Road Junction	**-**	**-**	**105**	**192**	**8**	**12.5**	**9.7**	**0.6**	**22.9**	**-**	**-**	**-**	**-**
1/1	282	282	-	-	-	3.3	0.9	-	4.2	53.2	8.4	0.9	9.2
2/1+2/2	536	536	-	-	-	6.0	8.0	-	14.0	93.9	16.7	8.0	24.7
3/1+3/2	423	423	105	192	8	3.2	0.9	0.6	4.7	40.4	8.5	0.9	9.4
4/1	221	221	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	375	375	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

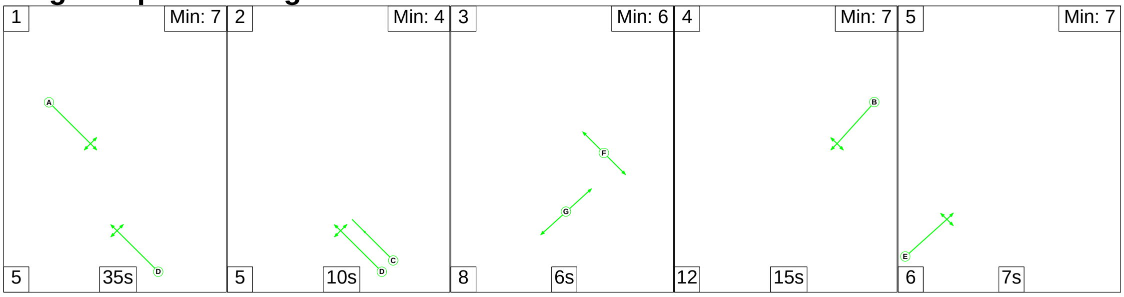
C1 - B2068 Old Dover / St Lawrence Rd, Canterbury. 06/0 PRC for Signalled Lanes (%): -10.5 Total Delay for Signalled Lanes (pcuHr): 37.55 Cycle Time (s): 99
C2 - B2068 Old Dover Road / Nackington Road - Canterbury. 06/060 PRC for Signalled Lanes (%): -7.6 Total Delay for Signalled Lanes (pcuHr): 22.88 Cycle Time (s): 119
PRC Over All Lanes (%): -10.5 Total Delay Over All Lanes(pcuHr): 60.44

Full Input Data And Results

Scenario 2: '2014 PM Peak Hour' (FG2: 'PM Peak Hour 2014', Plan 1: 'Network Control Plan 1')

C1 - B2068 Old Dover / St Lawrence Rd, Canterbury. 06/0

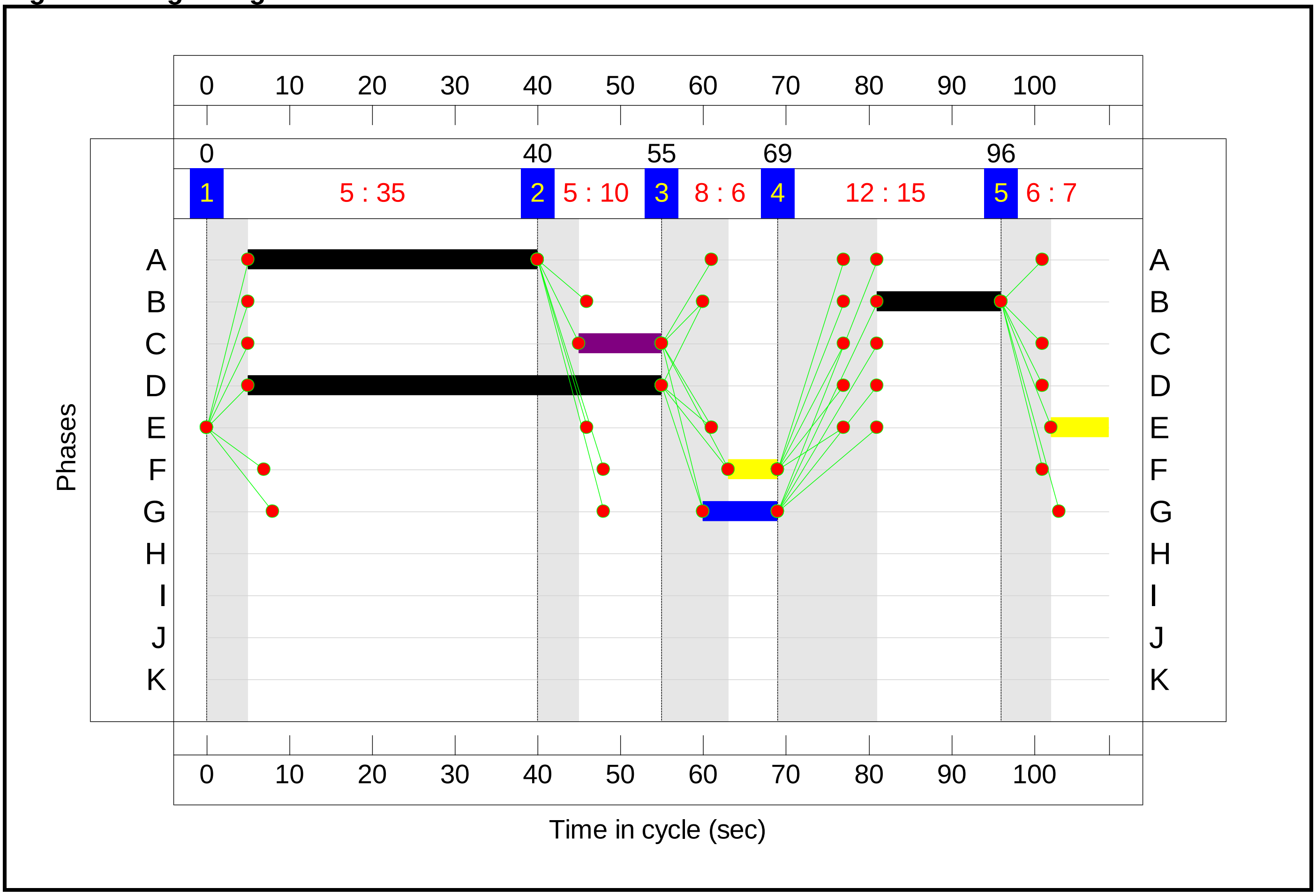
Stage Sequence Diagram



Stage Timings

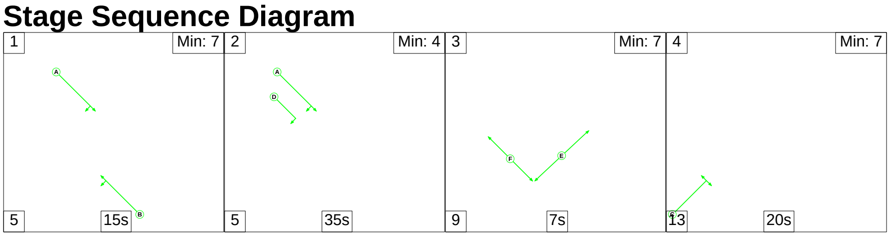
Stage	1	2	3	4	5
Duration	35	10	6	15	7
Change Point	0	40	55	69	96

Signal Timings Diagram



C2 - B2068 Old Dover Road / Nackington Road - Canterbury. 06/060

Stage Sequence Diagram

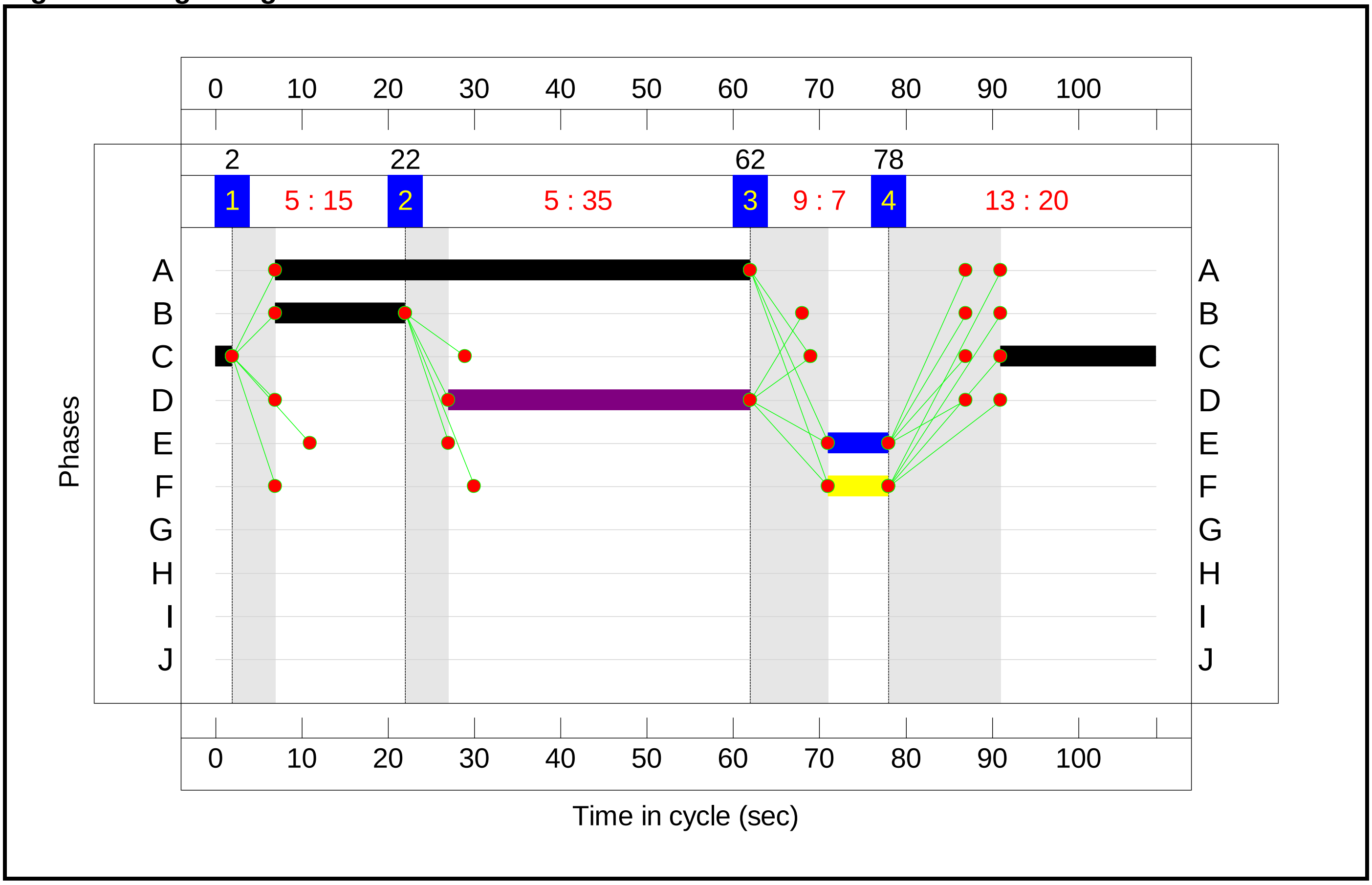


Full Input Data And Results

Stage Timings

Stage	1	2	3	4
Duration	15	35	7	20
Change Point	2	22	62	78

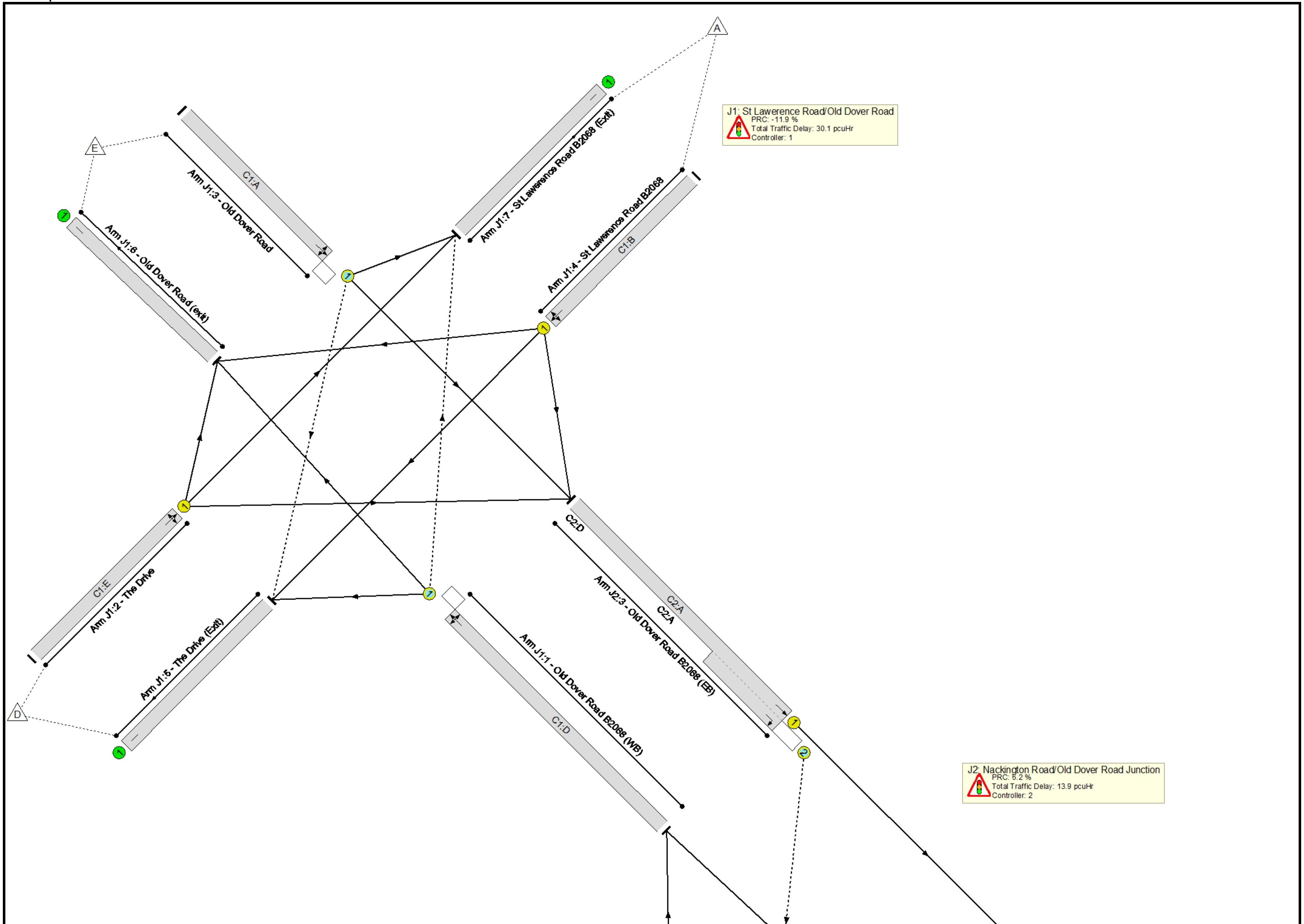
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



Full Input Data And Results

Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**100.7%**
J1: St Lawerence Road/Old Dover Road	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**100.7%**
1/1	Old Dover Road B2068 (WB) Left Ahead Right	O	N/A	N/A	C1:D		1	50	-	371	1840	452	82.1%
2/1	The Drive Left Ahead Right	U	N/A	N/A	C1:E		1	7	-	128	1958	144	89.1%
3/1	Old Dover Road Right Left Ahead	O	N/A	N/A	C1:A		1	35	-	540	1623	536	100.7%
4/1	St Lawerence Road B2068 Ahead Right Left	U	N/A	N/A	C1:B		1	15	-	205	1805	265	77.4%
5/1	The Drive (Exit)	U	N/A	N/A	-		-	-	-	113	Inf	Inf	0.0%
6/1	Old Dover Road (exit)	U	N/A	N/A	-		-	-	-	291	Inf	Inf	0.0%
7/1	St Lawerence Road B2068 (Exit)	U	N/A	N/A	-		-	-	-	194	Inf	Inf	0.0%
J2: Nackington Road/Old Dover Road Junction	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**84.7%**
1/1	Old Dover Road (WB) Ahead Left	U	N/A	N/A	C2:B		1	15	-	253	2034	299	84.7%
2/1+2/2	B2068 Nackington Road Left Right	U	N/A	N/A	C2:C		1	20	-	323	1743:1787	266+119	83.8 : 83.8%
3/1+3/2	Old Dover Road B2068 (EB) Ahead Right	U+O	N/A	N/A	C2:A	C2:D	1	55	35	646	1915:1787	367+629	64.6 : 64.5%
4/1	Old Dover Road (EB Exit)	U	N/A	N/A	-		-	-	-	338	Inf	Inf	0.0%
5/1	B2068 Nackington Road Exit	U	N/A	N/A	-		-	-	-	513	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**74**	**460**	**10**	**18.0**	**25.2**	**0.8**	**44.0**	**-**	**-**	**-**	**-**
J1: St Lawerence Road/Old Dover Road	**-**	**-**	**46**	**91**	**1**	**10.3**	**19.4**	**0.3**	**30.1**	**-**	**-**	**-**	**-**
1/1	371	371	0	91	1	0.3	2.2	0.3	2.8	27.5	3.8	2.2	6.0
2/1	128	128	-	-	-	1.8	3.0	-	4.7	133.3	3.8	3.0	6.8
3/1	540	536	46	0	0	5.7	12.7	0.0	18.3	122.3	16.5	12.7	29.1
4/1	205	205	-	-	-	2.5	1.6	-	4.2	73.2	5.9	1.6	7.5
5/1	113	113	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	291	291	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	194	194	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
J2: Nackington Road/Old Dover Road Junction	**-**	**-**	**28**	**369**	**9**	**7.7**	**5.8**	**0.5**	**13.9**	**-**	**-**	**-**	**-**
1/1	253	253	-	-	-	3.2	2.5	-	5.7	80.9	7.4	2.5	10.0
2/1+2/2	323	323	-	-	-	3.7	2.4	-	6.1	68.0	8.0	2.4	10.4
3/1+3/2	643	643	28	369	9	0.8	0.9	0.5	2.1	12.0	5.1	0.9	6.1
4/1	337	337	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	511	511	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 - B2068 Old Dover / St Lawrence Rd, Canterbury. 06/0 PRC for Signalled Lanes (%): -11.9 Total Delay for Signalled Lanes (pcuHr): 30.09 Cycle Time (s): 109
C2 - B2068 Old Dover Road / Nackington Road - Canterbury. 06/060 PRC for Signalled Lanes (%): 6.2 Total Delay for Signalled Lanes (pcuHr): 13.94 Cycle Time (s): 109
PRC Over All Lanes (%): -11.9 Total Delay Over All Lanes(pcuHr): 44.03

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APPENDIX D Survey Data Analysis Report (FHDC Ashford)

OTTERPOOL PARK

Traffic Survey Data Analysis

MARCH 2018

Incorporating

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FIGURES

TABLES

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APPENDIX A

ANPR Camera locations

APPENDIX B

Classified Turning Counts (Summary)

1 Introduction

1.1 Background

Arcadis was appointed in August 2016 to develop a masterplan and planning application in respect of the proposed garden settlement called Otterpool Park.

The scope of Transport work required for the application is being discussed with Kent County Council, Folkstone & Hythe District Council and Highways England. Traffic modelling has been requested to assess the performance of the network and determine the effect of the Otterpool Park development proposals, for which traffic survey data in the form of classified turning counts and origin-destination data is required. Some of the required traffic survey data was collected by Folkstone & Hythe District Council on Tuesday 22nd October 2013 and Thursday 13th October 2016 and this data has been made available to Arcadis for use on the Otterpool Park assessment. The remainder of the data required for the study was collected on 29th June 2017. This report has been produced to check the quality of the data collected in 2017 and to validate the flow volumes against the 2016 data.

1.2 Structure of this Note

The remainder of this Note is structured as follows:

Section 2	**Classified Turning Counts**
Section 3	**Origin-Destination Data**
Section 4	**Conclusion**

2 Classified Turning Count Data

2.1 Data to be Used for Assessment

Table 1 summarises the traffic count data intended for use in the Otterpool Park traffic modelling.

Table 1. Summary of traffic counts

Data set	Dates	Locations	Details
Classified turning counts	29th June 2017	19 sites within the study area	Fully classified turning counts, summarised in 15 minutes time intervals.
Classified turning counts	13th October 2016	14 sites within the study area	Fully classified turning counts, summarised in 15 minutes time intervals.
TRADS	Extracted from database for June 2017 or October 2016	A number of sites on the M20	Highways England administered online database of counts collected using permanent traffic counters. Counts are available by time period and basic vehicle classification estimated by vehicle length.

Figure 1 shows the locations at which the Classified Turning Counts were undertaken and Table 2 provides a full list of these locations.

Figure 1 Classified Turning counts locations

Table 2. Classified turning counts list

Site ID	Survey date	Location
1	29/06/2017	M20 J9- signalised full OD including all on/ offslips and M20 overpass
2	29/06/2017	M20 J10- signalised roundabout- full OD (including underpass)
3	29/06/2017	Hythe Road (A20)/ The Street (West)- priority- turning counts
4	29/06/2017	Hythe Road (A20)/ The Street (East)- priority- turning counts
5	29/06/2017	Hythe Road (A20)/ Mersham- priority- turning counts
6	29/06/2017	Ashford Road (A20)/ Station Road/ Church Road- priority- turning counts
7	29/06/2017	Ashford Road (A20)/ Stone Hill- priority- turning count
8	13/10/2016	Ashford Road (A20)/ Swan Lane- priority- turning counts
9	13/10/2016	M20 J11- non-signalised roundabout- full OD (including overpass)
10	13/10/2016	Ashford Road/ Sandling Road- priority- turning counts
11	29/06/2017	M20 J11A- priority full OD required including all on/ offslips and M20 underpass
12	13/10/2016	Eurotunnel entry
13	13/10/2016	Eurotunnel exit
14	29/06/2017	M20 J12- priority full OD required including all on/ offslips and M20 overpass
15	29/06/2017	M20 J13- priority full OD required including all on/ offslips and M20 overpass
16	13/10/2016	White Horse Hill / A20 EB slips / A260 / A260 Spitfire Way
17	13/10/2016	A20 WB slips / Alkham Valley Road
18	13/10/2016	A260 Canterbury Road / Alkham Valley Road
19	13/10/2016	A20 Ashford Road/ B2067 Otterpool Lane- signalised junction- turning counts
20	13/10/2016	B2067 Otterpool Lane/ Aldington Road- priority- turning counts
21	13/10/2016	Aldington Road/ Stone Street- priority- turning counts
22	13/10/2016	Aldington Road/ Lympne Hill- priority- turning counts
23	29/06/2017	A20 Ashford Road/ A261 Hythe Road/Stone Street- priority- turning counts
24	29/06/2017	A20 Ashford Road/ Stone Street- priority- turning counts
25	13/10/2016	A20 Ashford Road roundabout
26	29/06/2017	A20 Ashford Road/ A20 J11 offslip- priority- turning counts
27	29/06/2017	A261 London Road/ Barrack Hill- priority- turning counts
28	29/06/2017	A259/ Dymchurch Road/ Military Road gyratory- signalised- full OD
29	29/06/2017	A259 Prospect Road / Stade Street – priority – turning counts
30	29/06/2017	A259 Prospect Road/ A259 Seabrook Road/ Station Road/ High Street- priority roundabout- full OD
31	22/10/2013	A20 Cheriton Interchange / B2064 Cheriton High Street
32	29/06/2017	B2064 Cheriton High street / B2063 Risborough Lane – priority – turning counts
33	29/06/2017	B2064 Cheriton High street / A2034 Cherry Garden avenue – priority – turning counts

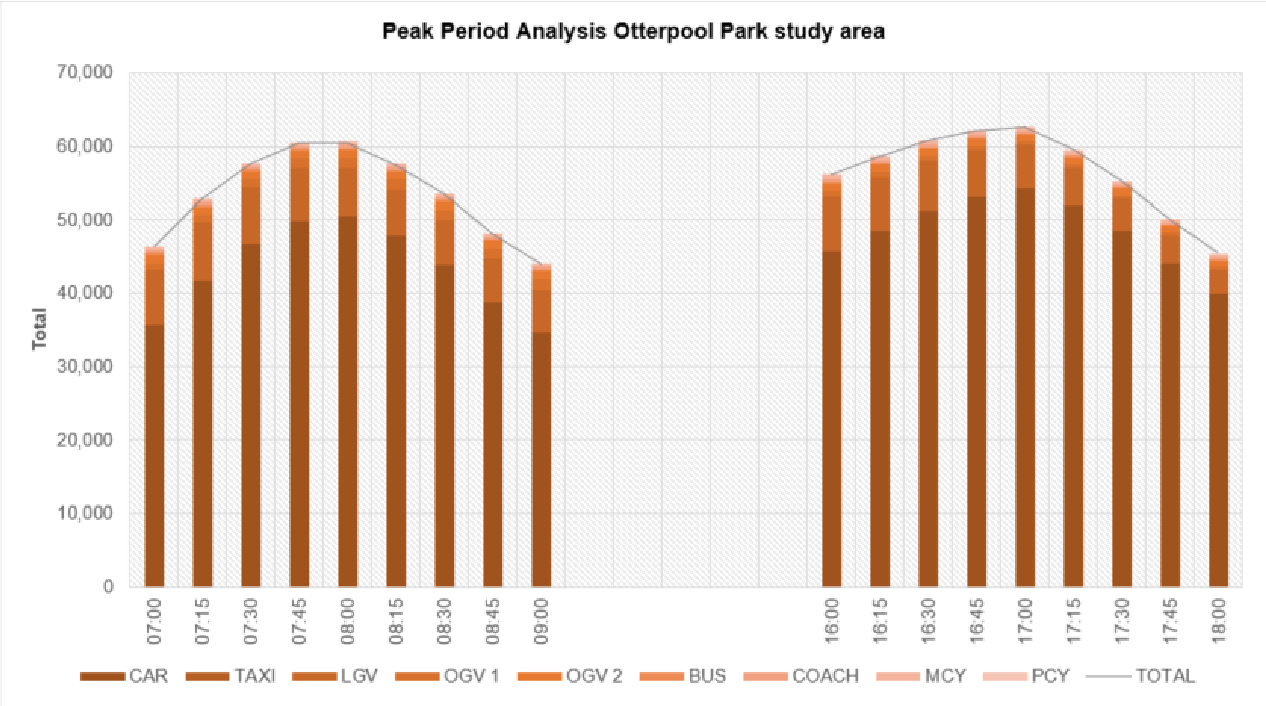
2.2 Peak Period Analysis

A peak period analysis was carried out by combining counts for all the sites where classified turning counts were collected then producing total hourly flows (sum of the preceding four 15-minute periods). Table 3 and Figure 2 show the results of these calculations. The table and figure show that the AM and PM peak flow hours were observed to be 08:00-09:00, with a total flow of 60,428 vehicles/hour, and 17:00-18:00, with a total flow of 62,521 vehicles/hour, respectively.

Table 3 Summary of classified turning counts by category.

PERIOD	Time (Hour beginning)	HOURLY FLOWS										
		Car	Taxi	LGV	OGV 1	OGV 2	Bus	Coach	MCY	PCY	TOTAL	Only motorised
AM	**07:00**	35,628	4	7,507	948	1,149	279	365	326	109	46,315	46,206
	07:15	41,688	4	7,855	1,007	1,103	309	400	316	103	52,785	52,682
	07:30	46,670	4	7,695	1,124	1,092	300	398	317	90	57,690	57,600
	07:45	49,727	4	7,325	1,239	1,071	259	398	296	68	60,387	60,319
	08:00	50,382	8	6,728	1,298	1,061	247	419	285	71	60,499	**60,428**
	08:15	47,750	16	6,376	1,341	1,091	220	405	274	61	57,534	57,473
	08:30	43,788	19	6,134	1,349	1,196	243	404	236	69	53,438	53,369
	08:45	38,681	23	5,933	1,285	1,174	228	388	242	74	48,028	47,954
	09:00	34,639	22	5,803	1,333	1,196	234	385	222	111	43,945	43,834
PM	**16:00**	45,692	9	7,390	842	972	229	383	460	80	56,057	55,977
	16:15	48,534	7	7,215	781	958	224	361	483	92	58,655	58,563
	16:30	51,190	5	6,912	654	889	216	330	482	102	60,780	60,678
	16:45	53,046	1	6,442	546	888	227	295	495	109	62,049	61,940
	17:00	54,260	2	5,861	497	862	232	278	529	125	62,646	**62,521**
	17:15	51,968	2	5,131	464	827	220	282	507	134	59,535	59,401
	17:30	48,408	2	4,467	457	858	222	280	437	139	55,270	55,131
	17:45	43,992	1	3,825	420	829	205	270	405	142	50,089	49,947
	18:00	39,956	-	3,298	377	796	171	233	391	134	45,356	45,222

Figure 2 Classified turning counts peak period analysis.



2.3 Analysis of Flow Volumes through Adjacent Junctions

2.3.1 Differences between In/Out Flows of Adjacent Junctions

A comparison of traffic flow volumes through adjacent junctions was carried out among the locations previously presented in Figure 1. The flow into the two junctions in each direction has been compared to the flow out of the junctions. Variances in flows were to be expected due to the date difference among some of the surveys and results are presented in Table 4 and Table 5.

Table 4 AM Peak (8-9am) Traffic flow differences for adjacent surveyed junctions.

2-3	WB	EB
IN	797	420
OUT	798	435
Diff	0%	4%

23-24	NB	SB
IN	723	647
OUT	724	646
Diff	0%	0%

22-21	EB	WB
IN	189	272
OUT	182	310
Diff	-4%	14%

2-4	WB	EB
IN	876	695
OUT	876	660
Diff	0%	-5%

11-14	NB	SB
IN	605	541
OUT	412	606
Diff	-32%	12%

10-11	EB	WB
IN	139	101
OUT	101	91
Diff	-27%	-10%

4-5	WB	EB
IN	611	548
OUT	627	522
Diff	3%	-5%

32-33	WB	EB
IN	332	537
OUT	474	562
Diff	43%	5%

14-31	EB	WB
IN	1126	927
OUT	1135	1117
Diff	1%	20%

6-5	WB	EB
IN	408	449
OUT	528	380
Diff	29%	-15%

6-7	WB	EB
IN	319	239
OUT	297	209
Diff	-7%	-13%

28-27	WB	EB
IN	584	537
OUT	573	517
Diff	-2%	-4%

28-29	WB	EB
IN	434	901
OUT	425	891
Diff	-2%	-1%

30-29	WB	EB
IN	565	826
OUT	522	785
Diff	-8%	-5%

8-7	EB	WB
IN	284	397
OUT	290	374
Diff	2%	-6%

8-19	EB	WB
IN	258	266
OUT	254	314
Diff	-2%	18%

20-19	SB	NB
IN	245	190
OUT	98	196
Diff	-60%	3%

20-21	EB	WB
IN	92	183
OUT	80	136
Diff	-13%	-26%

23-21	NB	SB
IN	175	141
OUT	288	157
Diff	65%	11%

32-31	EB	WB
IN	568	580
OUT	477	637
Diff	-16%	10%

26-9	NB	SB
IN	975	826
OUT	928	869
Diff	-5%	5%

24-25	NB	SB
IN	727	713
OUT	728	662
Diff	0%	-7%

26-25	NB	SB
IN	980	920
OUT	975	964
Diff	-1%	5%

Table 5 PM Peak (5-6pm) Traffic flow differences for adjacent surveyed junctions.

2-3	WB	EB
IN	472	647
OUT	457	647
Diff	-3%	0%

2-4	WB	EB
IN	827	823
OUT	824	844
Diff	0%	3%

4-5	WB	EB
IN	486	698
OUT	504	654
Diff	4%	-6%

6-5	WB	EB
IN	371	577
OUT	445	526
Diff	20%	-9%

23-24	NB	SB
IN	693	766
OUT	693	766
Diff	0%	0%

11-14	NB	SB
IN	502	411
OUT	471	624
Diff	-6%	52%

32-33	WB	EB
IN	351	685
OUT	533	617
Diff	52%	-10%

8-7	EB	WB
IN	431	283
OUT	412	315
Diff	-4%	11%

22-21	EB	WB
IN	331	122
OUT	309	137
Diff	-7%	12%

10-11	EB	WB
IN	88	72
OUT	75	64
Diff	-15%	-11%

14-31	EB	WB
IN	1358	1083
OUT	1208	1135
Diff	-11%	5%

32-31	EB	WB
IN	746	663
OUT	685	618
Diff	-8%	-7%

6-7	WB	EB
IN	268	372
OUT	294	391
Diff	10%	5%

8-19	EB	WB
IN	313	258
OUT	271	271
Diff	-13%	5%

26-9	NB	SB
IN	846	986
OUT	744	1020
Diff	-12%	3%

28-27	WB	EB
IN	460	658
OUT	453	636
Diff	-2%	-3%

20-19	SB	NB
IN	125	90
OUT	145	323
Diff	**16%**	**259%**

24-25	NB	SB
IN	720	732
OUT	678	767
Diff	-6%	5%

28-29	WB	EB
IN	610	936
OUT	604	936
Diff	-1%	0%

20-21	EB	WB
IN	147	104
OUT	140	75
Diff	-5%	**-28%**

26-25	NB	SB
IN	802	871
OUT	846	856
Diff	5%	-2%

30-29	WB	EB
IN	700	774
OUT	700	826
Diff	0%	7%

23-21	NB	SB
IN	96	269
OUT	140	254
Diff	**46%**	-6%

Following best practice guidelines, surveys collected on the same date with flow differences above 5% have been subject to a detailed analysis in section 2.3.2. There are no guideline stating a threshold flow difference for traffic surveys done on a different day however we decided to use a 15% threshold based on Arcadis best practice. This 15% threshold allow to identify gaps within the traffic survey which need to be addressed.

2.3.2 Traffic Flow Difference Analysis and Recommendations

This section presents a detailed analysis of the traffic surveys where the difference between in and out flows recorded through adjacent junctions is greater than 15%. Recommendations are also given in regard to the actions involved in the modelling process.

2.3.2.1 Junctions 22-21

AM

22-21	EB	WB
IN	189	272
OUT	182	310
Diff	-4%	15%

PM

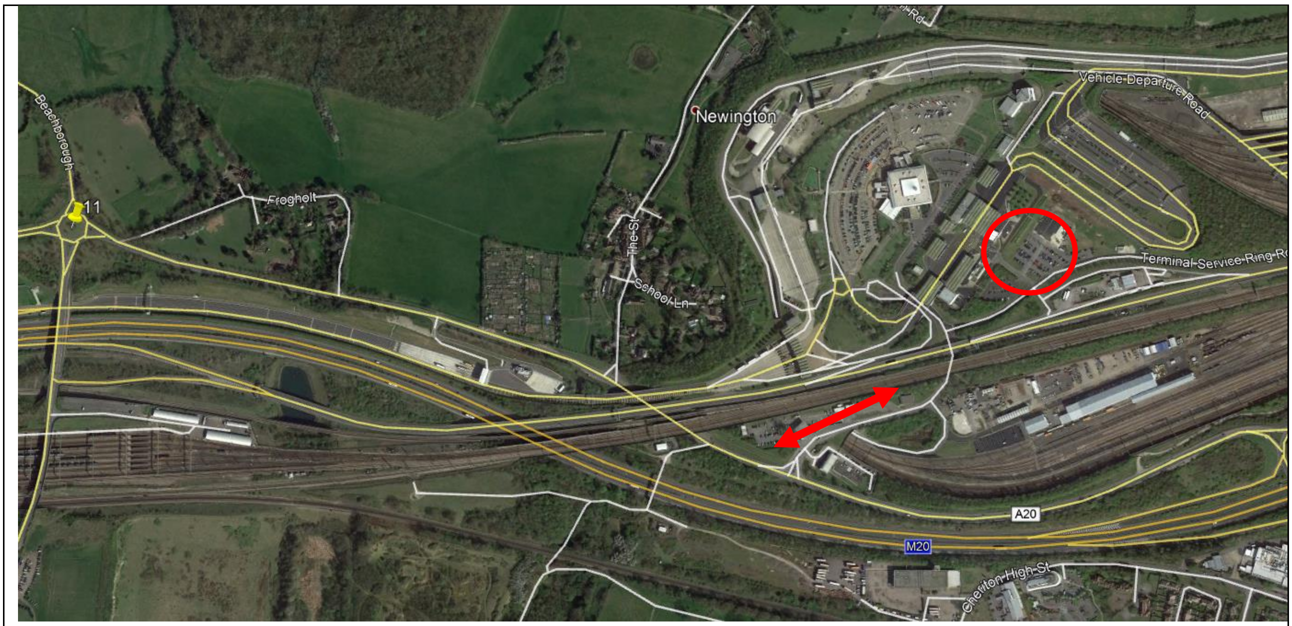
22-21	EB	WB
IN	331	122
OUT	309	137
Diff	-7%	12%

Both junctions were surveyed on October 13th 2016.

The difference could be explained by the presence of a residential access road (Octavian Drive). There is no vehicle access between Aldington Road and Berwick Lane (Pedestrian only).

Modelling Recommendation: A zone near Octavian Drive can be added to represent flows coming in and out of the residential area.

2.3.2.2 Junctions 11-14



AM

11-14	WB	EB
IN	605	541
OUT	412	606
Diff	-32%	12%

PM

11-14	WB	EB
IN	502	411
OUT	471	624
Diff	-6%	52%

Both junctions were surveyed on June 29th 2017.

The difference is likely to be explained by the presence of one of the Terminal Service Roads of the Eurotunnel, providing access to one of the main staff buildings and car parks.

Modelling Recommendation: A new link (Terminal Service Road) and zone (Car park) can be added to the current network in order to represent the traffic generated/attracted by the buildings and car parks.

2.3.2.3 Junctions 10-11

AM

10-11	EB	WB
IN	139	101
OUT	101	91
Diff	-27%	-10%

PM

10-11	EB	WB
IN	88	72
OUT	75	64
Diff	-15%	-11%

Site 10 was surveyed on October 13th 2016 and Site 11 was surveyed on June 29th 2017.

The westbound difference could be explained by the slip road connecting to the Eurotunnel entrance from site 11. However, there are no relevant intermediate junctions between the two sites in the eastbound flow, which suggests that the flow difference could be attributed by the date difference between the two traffic surveys.

Modelling Recommendation: A new zone can be created to represent the Eurotunnel entrance in regards of the westbound flow difference. In terms of the eastbound flow difference, both sets of data (eastbound flows from the two surveys) should be growth separately assuring flows are balanced in the baseline scenario year.

2.3.2.4 Junctions 32-33

AM

32-33	WB	EB
IN	332	537
OUT	474	562
Diff	43%	5%

PM

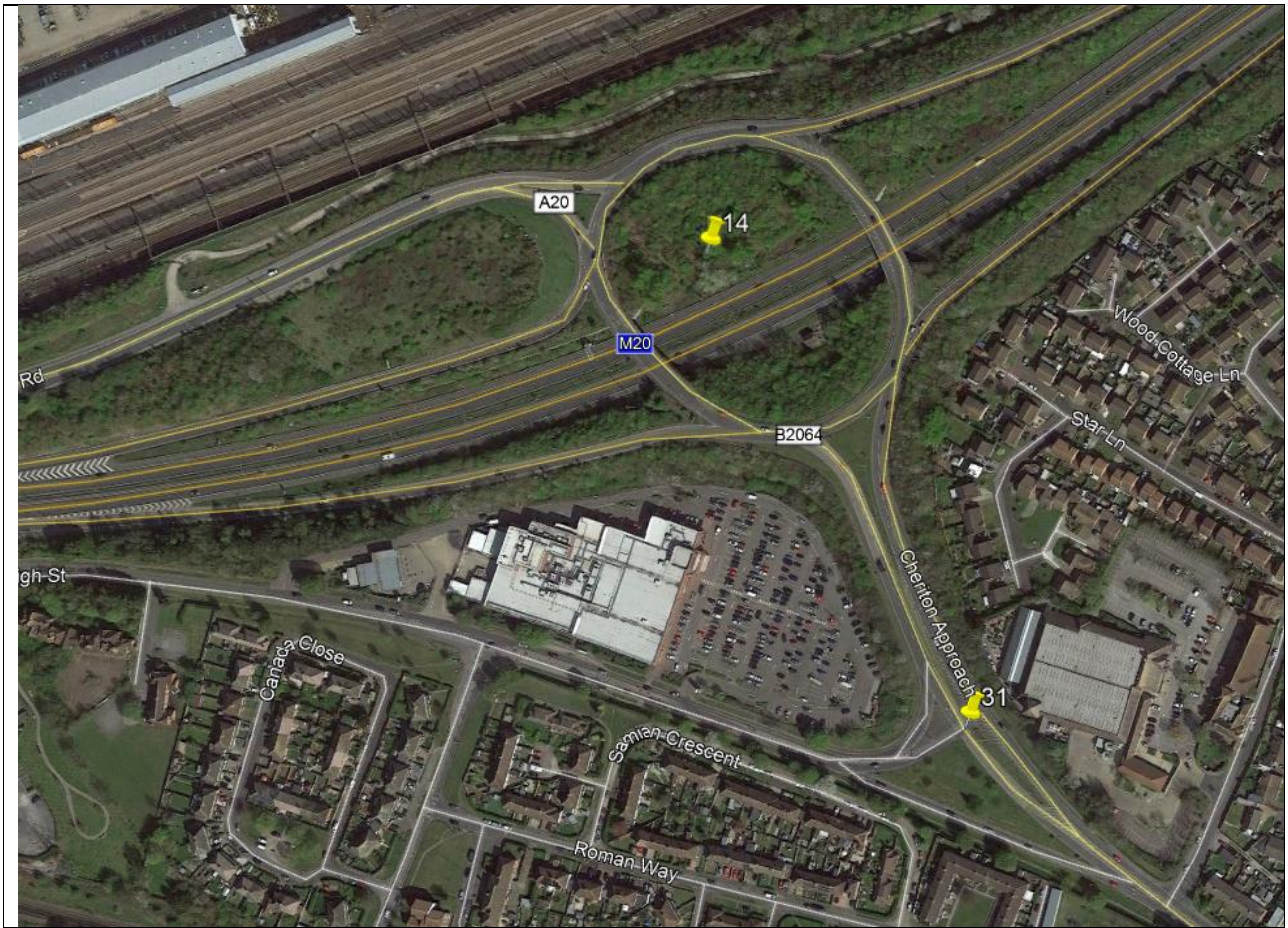
32-33	WB	EB
IN	351	685
OUT	533	617
Diff	52%	-10%

Both junctions were surveyed on June 29th 2017.

This is mainly a residential area with a railway station (Folkestone West) on Station Road, which is between the two surveyed junctions. The difference could be attributed to the traffic dynamic created by the presence of the railway station and the several access roads to residential developments in the vicinity of the junctions.

Modelling Recommendation: Two zones can be created; one zone south of Cheriton Road to represent the flow from/to the railway station and the residential developments south of the main road, and another zone north of Cheriton Road to represent the residential developments on that side of the main road.

2.3.2.5 Junctions 14-31



AM

14-31	EB	WB
IN	1126	927
OUT	1135	1117
Diff	1%	20%

PM

14-31	EB	WB
IN	1358	1083
OUT	1208	1135
Diff	-11%	5%

Site 31 was surveyed on October 22nd 2013 and Site 14 was surveyed on June 29th 2017.

The only plausible reason for the given gap is the date difference between the surveys (more than 3 years).

Modelling Recommendation: Both sets of data will be growth separately making sure flows are balanced in the baseline scenario year. No further action to be taken.

2.3.2.6 Junctions 6-5

AM

6-5	WB	EB
IN	408	449
OUT	528	380
Diff	29%	-15%

PM

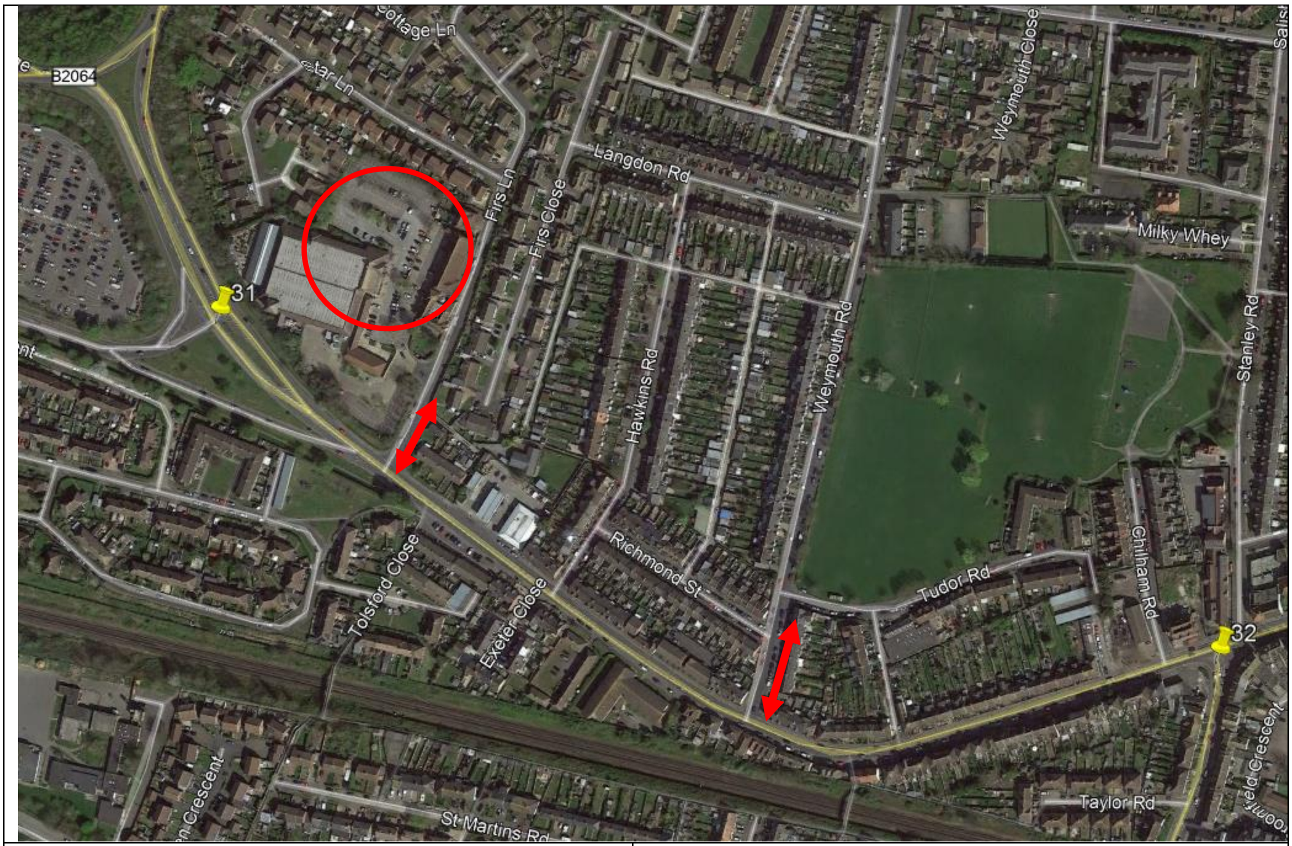
6-5	WB	EB
IN	371	577
OUT	445	526
Diff	20%	-9%

Both junctions were surveyed by on June 29th 2017.

The difference could be explained by the presence of an alternative route for the residents of Brabourne Lees travelling west; they could use The Ridgeway to access/exit the A20 instead of going through the A20/Church Road junction.

Modelling Recommendation: A new zone can be created to represent the traffic flow using the alternative route.

2.3.2.7 Junctions 32-31



AM

32-31	EB	WB
IN	568	580
OUT	477	637
Diff	-16%	10%

PM

32-31	EB	WB
IN	746	663
OUT	685	618
Diff	-8%	-7%

Site 31 was surveyed on October 22nd 2013 and Site 32 was surveyed on June 29th 2017.

Apart from the date difference (more than 3 years) there are two roads that could potentially explain the flow differences; Firs Lane provides access to a home, garden and goods retailer with nearly 100 parking spaces, and Weymouth Road, provides access to several residential developments north of site 31.

Modelling Recommendation: A single zone north of the site 31 can be added to represent both; the residential area and the retail centre in/out traffic flows.

2.3.2.8 Junctions 8-19

AM

8-19	EB	WB
IN	258	266
OUT	254	314
Diff	-2%	18%

PM

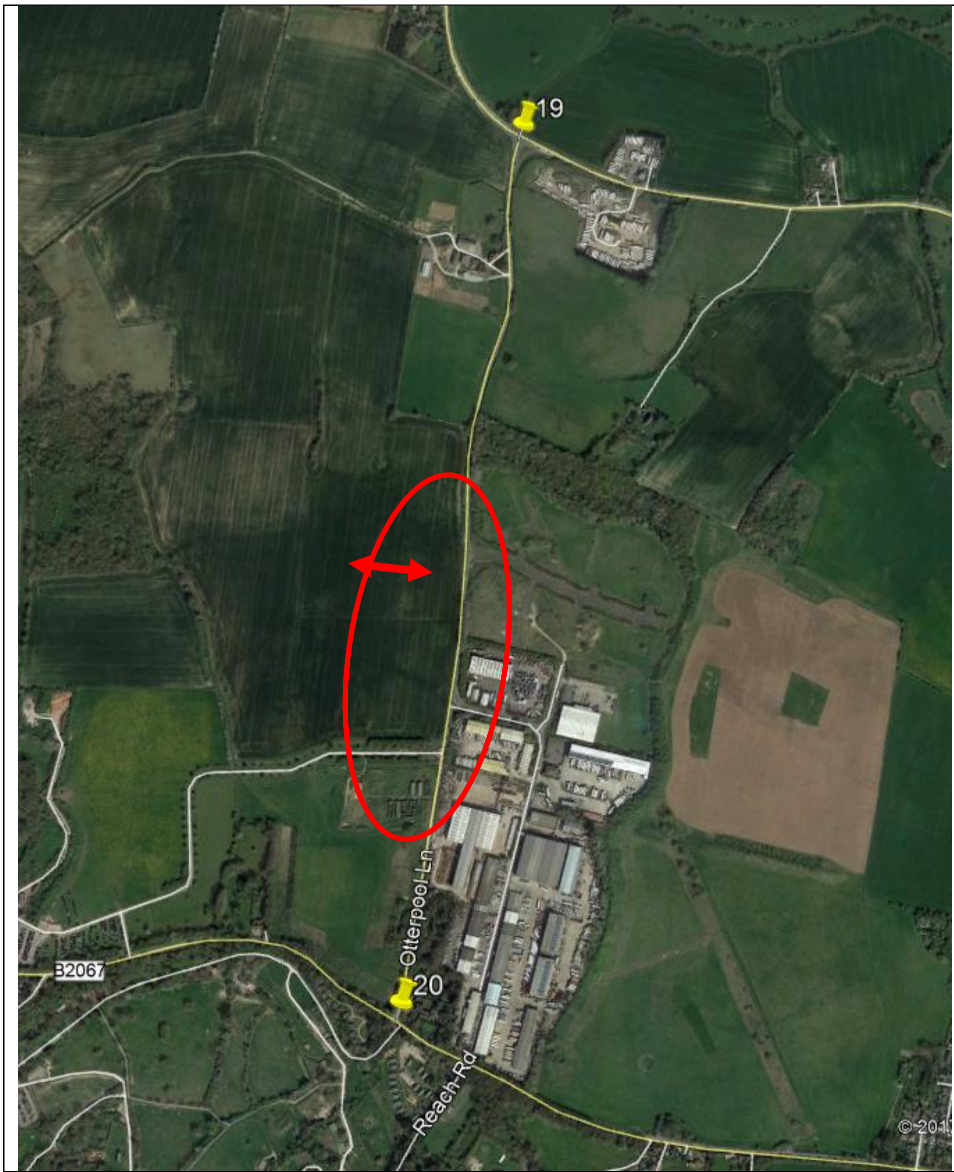
8-19	EB	WB
IN	313	258
OUT	271	271
Diff	-13%	5%

Both junctions were surveyed on October 13th 2016.

The difference could be explained by the presence of a series of small residential developments between the two junctions.

Modelling Recommendation: A single zone with a linked to either way of the A20 can be added to represent the traffic flows from/to the residential area.

2.3.2.9 Junctions 20-19



AM

20-19	SB	NB
IN	245	190
OUT	98	196
Diff	-60%	3%

PM

20-19	SB	NB
IN	125	90
OUT	145	323
Diff	16%	259%

Both junctions were surveyed on October 13th 2016.

The difference could be explained by the presence the Lympne Industrial Park between the two junctions attracting trips in the AM period and generating them in the PM.

Modelling Recommendation: A zone can be added to represent the main entrance/exit of the Lympne Industrial Park.

2.3.2.10 Junctions 20-21

AM

20-21	EB	WB
IN	92	183
OUT	80	136
Diff	-13%	-26%

PM

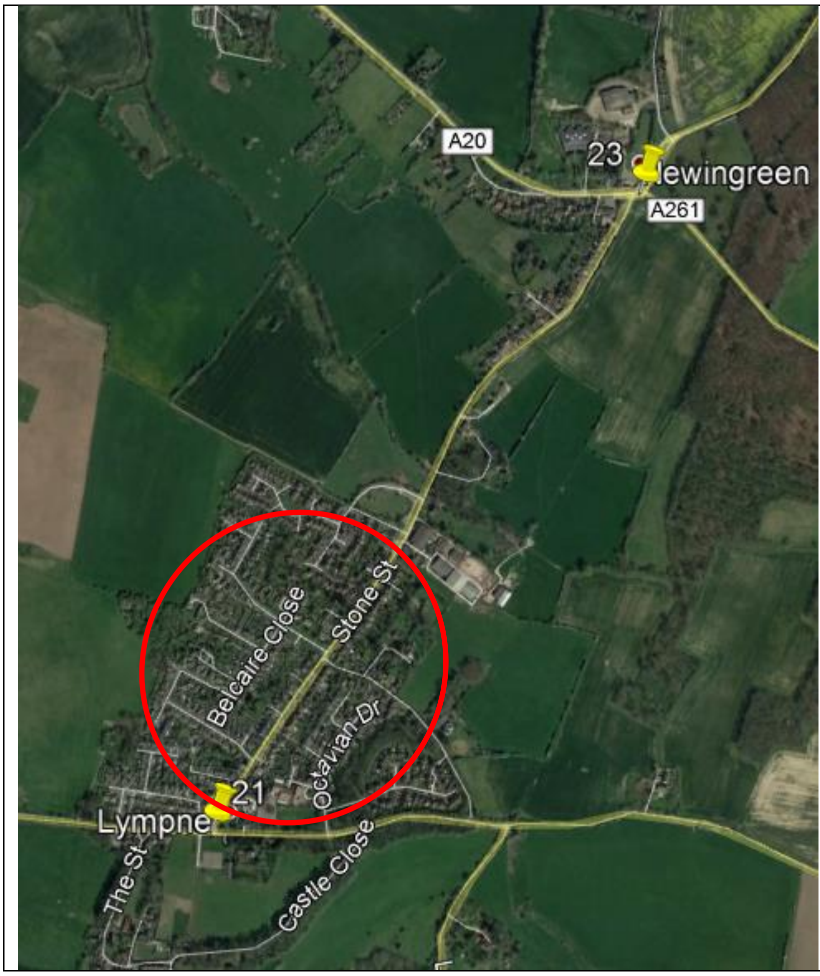
20-21	EB	WB
IN	147	104
OUT	140	75
Diff	-5%	-28%

Both junctions were surveyed on October 13th 2016.

There are two places between the two junctions that could potentially attract trips in both periods. A road access to the Port Lympne mansion which is now a hotel and a conference centre near site 20 and a residential development on beacon way, near site 21 with approximately 40 dwellings.

Modelling Recommendation: A zone between site 20 and site 21 can be added to represent the flows entering/exiting the residential development and the Port Lympne Hotel.

2.3.2.11 Junctions 23-21



AM

23-21	NB	SB
IN	175	141
OUT	288	157
Diff	65%	11%

PM

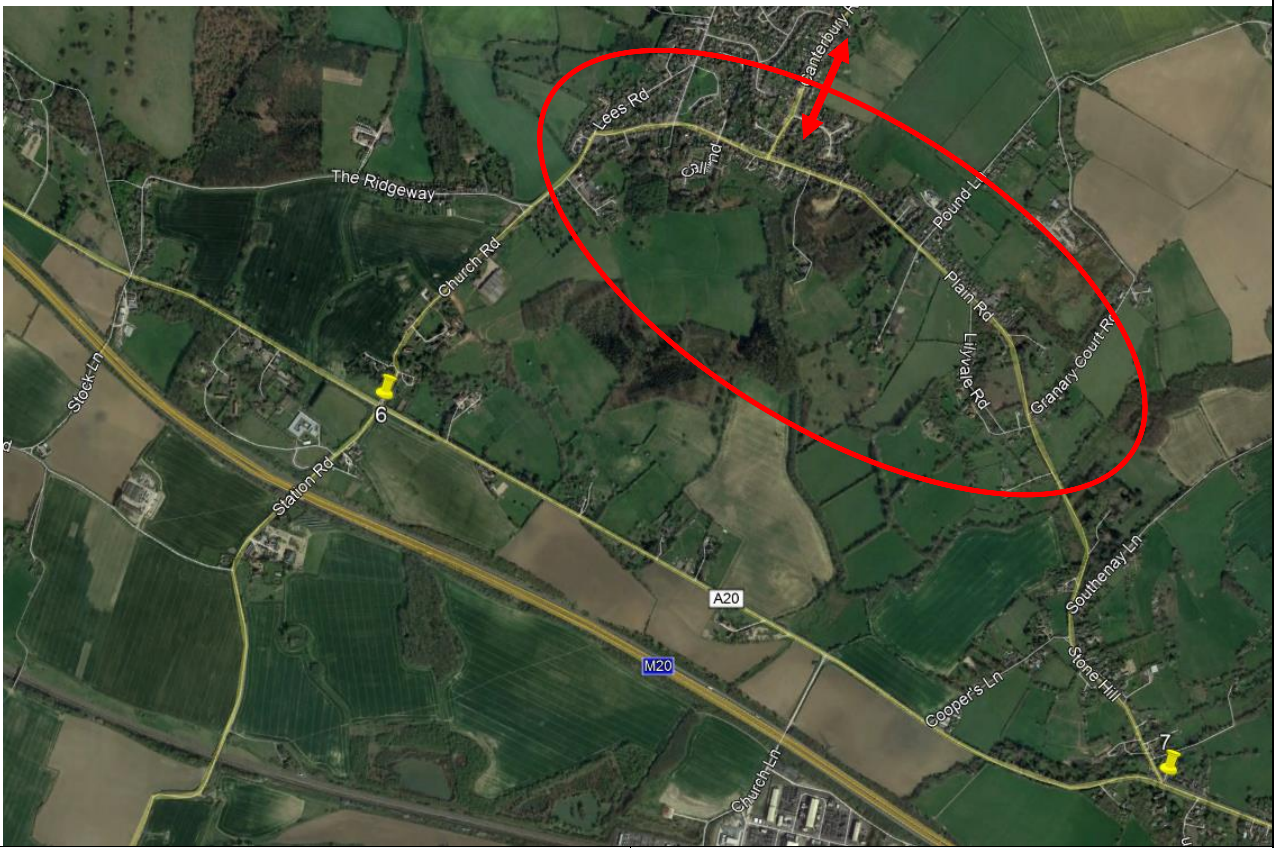
23-21	NB	SB
IN	96	269
OUT	140	254
Diff	46%	-6%

Site 21 was surveyed on October 13th 2016 and Site 23 was surveyed on June 29th 2017.

Even though part of the difference could be explained by the date difference, there are 4 access roads to at least 100 dwellings between the two junctions.

Modelling Recommendation: A single zone linked to either way of Stone Street can be added to represent the traffic flows from/to the residential area.

2.3.2.12 Junctions 6-7



AM

6-7	WB	EB
IN	319	239
OUT	297	209
Diff	-7%	-13%

PM

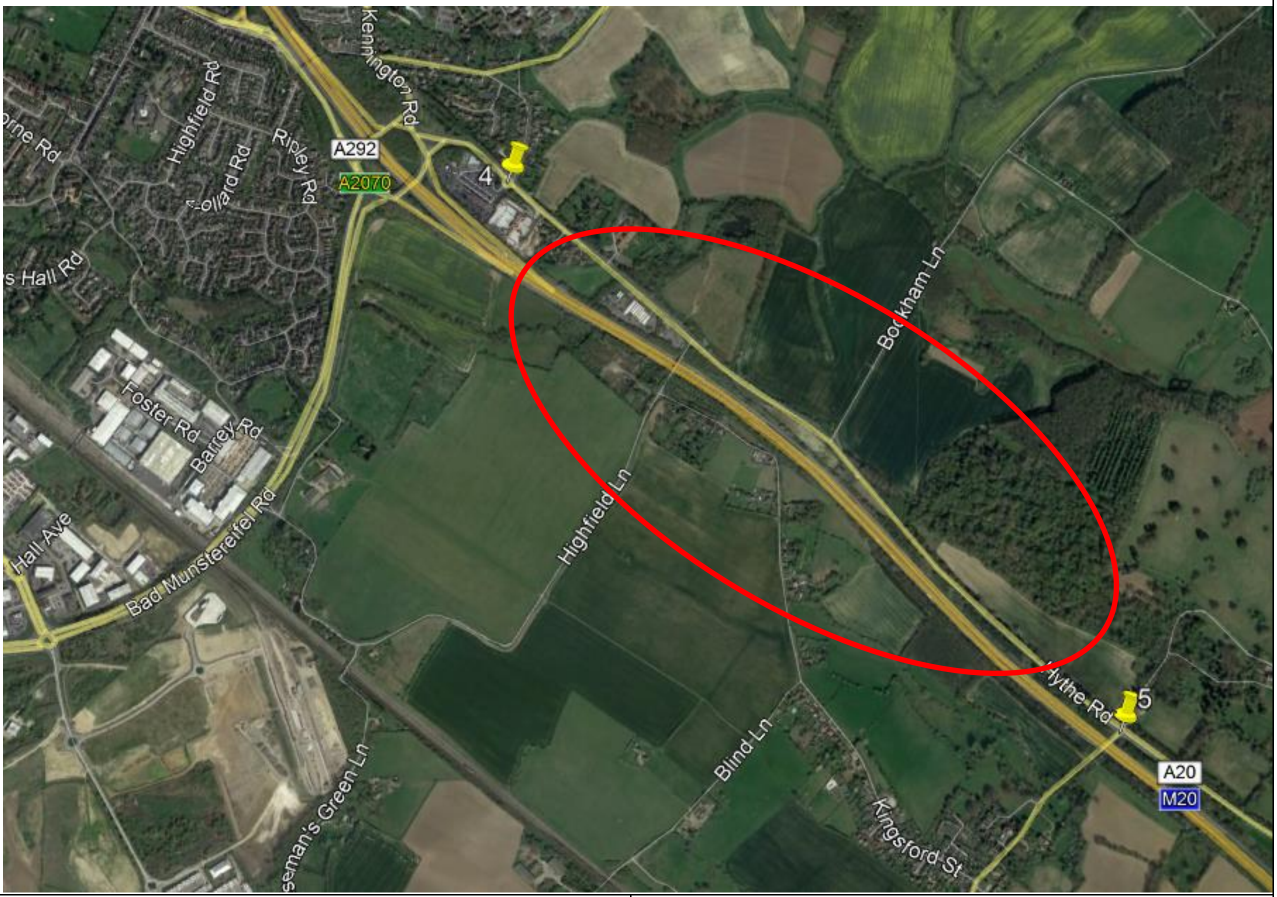
6-7	WB	EB
IN	268	372
OUT	294	391
Diff	10%	5%

Both junctions were surveyed by on June 29th 2017.

The difference could be explained by the presence of a series of secondary roads providing access to small settlements both sides of the A20.

Modelling Recommendation: A single zone linked to either way of the A20 can be added to represent the traffic flows leaving/entering the A20.

2.3.2.13 Junctions 4-5



AM

4-5	WB	EB
IN	611	548
OUT	627	522
Diff	3%	-5%

PM

4-5	WB	EB
IN	486	698
OUT	504	654
Diff	4%	-6%

Both junctions were surveyed by on June 29th 2017.

The difference could be explained by the presence of a series of rural access roads both sides of the Hythe Road.

Modelling Recommendation: Given the small differences in vehicles, there is no need to create a new zone among the two junctions, however, special care should be taken during the calibration process. The difference between the two junctions is likely to drop because of the planning closure of the junction Highfield Lane / A20 due to the M20 Junction 10a construction works.

2.3.2.14 Junctions 30-29

AM

30-29	WB	EB
IN	565	826
OUT	522	785
Diff	-7.6%	-5.0%

PM

30-29	WB	EB
IN	565	826
OUT	522	785
Diff	-7.6%	-5.0%

Both junctions were surveyed by on June 29th 2017.

The difference could be explained by the presence of a series of residential access roads north side of Prospect Road and an Aldi supermarket car park.

Modelling Recommendation: Based on the short number of vehicles "lost" between the two junctions, there is no need to create a new zone, however, special care should be taken during the calibration process.

2.4 Comparison of 2013, 2016 and 2017 survey data in adjacent junctions

Table 6 presents an additional analysis between adjacent junctions surveyed in different years, regardless of the difference percentage.

Table 6 Traffic flow difference between adjacent junctions surveyed in different years.

Link	Site Code	Survey Date	Traffic flow	AM (08:00 - 09:00)		PM (17:00 - 18:00)		Observation
			Direction of Flow	**EB**	**WB**	**EB**	**WB**	The differences are relatively marginal, with no relevant intermediate junctions between the two sites.
7-8	7	29/06/2017	In	284	-	431	-	
			Out	-	374	-	315	
	8	13/10/2016	In	-	397	-	283	
			Out	290	-	412	-	
			Difference	***-2.1%***	***-5.8%***	***-4.4%***	***-10.2%***	
			Direction of Flow	**NB**	**SB**	**NB**	**SB**	As explained in section 2.3.2.13, along with the date difference, there are 4 access roads to at least 100 dwellings between the two junctions.
23-21	23	29/06/2017	In		141		269	
			Out	288		140		
	21	13/10/2016	In	175		96		
			Out		157		254	
			Difference	***64.6%***	***-10.2%***	***45.8%***	***5.9%***	
			Direction of Flow	**EB**	**WB**	**EB**	**WB**	The Westbound (WB) difference could be explained by the slip road connecting to the Eurotunnel entrance from site 11. However, there are no relevant intermediate junctions between the two sites in the Eastbound (EB) flow
11-10	11	29/06/2017	In		101		72	
			Out	101		75		
	10	13/10/2016	In	139		88		
			Out		91		64	
			Difference	***-27.3%***	***11.0%***	***-14.8%***	***12.5%***	
			Direction of Flow	**EB**	**WB**	**EB**	**WB**	The only plausible reason for the given difference is the date difference between the surveys (more than 3 years).
14-31	14	29/06/2017	In	1126		1358		
			Out		1117		1135	
	31	22/10/2013	In		927		1083	
			Out	1135		1208		
			Difference	***-0.8%***	***20.5%***	***-11.0%***	***-4.6%***	

Link	Site Code	Survey Date	Traffic flow	AM (08:00 - 09:00)		PM (17:00 - 18:00)		Observation
			Direction of Flow	**EB**	**WB**	**EB**	**WB**	Apart from the date difference (more than 3 years) there are two roads that could potentially explain the flow differences; Firs Lane provide access to the "range", a home, garden & goods retailer with nearly 100 park spaces. And Weymouth Road, which provides access to several residential developments north of the B2064
32-31	32	29/06/2017	In		580		663	
			Out	477		685		
	31	22/10/2013	In	568		746		
			Out		637		618	
			Difference	***-16.0%***	***-8.9%***	***-8.2%***	***7.3%***	
			Direction of Flow	**NB**	**SB**	**NB**	**SB**	With no evident developments between the two junctions, the only plausible reason for the flow variation is the date difference between the surveys
26-9	26	29/06/2017	In	975		846		
			Out		869		1020	
	9	13/10/2016	In		826		986	
			Out	928		744		
			Difference	***5.1%***	***5.2%***	***-12.1%***	***-3.3%***	
			Direction of Flow	**NB**	**SB**	**NB**	**SB**	With no intermediate junctions between the two sites and a distance less than 200 metres amongst the two junctions. It is suggested that the flow difference is attributed to the season variation.
24-25	24	29/06/2017	In	727		720		
			Out		662		767	
	25	13/10/2016	In		713		732	
			Out	728		678		
			Difference	***-0.1%***	***-7.2%***	***-5.8%***	***-4.6%***	
			Direction of Flow	**NB**	**SB**	**NB**	**SB**	With no intermediate junctions between the two sites and a distance less than 200 metres amongst the two junctions. It is suggested that the flow difference is attributed to the season variation.
26-25	26	29/06/2017	In		920		871	
			Out	975		846		
	25	13/10/2016	In	980		802		
			Out		964		856	
			Difference	***-0.5%***	***-4.6%***	***5.5%***	***1.8%***	

2.5 Forecast Traffic Flows for Future Case Modelling

Three baseline scenarios will be modelled, as follows:

1. Application year – 2018;
2. End of local plan – 2037; and
3. Opening year with full occupation – year to be determined.

We proposed to use the NTM AF15 dataset and TEMPro v7.2, updated with the latest household and job forecasts to be provided by Kent County Council and Folkstone & Hythe District Council, to growth the 2016 and 2017 traffic surveys to 2018 for the application year scenario.

The baseline flows for the 2037 scenario will be based on a combination of growth factors from TEMPro. We will then apply TEMPro factor to growth the flows to the opening year.

3 Origin-Destination (OD) surveys

An Automatic Number Plate Recognition (ANPR) survey has been undertaken for a 12-hour period, between 07:00 and 19:00 on the same day as the classified turning counts in June 2017. During this period, vehicle registration plates have been recorded by vehicle type: light vehicles, heavy vehicles and public service vehicles (PSV) in 62 cameras located along the study area. ANPR provides information of the routes used by vehicles and number of vehicles using these routes within the study area.

The location of the cameras can be found in Appendix A.

Journey times will be extracted from the OD surveys. During the OD surveys, the vehicle registration plates were recorded together with a “time-stamp”. This allows extraction of journey times between the various camera locations. It is noted that only journey times within the 90th percentile have been taken into account, as it has been assumed that journey times outside this range mean that a vehicle has done intermediate stops within the network before arriving to the destination point.

Table 7 presents the capture rate of registered vehicles per ANPR site. The overall captured rate is above 85% for the AM and PM peak period, only two sites (43 and 46) registered a capture rate below 85%. The small number of sites with a match lower than 85% gives us a high degree of confidence in the surveys quality.

Table 7. Registered percentage of vehicles in the ANPR

	8:00-9:00			17:00-18:00		
ANPR site	MCC	ANPR	% registered	MCC	ANPR	% registered
01	1744	1690	97%	1856	1781	96%
02	347	326	94%	403	398	99%
03	1612	1564	97%	1518	1465	97%
04	2485	2367	95%	3430	3231	94%
05	690	682	99%	320	316	99%
06	457	446	98%	675	666	99%
07	135	128	95%	129	125	97%
08	197	190	96%	161	158	98%
09	1641	1542	94%	1935	1883	97%
10	1723	1645	95%	2018	1925	95%
11	116	114	98%	122	115	94%
12	120	120	100%	80	80	100%
13	97	97	100%	147	145	99%
14	107	106	99%	52	50	96%
15	79	78	99%	129	128	99%
16	130	127	98%	87	83	95%
17	61	59	97%	48	44	92%
18	73	72	99%	42	42	100%
19	94	91	97%	178	174	98%
20	180	175	97%	131	129	98%
21	375	372	99%	384	382	99%
22	349	338	97%	402	398	99%
23	156	154	99%	159	152	96%
24	172	169	98%	121	119	98%
25	267	263	99%	312	309	99%
26	277	274	99%	283	275	97%
27	64	55	86%	125	122	98%
28	156	153	98%	130	126	97%
29	335	325	97%	504	500	99%
30	389	382	98%	282	280	99%
31	107	99	93%	214	194	91%
32	224	211	94%	94	93	99%
33	339	335	99%	556	554	100%
34	410	406	99%	311	309	99%
35	285	272	95%	519	508	98%
36	386	385	100%	290	282	97%
37	669	635	95%	763	727	95%
38	729	711	98%	720	707	98%
39	221	220	100%	258	252	98%
40	264	259	98%	144	143	99%
41	179	174	97%	239	232	97%
42	267	262	98%	200	197	99%
43	379	302	80%	285	276	97%
45	1330	1184	89%	1870	1753	94%
46	2673	2275	85%	1728	1357	79%
47	216	213	99%	142	140	99%
48	208	206	99%	146	143	98%
49	27	25	93%	13	13	100%
50	1	1	100%	6	6	100%
51	36	36	100%	28	28	100%
52	101	100	99%	168	165	98%
53	505	501	99%	823	820	100%
54	921	909	99%	682	664	97%
55	225	223	99%	224	221	99%
56	357	348	97%	337	334	99%
57	607	600	99%	685	679	99%
58	532	499	94%	678	670	99%

4 Conclusion

Traffic flow differences between sites have been observed and explained. The structure of the VISSIM and VISUM models will provide additional zones and network structures to mitigate these differences where required.

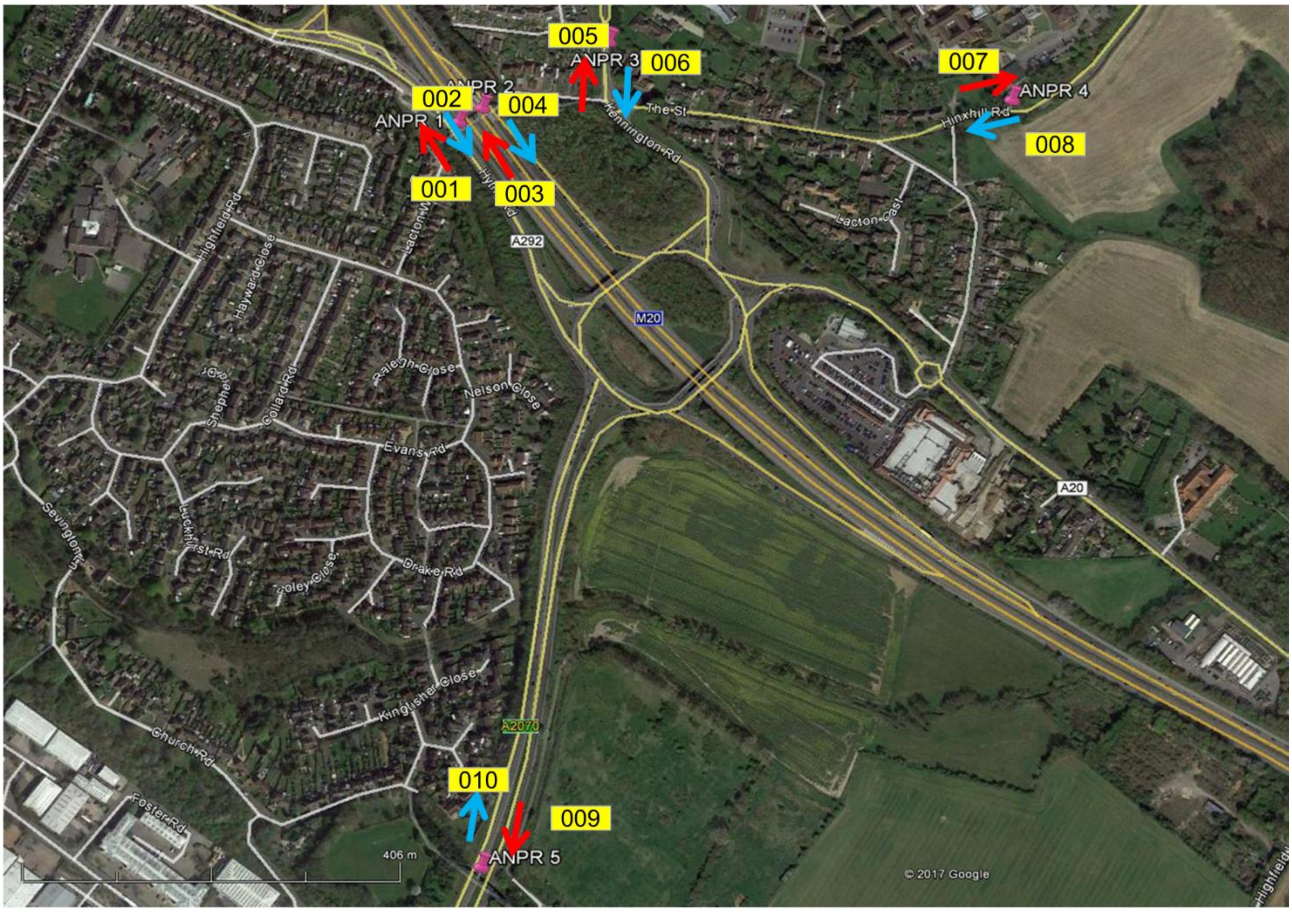
Some discrepancies between data of difference ages have been identified at some locations but most of the data is acceptable. A decision will be made during the validation of the VISUM model to readjust the 2016 surveys to reduce the gaps but at this point the analysis shows that it is not a source of concern and does not need immediate mitigation.

The ANPR data shows a good sample rate against manual turning count and also shows that the data can be used to capture the journey time.

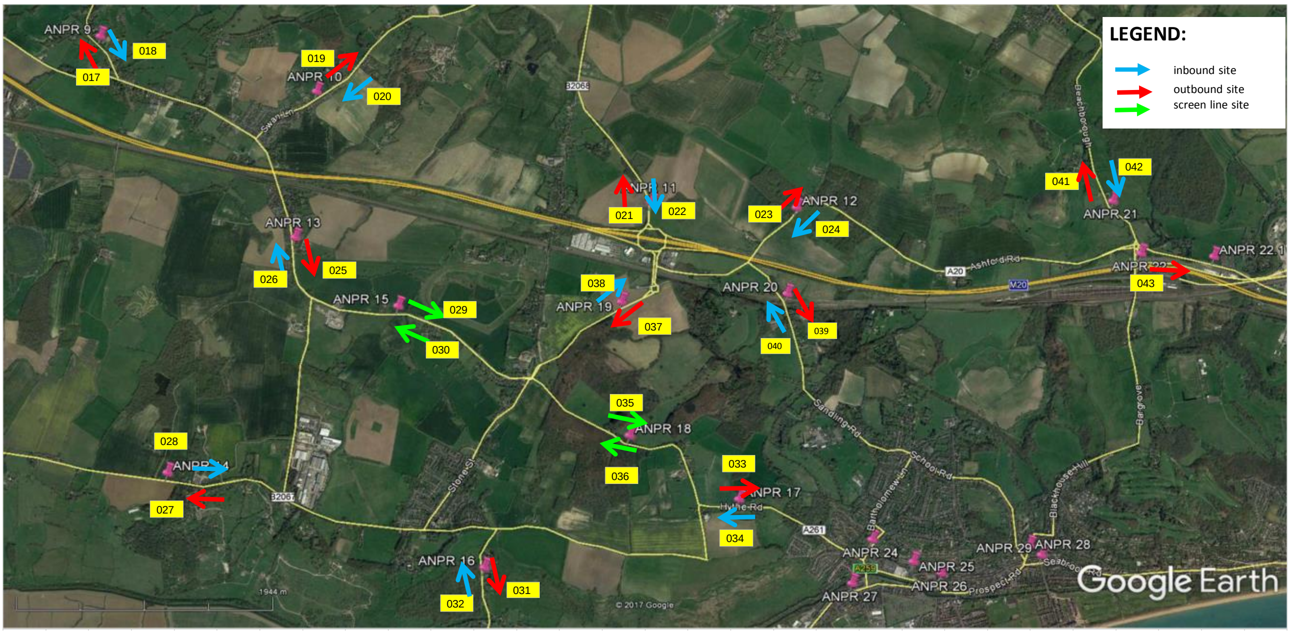
Overall the data check has shown no significant issues with the data set and demonstrated that the data is fit for purpose. It is proposed to proceed with the traffic modelling with this data set.

APPENDIX A

ANPR Camera locations




012
ANPR 6
011
013
ANPR 7
014
ANPR 8
016
015
Google Earth


LEGEND:
inbound site
outbound site
screen line site
ANPR 9
017
018
019
ANPR 10
020
ANPR 11
021
022
023
ANPR 12
024
041
042
ANPR 21
ANPR 22
043
ANPR 13
026
025
ANPR 15
029
030
038
ANPR 19
037
ANPR 20
040
039
035
ANPR 18
036
033
ANPR 17
034
028
027
ANPR 16
032
031
ANPR 24
ANPR 25
ANPR 26
ANPR 27
ANPR 29
ANPR 28
Google Earth


045
ANPR 23
046
Google Earth


047
048
049
ANPR 25
050
051
052
054
053
055
056
ANPR 28
057
058
Google Earth

APPENDIX B

Classified Turning Counts (Summary)

Time (Starting hour)	PERIOD	HOURLY FLOWS										
		CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	Only motorised
07:00		35,628	4	7,507	948	1,149	279	365	326	109	46,315	46,206
07:15		41,688	4	7,855	1,007	1,103	309	400	316	103	52,785	52,682
07:30		46,670	4	7,695	1,124	1,092	300	398	317	90	57,690	57,600
07:45		49,727	4	7,325	1,239	1,071	259	398	296	68	60,387	60,319
08:00	AM	50,382	8	6,728	1,298	1,061	247	419	285	71	60,499	60,428
08:15		47,750	16	6,376	1,341	1,091	220	405	274	61	57,534	57,473
08:30		43,788	19	6,134	1,349	1,196	243	404	236	69	53,438	53,369
08:45		38,681	23	5,933	1,285	1,174	228	388	242	74	48,028	47,954
09:00		34,639	22	5,803	1,333	1,196	234	385	222	111	43,945	43,834
09:15		23,296	13	3,647	873	601	165	306	146	94	29,141	29,047
09:30		22,581	10	3,520	884	541	172	289	153	85	28,235	28,150
09:45		22,617	10	3,412	948	551	178	264	142	81	28,203	28,122
10:00		22,591	8	3,412	903	546	162	211	177	57	28,067	28,010
10:15		22,690	8	3,433	884	550	165	205	173	71	28,179	28,108
10:30		23,129	9	3,437	881	548	156	200	164	79	28,603	28,524
10:45		23,322	7	3,457	861	514	164	209	153	84	28,771	28,687
11:00		23,492	5	3,363	845	469	169	213	118	71	28,745	28,674
11:15		23,934	4	3,398	799	442	168	222	143	61	29,171	29,110
11:30		24,055	5	3,458	826	460	172	216	164	48	29,404	29,356
11:45		24,223	5	3,475	780	480	164	203	161	38	29,529	29,491
12:00		24,459	10	3,470	772	492	174	212	170	28	29,787	29,759
12:15		24,618	10	3,399	766	516	168	217	157	41	29,892	29,851
12:30	Off Peak*	24,496	12	3,335	719	499	155	237	158	64	29,675	29,611
12:45		24,537	16	3,384	748	484	160	240	188	93	29,850	29,757
13:00		24,432	17	3,449	773	501	163	225	202	99	29,861	29,762
13:15		24,464	22	3,601	826	511	167	259	194	94	30,138	30,044
13:30		25,300	25	3,657	819	516	171	276	176	95	31,035	30,940
13:45		25,981	19	3,637	760	518	181	308	147	85	31,636	31,551
14:00		26,721	16	3,713	702	535	173	330	131	92	32,413	32,321
14:15		27,406	13	3,748	631	513	176	304	179	92	33,062	32,970
14:30		27,939	11	3,816	632	518	184	327	182	76	33,685	33,609
14:45		28,381	16	3,991	658	513	169	312	207	70	34,317	34,247
15:00		28,692	17	4,046	655	502	176	316	216	58	34,678	34,620
15:15		30,528	17	4,522	612	493	210	320	220	62	36,984	36,922
15:30		31,059	14	4,798	578	505	189	280	276	58	37,757	37,699
15:45		32,070	13	4,895	510	487	187	280	319	57	38,818	38,761
16:00		45,692	9	7,390	842	972	229	383	460	80	56,057	55,977
16:15		48,534	7	7,215	781	958	224	361	483	92	58,655	58,563
16:30	PM	51,190	5	6,912	654	889	216	330	482	102	60,780	60,678
16:45		53,046	1	6,442	546	888	227	295	495	109	62,049	61,940
17:00		54,260	2	5,861	497	862	232	278	529	125	62,646	62,521

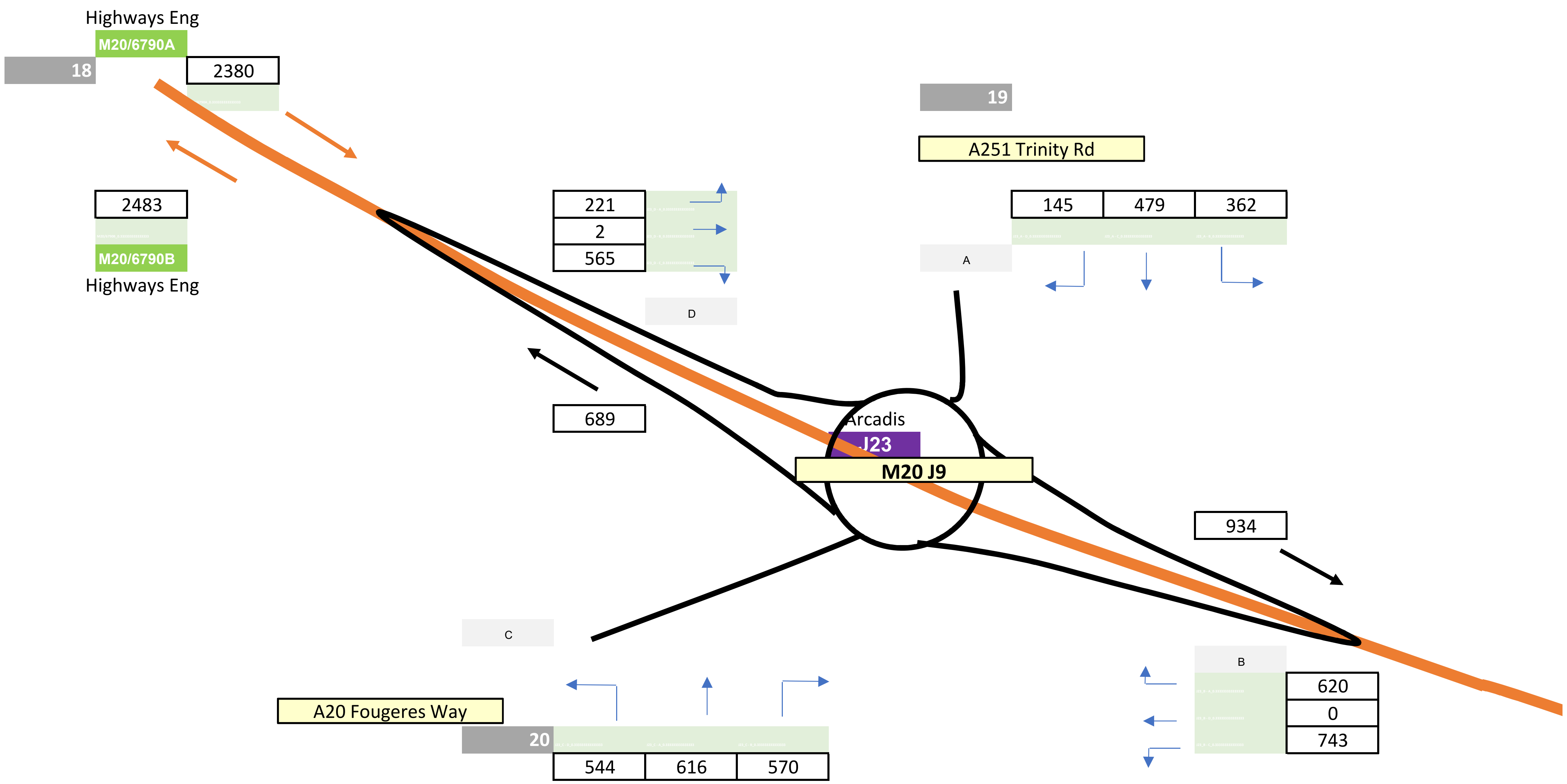
Time (Starting hour)	PERIOD	HOURLY FLOWS										
		CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	Only motorised
17:15		51,968	2	5,131	464	827	220	282	507	134	59,535	59,401
17:30		48,408	2	4,467	457	858	222	280	437	139	55,270	55,131
17:45		43,992	1	3,825	420	829	205	270	405	142	50,089	49,947
18:00		39,956	-	3,298	377	796	171	233	391	134	45,356	45,222

* Surveys conducted in 2016 did not include Off Peak hours.

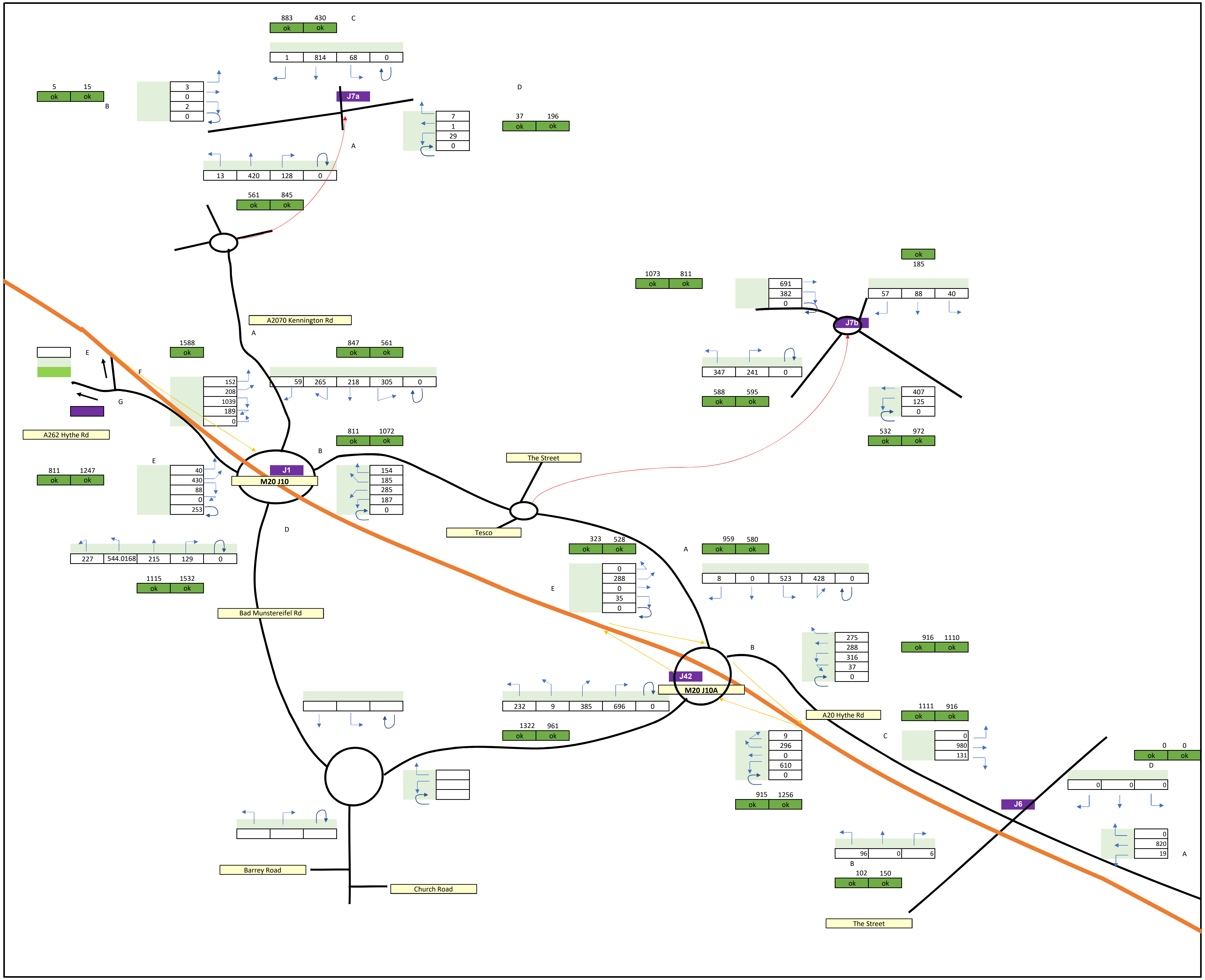
APPENDIX E 2018 Baseline Flow Diagrams

APPENDIX E – 2018 Baseline flow diagrams

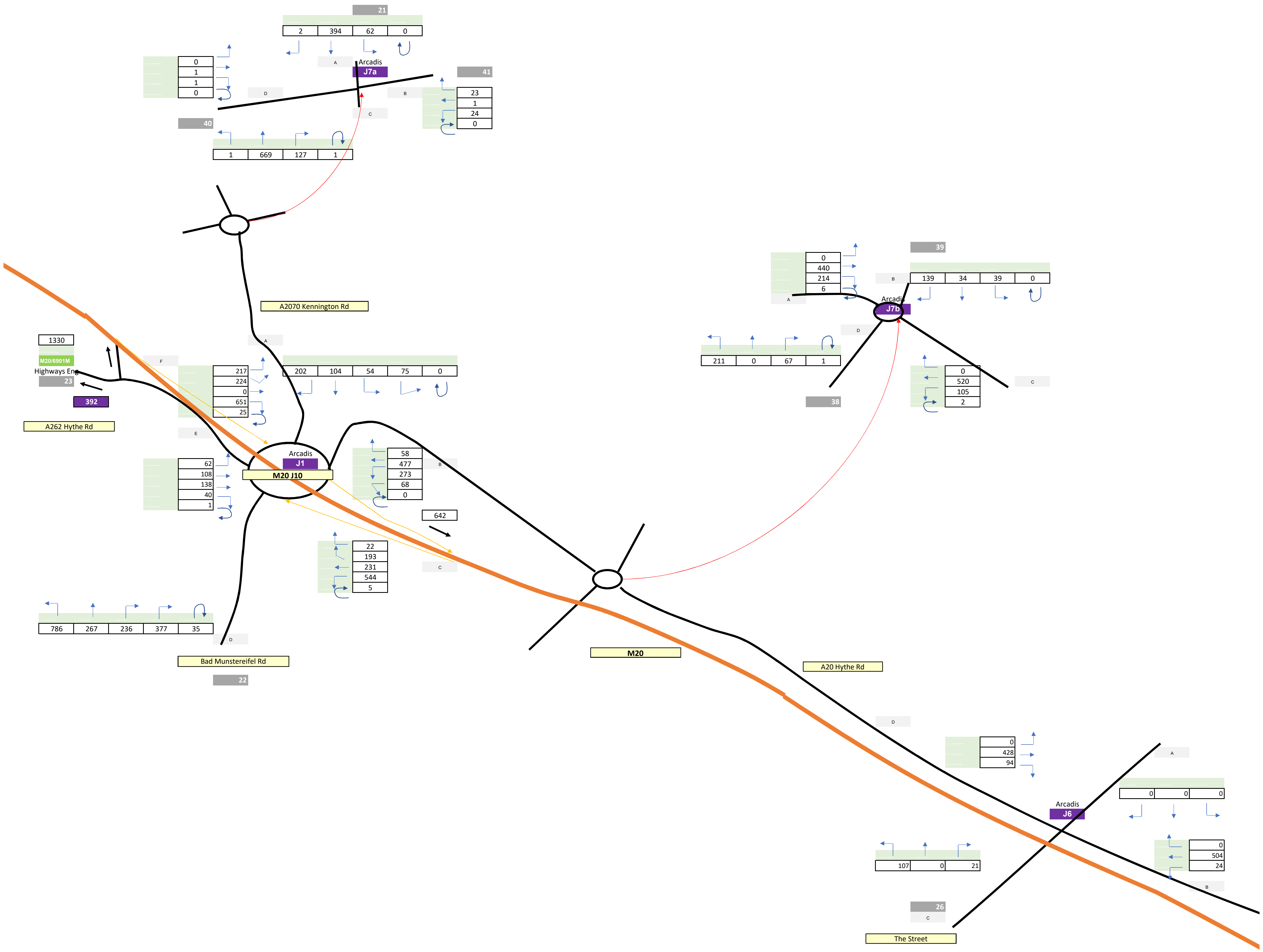
E.1 Folkestone & Hythe and Ashford - 2018 AM Peak



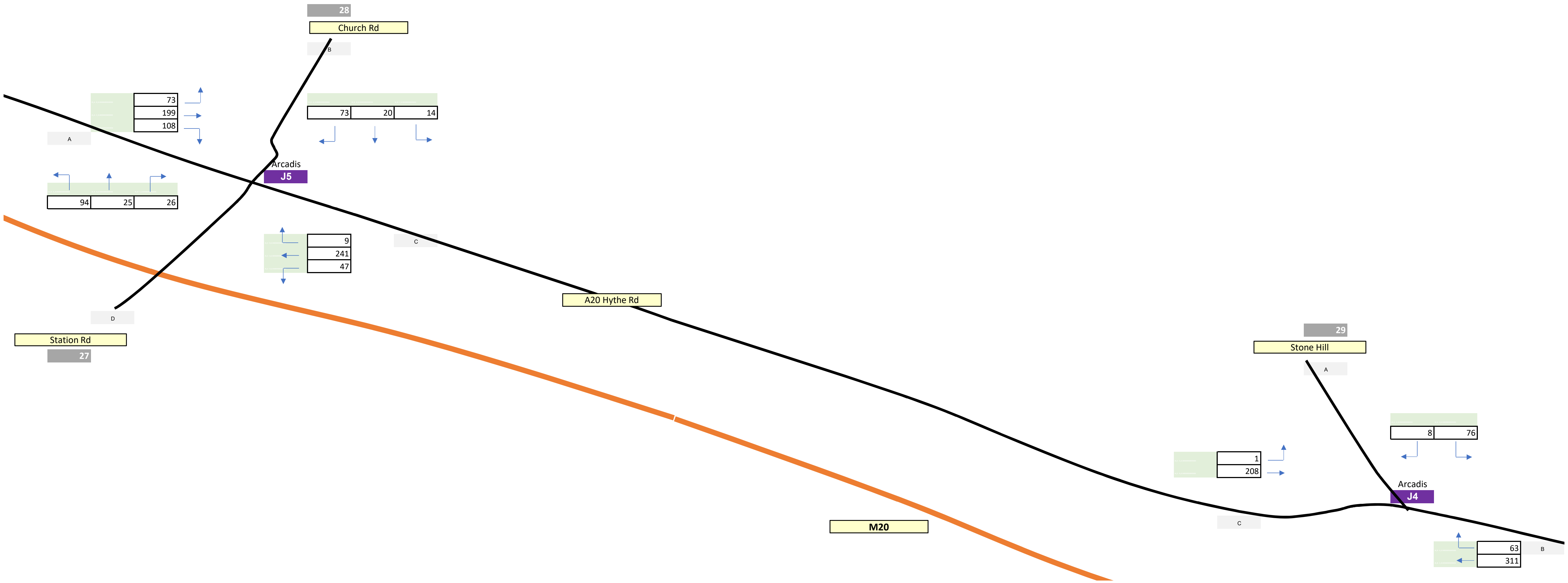
Highways Eng
M20/6790A
18
2380
2483
M20/6790B
Highways Eng
19
A251 Trinity Rd
145
479
362
A
221
2
565
D
689
Arcadis
J23
M20 J9
934
C
B
620
0
743
A20 Fougeres Way
20
544
616
570

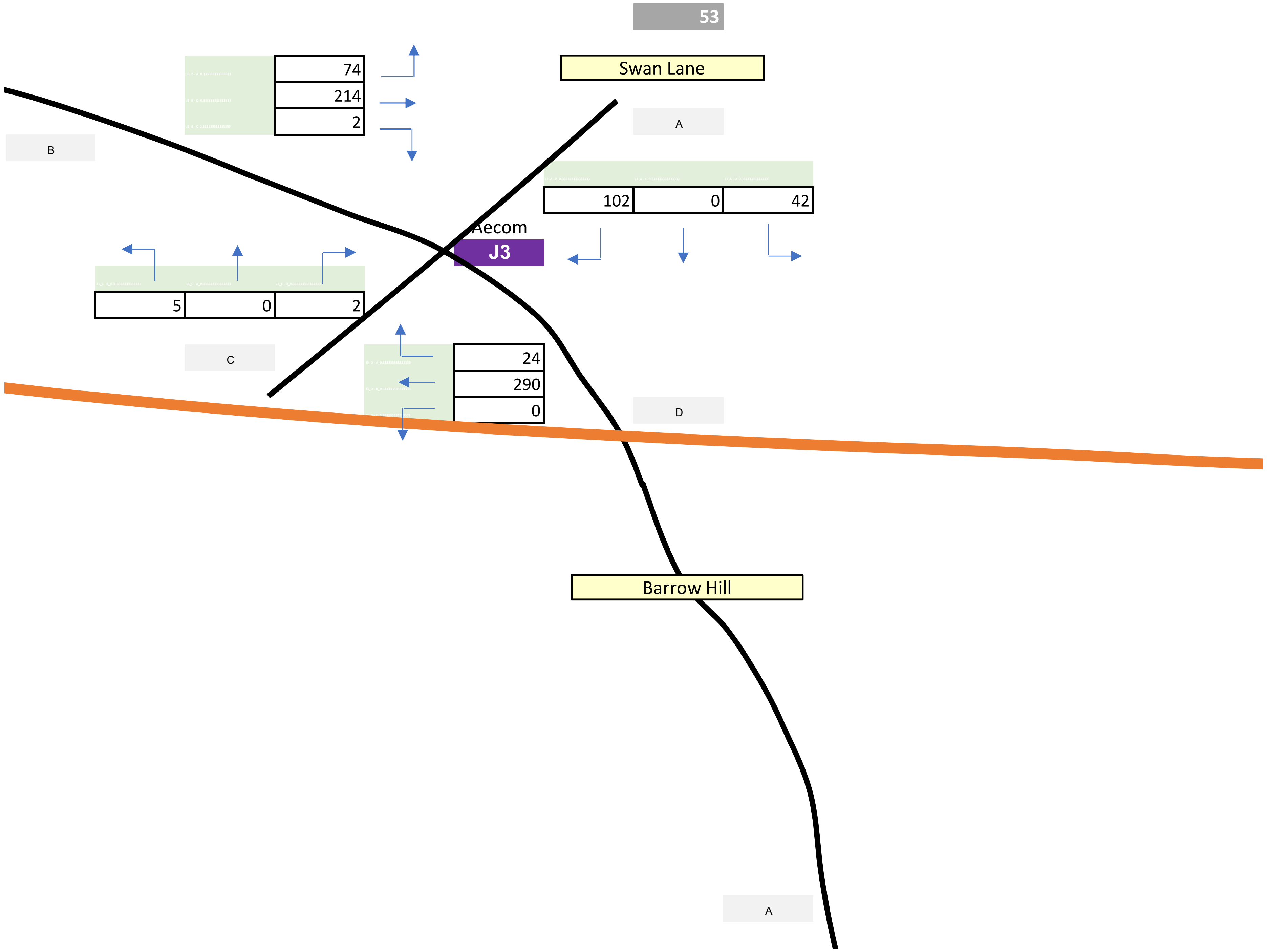


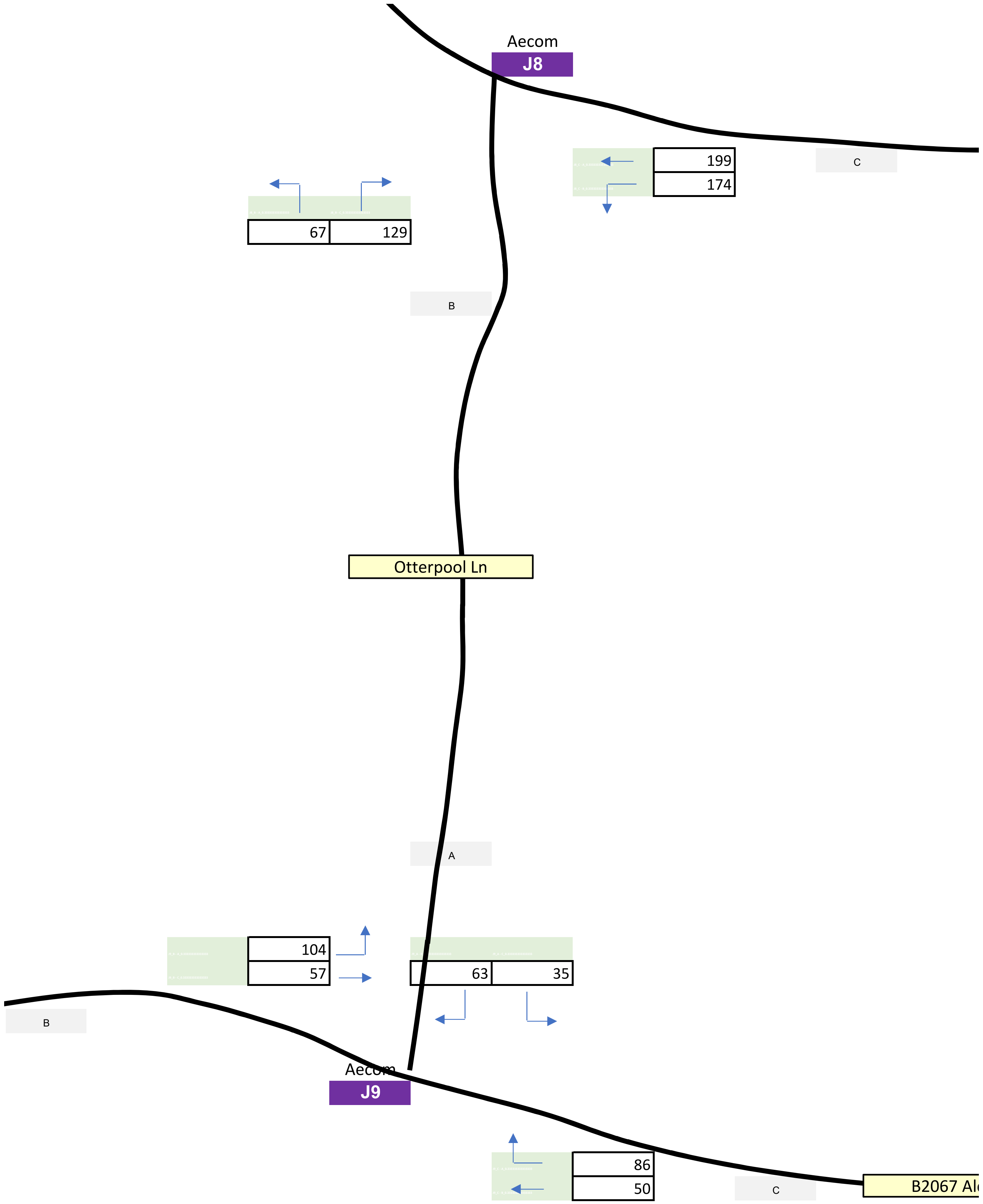
883 430 C
ok ok
1 814 68 0
J7a
5 15
ok ok
B
3
0
2
0
D
7
1
29
0
37 196
ok ok
A
13 420 128 0
561 845
ok ok
A2070 Kennington Rd
A
1073 811
ok ok
691
382
0
ok
185
57 88 40
J7b
347 241 0
588 595
ok ok
407
125
0
532 972
ok ok
E
F
G
1588
ok
152
208
1039
189
0
847 561
ok ok
59 265 218 305 0
A262 Hythe Rd
811 1072
ok ok
B
E
811 1247
ok ok
40
430
88
0
253
J1
M20 J10
154
185
285
187
0
The Street
Tesco
D
227 544.0168 215 129 0
1115 1532
ok ok
323 528
ok ok
0
288
0
35
0
E
A
959 580
ok ok
8 0 523 428 0
Bad Munstereifel Rd
B
275
288
316
37
0
916 1110
ok ok
232 9 385 696 0
J42
M20 J10A
1322 961
ok ok
A20 Hythe Rd
1111 916
ok ok
C
9
296
0
610
0
0
980
131
0 0
ok ok
D
0 0 0
915 1256
ok ok
J6
96 0 6
B
102 150
ok ok
0
820
19
A
Barrey Road
Church Road
The Street

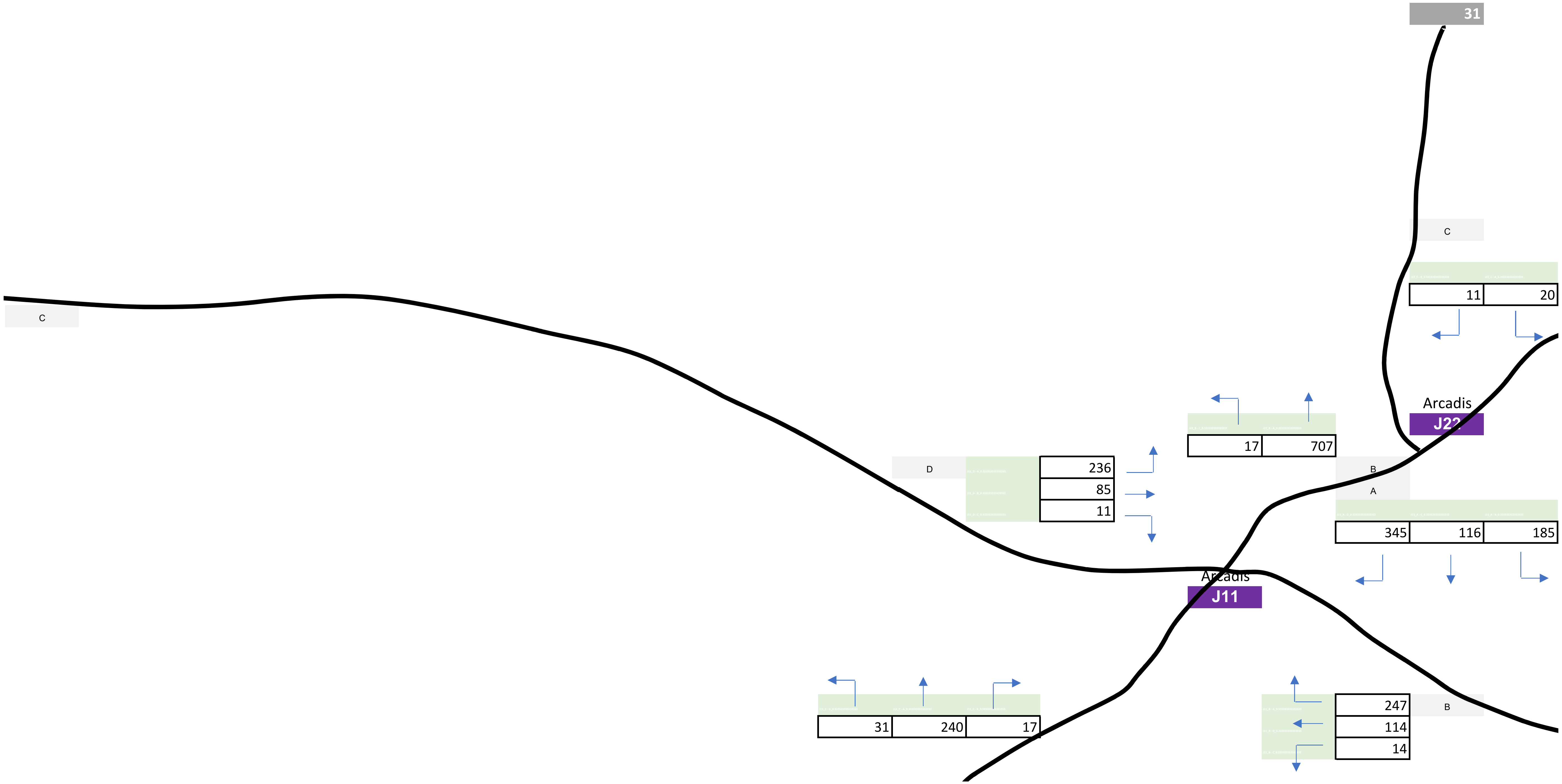


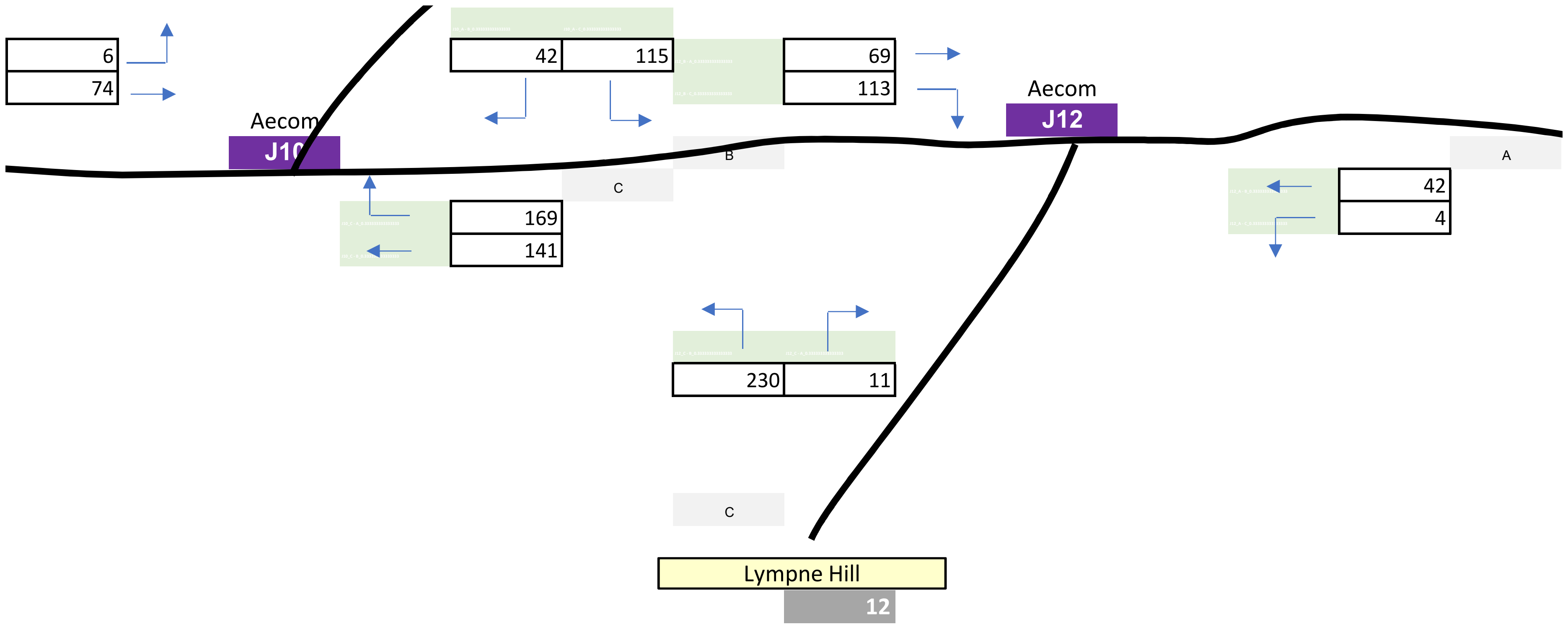
21
2 394 62 0
A
Arcadis
J7a
41
0
1
1
0
D
B
23
1
24
0
C
40
1 669 127 1
A2070 Kennington Rd
1330
M20/6901M
Highways Eng
23
392
A262 Hythe Rd
F
A
217
224
0
651
25
202 104 54 75 0
E
62
108
138
40
1
Arcadis
J1
M20 J10
58
477
273
68
0
B
642
22
193
231
544
5
C
786 267 236 377 35
D
Bad Munstereifel Rd
22
M20
39
0
440
214
6
B
139 34 39 0
A
Arcadis
J7b
D
211 0 67 1
38
0
520
105
2
C
A20 Hythe Rd
D
0
428
94
A
0 0 0
Arcadis
J6
0
504
24
107 0 21
B
26
C
The Street

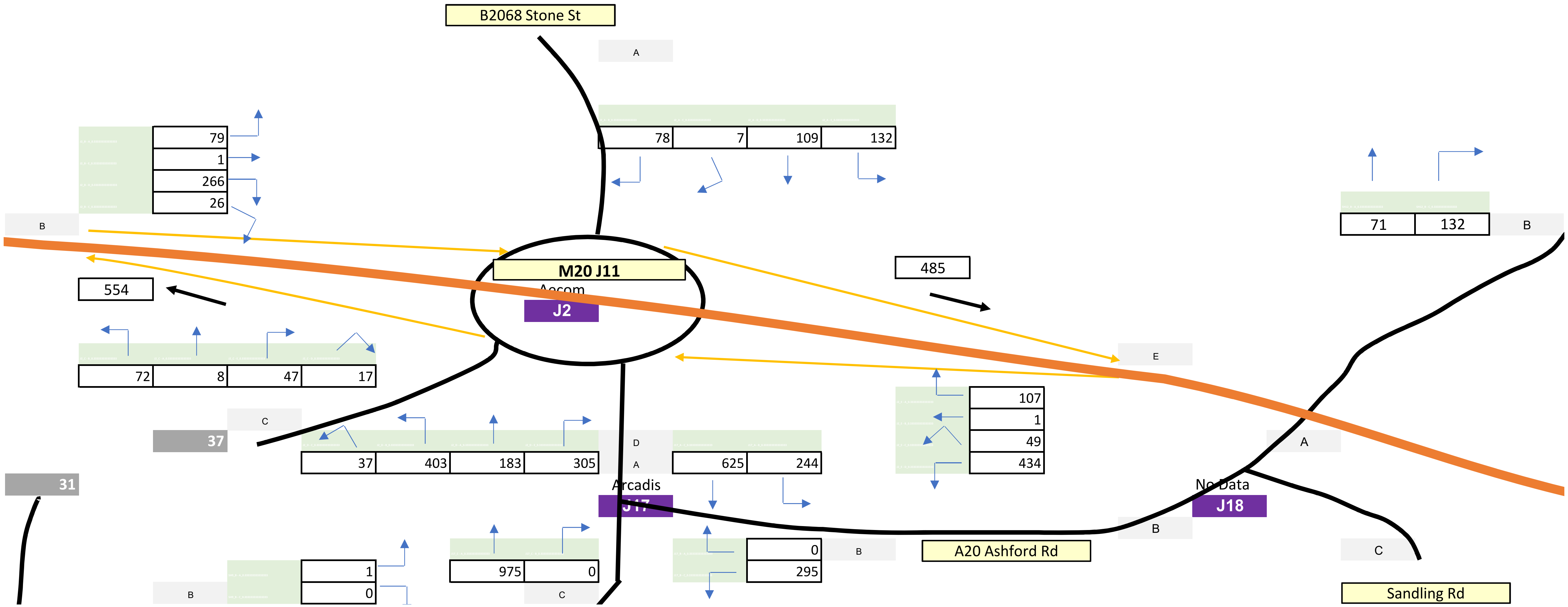

28
Church Rd
B
A
73
199
108
73
20
14
Arcadis
J5
94
25
26
9
241
47
C
A20 Hythe Rd
D
Station Rd
27
29
Stone Hill
A
8
76
1
208
Arcadis
J4
C
M20
63
311
B


53
Swan Lane
A
B
74
214
2
102
0
42
Aecom
J3
5
0
2
C
24
290
0
D
Barrow Hill
A

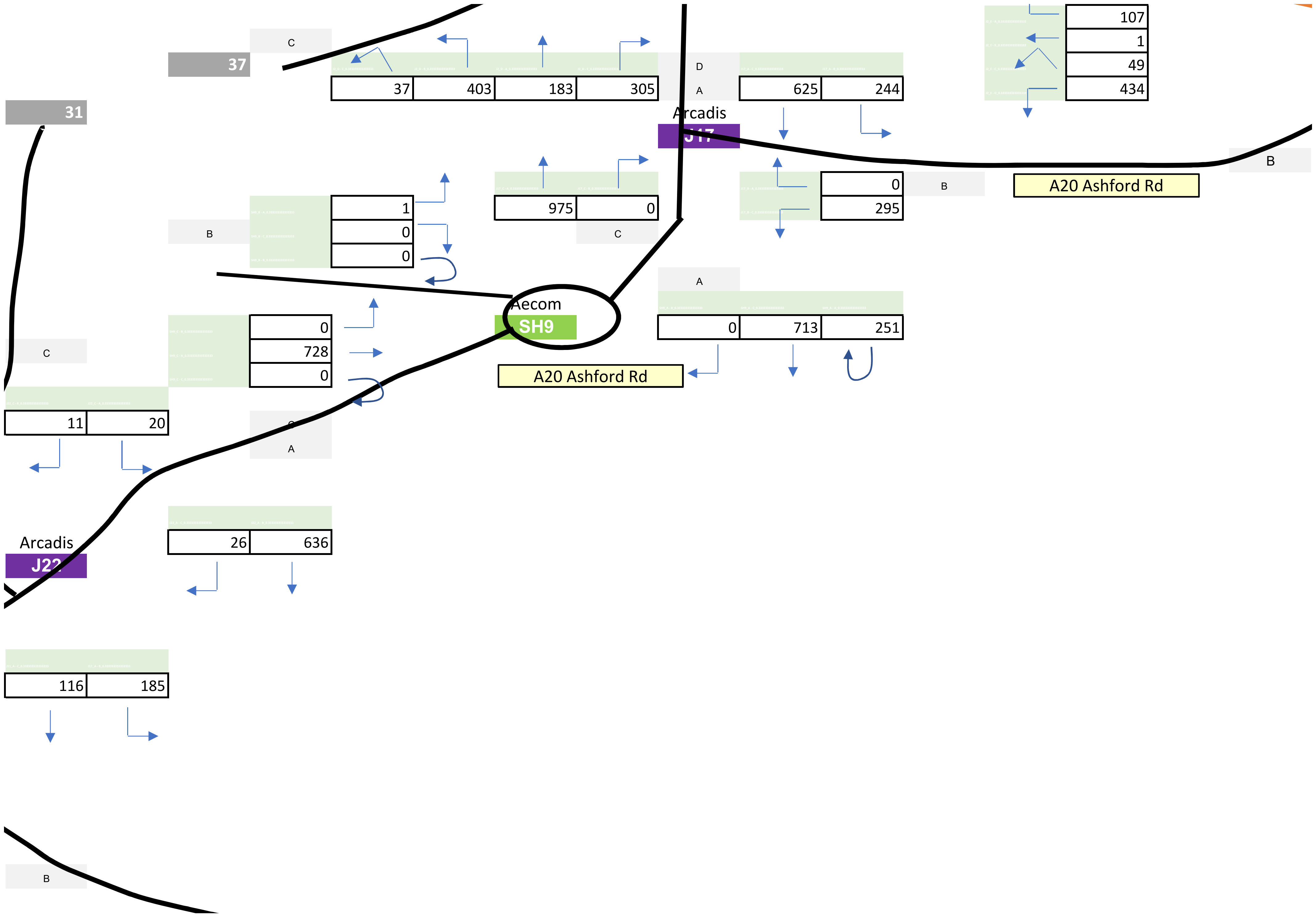

Aecom
J8
199
174
C
67
129
B
Otterpool Ln
A
104
57
63
35
B
Aecom
J9
86
50
C
B2067 Al


31
C
11
20
Arcadis
J22
17
707
C
D
236
85
11
B
A
345
116
185
Arcadis
J11
31
240
17
247
114
14
B

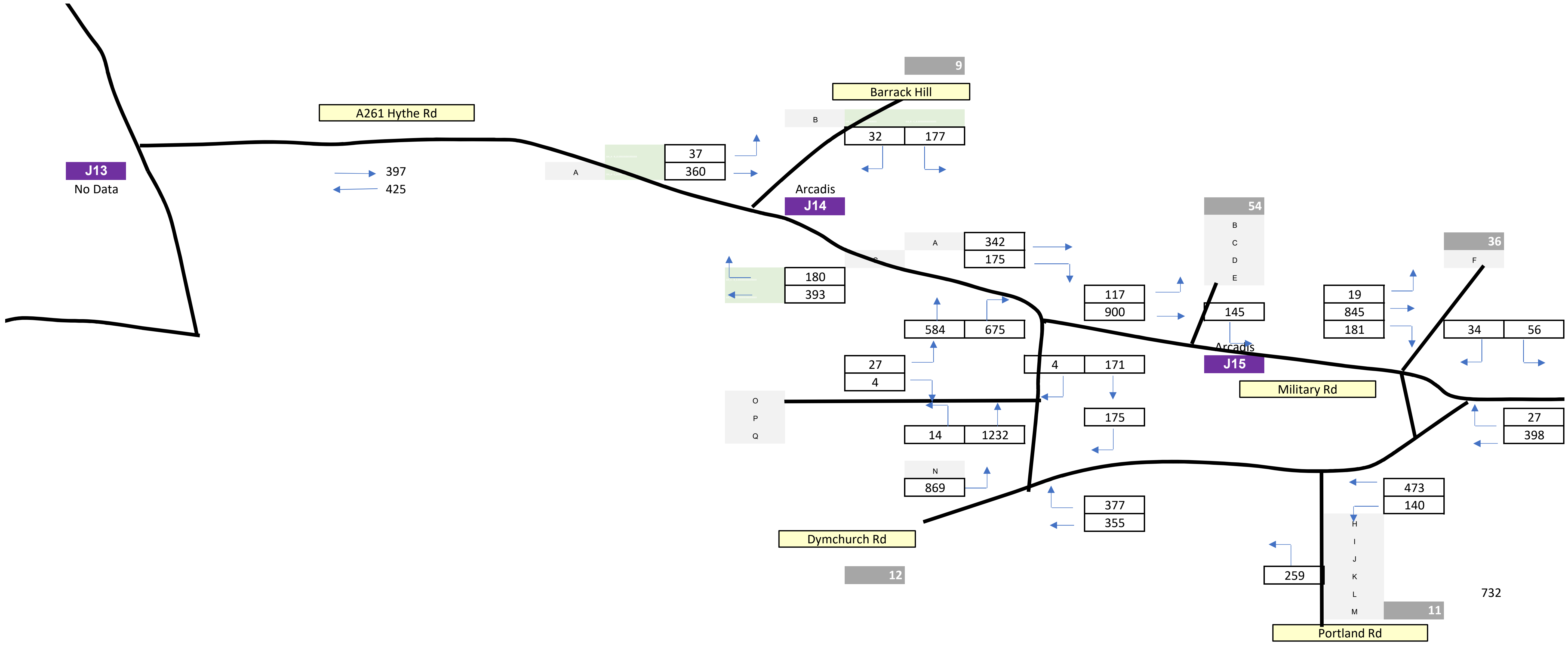

6
74
Aecom
J10
42
115
69
113
Aecom
J12
B
C
A
169
141
42
4
230
11
C
Lympne Hill
12



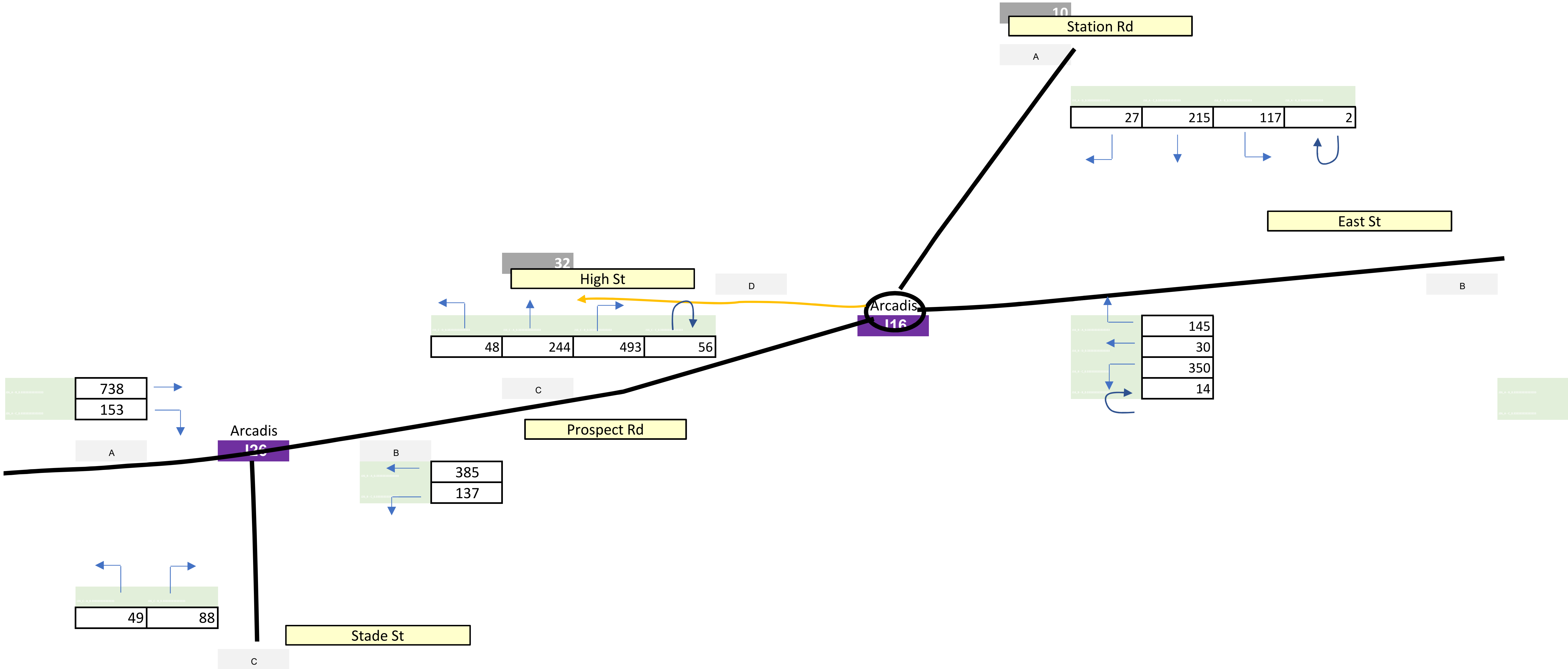
B2068 Stone St
A
78
7
109
132
79
1
266
26
B
M20 J11
J2
554
485
72
8
47
17
C
37
31
37
403
183
305
D
A
625
244
Arcadis
E
107
1
49
434
71
132
B
A
No Data
J18
B
A20 Ashford Rd
C
Sandling Rd
0
295
B
975
0
C
1
0
B

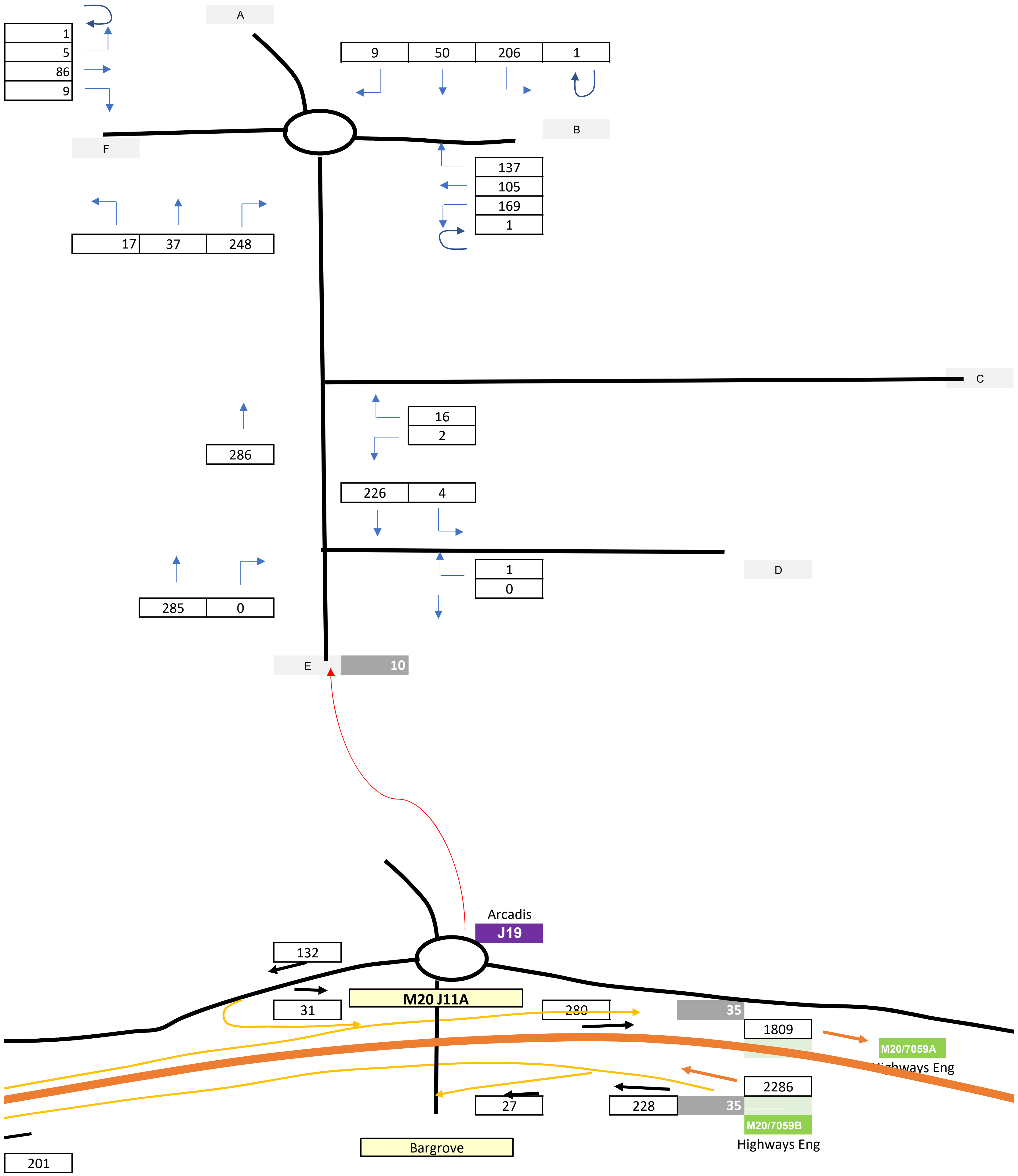


37
31
C
D
A
37
403
183
305
625
244
107
1
49
434
Arcadis
J17
B
A20 Ashford Rd
0
295
975
0
C
B
1
0
0
A
Aecom
SH9
0
713
251
A20 Ashford Rd
0
728
0
C
11
20
A
Arcadis
J22
26
636
116
185
B

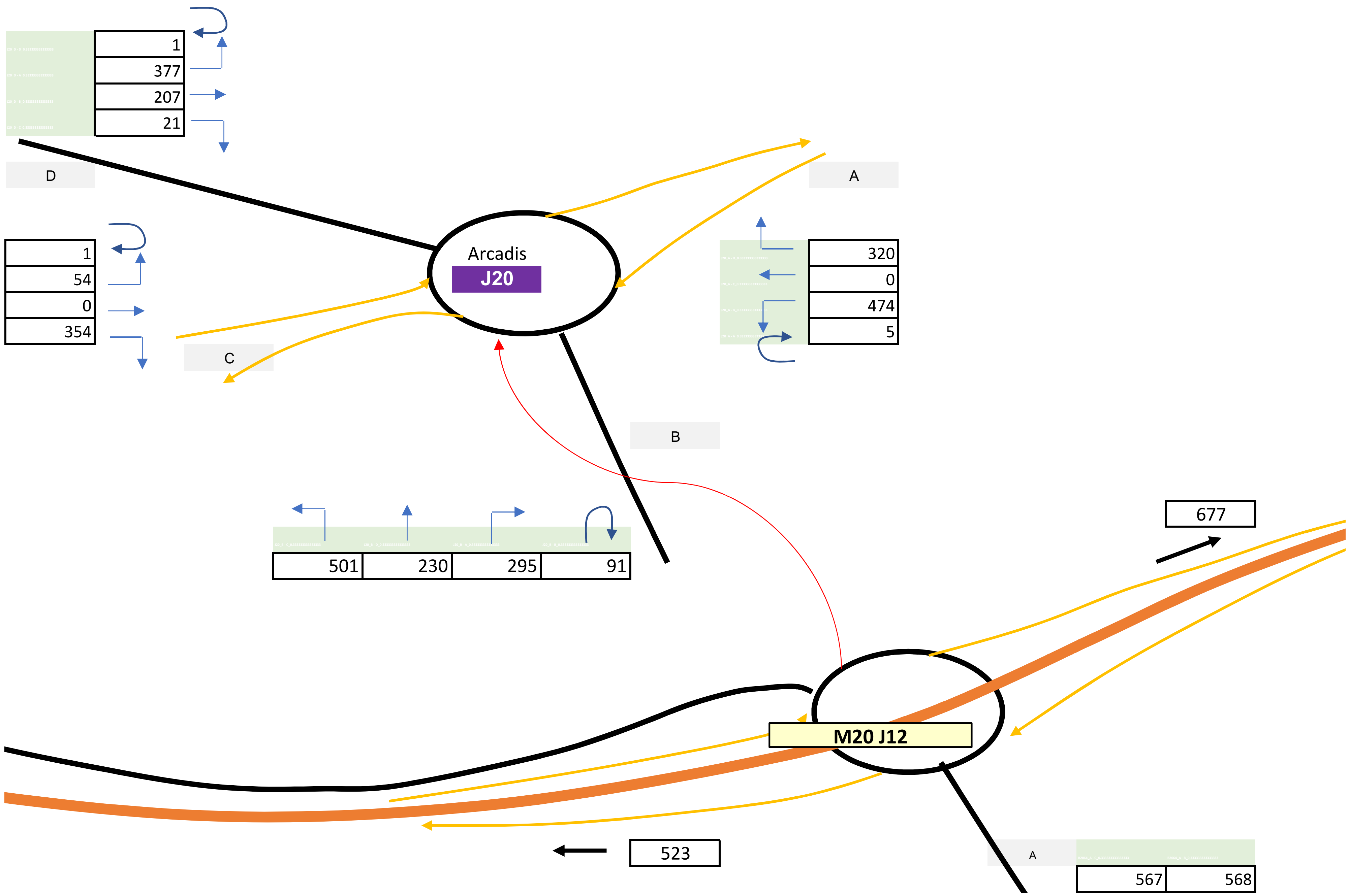


A261 Hythe Rd
Barrack Hill
9
J13
No Data
397
425
A
37
360
B
32
177
Arcadis
J14
180
393
A
342
175
54
B
C
D
E
117
900
145
Arcadis
J15
36
F
19
845
181
34
56
584
675
27
4
4
171
O
P
Q
14
1232
175
Military Rd
27
398
N
869
377
355
473
140
Dymchurch Rd
12
H
I
J
K
L
M
259
11
732
Portland Rd

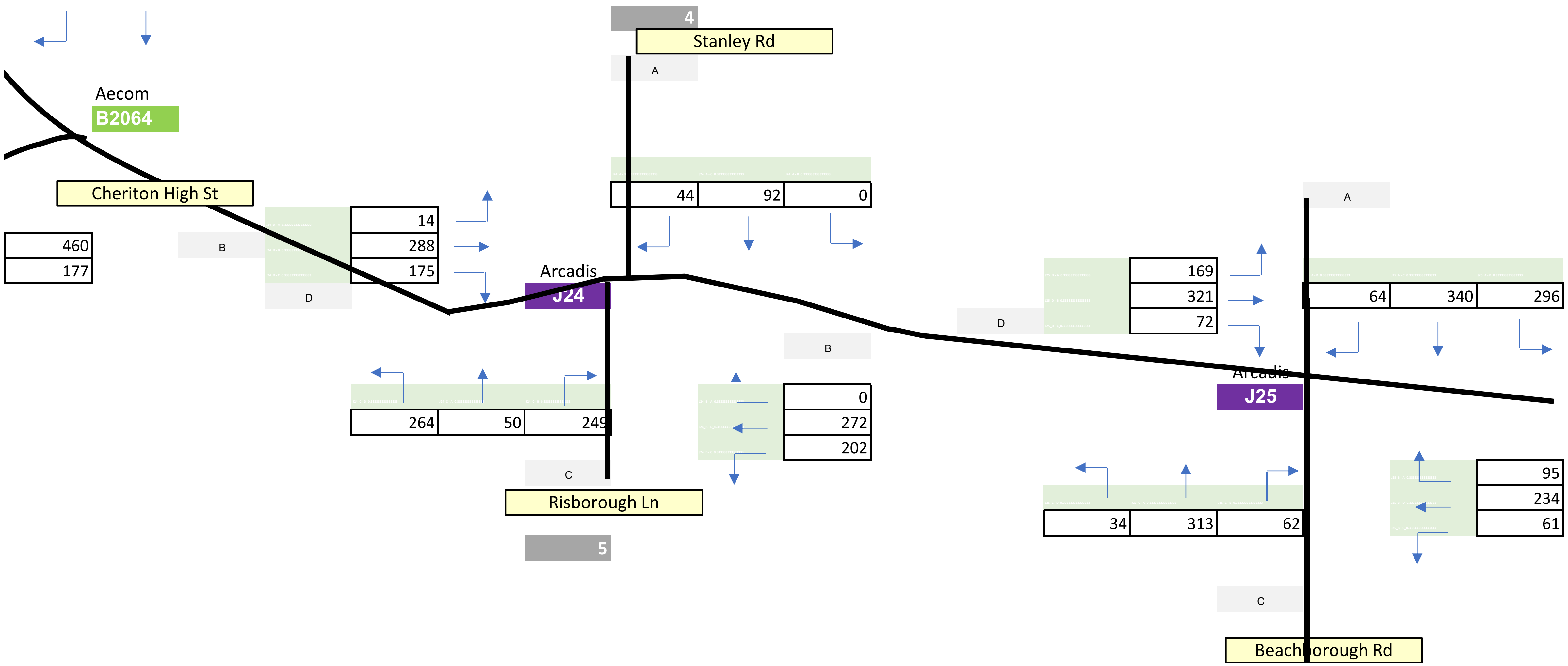

10
Station Rd
A
27
215
117
2
East St
B
32
High St
D
Arcadis
I16
48
244
493
56
C
145
30
350
14
738
153
A
Arcadis
I26
B
385
137
Prospect Rd
49
88
Stade St
C



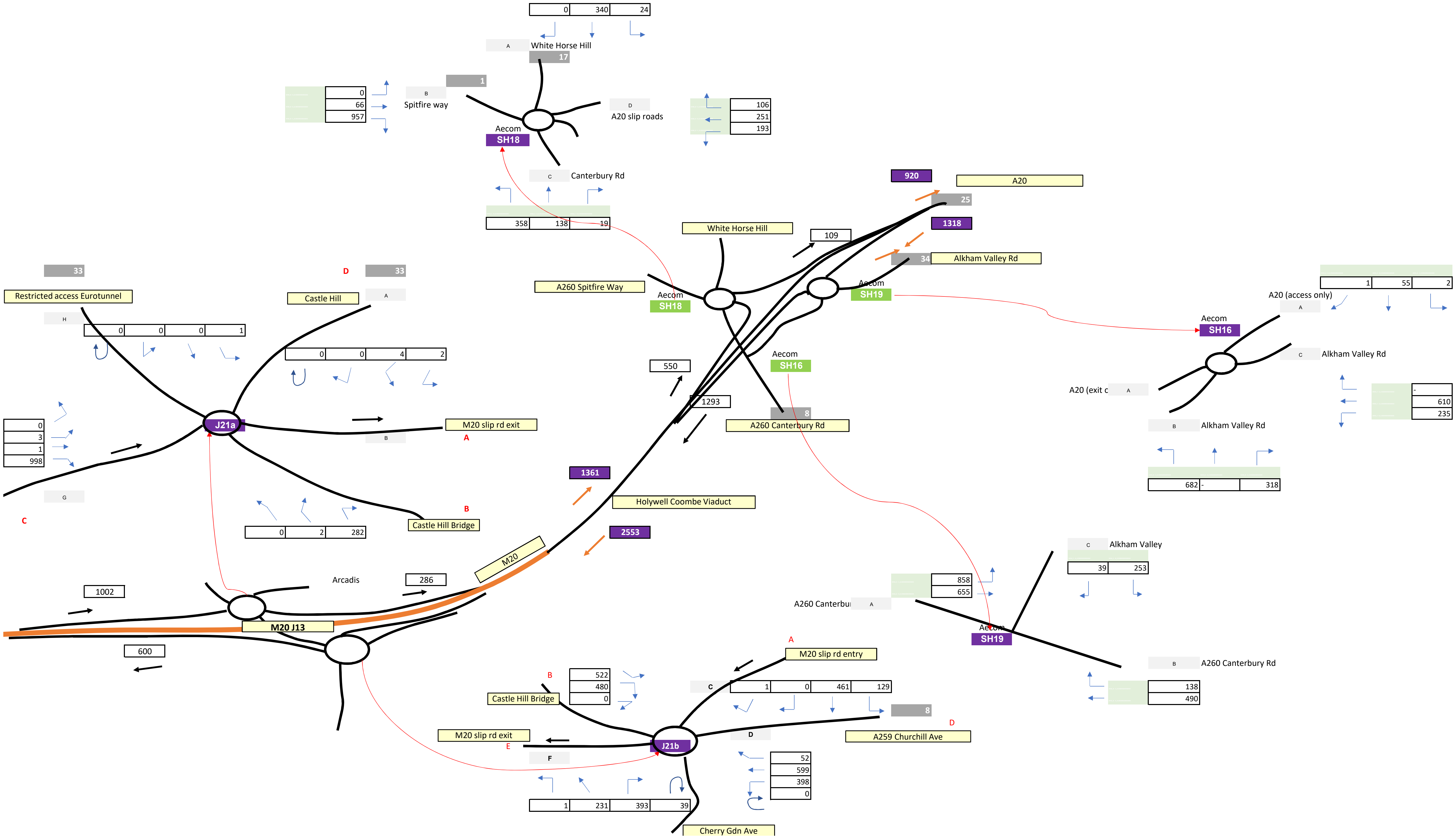
A
1
5
86
9
9
50
206
1
B
F
137
105
169
1
17
37
248
C
16
2
286
226
4
D
1
0
285
0
E
10
Arcadis
J19
132
M20 J11A
31
280
35
1809
M20/7059A
2286
27
228
35
M20/7059B
Highways Eng
Bargrove
201



1
377
207
21
D
A
Arcadis
J20
320
0
474
5
1
54
0
354
C
B
501
230
295
91
677
M20 J12
523
A
567
568

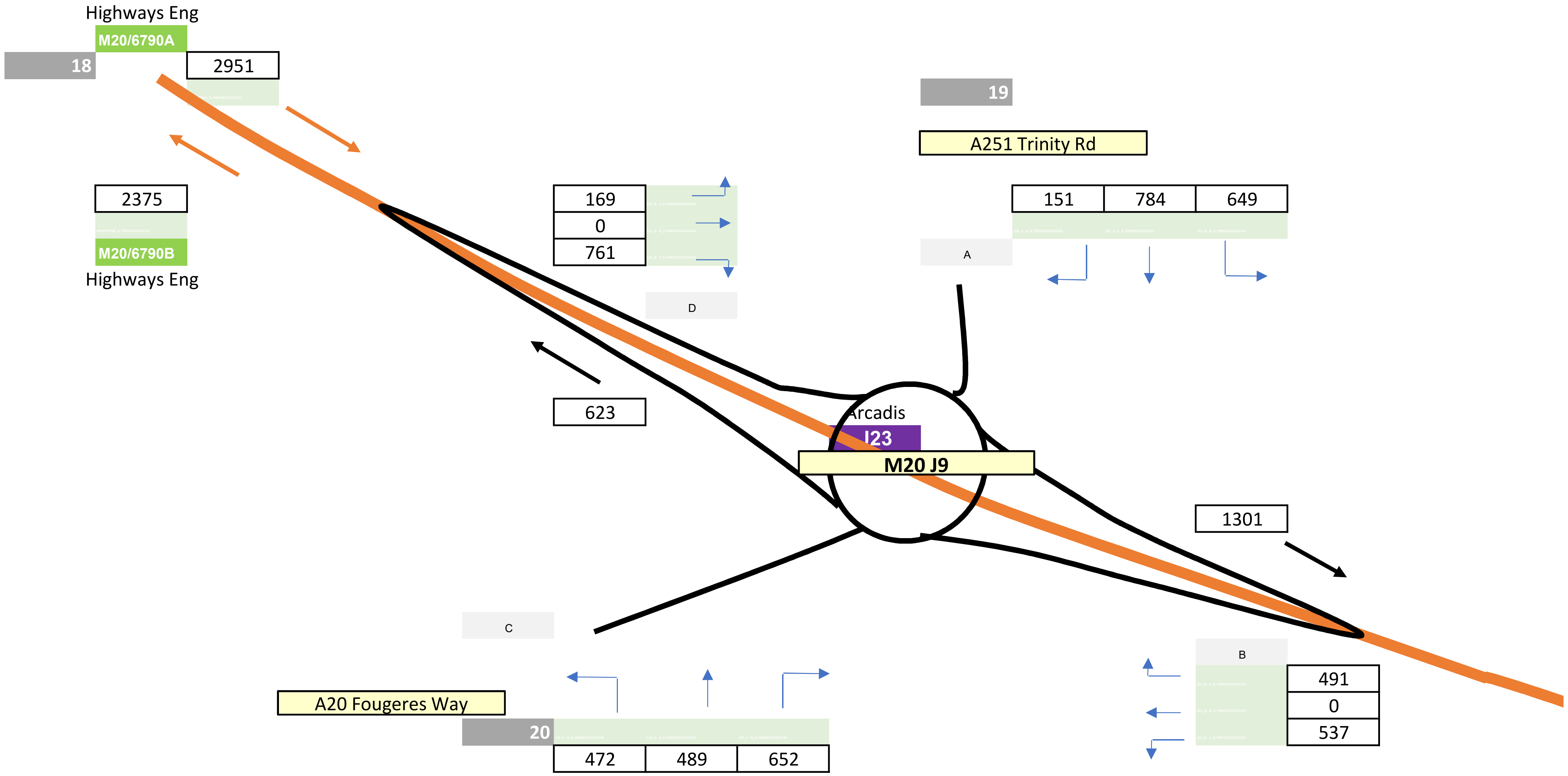


Aecom
B2064
Cheriton High St
460
177
4
Stanley Rd
A
B
D
14
288
175
44
92
0
Arcadis
J24
264
50
249
C
0
272
202
Risborough Ln
5
A
169
321
72
64
340
296
D
B
Arcadis
J25
34
313
62
95
234
61
C
Beachborough Rd

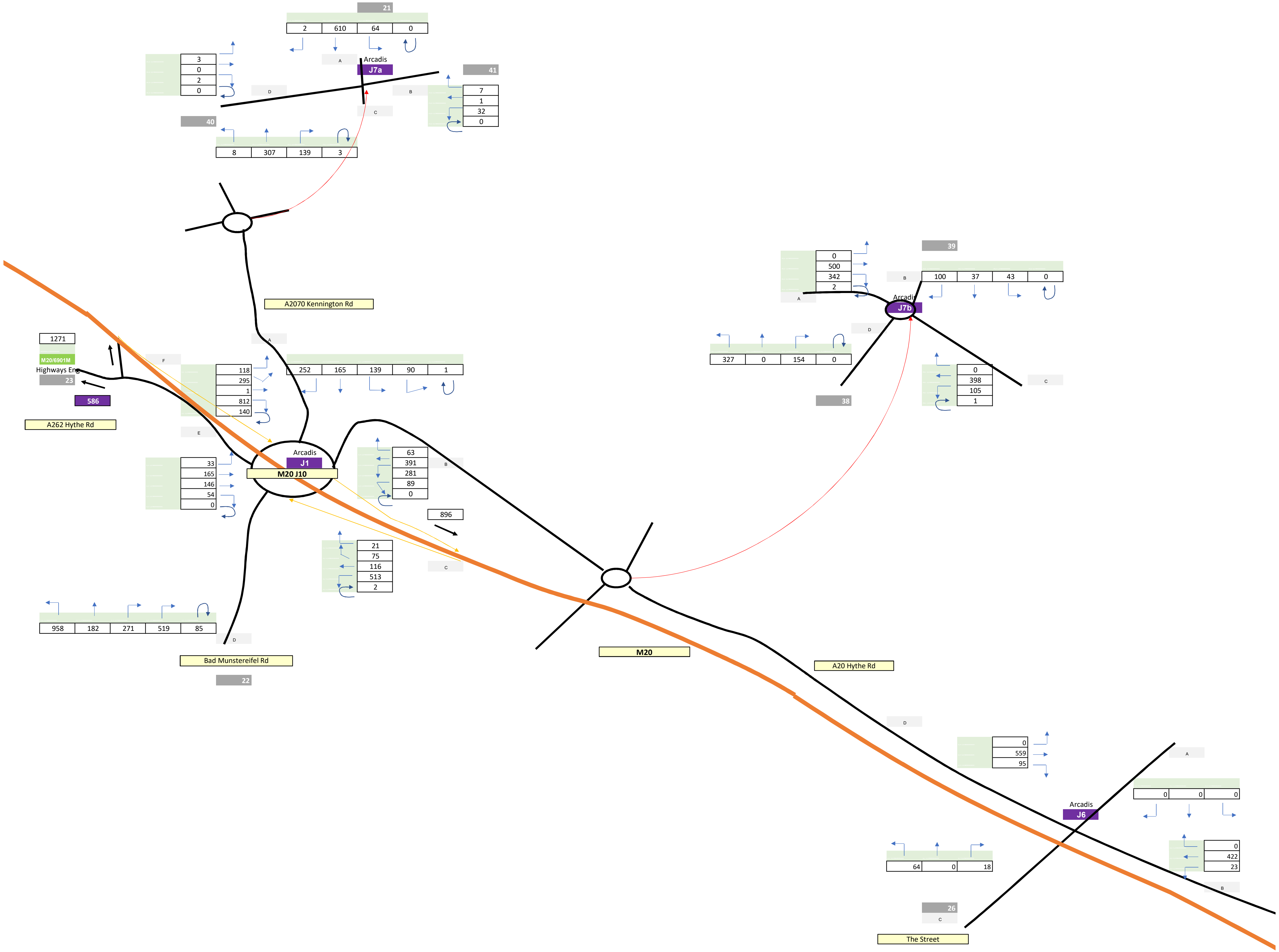


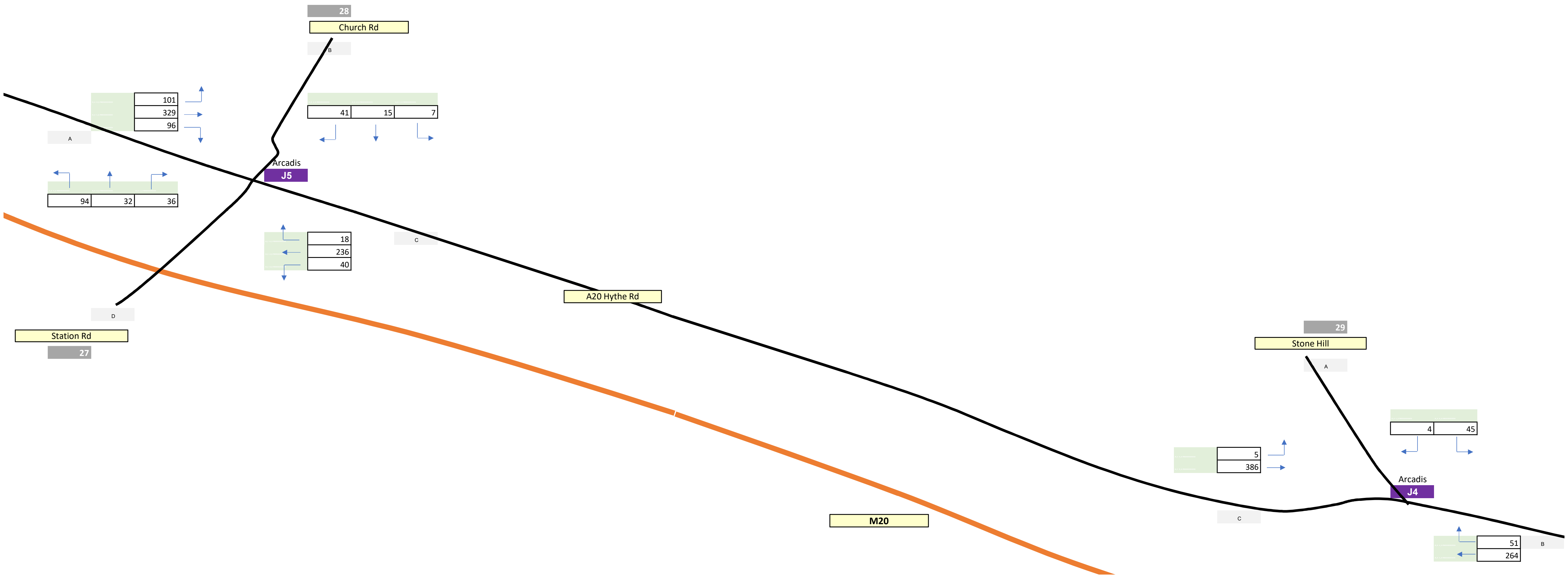
0 340 24
A White Horse Hill
17
1
0
66
957
B
Spitfire way
D
A20 slip roads
106
251
193
Aecom
SH18
C Canterbury Rd
358 138 19
920
A20
25
1318
White Horse Hill
109
34 Alkham Valley Rd
Aecom
SH19
33
Restricted access Eurotunnel
D
33
Castle Hill
A
A260 Spitfire Way
Aecom
SH18
H
0 0 0 1
0 0 4 2
550
Aecom
SH16
1293
8
A260 Canterbury Rd
1 55 2
A20 (access only)
A
Aecom
SH16
C Alkham Valley Rd
A20 (exit c A
-
610
235
B Alkham Valley Rd
682 - 318
0
3
1
998
J21a
M20 slip rd exit
A
B
G
C
1361
Holywell Coombe Viaduct
0 2 282
B
Castle Hill Bridge
2553
M20
C Alkham Valley
39 253
858
655
Arcadis
286
1002
M20 J13
600
A260 Canterbu A
Aecom
SH19
A
M20 slip rd entry
B
522
480
0
Castle Hill Bridge
C
1 0 461 129
8
B A260 Canterbury Rd
138
490
D
M20 slip rd exit
E
D
A259 Churchill Ave
J21b
F
52
599
398
0
1 231 393 39
Cherry Gdn Ave

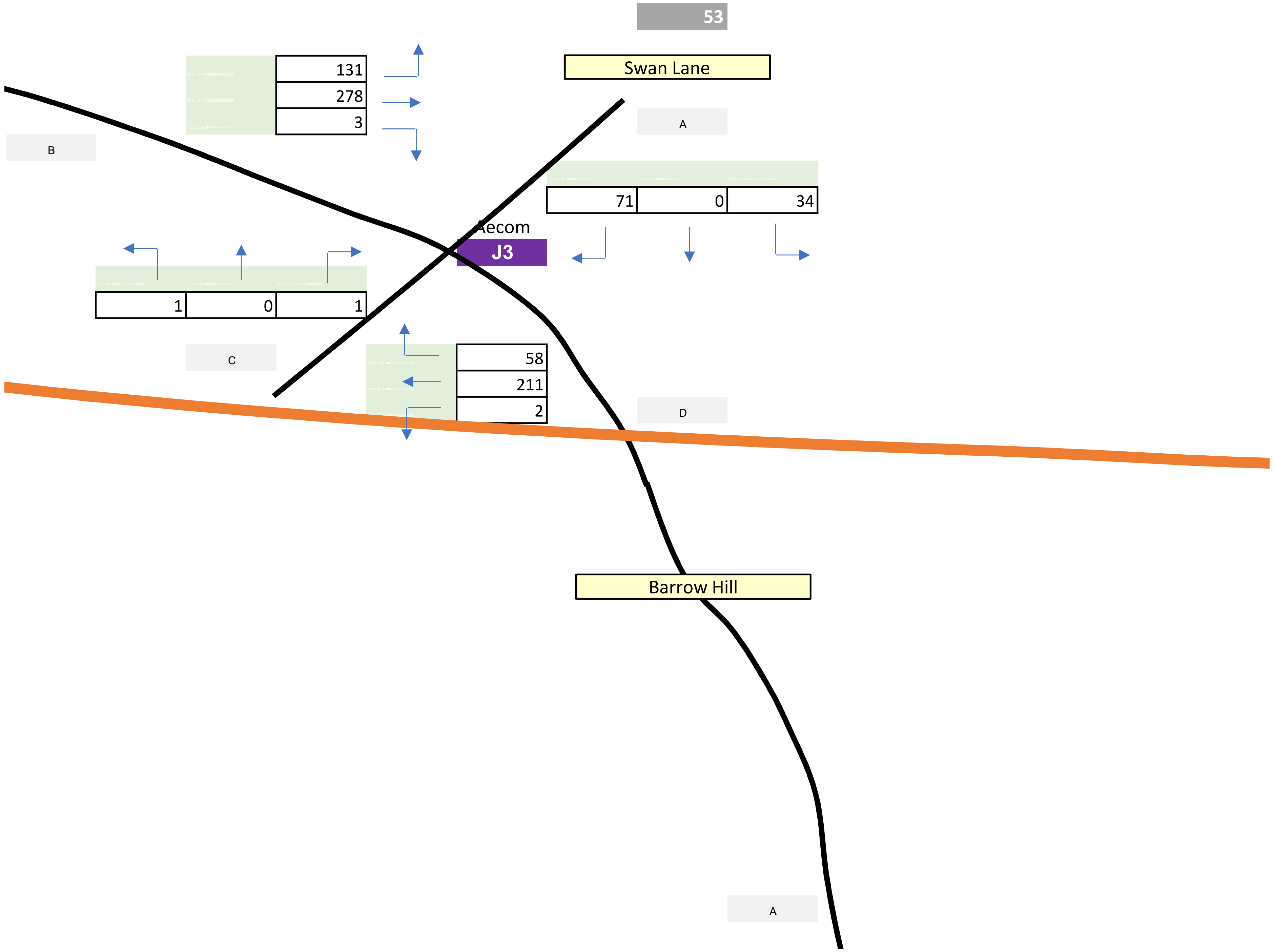
E.2 Folkestone & Hythe and Ashford - 2018 PM Peak

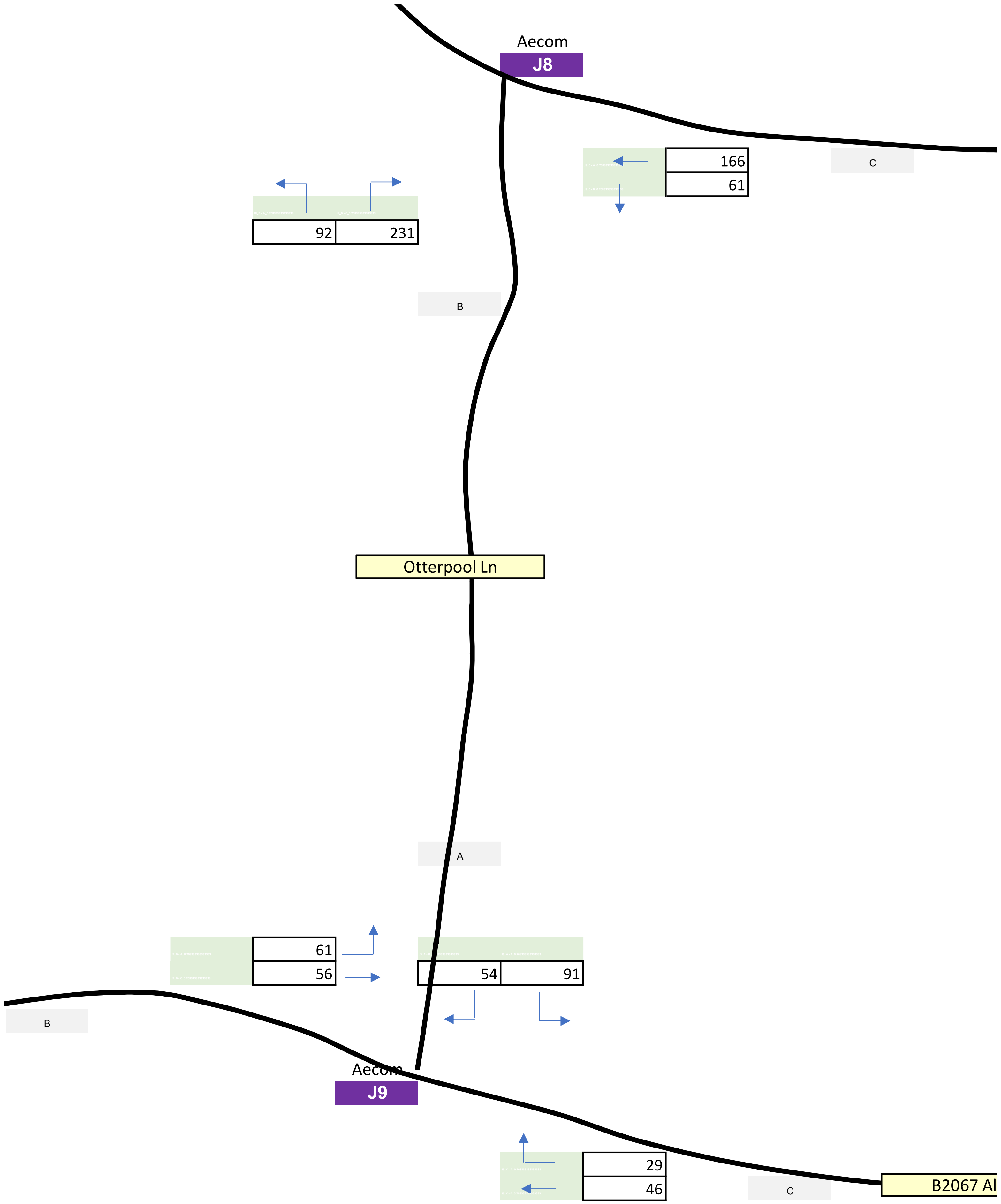


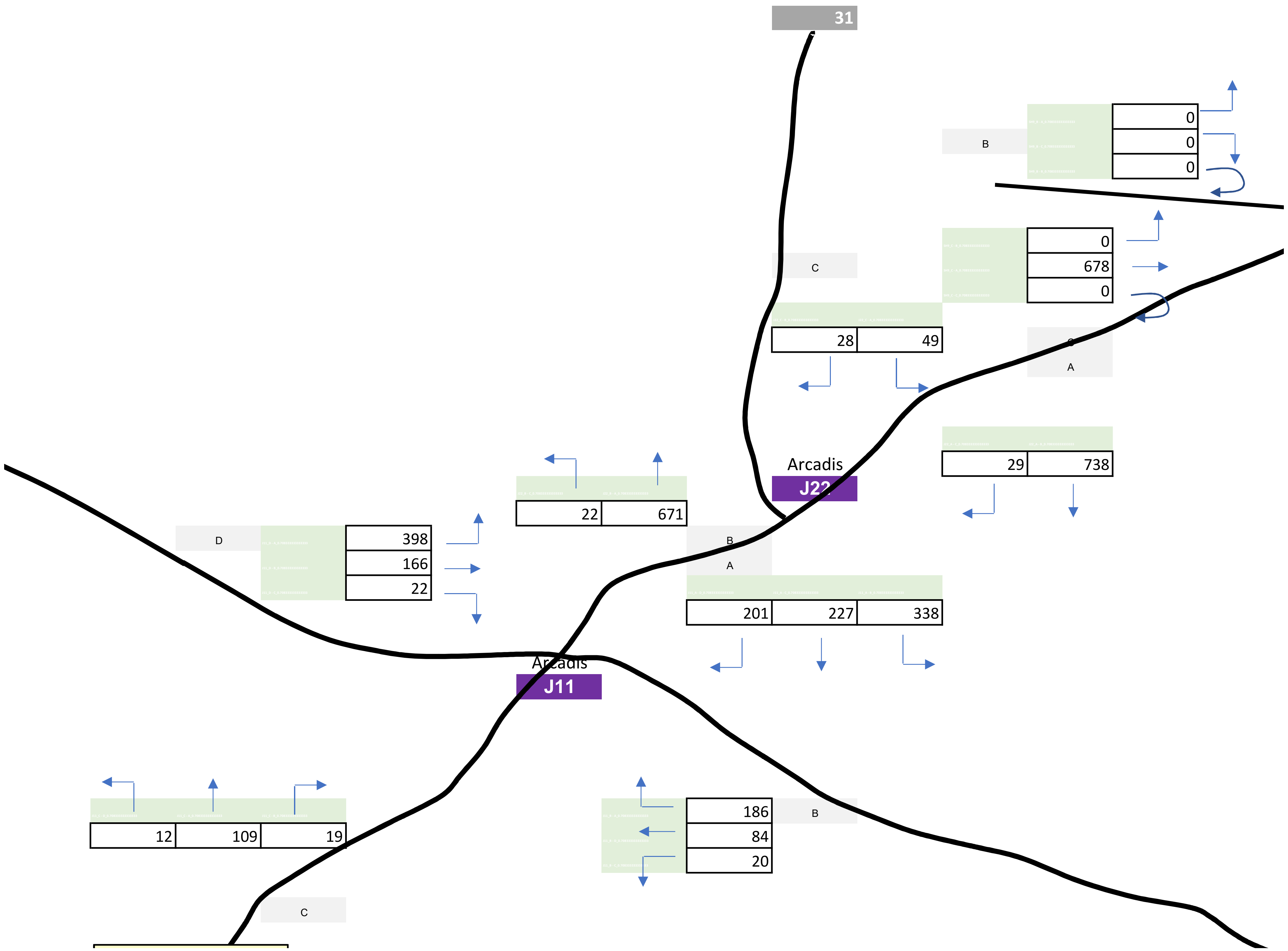
Highways Eng
M20/6790A
18
2951
19
A251 Trinity Rd
2375
M20/6790B
Highways Eng
169
0
761
D
151
784
649
A
623
Arcadis
J23
M20 J9
1301
C
B
A20 Fougeres Way
20
472
489
652
491
0
537

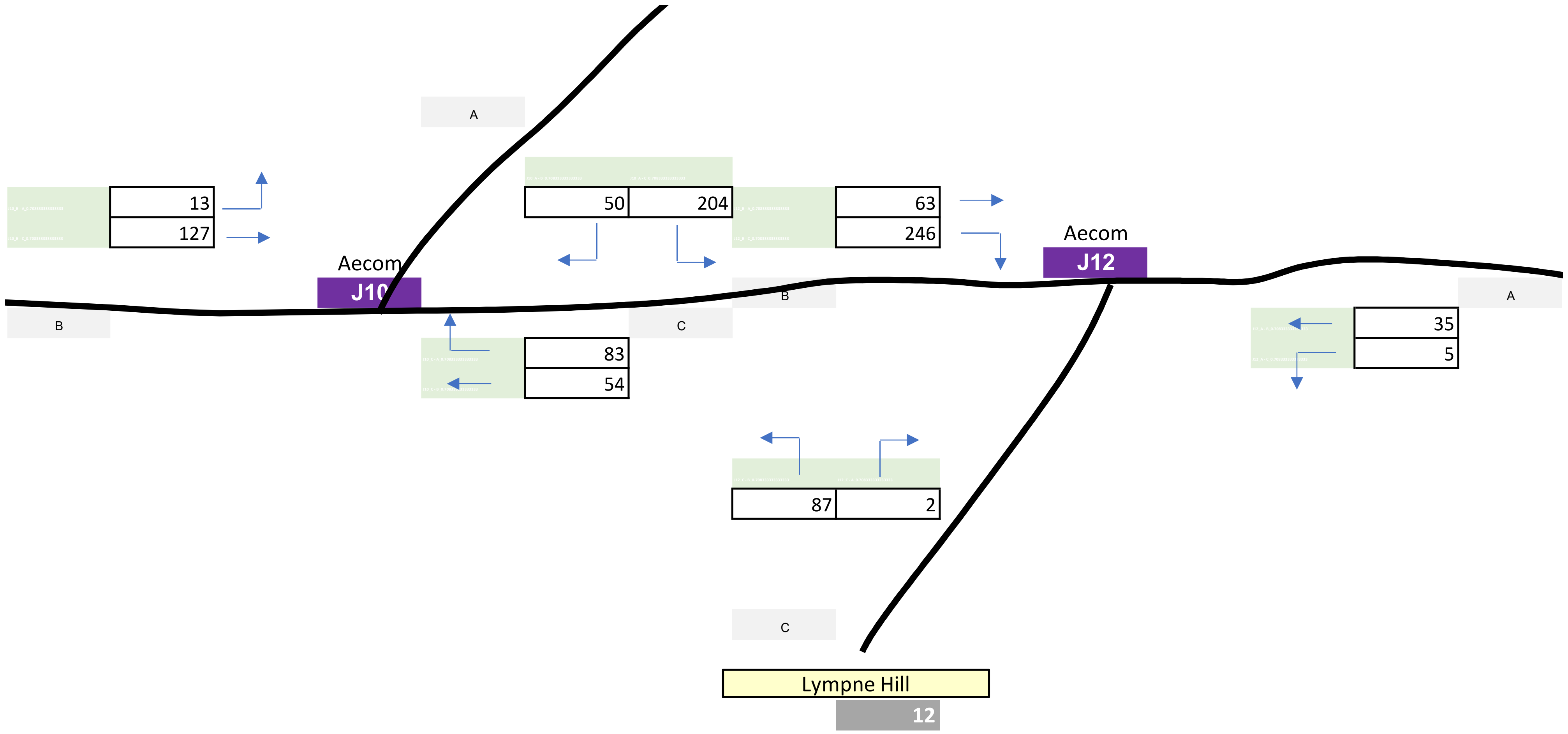

21
2
610
64
0
Arcadis
J7a
41
7
1
32
0
3
0
2
0
40
8
307
139
3
A2070 Kennington Rd
1271
M20/6901M
Highways Eng
23
586
A262 Hythe Rd
118
295
1
812
140
252
165
139
90
1
Arcadis
J1
M20 J10
33
165
146
54
0
63
391
281
89
0
896
21
75
116
513
2
958
182
271
519
85
Bad Munstereifel Rd
22
39
0
500
342
2
100
37
43
0
Arcadis
J7b
327
0
154
0
38
0
398
105
1
M20
A20 Hythe Rd
0
559
95
0
0
0
Arcadis
J6
64
0
18
0
422
23
26
The Street

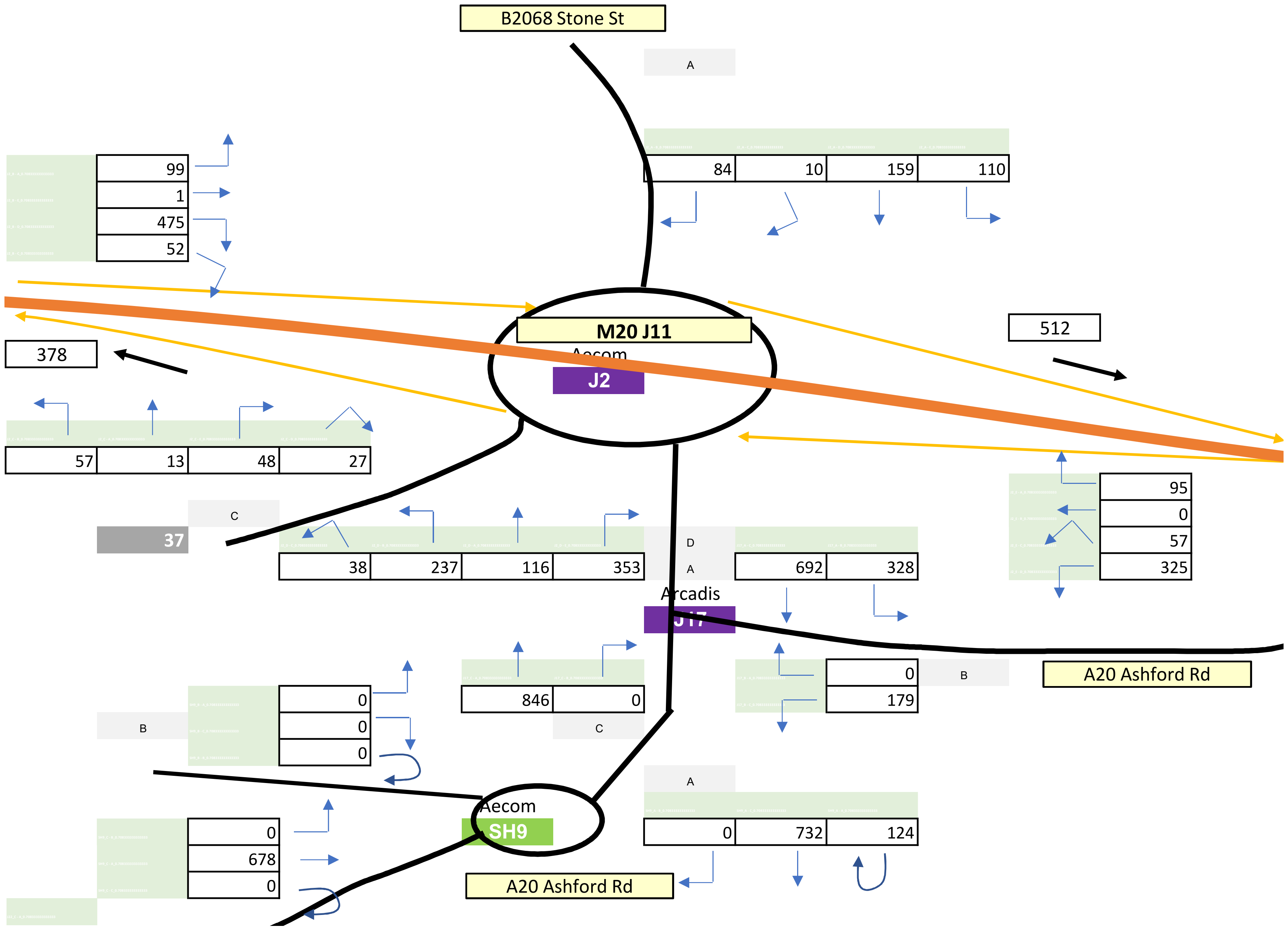

28
Church Rd
B
101
329
96
A
41
15
7
Arcadis
J5
94
32
36
18
236
40
C
A20 Hythe Rd
D
Station Rd
27
29
Stone Hill
A
4
45
5
386
Arcadis
J4
M20
C
51
264
B


53
Swan Lane
A
B
131
278
3
71
0
34
Aecom
J3
1
0
1
C
58
211
2
D
Barrow Hill
A

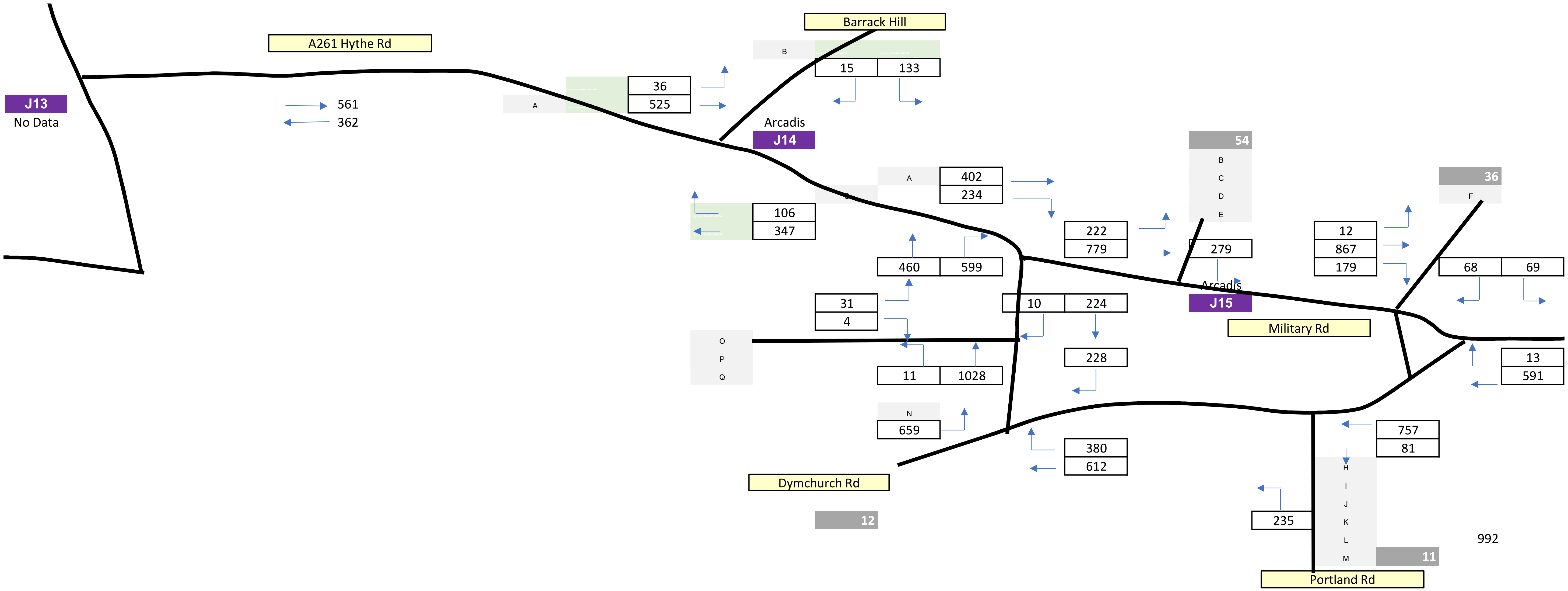

Aecom
J8
166
61
C
92
231
B
Otterpool Ln
A
61
56
54
91
B
Aecom
J9
29
46
C
B2067 Al


31
B
0
0
0
C
0
678
0
28
49
A
29
738
Arcadis
J22
22
671
D
398
166
22
B
A
201
227
338
Arcadis
J11
12
109
19
186
84
20
B
C

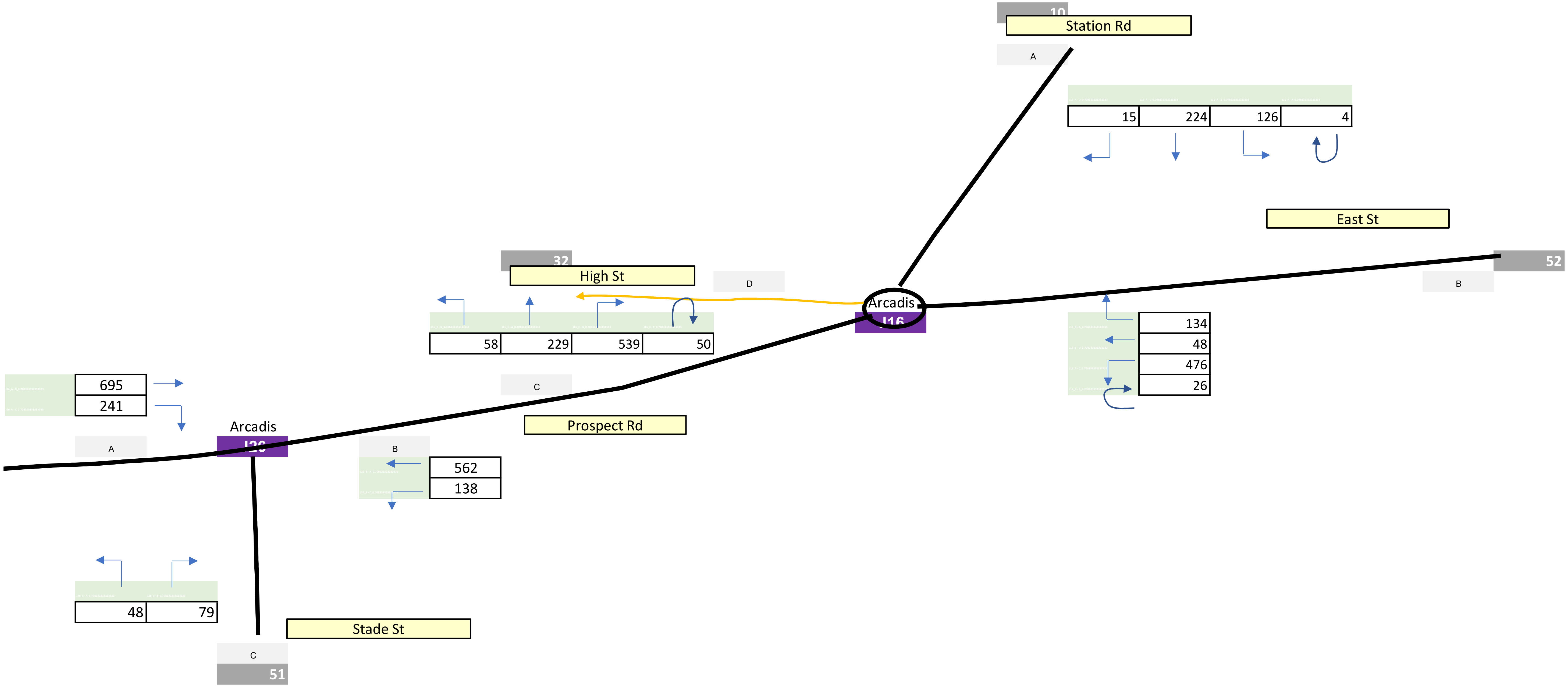

A
13
127
50
204
63
246
Aecom
J10
Aecom
J12
B
A
B
C
83
54
35
5
87
2
C
Lympne Hill
12



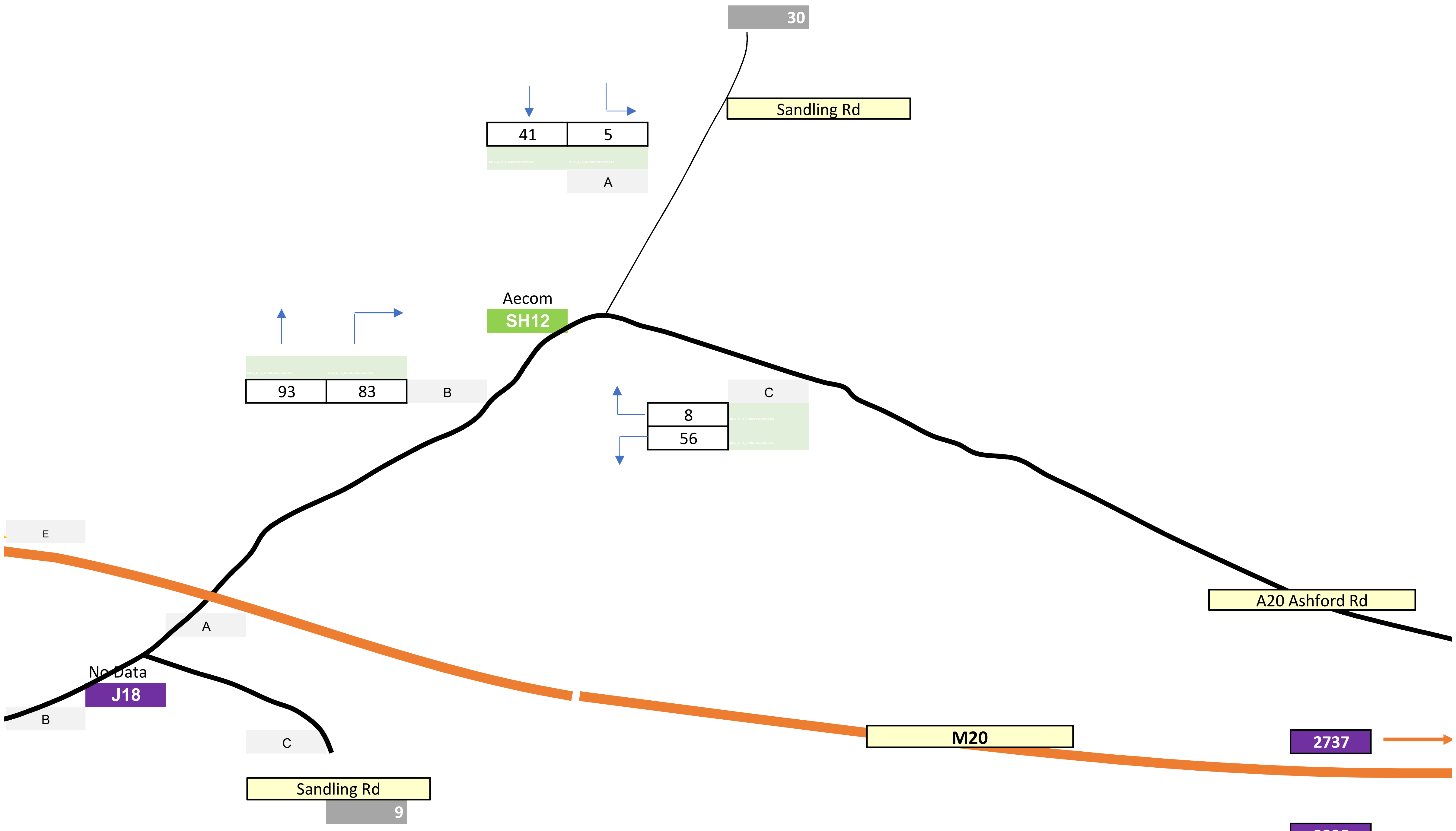
B2068 Stone St
A
84
10
159
110
99
1
475
52
M20 J11
Aecom
J2
378
512
57
13
48
27
C
37
38
237
116
353
D
A
692
328
95
0
57
325
Arcadis
J17
0
179
B
A20 Ashford Rd
846
0
C
B
0
0
0
A
Aecom
SH9
0
678
0
0
732
124
A20 Ashford Rd



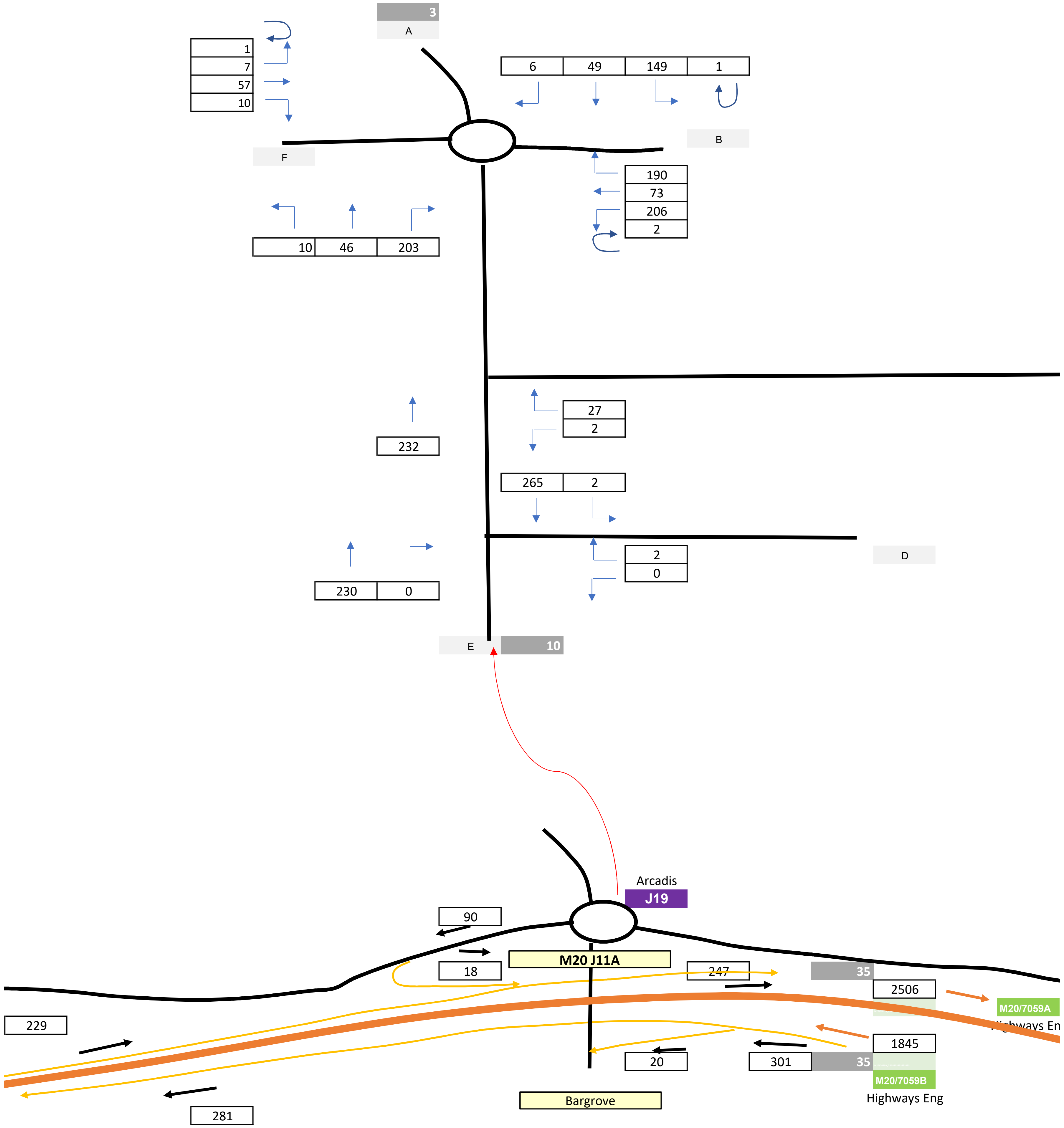
A261 Hythe Rd
Barrack Hill
J13
No Data
561
362
A
36
525
B
15
133
Arcadis
J14
A
402
234
106
347
460
599
31
4
O
P
Q
11
1028
N
659
Dymchurch Rd
12
10
224
228
380
612
222
779
54
B
C
D
E
279
Arcadis
J15
Military Rd
36
F
12
867
179
68
69
13
591
757
81
H
I
J
K
L
M
235
11
992
Portland Rd



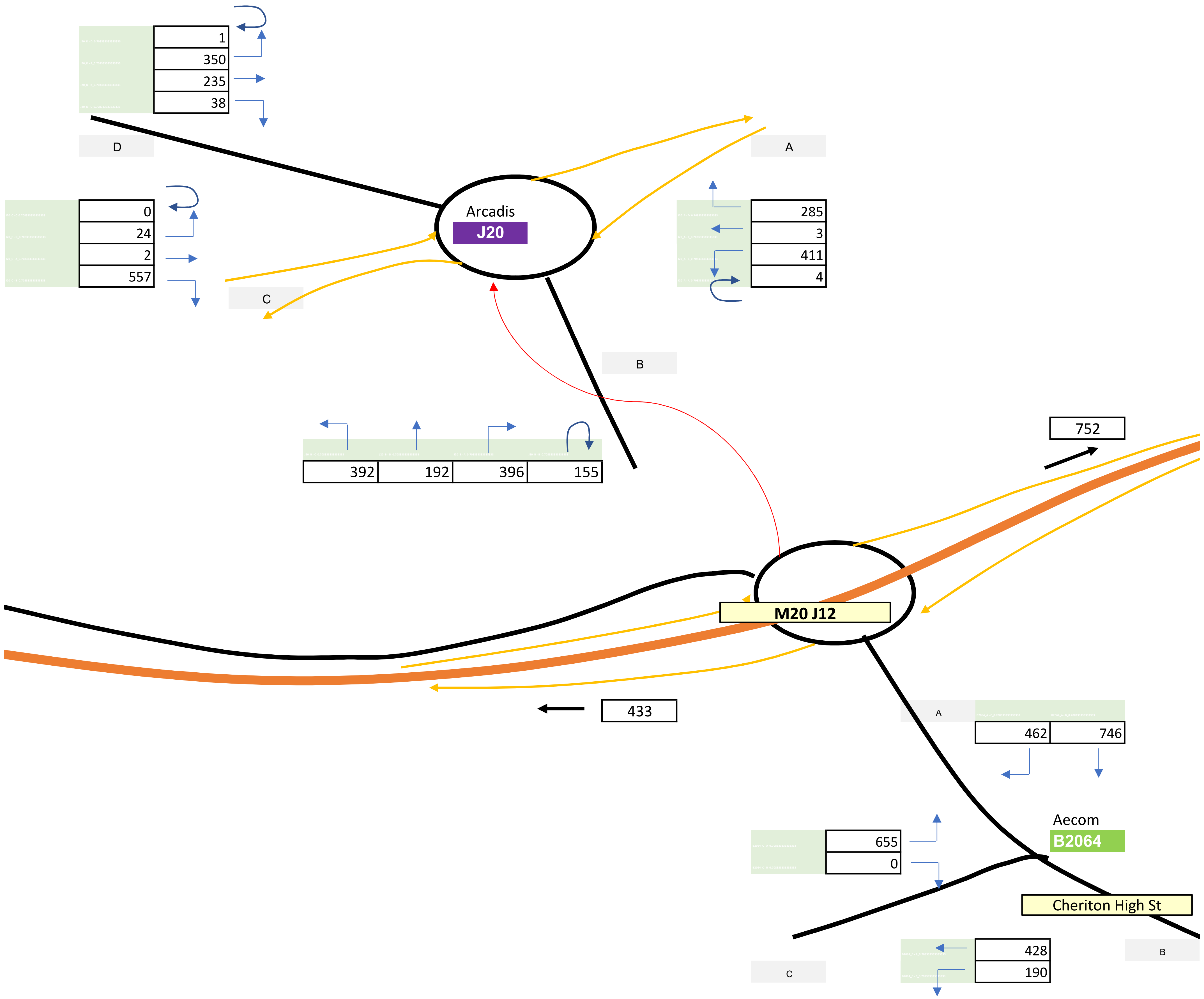
Station Rd
A
15
224
126
4
East St
52
B
32
High St
D
Arcadis
J16
58
229
539
50
C
Prospect Rd
695
241
Arcadis
A
B
562
138
48
79
Stade St
C
51



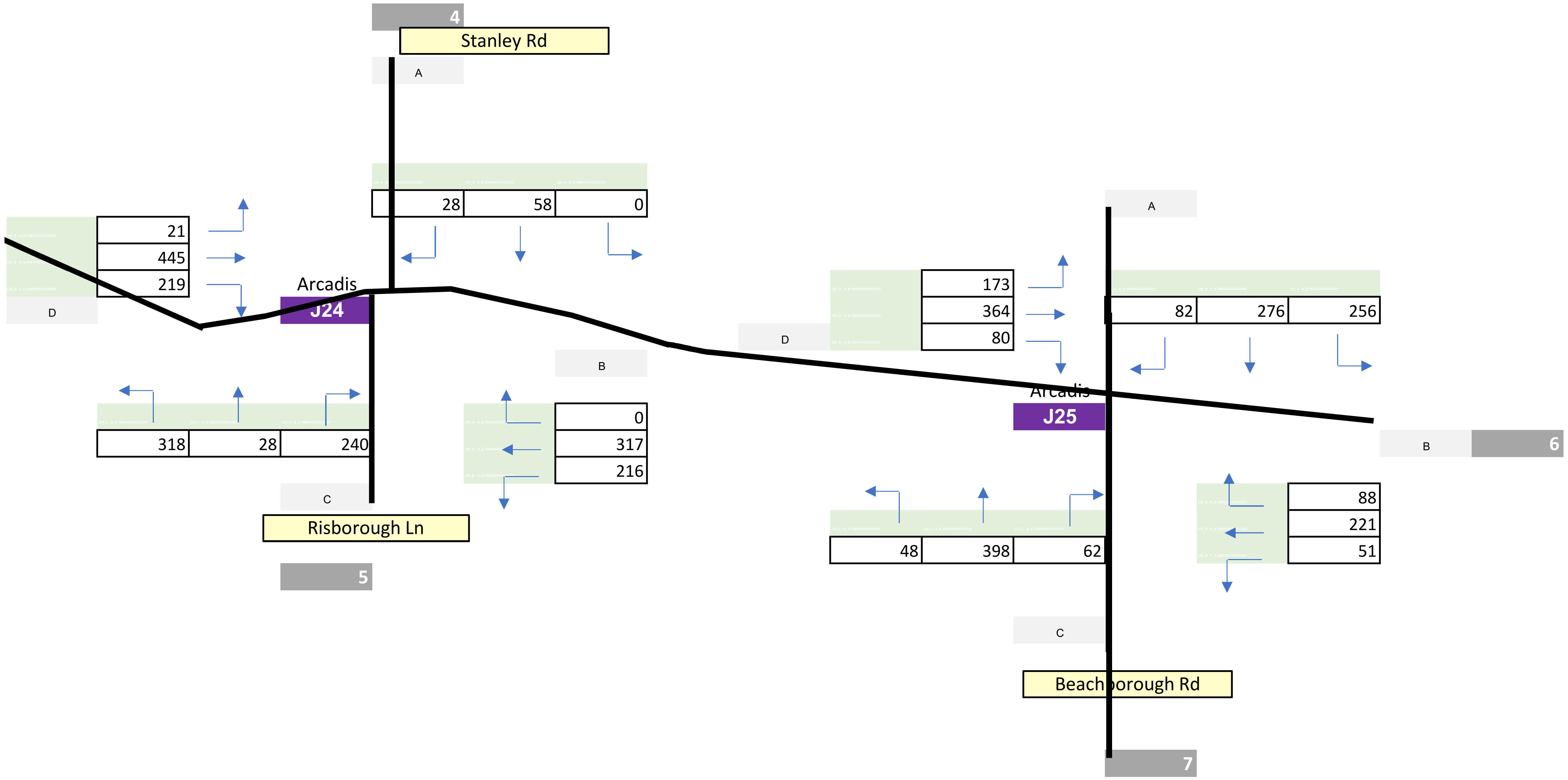
30
Sandling Rd
41
5
A
Aecom
SH12
93
83
B
C
8
56
E
A20 Ashford Rd
A
No Data
J18
B
C
M20
2737
Sandling Rd
9
2335



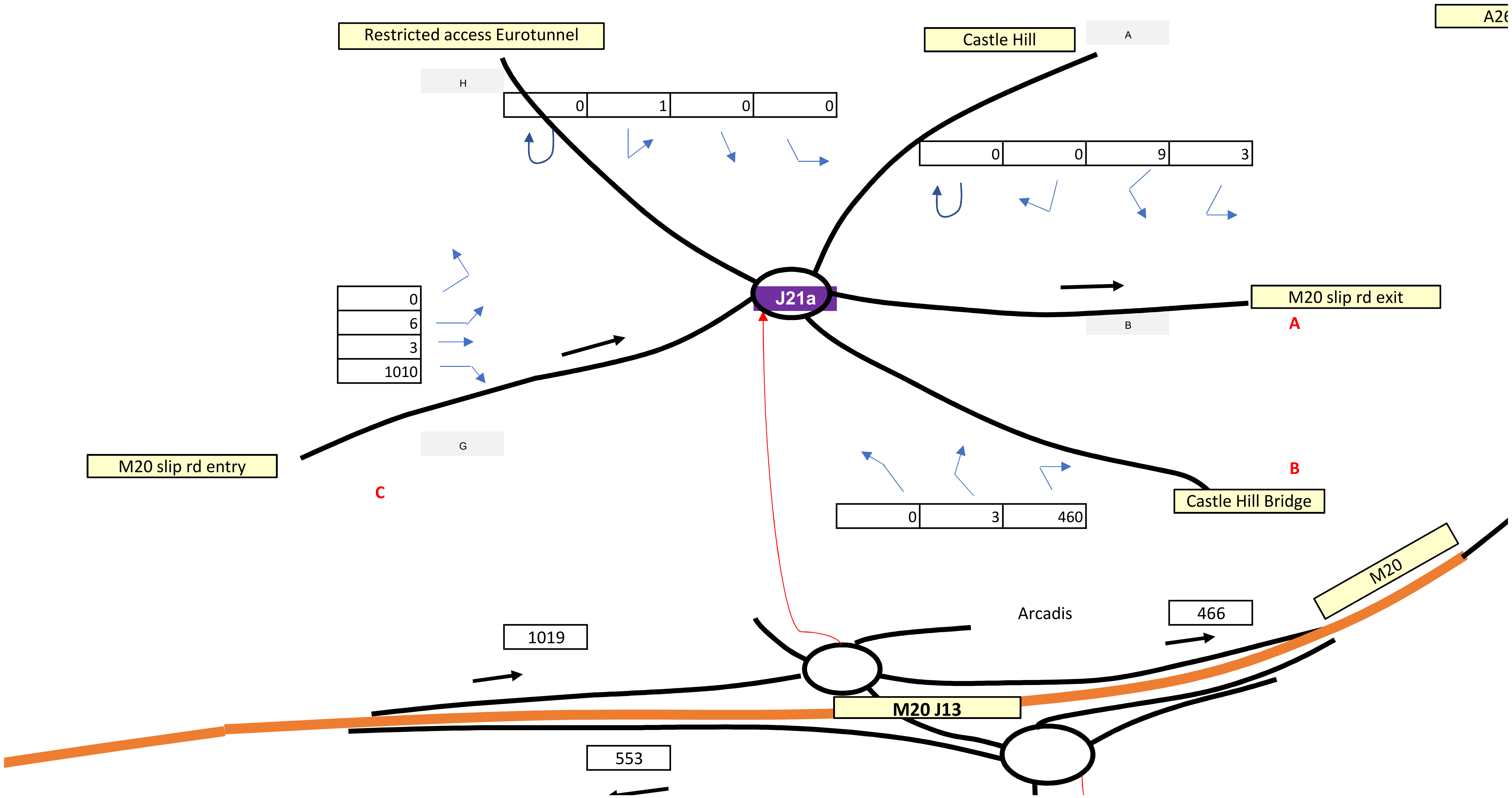
3
A
1
7
57
10
6
49
149
1
B
F
190
73
206
2
10
46
203
27
2
232
265
2
2
0
D
230
0
E
10
Arcadis
J19
90
M20 J11A
18
247
35
2506
M20/7059A
Highways En
229
1845
20
301
35
M20/7059B
Highways Eng
281
Bargrove



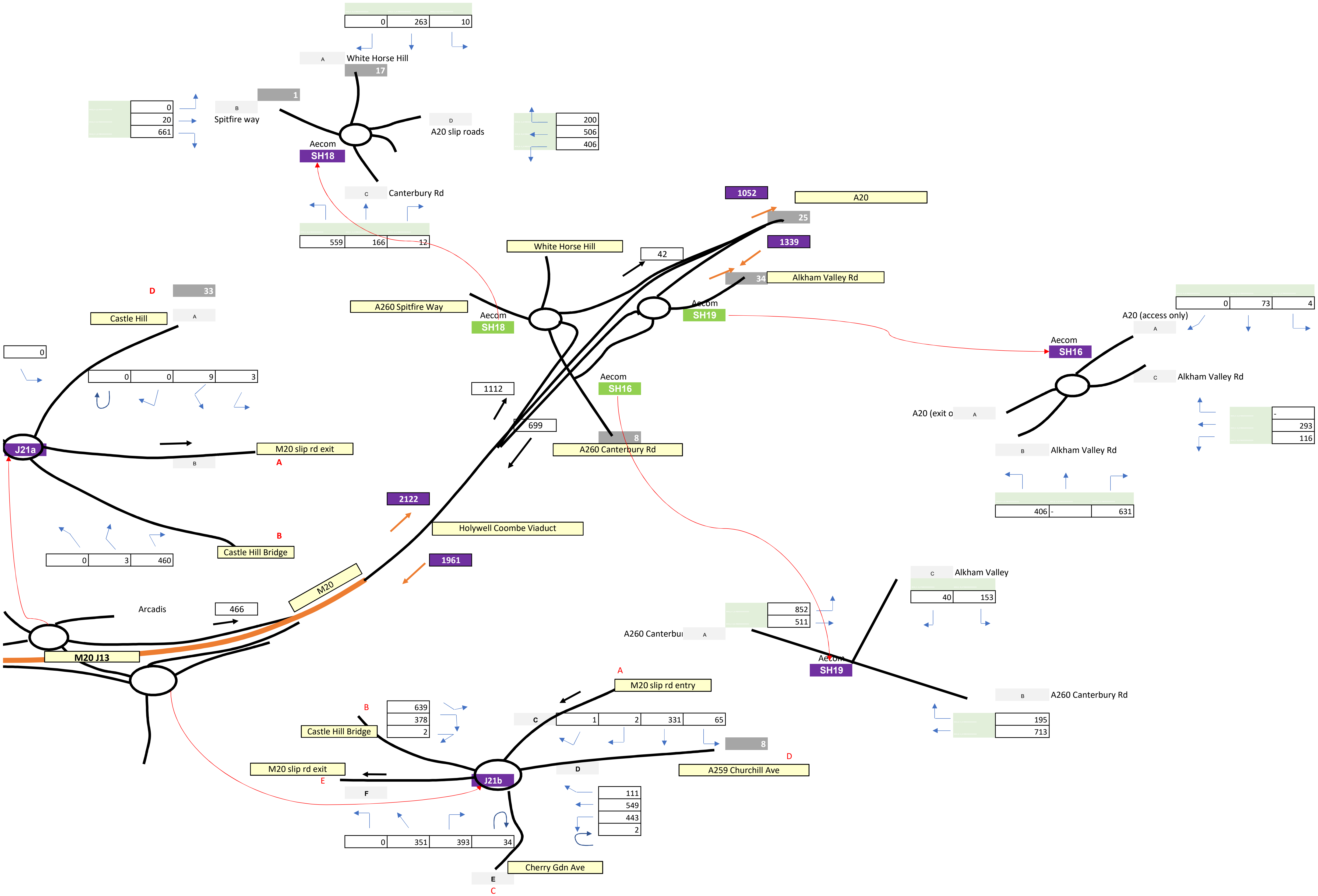
1
350
235
38
D
A
Arcadis
J20
0
24
2
557
285
3
411
4
C
B
392
192
396
155
752
M20 J12
433
A
462
746
Aecom
B2064
655
0
Cheriton High St
428
190
C
B



4
Stanley Rd
A
28
58
0
21
445
219
D
Arcadis
J24
B
318
28
240
0
317
216
C
Risborough Ln
5
A
173
364
80
82
276
256
D
Arcadis
J25
B
6
48
398
62
88
221
51
C
Beachborough Rd
7

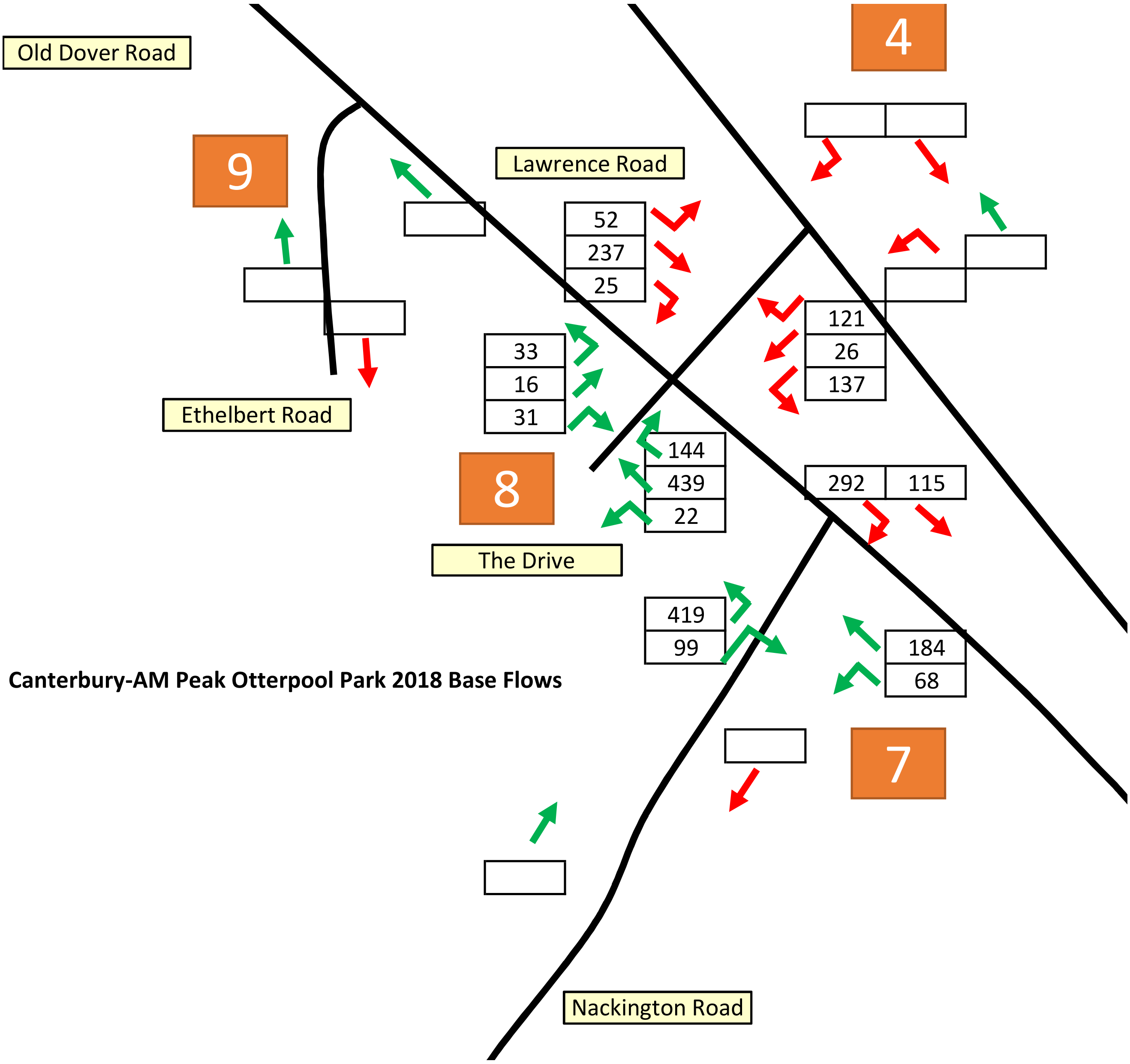


Restricted access Eurotunnel
H
0
1
0
0
Castle Hill
A
A26
0
0
9
3
0
6
3
1010
J21a
M20 slip rd exit
A
B
M20 slip rd entry
G
C
B
Castle Hill Bridge
0
3
460
M20
Arcadis
466
1019
M20 J13
553



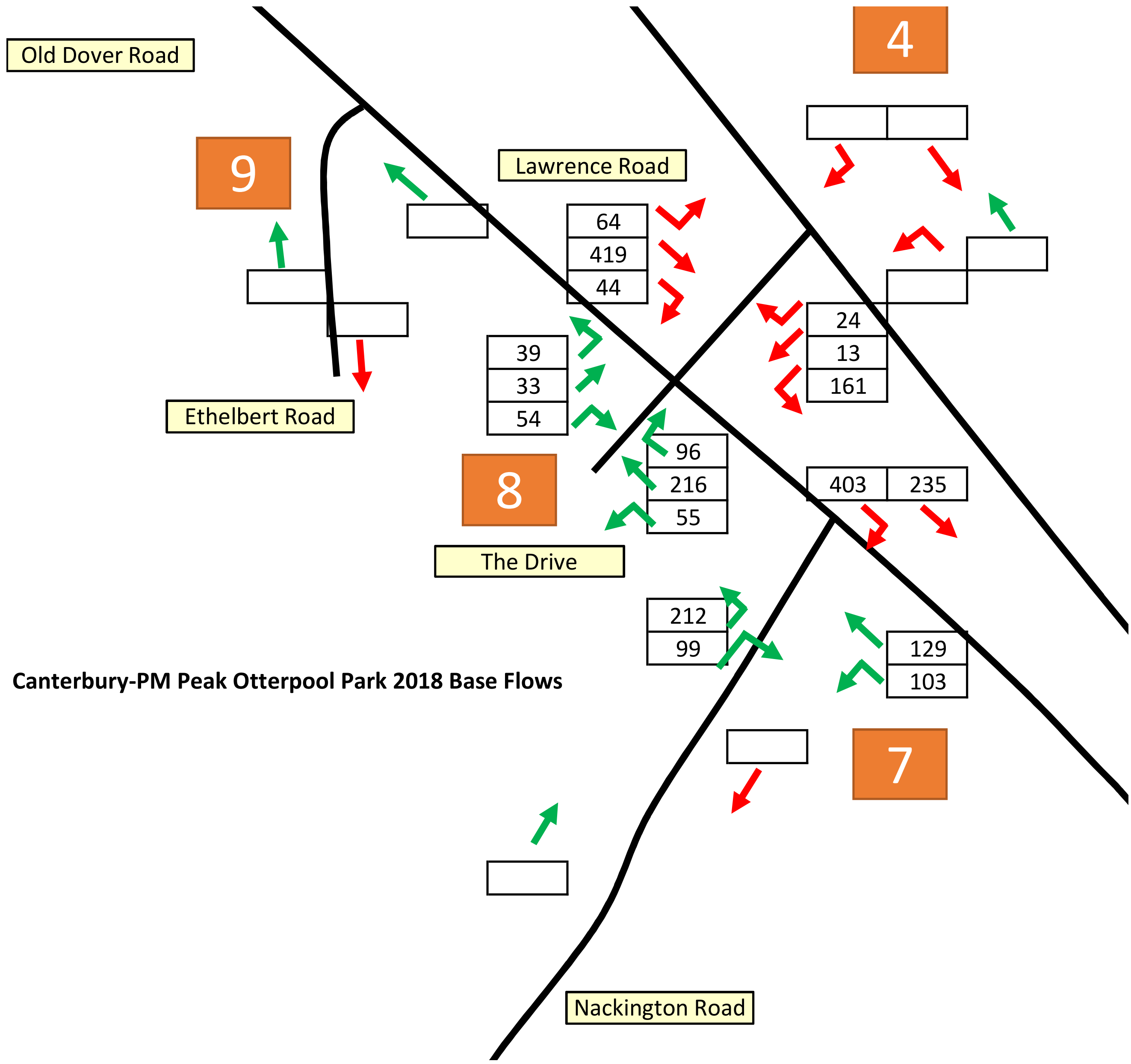
0 263 10
A White Horse Hill
17
1
0 20 661
B Spitfire way
D A20 slip roads
200 506 406
Aecom
SH18
C Canterbury Rd
559 166 12
1052
A20
25
1339
White Horse Hill
42
Alkham Valley Rd
34
D
33
Castle Hill
A
A260 Spitfire Way
Aecom
SH18
Aecom
SH19
0 73 4
A20 (access only)
A
Aecom
SH16
C Alkham Valley Rd
0
0 0 9 3
1112
Aecom
SH16
A20 (exit o
A
699
- 293 116
8
A260 Canterbury Rd
B Alkham Valley Rd
J21a
M20 slip rd exit
A
B
2122
Holywell Coombe Viaduct
406 - 631
B
0 3 460
Castle Hill Bridge
1961
C Alkham Valley
40 153
M20
852 511
Arcadis
466
A260 Canterbu
A
M20 J13
Aecom
SH19
A
M20 slip rd entry
B
639 378 2
Castle Hill Bridge
C
1 2 331 65
8
B A260 Canterbury Rd
195 713
D
M20 slip rd exit
E
D
A259 Churchill Ave
J21b
F
111 549 443 2
0 351 393 34
Cherry Gdn Ave
E
C

E.3 Canterbury - 2018 AM Peak



Canterbury-AM Peak Otterpool Park 2018 Base Flows

E.4 Canterbury - 2018 PM Peak



Canterbury-PM Peak Otterpool Park 2018 Base Flows