ChilmingtonGreen

TRANSPORT ASSESSMENT

Appendices

Prepared by WSP

JULY 2012

CHILMINGTON GREEN
CONTACTS/THE TEAM

CONSORTIUM

Hodson

Jarvis HOMES

Pentland Homes
Quality for Life

WARD HOMES

BARRATT HOMES
find the one

CONSULTANTS

Sellwood Planning

Sellwood Planning
Stoughton Cross House, Somerset, BS28 4QP
T. +44 (0)1934 712041 F. +44 (0)1934 712118

Ian D Bull
Chartered Town Planner
& Development Consultant

Ian D Bull
1 Mountbatten Way, Brabourne Lees, Ashford,
Kent TN25 6PZ
T. +44 (0)1303 814153 M. +44 (0)7738 584221

WSP

WSP - Ecology
WSP House, 70 Chancery Lane, London WC2A 1AF
T. +44 (0)20 20 7314 5000 F. +44 (0)20 7314 5111
www.wspgroup.com

WSP - Heritage and Archaeology
Mountbatten House, Basing View, Basingstoke RG21 4HJ
T. +44 (0)1256 318 800 F. +44 (0)1256 318 700
www.wspgroup.com

WSP - Sustainability
WSP House, 70 Chancery Lane, London WC2A 1AF
T. +44 (0)20 20 7314 5000 F. +44 (0)20 7314 5111
www.wspgroup.com

WSP - Transport
Mountbatten House, Basing View, Basingstoke RG21 4HJ
T. +44 (0)1256 318 800 F. +44 (0)1256 318 700
www.wspgroup.com

Grontmij

Grontmij
36-40 York Way, London N1 9AB
T. +44 (0)20 7843 3140 F. +44 (0)20 7587 3839
www.grontmij.co.uk

jtp

John Thompson & Partners
23-25 Great Sutton Street, London EC1V 0DN
T. +44 (0)20 7017 1780 F. +44 (0)20 7017 1781
www.jtp.co.uk

Appendix A WSP Scoping Letter & KCC Response

Our ref: 2761/AB

30 November 2011

WSP Property and Development
Mountbatten House
Basing View
Basingstoke
Hampshire
RG21 4HJ
Tel: +44 (0)1256 318800
Fax: +44 (0)1256 318700
http://www.wspgroup.com

WSP Group plc
Offices worldwide
www.wspgroup.com

James Hammond
Kent Highway Services
Kent County Council
Invicta House
County Hall
Maidstone
Kent ME14 1XX

Dear James

Chilmington Green, Ashford – Transport Assessment Scoping Letter

I am writing with regard to the proposed urban extension at Chilmington Green, to the south west of Ashford. WSP Property and Development have been appointed by the Chilmington Green Consortium to provide highways advice relating to the above development.

This Scoping Letter sets out the parameters for a Transport Assessment (TA), and is intended as a basis for discussions and agreement with Kent County Council (KCC) as the highways authority. The TA is in support of a planning application for a primarily residential development on land to the southwest of Ashford, Kent, as shown on Figure 1 which accompanies this letter.

This Scoping Letter has been prepared in accordance with the DfT *'Guidance on Transport Assessment'* (March 2007) and the Kent Highways Services *'Guidance on Transport Assessment and Travel Plans'* (October 2008) and as such sets out the tasks we believe are necessary at this time to ensure that the guidance is met.

Site Location and Existing Use

The proposed development site is located to the south west of Ashford in Kent. To the northwest the site is bounded by the A28 Ashford Road whilst to the southeast it is bounded by Long Length and Tally Ho Road. To the northeast of the site lie existing residential areas. To the southwest of the site is open farmland.

The site is currently mainly used for agricultural purposes although some residential buildings exist within the site boundary.

Development Proposals

The site has been identified as one of Ashford's Urban Extensions and in accordance with the Ashford Borough Council's (ABC) Core Strategy, the development proposals will include up to 5,750 residential units, employment, retail, education facilities and community facilities.

The final concept master plan has been determined, and a copy is included with this scoping letter.

The planning application will be an outline application with all matters other than the A28 accesses reserved for subsequent approval.

Whilst the exact development quantum has not been finalised, the proposed development for which *outline planning permission* will be sought, is likely to comprise the following:

- up to 5,750 residential units, in a mix of sizes, types and tenures;
- up to 10,000 sq m gross floorspace of Class B1 use;
- up to 10,000 sq m gross floorspace of Class A1 to A5 uses;
- Education (including a secondary school of up to 8 ha and up to four primary schools of up to 2.1 ha each);
- Community Uses (class D1) and Leisure Uses (class D2) up to 3,000 sq m gross floorspace;
- Provision of local recycling facilities;
- Provision of areas of formal and informal open space as follows:
  Outdoor sports pitches
  Informal / natural green space
  Children and young people equipped space
  Allotments
  Parks and recreation grounds
- Installation of appropriate utilities infrastructure as required to serve the development, including flood attenuation works, SUDS, water supply and wastewater infrastructure, gas supply, electricity supply (including substations), telecommunications infrastructure and renewable energy infrastructure;
- Transport infrastructure, including provision of two accesses on to the A28, two accesses to Magpie Hall Road, a Park and Ride with a maximum of 600 parking spaces and a network internal roads, footpaths and cycle routes;
- New planting and landscaping, both within the Proposed Development and on its boundaries, and ecological enhancement works; and
- Associated groundworks.

It is envisaged that the development would provide a total of approximately 1,000 jobs, which would encompass the opportunities created in retail, medical facilities and schools.

Full planning permission will be sought for the provision of a new roundabout to the north of the junction of the A28 with Goldwell Lane.

Vehicular Access

In addition to the new roundabout described above for which planning permission is sought, access to the proposed development will come via eight other access points. These are:

- A new roundabout at the existing junction of the A28 Ashford Road with Sandy Lane;
- The existing A28 Ashford Road / Chilmington Green Road junction;
- A signalised junction including pedestrian and cycle crossing facilities at the A28 Ashford Road / Goldwell Lane / Ashford Road junction;
- A new roundabout on the A28 Ashford Road, north of the junction with Goldwell Lane;
- A new link and priority junction with Coulter Road;
- Via the existing Mock Lane;
- Via the existing Bartletts Lane;
- Via the existing Magpie Hall Road; and

- Via the existing Criol Road.

Parking

The development will provide parking in line with current parking standards. The applicable parking standards for Chilmington Green have been derived from three sources. These are:

- The current Kent County Council (KCC) (maximum) parking standards;
- Ashford Borough Council's (ABC) Residential Parking and Design Guidance SPG4; and
- Ashford's Future Car Parking Strategy Technical Note, December 2010.

The standards which will be applied will be those applicable to 'Central' and 'Suburban' areas and will be utilised depending on the density of development in the different areas of Chilmington Green. For example the district centre will utilise the 'Central' standards whilst development close to Discovery Park will use 'Suburban' standards.

The applicable standards for the 'Central' area are shown in Table 1.

Table 1: Maximum Parking Standards for Proposed District Centre

Land Use	Car Parking Standards	
	KCC	ABC
Food Retail	1 space per 14m^2 GFA	1 space per 14m^2 GFA
Non - Food Retail	1 space per 25m^2 GFA	1 space per 20m^2 GFA
B1 Office	1 space per 30m^2 GFA	1 space per 30m^2 GFA
Residential	1 space per 1 bedroom, 2 for 2 and 3 bedroom dwelling	1 space per 1 and 2 bedroom dwelling. 1.5 spaces per 3, 4 and 4+ bedroom dwelling, plus 0.2 spaces per dwelling for visitors
Flexible Uses (assume non-food retail (KCC) or B1 office (ABC))	1 space per 25m^2 GFA	1 space per 30m^2 GFA
Disabled spaces	Not Defined	Assume 5% of total commercial
Motorcycle spaces	Not Defined	1 space plus 1 per 20 car spaces

The residential car parking standards which will be used in the "suburban" areas of Chilmington Green are shown in Table 2.

Table 2: Maximum Suburban Residential Parking Standards

Dwelling	Number of car parking spaces per dwelling	Allocated / unallocated	Tandem parking	Garages included	Notes
1 bedroom flat or house	1	Unallocated preferred	n/a	no	
2 bedroom flat	1.5	1 space may be allocated, 0.5 spaces unallocated	n/a	no	
2 bedroom house	2	Unallocated preferred	Yes but provide additional 0.5 spaces		
3 bedroom dwelling	2	Allocated	Yes but provide additional 0.5 spaces		
4+ bedroom house	2	Allocated	Yes but provide additional 0.5 spaces		May be side by side
Visitor spaces	0.2	Unallocated	n/a	no	Additional to the above
Flexible on-street provision	Combination of unallocated spaces above and additional tandem spaces,				

Layout

The fundamentals of the Master Plan will follow the general guidance in the Manual for Streets and Manual for Streets 2: Wider Application of the Principles documents. We propose to use this guidance for the internal layout and access designs. Enclosed with this letter, Figure 2 shows the proposed road widths.

Safety Record

Five year accident records have been obtained for the local highway network for the period 01/04/2006 – 31/03/2011. It is proposed that the PIA study area considers major corridors associated with the proposed Chilmington Green development. In addition to these corridors, a number of junctions will be considered. The four proposed study corridors are:

- A28, from the M20 junction 9, via Drovers roundabout to the A28 Ashford Road / Old Surrenden Manor Road junction;
- A292 Mace Lane / A292 Wellesley Road junction to A2070 in the proximity of Steeds Lane;

- B2229 (Brookfield Road / Beaver Lane / Beaver Road / Norman Road);
- Chilmington Green Road, Magpie Hall Road and Steeds Lane.

The junctions which are proposed to be studied in detail are as follows:

- A28 Ashford Road / Tithe Barn Lane
- A28 Ashford Road / Chilmington Green Road roundabout junction;
- Ashford Road / A28 Ashford Road;
- A28 Ashford Road / Old Surrenden Manor Road;
- Romney Marsh Road / Norman Road roundabout junction;
- Malcolm Sargent Road / Romney Marsh Road roundabout junction;
- Ashford Road / Magpie Hall Road roundabout junction;
- Brookfield Road / Knoll Lane;
- Brookfield Road / Leacon Road;
- Chart Road / Singleton Road; and
- Chart Road / Coulter Road.

The accident records for the above locations will be analysed, with specific attention given to PIA records severity classified as serious and fatal and to any records which involved vulnerable road users. Figure 3 which accompanies this Scoping Letter shows the locations of the individual corridors and junctions which comprise the PIA study area.

Land Use Audit

A detailed land use audit of the local area will be prepared including the identification of pedestrian desire lines. This will be used to demonstrate how key local facilities such as retail, employment, leisure facilities etc, can be access from the proposed development by modes of transport other than the car and to demonstrate how the site access strategy facilitates easy access to these desire lines.

A detailed audit of the local cycle and pedestrian network adjacent to the site will be undertaken to enable an effective transport strategy to be produced for the proposed development.

Construction Traffic

During the construction of the proposed development it will be necessary for various plant, equipment and material to be transported to the site. As such, a framework Construction Management Plan will be included within the Transport Assessment.

An assessment of the daily and hourly construction traffic will be provided during the peak activity year (2021) of construction of the development. The assessment will consider link impacts. The impacts will be summarised as percentage change for all vehicles and HGVs for both the peak network periods together with the daily 12 hour period of 0700 – 1900.

The phased construction of the development will influence build rate, access location and routing of materials and labours. Unless specific materials are required it is expected that the majority of heavy material will arrive to site via the Strategic Road Network which is most likely to be via the M20 and A28.

Vehicle route tracking will be undertaken for critical junctions and either highway mitigation measures or construction traffic rerouting will be proposed to avoid conflict areas or areas of safety concerns.

Ashford Traffic Model

All assessment of the traffic implications of the proposed development will be undertaken using the Kent County Council traffic model of Ashford which has been created and is maintained by Jacobs on behalf of KCC. It is our understanding that the VISSIM model maintained by Jacobs has been approved by KCC and the Highways Agency as fit for purpose to assess the development impacts of Chilmington Green.

The Ashford Traffic Model is a VISSIM micro-simulation model which represents the AM and PM peak periods on the local highway network. The objective of the VISSIM modelling is to assess the impact of the proposed development on the local highway network, to demonstrate the effectiveness of engineering measures at the proposed development and to identify and inform the design of any further mitigation measures required to enable the network to accommodate the levels of traffic which will be generated.

Trip Generation

Vehicular trip generation will be undertaken using the generic trip rates from the Ashford Traffic Model. These rates have been determined by Jacobs and agreed with Kent Highway Services, Ashford's Future and the Highways Agency, with the exception of the education trip rate. Table 3 shows the trip rates which will be used.

Table 3: Trip Rates

	Trip Rate			
	AM Peak 0800-0900		PM Peak 1700-1800	
Type	Arrival	Departure	Arrival	Departure
Dwellings (per house)	0.15	0.29	0.16	0.17
Employment (per job)	0.16	0.06	0.06	0.17
Retail (per 100m² GFA)	0.82	0.88	0.81	0.89
Education/Community (per 100m² GFA)	1.46	0.92	0.00	0.14

Source: Trip rates for dwellings, employment and retail are from agreed trip generation rates with Kent Highway Services, Ashford's Future Company and the Highways Agency. Trip rates for education / community have been established by Jacobs on behalf of KCC and ABC and have used TRICS 2001(a) to derive them.

These rates are used to generate vehicular trips for all development within the model and as such ensure parity and that no individual development is assessed any more favourably than another in terms of trip generation.

Internalisation

A key element of the Chilmington Green master plan is to maximise the potential for the new community to be self-sufficient, thereby exploiting the potential for walking, cycling and public transport. In order that this is accurately represented in the Ashford Traffic Model assessments, a number of assumptions have been made for the internalisation of trips related to certain types of development, i.e. to determine what percentage of trips generated will not leave Chilmington Green, and what the purposes of those trips are.

Enclosed with this scoping letter is a copy of the Technical Note which has been produced which defines the internalisation factors for all land uses associated with Chilmington Green and also details the methodology used to determine these factors. It should be noted that whilst the Technical Note makes reference to up to 7,000 dwellings the methodology and outcomes remain valid for 5,750 dwellings. Table 4 summarises these internalisation factors.

Table 4: Chilmington Green Internalisation Factors

Land Use	Internal Trip Percentage	External Trip Percentage
Employment	10%	90%
Food Superstore	75%	25%
District & Neighbourhood Centre Retail	90%	10%

Committed Development

In order that the assessment of Chilmington Green is consistent with assessments which have already been carried out using the Ashford Traffic Model, it is proposed that the committed developments which have been specified for inclusion by Ashford Borough Council previously will be retained. Table 5 shows a list of residential and employment developments.

Table 5: Committed Development Included for Assessment

Location	2031 Scenario 2	
	Dwellings	Jobs
Ashford Hospital/Kings Ave	80	-
Brisley Farm	74	-
Chart Estate	350	300
Cheeseman's Green (+extension)	4,450	1,200
Conningbrook	200	-
Bockhanger Wood	-	5,085
Godinton Park Extension	-	-
Hunter Avenue	350	-
Jemmet Road	230	-
Kingsnorth Urban Extension		
Newtown Works	700	200
Park Farm South and East	401	-
Orbital park	-	850
Henwood	-	200
Singleton	100	-
Stanhope	-	-
Sevington	-	2,500
Town Centre	3,500	12,000
Warren P&R	-	320
Waterbrook	600	1,225
William Harvey area / land east of Willesborough Lees	200	-
Templar & Rowcroft Barracks (Repton Park)	965	200
Kennington	-	-
Lower Queens Road	40	-

Location	2031 Scenario 2	
	Dwellings	Jobs
Maidstone Road	70	-
Leacon Road	100	-
Bishops Green	20	-
Associate House	15	-
Mabledon Avenue	20	-
Warren Lane	65	-
Abbey Way / Blackwall Road	60	-
Tile Kiln Road	-	-
Discovery Park	-	-
Cobbs Wood	-	-
Additional, windfall development, etc	2,500	-

Assessment Years and Scenarios

With regard to assessment years, the DfT 'Guidance on Transport Assessment' states at paragraph 4.47: *"In addition to the opening year, one or two further assessment years should be considered. For the local transport network, a development should be assessed with regard to the LDF, and for a period of no less than five years after the date of registration of a planning application. Should the development take place over a longer period, it would be appropriate to extend the length of the assessment period. For the SRN, the future assessment year should normally be ten years after the date of registration of a planning application for the development."*

Chilmington Green is recognised in local policy, not least in Policy CS5 of the Ashford Borough Core Strategy which states that Chilmington Green *"…should be planned to accommodate no less than 3,350 dwellings and 600 jobs by 2021 and has the potential for over 7,000 dwellings and about 1,000 jobs in total."*

Two years have been selected for assessment. 2021 is an interim year which includes a small amount of development traffic, but mainly assesses the impact of Chilmington Green's construction traffic. 2031 has been selected as an assumed year in which Chilmington Green will be fully occupied and as the proposed end date of the Core Strategy review.

In total, three scenarios will be assessed in the Ashford Traffic Model. These are as follows:

- 2021 Do-Something: Which assesses the effect of the initial phases at Chilmington Green and the construction traffic of the development;
- 2031 Do-Minimum: Which assumes that the committed development detailed previously is included, but the Chilmington Green development and its associated highways infrastructure is not included. This highway infrastructure includes the improvements works to the A28 between the Matalan roundabout and Tank roundabout;
- 2031 Do-Something: Which assumes the committed development detailed previously is included as is the full development at Chilmington Green including local highway measures including improvements to the A28 corridor.

Travel Plan

The Transport Assessment will be supported by three Travel Plans, covering residential, commercial and educational land uses at the development. Each of the Travel Plans will be produced in line with KCC guidance. Each of the Travel Plans will set out objectives and detail the efforts proposed to encourage residents, employees and visitors of the development to make use of non-car modes to travel where possible. A Scoping Note covering the Travel Plans for Chilmington Green is enclosed with this letter.

We trust that this letter provides you with sufficient information and look forward to receiving confirmation of your support for this approach. In the meantime, should you have any queries please do not hesitate to contact me.

Yours sincerely

Andrew Blacker
Technical Director
DDI: 01256 318632

Encs Figure 1: Site Location Plan
Figure 2: Proposed Development Road Widths
Figure 3: Personal Injury Accident Assessment Areas
WSP Technical Note: Internalisation of Trips
Travel Plan Scoping Note
Final Concept Master Plan

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Andrew Blacker
Technical Director
WSP Property and Development
Mountbatten House
Basing View
Basingstoke
Hampshire
RG21 4HJ

Ashford Highway Depot
4 Javelin Way
Henwood Industrial Estate
Ashford
Kent TN24 8AD

Email: 08458 247 800
Telephone: 01233 648320
Fax:
Ask for:
Our ref:
Date: 13 December 2011

Dear Andrew

Chilmington Green, Ashford – Transport Assessment Scoping Letter

I set out below our response to your Transport Assessment Scoping Letter dated 30 November 2011.

Development proposals

It is noted that the development quantum is still to be finalised and that outline planning permission will be sought, with the exception of a new roundabout to the north of the junction with A28 with Goldwell Lane.

It is noted in the 'Development Proposals' section that the proposed development for which outline planning permission will be sought is likely to comprise a Park and Ride with a maximum of 600 parking spaces. However, there is no apparent reference to the potential multi-modal trip and subsequent traffic generations that would be associated with this aspect of the proposal, and no reference to how future residents of the proposed scheme could access the Park and Ride facility on foot or bicycle (which would necessitate the installation of appropriate infrastructure).

Layout

Information presented under the heading *"Layout"* explains that the fundamentals of the Master Plan will follow the general guidance in the Manual for Streets and Manual for Streets 2. The Master Plan should also incorporate guidance from the Kent Design Guide with respect to internal layout and access designs.

Safety Record

It is advised that the PIA study area incorporates a number of additional corridors to those highlighted in Figure 3 accompanying the scoping letter. An annotated plan (see relevant enclosure) highlights in green the additional corridors that should be included within the PIA. It is recommended that communication is also entered into with the Highways Agency to identify whether any parts of the Strategic Road Network

should be assessed as part of the accident record analysis. The five year analysis period should reflect the most up-to-date (and available) data.

Chilmington Green Trip Generation

Data presented in Table 1.2 of the Technical Note - Internalisation of Trips in respect of the Education/Community use is incorrect. It is stated in para. 1.5.13 that the secondary school will have an approximate Gross Floor Area of 10,000 sq m, yet the trip rate data in Table 1.2 equate to a floorspace of 5,000 sq m. The corrected figures are shown alongside the reported figures in brackets ( ) below.

- AM arr 73 (146)
- AM dep 46 (92)
- PM arr 0 (0)
- PM dep 7 (14)

Given the scale of the proposed development it would be reasonable to assume that a proportion of the internal trips that would be made between residential properties throughout Chilmington Green and the secondary school would be vehicle-based (although this doesn't appear to have been considered / reflected in the Scoping Letter).

The trip generation data as presented in Table 1.2 of the Technical Note - Internalisation of Trips does not take account of trip generation associated with any of the **four** 2-Form Entry primary schools. It is considered that a proportion of trips associated with the two primary schools would be vehicle-based and, as such, would have a traffic impact.

Education/community internalisation

It is requested that the assumptions used to arrive at a figure for Primary School Internalisation is fully substantiated, without which there may be a tendency to play down or under estimate transport demands. The four primary schools proposed at Chilmington Green (each with capacity for circa 420 pupils) are designed to serve the local neighbourhood, but with the Government policy of "parental preference" there may well be children attending these schools from outside the area thus generating road trips. Accordingly, assumptions concerning the proportion of "external" pupils against neighbourhood pupils (and even pupils walking to school against those driven by parents, themselves on their way to work, i.e. linked trips) should be qualified. For example, demand scenarios assume a degree of linked trips. 40% of primary school trips are then assumed to continue as either work or shopping trips.

As a guide, Census at school maintains real data for the Royal Statistical Society Centre for Statistical Education. One of the data sets is a survey of distance travelled to school from home for 53,905 pupils. The data indicates that 41% of secondary and 66% of primary school pupils travel 2km or less to school. This assertion is appropriately aligned with commentary included under para. 1.5.12, which states:

> *"As the spatial strategy within the Chilmington Green master plan ensures that the vast majority of dwellings are within 2km of a primary school, more pupils can be expected to walk and cycle."*

It is requested that a sensitivity test is performed to model the implications of the percentage figures of 41% (secondary) and 66% (primary) as reported above.

Internalisation of retail (main food trips)

The Technical Note - Internalisation of Trips cites the example of Cambourne, Cambridge (74%) to arrive at a figure for the assumed internal trip percentage for main food shopping in respect of Chilmington Green (75%). There are, however, significant differences between Cambourne and Chilmington Green in

terms of their position relative to principal urban centre; Cambourne is a new town in its own right (albeit that it has been built around a historical settlement) located some 9 miles west of Cambridge, whereas the Chilmington Green proposal represents an urban extension to the south of Ashford.

It is noted that a document titled "Lessons from Cambourne" prepared by InspireEast and Cambridge Architectural Research Limited references the 74% internalisation for main food shopping from the results of a resident survey.

Table 1. Comparison of retail provision in Cambourne versus Ashford (centred on the Chilmington Green site)

Cambourne, Cambridge			**Chilmington Green (post code TN23 3DN, centre of site)**		
Supermarket	**Distance**	**Journey time**	**Supermarket**	**Distance (miles)**	**Journey time**
Morrisons	Within development		Tesco (TN23)	3.2 miles	9 minutes
Sainsbury's (CB3)	7.9 miles	14 minutes	Costcutter (TN23)	3.2 miles	9 minutes
Costcutter (CB23)	7.8 miles	14 minutes	Waitrose (TN23)	3.2 miles	9 minutes
Tesco, Bar Hill	8.7 miles	19 minutes	Sainsbury's (TN24)	3.7 miles	10 minutes
Co-op, Girton	9.2 miles	19 minutes	Asda (TN24)	4.0 miles	11 minutes
Waitrose (PE27)	10.4 miles	26 minutes	Iceland Food (TN24)	5.2 miles	14 minutes
			Tesco (TN24)	5.1 miles	15 minutes

*Co-op and Costcutter represent top-up shopping convenience retail outlets

Information contained within Table 1 records the approximate journey times to access foodstores in proximity of Cambourne, Cambridgeshire and from the centre of the Chilmington Green Master Plan proposal. In respect of Chilmington Green, it is shown that there are 7 supermarkets (of which 4 'big multiples') within a 15-minute journey time by car, compared with only 2 supermarkets (1 multiple) within the same drive time of Cambourne. It is also worth noting that there is an extant planning permission in place for a supermarket within the former Powergen Site, Victoria Way[1] is within a 15 minute journey time of the Chilmington Green site, which will further improve the 'local' retail offer. At the time of writing the foodstore is still to be constructed.

A figure of 50% is considered to be a more appropriate/applicable for the internalisation of main food shopping trips. Accordingly, this should be factored into sensitivity testing. Demand scenarios also assume a degree of linked trips, and 20% of retail trips are assumed to either follow or precede another journey. This should also be accounted for. On the basis of the above-presented information, the Local Highway Authority are not accepting of the internal trip generation figure of 75% in respect main food shopping as quoted in the TA scoping letter.

Committed Development

Work is now underway on the formal review of the adopted Local Development Framework Core Strategy. This document will set out the Council's planning aims and objectives until 2030 and will include housing and employment targets and also identify allocations of land for development. It is advised that clarification

[1] Victoria Way is a new route to the south of the town centre to link the International Station at Beaver Road and the A28 Chart Road.

is sought from Ashford Borough Council with regard to the committed development for residential and employment.

Reference to TRICS 2001(a)

Table 3 (page 6) makes reference to TRICS 2001(a), and it is assumed that this is a typographical error. In the event that this is not a typo, then it is considered that the use of trip rate data extrapolated from the 2001 version of the TRICS database would be inappropriate as the survey data would be 10 (or more) years old and would not reflect changes to the database in terms of the provision of multi-modal trip rate survey findings that are available via the latest version of the software

Trip generation and quoted trip rates

The trip rates referenced in Table 3: Trip Rates do not correlate with the figures presented in Table 1.1 of the - Technical Note - Internalisation of Trips, specifically that the residential trip rate for pm arrivals is 0.16 in the former and 0.27 in the latter. A correction is required to ensure consistency.

Journey purpose

It is stated in para. 1.5.10 (page 4 of Technical Note - Internalisation of Trips) that "as there is no specific 2001 Census data which can be suitably interpreted to determine education internalisation, an alternative methodology has been employed." By comparison, paragraph 1.4.1 of the Transport Strategy Overview (Version 2) report prepared by WSP (dated November 2011) records that:

> *"The VISSIM model produced by Jacobs has subsequently used an alternative distribution based on data provided by Peter Davidson Consultancy."*

And adds that WSP:

> "… are currently awaiting information from Jacobs to show the distribution of trips from the development."

The methodology to be applied should be clearly defined. Furthermore, consideration should be given to explore whether meaningful data exists at ward level, or whether household travel diary data for a comparable site could be interrogated.

Measures to control parking within the development

It is important that consideration is given to prevent overspill parking on the internal highway network, particularly along the routes that will facilitate bus movements. It would be necessary to be provided with a strategy that clearly sets out how inappropriate parking will be prevented, along with how visitor parking fits into the overall provision of parking at the site.

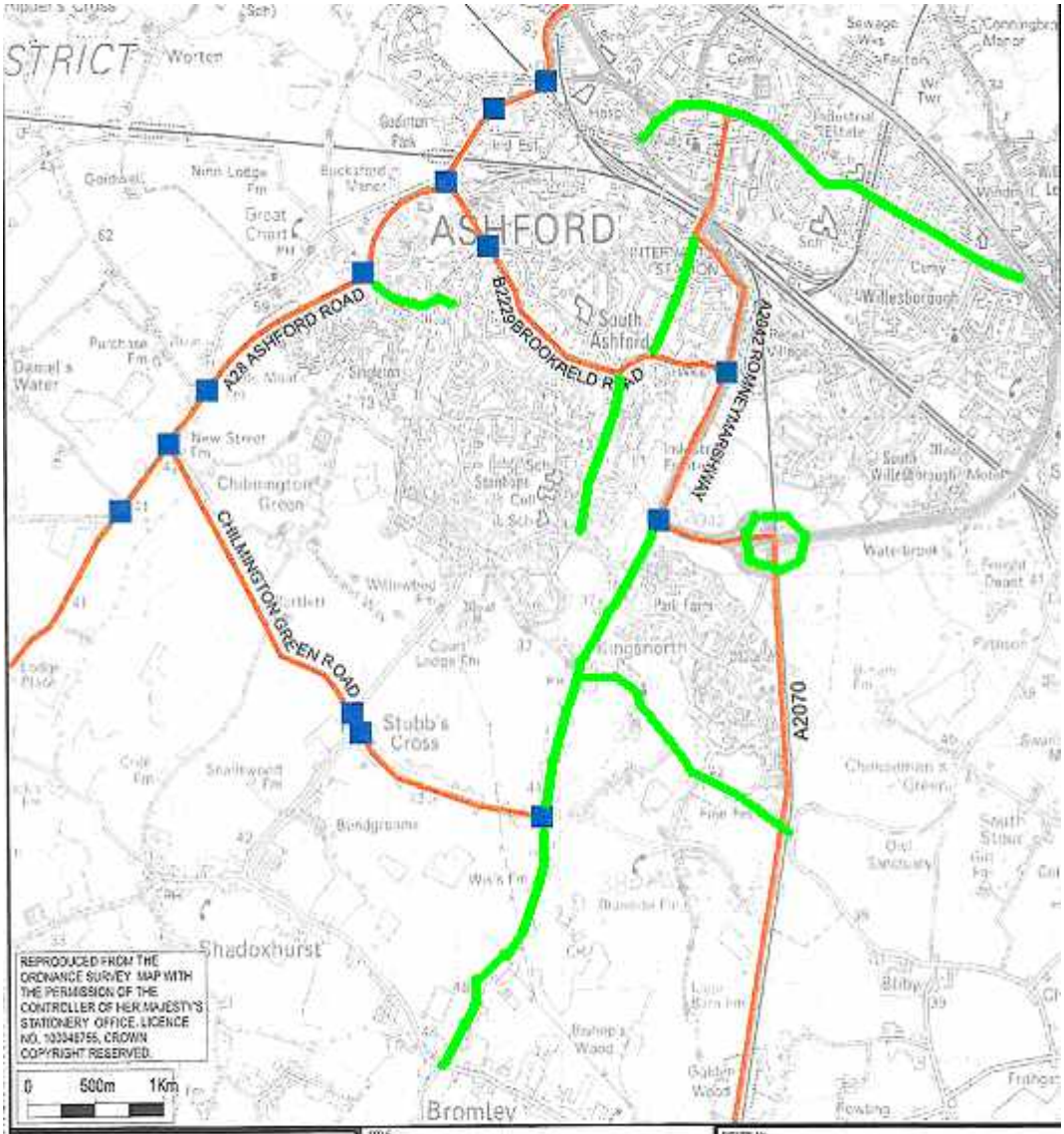
Pedestrian and cycle access

Given the changing terrain both within the development site and on areas outside but in proximity of the site boundary, the study should include GIS-based plans to demonstrate the accessibility of the varying land uses both on foot and bicycle. The plans should take any topographic variation across the site into account to report 'actual' (not 'as the crow flies') walk (2km) and cycle (5km) distances.

Yours faithfully

James Hammond

THINK!
Kent Road Safety



WSP

TITLE:

CORRIDORS & JUNCTIONS ASSESSED IN PERSONAL INJURY ACCIDENT ANALYSIS

FIGURE No

3

KEY

SITE LOCATION

MAJOR ROAD

MINOR ROAD

TOWARDS M20

ASHFORD TOWN CENTRE

ASHFORD

ASHFORD ROAD

Chart Road

Ashford Road

A28

GREAT CHART WITH SINGLETON CP

Goldwell Lane

STANHOPE

Chart Road

Bartletts Lane

Mock Lane

Sandy Lane

Old Surrenden Manor Road

ASHFORD DISTRICT

A28

Chilmington Green Road

Long Length

Criol Road

Tally Ho Road

Magpie Hall Road

STANHOPE CP

KINGSNORTH CP

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0 500m 1Km

WSP

TITLE:

SITE LOCATION

FIGURE No:

1

N:\Chilmington Green 2010\DRAWINGS\CORE1\SCOPING LETTER\2761-FIG-1- SITE LOCATION.cdr

NOTE: Manual For Streets (MfS) indicates that a 5.5m carriageway will allow two large vehicles such as busses to just pass. It also demonstrates that a 4.8m Carriageway provides ample space for two cars to pass.

It is recommended that the main carriageway serving access to the development from the A28, and local centres be 6m (High lighted blue on the plan). Other main roads can be reduced to 5.5m and all other minor roads 4.8m

Proposed Stopping Up of Road

6m Carriageway With Gateway Feature From Roundabout on A28

6m Carriageway

6m Carriageway

6m Carriageway

6m Carriageway

6m Carriageway With Gateway Feature From Roundabout on A28

6m Carriageway

6m Carriageway

6m Carriageway

6m Carriageway

6m Carriageway

Goldwell Lane

Bucksford Lane

Mock Lane

Bartletts Lane

Sandy Lane

A28 Chart Road

Old Surrenden Manor Road

Chilmington Green Road

Criol Road

Long Length

Tally Ho Road

Singleton

Chilmington Green

Stubb's Cross

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0 250m 500m

N:\Chilmington Green 2010\DRAWINGS\COREL\2761-FIG-2-ROAD WIDTHS.cdr

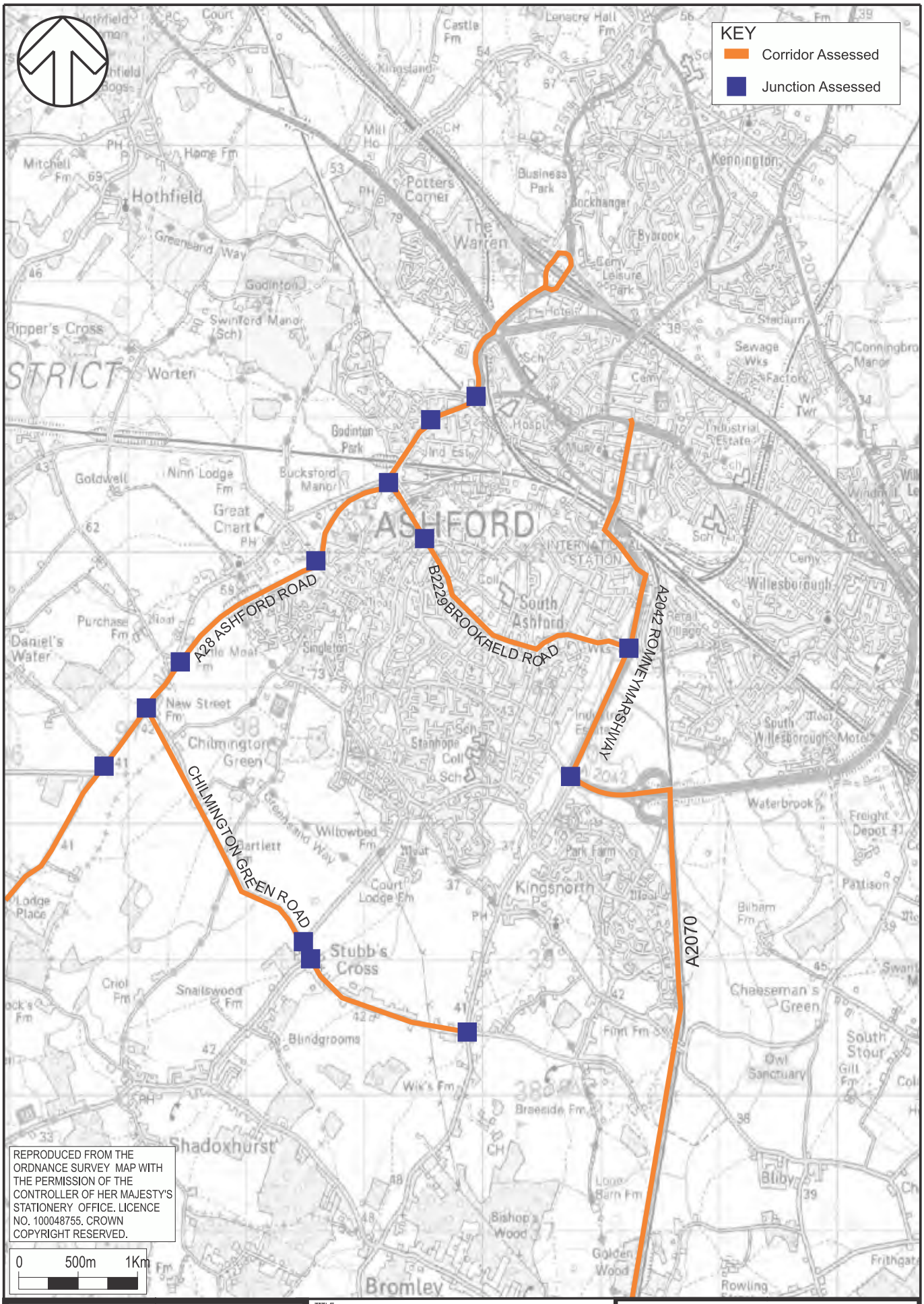
WSP

TITLE:

CARRIAGEWAY WIDTHS

FIGURE No:

2



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N:\Chilmington Green 2010\DRAWINGS\CORELSCOPING LETTER\2761-FIG-3-PIA and MITIGATION.cdr

WSP

TITLE:

CORRIDORS & JUNCTIONS ASSESSED IN PERSONAL INJURY ACCIDENT ANALYSIS

FIGURE No:

3

KCC Response to WSP Queries 23/01/2012

Base Year Model

The base year model was developed in 2008 and subsequently approved by Kent County Council (Highways), Ashford Borough Council, Ashford's Future Company Limited, the Highways Agency and WSP. In 2009 Kent County Council (Highways) commissioned Jacobs to extend the model to incorporate the proposed Smartlink Bus Rapid Transit (BRT) scheme. Kent County Council (Highways) and Ashford's Future then further commissioned Jacobs in 2010 to extend the VISSIM model to incorporate the Chilmington Green site in order to assess the impact of the Chilmington Green proposal on the A28 corridor. The scope, purpose and validation of the model extension and validation in 2010 was agreed and endorsed by Kent County Council (Highways) Ashford's Future and WSP.

Purpose of Model

The validated model was developed by Jacobs on behalf of Kent County Council (Highways) and Ashford's Future to assess the impact of traffic generation from the Chilmington Green proposal on the A28 corridor for future forecast years. Based on the (then) existing highway layout (2010) the model envisaged that key junctions on the A28 corridor (namely Matalan roundabout, Louden Way and Tank roundabout) would not operate within capacity once additional traffic from the proposed Chilmington Green scheme was accounted for. In response, Kent County Council (Highways) developed a highway solution incorporating a 'package of measures' for the A28 corridor to mitigate 'at best' the impacts of additional traffic on the A28 corridor as a result of the proposed Chilmington Green scheme. The purpose of the model was to test the 'nil detriment' situation (that is the section of the A28 corridor directly affected by the Chilmington Green development would be shown to perform no worse with trips associated with the development than without). This position is consistent with the accepted tolerance as defined in Ashford Borough Council's Core Strategy document. From this agreed position it is possible to define the optimum number houses that could be accommodated at Chilmington Green in accordance with the 'nil detriment' situation based on the full implementation of the A28 corridor transport mitigation scheme. The modelled output for the future year (2031) takes account of the implementation of highway improvements to the A28 corridor.

Approval of Trip Rates

Trip rates were obtained from the Highway Agency report titled "Ashford Highway and Traffic Study (AHTS), Report of Highway Needs" dated September 2006. The trip rates, as reported by the Highways Agency, were agreed between the Highways Agency, Kent County Council (Highways) and Ashford's Future. The trip rates were subsequently agreed with WSP.

* Note the trip rates can be found on page 19 of HA's report.

Model Distribution

The distribution model methodology and the associated results were agreed between Kent County Council (Highways), Ashford's Future and WSP. The trip distribution data was derived (and calibrated) for the 2010, 2021 and 2031 matrices based on information outputted from Peter Davidson's Demand Model. It was mutually agreed between Kent County Council (Highways), Ashford's Future and WSP to use Peter Davidson's Demand Model to extract distribution of trips for the base and future years. Jacobs subsequently incorporated Peter Davidson's 2010 distribution data into their base year (2010) and future year (2031) models. As the distribution is based on the defined Core Strategy scenario for Chilmington Green it, therefore, provides a robust analysis of the 'Do Something' scenario for further options testing. Furthermore, as the methodology does not result in the alteration of any other development assumptions both in respect of committed sites (other than for Chilmington Green) and 'wider' infrastructure provision, the implications of varying the development and internal network solutions scenarios for the Chilmington Green proposal does not result in a significant variation in the wider distribution of trip generation attributable to the Chilmington Green development. For the purposes of clarification, this is an agreed methodology and represents the 'best available' approach to inform the distribution of trips in the existing VISSIM model.

Appendix B WSP Parking Review Technical Note

UNITED BY OUR DIFFERENCE

WSP

Chilmington Green, Ashford

Parking Strategy

Hodson Developments, Malcolm Jarvis Homes, Pentland Homes & Ward Homes

April 2012

QM

Issue/revision	Issue 1	Revision 1	Revision 2	Revision 3
Remarks	Draft	Revised Draft	Issue	
Date	08 June 2011	07 March 2012	23 April 2012	
Prepared by	Stefanie Rachmann-Davies	Stefanie Rachmann-Davies	Stefanie Rachmann-Davies	
Signature				
Checked by	Alan Lewis	Alan Lewis	Alan Lewis	
Signature				
Authorised by		Andrew Blacker	Andrew Blacker	
Signature		[redacted]		
Project number	11012761	11012761	11012761	
File reference	N:\Chilmington Green 2010\TEXT\REPORTS\Transport\Parking Strategy\120423 Parking Strategy.Docx			

WSP UK
Mountbatten House
Basing View
Basingstoke
Hampshire
RG21 4HJ

Tel: +44 (0)1256 318800
Fax: +44 (0)1256 318700
http://www.wspgroup.com

WSP UK Limited | Registered Address WSP House, 70 Chancery Lane, London, WC2A 1AF, UK | Reg No. 01383511 England | WSP Group plc | Offices worldwide

Contents

1 Introduction

1.1 BACKGROUND

1.1.1 WSP UK Ltd (WSP) have been appointed by the Chilmington Green Consortium to provide transport advice relating to the urban extension at Chilmington Green in Ashford, Kent.

1.1.2 It is anticipated that an outline planning application will be submitted with matters reserved, with the exception of accesses. To inform the development Master Plan and Travel Plans for the development, this Technical Note considers the parking provision at the proposed District Centre whilst the parking strategy for the remainder of the development is set out in principle.

1.1.3 It should be noted that servicing requirements have not been taken into account in this report, due to the design stage of the project. To optimise the use of space it may be appropriate to create a Delivery and Service Management Plan for the District Centre, to ensure that the scale and location of service areas can be minimised.

1.2 KEY POLICY

1.2.1 Within this Technical Note we consider local policy standards and advice, however, it is important to recognise that the following policies, though revoked following the adoption in March 2012 of the National Planning Policy Framework (NPPF), were considered by Local Authorities when preparing their parking guidance.

1.2.2 The NPPF guides that:

"Local authorities should seek to improve the quality of parking in town centres so that it is convenient, safe and secure, including appropriate provision for motorcycles. They should set appropriate parking charges that do not undermine the vitality of town centres."

PLANNING POLICY STATEMENT (PPS) 4 – ECONOMIC

1.2.3 Policy EC4 of PPS4, considers parking provision and management to support economic activity. It encourages the use of maximum parking standards for non-residential development and recommends standards should be set relative to existing and future levels of accessibility for walking, cycling and public transport, to promote more sustainable transport choices.

PLANNING POLICY STATEMENT 6 – TOWN CENTRE

1.2.4 Planning Policy Guidance (PPG) 6 focuses on town centre development, offering some advice to the hierarchy of retail centres. It encourages the use of shared car parking in town and other centres, encouraging car parking management to preserve vitality and manage demand. PPS6 records a similar hierarchy but merely records a desire to restrict car parking at existing centres and encourages greater provision of public transport rather than increasing car parking for expanded retail and leisure centres.

SUMMARY

1.2.5 The over-arching policy is therefore to ensure retail and leisure centres are located to exploit access by non-car modes of transport. Whilst National parking policy directs the use of maximum parking provision, the need to provide an appropriate

operational minima remains an important economic factor, delivering vitality to local, district and town centres.

1.2.6 The balance of parking demand and supply can be refined through appropriate levels of management, including charging and enforcement in the longer-term. This technical note explores this balance and endeavours to identify an appropriate minimum provision around which the master plan can evolve.

1.3 SPATIAL PLAN

1.3.1 The District Centre site is located within the Ashford urban extension at Chilmington Green, just south of the A28 corridor near Singleton. The spatial plan ensures the proposed centre is at least 1km from existing centres, identified as:

- Ashford town centre - 4km
- Ashford Designer Outlet - 3.7km
- Singleton Centre - 1.4km
- Stanhope Centre - 2km

1.3.2 Chilmington Green will also provide two further local centres; Orchard Village will be located around 1km from the proposed District Centre to the south and Chilmington Brook will be located around 1.2km from the proposed District Centre to the southeast. .

1.3.3 The proposed bus service will frequent services around Chilmington Green, through the district centre and connect to Ashford Town Centre. It is therefore considered that the district centre location will be highly sustainable and this will be reflected in the parking provision.

1.3.4 The Proposed Development will therefore be highly accessible by bus both from locations within the development and from Ashford town centre.

1.3.5 From any point within the development, the walking time to one of the centres is less than 15 minutes, and in the majority of the residential areas it is under 10 minutes.

1.3.6 The proposed infrastructure provides an environment where any of the three centres within the proposed development can be reached conveniently by cycle. The majority of the development is able to reach either the district centre or one of the local centres in less than 5 minutes, with only those at the very fringes of the site needing up to 10 minutes to get to a centre.

1.4 DISTRICT CENTRE

1.4.1 This Technical Note focuses on parking requirements for the proposed district centre at Chilmington Green in Ashford, Kent. However, the remainder of the development has also been considered in more general terms. The review of the District Centre is based on the following land use quantum provided by JTP in January 2012.

- Non Food Retail – 3,100m^2
- Food Retail – 4,595m^2
- B1 Office – 6,910m^2

- Residential Dwellings – 179 (49 one bedroom flats, 117 two bedroom flats, 13 three bedroom townhouses)
- Flexible uses (assumed B1, A2 or food retail) – 5,010m^2

1.4.2 Current development proposals include a total of 976 car parking spaces to serve these uses.

1.4.3 Using parking standards from three different sources it is possible to establish parking requirements for the proposed district centre. The three sources are;

- The current Kent County Council (KCC) (maximum) Parking Standards
- Ashford Borough Council's (ABC) Residential Parking and Design Guidance
- Ashford's Future Car Parking Strategy Technical Note December 2010

1.4.4 Following discussions with ABC, it was agreed that for the commercial uses PPG13 should be used as maximum standards. In the absence of appropriate standards following the adoption of the NPPF and revocation of PPG13, it is considered that PPG13 still offers the most appropriate guidance. ABC have suggested that there is potential for a reduction in PPG13 standards if appropriate. For the residential parking requirements, ABC's Residential Parking and Design guidance should be used.

1.4.5 The remainder of the site, outside the District Centre includes residential, commercial and educational uses.

1.4.6 It is envisaged that the residential parking provision will be in accordance with Ashford Borough Council's Residential Parking and Design Guidance whilst the commercial element will meet parking standards set by PPG13.

2 Car Parking Review

2.1 PARKING STANDARDS DISTRICT CENTRE

2.1.1 The relevant maximum parking standards are reproduced in Table 2.1 based on the standards reported in section 1.4.

Table 3.1: Maximum Parking Standard for Proposed District Centre

Land Use		Car Parking Standards	
		Standard	Maximum Number of Spaces
Food Retail	3,100m^2	1 space per 14m^2 GFA	221
Non - Food Retail	4,595m^2	1 space per 20m^2 GFA	230
B1 Office	6,910m^2	1 space per 30m^2 GFA	230
1 bedroom flat	49	1 space per dwelling plus 0.2 visitor spaces per dwelling	59
2 bedroom flat	117		140
3 bedroom house	13	1.5 per dwelling plus 0.2 visitor spaces per dwelling	22
Flexible Uses assume B1 office	5,010 m^2	1 space per 30m^2 GFA	167
Disabled spaces[1)]		Assume 5% of total commercial	42
Motorcycle spaces[2)] (residential uses only)		1 space plus 1 per 20 car spaces	12
Total commercial car parking			**891**
Total car parking spaces			**1112**

Notes 1: Disabled spaces 5% of commercial parking, additional to maximum provision

2: Motorcycle Spaces not included in total

2.1.2 ABC Residential Parking and Design Guidance provides parking standards based on the location of the development. For the purpose of this District Centre assessment, the "central" location guidance has been used, which, according to the guidance itself, is "*applicable to area shown in Figure 6 and, exceptionally, some parts of the urban extensions.*

2.1.3 ABC's commercial parking standards are based on PPG13 and, within the Ashford's Future Car Parking Strategy Technical Note, reference is made to a reduction in PPG13 parking standards by 20% and up to 50% in highly accessible locations.

2.1.4 Whilst the potential for a reduction in commercial parking provision has been acknowledged by ABC, this has not been quantified.

2.1.5 The current number of proposed parking spaces is 976, of which 755 would be commercial spaces. This equates to 85% of the maximum number of spaces, including the disabled spaces, or a reduction of 15%. This is considered to be an appropriate provision, given the accessible location of the District centre.

2.1.6 Whilst it has been shown that the parking provision for the individual land uses is sufficient it is considered that due to the variety of land uses provided at the district centre, the typical peak parking demands, identified below, may not coincide with each other:

- Retail peak parking demand is typically between 11am – 2pm Saturday
- Employment peak parking demand is typically between 10-11am Weekdays
- Residential peak parking demand is typically between 7-11pm Weekdays

2.1.7 Whilst weekend lunchtimes may represent some constraint due to the peak retail demands, the greatest combined demand is likely to be during weekday mornings due to the quantum of proposed employment. It is therefore considered that the flexible employment/retail uses parking will represent the greatest demand although it will be necessary to ensure that the proximity of residential parking can be managed around weekend lunchtimes at the district centre.

2.2 PARKING MANAGEMENT

2.2.1 The proximity of parking provision can vary, depending on land use and location. Whilst disabled parking, should always be located close to destinations, control of car parking close to destinations can prove an influencing factor in travel mode choice. In Table 2.1 we highlight that it is desirable that cycle parking is located close to land uses, however car parking can be distributed up to 400m from destinations to remain comparable with access by public transport.

2.2.2 Whilst it is proposed that an element of the parking provision will be shared use for employment, flexible uses and residential units, it is acknowledged that parking at the district centre will need to be managed in order to provide sufficient parking for those who need it when they need it.

2.2.3 A number of B1 uses can be located close to residential properties however other commercial uses may require service and other planning restrictions to preserve the amenity of residents.

2.2.4 It is therefore anticipated that parking management will be achieved through a combination of parking permits and time restrictions. At this stage, it is difficult to determine the exact form this would take however the principles have been set out in the following paragraphs.

Short-stay parking restrictions may be appropriate to preserve appropriate retail parking demand in key areas.

Very short-stay on-street car parking (above) and communal business car parks and courtyards (below)

RETAIL

2.2.5 Peak parking demand at the retail units is anticipated to be in the early evening and particularly around lunchtime at weekends. This peak can coincide with the residential peak parking demand on some weekday evenings as such shared use will prove more difficult to manage effectively.

2.2.6 The proposed foodstore is likely to attract average basket sales in the order of 40kg, therefore primary car parking provision for the foodstore should be located within 2-400m of the store exit.

2.2.7 Other retail and leisure centre uses can be more flexible with car parking provision located around 400m from the store entrance however the provision of some prime spaces, with very short stay (say 30 minute stay), would be appropriate within 100m of A3-A5 and other pass-by retail uses.

2.2.8 In order to preserve retail parking during peak times, it is likely that certain car park areas should prioritise residential parking and others allocated to prevent residents or employees parking, restricting short stay parking for up to two hours. Depending on the opening hours, any restrictions or charges could be lifted during parts of the day and in the evenings.

B1 OFFICE AND FLEXIBLE USES

2.2.9 The peak parking demand for employment uses are likely to occur during the weekday during mid-morning and early afternoons, after most staff have arrived at work and some visitor meetings occur. It is anticipated these hours are outside of the peak parking demand for the residential element and therefore shared use of car parking could be appropriate.

2.2.1 The provision of employment staff car parking can be located a short walk from the primary destination. Communal long-stay car parking should be located within 400m from the properties they serve, although it is likely that occupiers will expect some provision close to property entrances.

RESIDENTIAL

2.2.2 The Department of Communities and Local Government (DCLG) has published research on residential parking provision, supplemented with research from English Partnerships (now Homes & Communities Agency (HCA)). These suggest that the allocation of residential parking provision should be avoided if possible to ensure that homes who do not own a car do not result in inefficient use of land.

2.2.3 The HCA guidance suggests that no one form of parking provision is most suitable, but recommending that a range of parking options are more appropriate for different environments, whilst multi-storey or underground parking may be appropriate for a town centre, one could conclude the following options are more appropriate for a District Centre:

- Undercroft or podium parking
- Front or rear courtyard parking
- Mews court or street parking

2.2.4 Residential car parking provision will be in line with the requirements sets out in the Residential Parking and Design guidance produced by ABC.

2.3 REMAINDER OF THE DEVELOPMENT

2.3.1 The majority of the remaining development will be occupied by residential dwellings and it is envisaged that parking would be provided in accordance with the Residential Parking and Design Guidance produced by ABC.

2.3.2 Specifically it is envisaged that the "suburban" location guidance would apply to the residential units outside the District Centre. At this stage it is not anticipated that the rural standards would apply anywhere within the development, due to the future accessibility of the site as a whole.

2.3.3 The suburban standards are summarised in Table 3.2 whilst full details can be found in ABC residential Parking and Design Guidance.

Table 3.2 Suburban Parking Standards

Type of dwelling	Standard	Form
1 bedroom flat	1 space per flat	Can be allocated but unallocated is preferred
2 bedroom flat	1.5 spaces per flat	1 space may be allocated but unallocated is preferred
1 bedroom house	1 space per house	Can be allocated but unallocated is preferred
2 bedroom house	2 spaces per house	One or both spaces can be allocated although one unallocated space is preferred
3 bedroom dwellings	2 spaces per dwelling	Allocated
4+ bedroom house	2 spaces per house	Allocated

Note: Tandem dwelling is accepted where two spaces per dwelling are required, but this require an additional 0.5 spaces towards unallocated flexible on-street parking

2.3.4 The local centres, which are part of the development in addition to the District Centre will include commercial uses as well as residential and it is anticipated that parking will be provided in accordance with the PPG13 standards for the commercial uses and with the suburban residential standards as set out in Table 22.

3 Cycle Parking Review

3.1 INTRODUCTION

3.1.1 Cycle parking standards have been identified from the three documents highlighted in section 1.4. It should be noted that cycle parking standards are always **minimum** standards and as such, a higher provision of cycle parking is desired if possible.

3.1.2 For the purpose of this Technical Note it has been assumed that residential cycle parking will be required in the form of sheltered and potentially allocated cycle stands or sheds. It is not anticipated that shared use of long-stay cycle parking provision will be appropriate to ensure the provision is secure overnight. Therefore residential cycle parking requirements have been examined separately to the other use classes.

3.1.3 Cycle parking both at home and at travel destinations is a key part to complementing the willingness to cycle. Table 3.1 shows the median distance cyclists park away from their destination by journey purpose.

Table 3.1: Cycle Parking – Distance

Cycle Parking	
Journey Purpose	**Median Distance (m)**
Commuting	40
Business	50
Education	38
Shopping	125
Leisure	20

Source: TRL 276: 'Cycle Parking and Demand'

3.1.4 Table 3.1 shows that the nature of a journey purpose will influence a willingness to park further from the end destination, although other factors will influence choice and location of cycle parking provision.

3.1.5 Whilst for the majority of journey purposes the distance of cycle parking is located within 50m of the destination, Table 2.1 shows that shoppers are willing to park further away at 125m. This is likely due to the fact that shoppers often visit several shops at the same time without moving the bicycle but rather than cover any distance between shops on foot

Table 2.3 Cycle Parking – Location Preference

Cycle Parking – location preference	
Influencing factor	**%**
Close to destination	86%
Security	16%
Only place available	9%
Space available	7%
Location conspicuous/busy	6%

Source: TRL 276: 'Cycle Parking and Demand'

3.1.6 Table 3.3 shows that, when asked about the reason for their choice of cycle parking, 86% of cyclist stated proximity to destination, highlighting the importance of distance of cycle parking from the destination.

3.2 RESIDENTIAL CYCLE PARKING

3.2.1 Residential parking standards are set out in ABC's Residential Parking and Design Guidance, and are summarised in Table 3.4.

Table 3.4 Residential Cycle Parking Standards

Land Use	**Units**	**Cycle Parking**	
		ABC Guidance	**Number of required spaces**
1 bedroom flat	49	1 per 1 bedroom dwelling,	49
2 bedroom flat	117	2 per 2 or 3 bedroom dwelling	234
3 bedroom house	13		26
Resulting Number of Cycle Parking required			**309**

3.2.2 Table 3.4 shows that for the residential element the cycle parking requirement would be 309 spaces. It is anticipated that these would be in a secure location where overnight storage and shelter from the elements is available, such as individual cycle sheds, oversized garages (if provided), or communal cycle sheds. Some communal short-stay provision could be provided in parking and amenity areas, but is likely to represent a small portion of the overall provision.

3.3 COMMERCIAL CYCLE PARKING

3.3.1 Commercial cycle parking can be classified as short-term or long-term. Shoppers and business visitors will generate the primary short-term cycle parking demand. Given the distances shown in Table 3.2 cycle parking should be provided within approximately 125m from the destination. Staff and associated leisure long-stay cycle parking will represent the long-term cycle parking demand primarily for retail or office units, however to encourage cycle use these should be close (20-50m) from building entrances.

3.3.2 The location of the cycle parking should reflect the purpose. For example, short term cycle parking should be located near entrances to shops in areas frequented by a fairly large number whilst long term spaces could be located near back entrances where CCTV is in operation. All cycle parking should be secure.

3.3.3 Commercial cycle parking standards based on PPG13 are summarised in Table 3.5, along with the resulting number of cycle parking spaces.

Table 3.5 Commercial Cycle Parking Standards

Land Use		ABC Car Parking Standards (PPG13)	Resulting Number of cycle spaces
Food Retail	3,100m^2	1 per 10 car spaces	22
Non - Food Retail	4,595m^2	1 per 10 car spaces	23
B1 Office	6,910m^2	1 per 5 car spaces	46
Flexible Uses assume B1 office	5,050m^2	1 per 5 car spaces	33
Total			125

Note: The number of cycle parking spaces is based on a maximum parking provision in accordance with PPG13, rather than the actual car parking provision.

3.3.4 Table 3.5 shows that the minimum requirement for cycle parking for the commercial uses is 125 spaces, requiring around 400m^2 of ground floor space, depending on the size and shape of the cycle parking areas.

4 Summary and Conclusions

4.1 SUMMARY

4.1.1 WSP Property and Development have been appointed by the Chilmington Green Consortium to provide transport advice relating to the urban extension at Chilmington Green in Ashford, Kent. This Technical Note focuses on the proposed parking provision at the District Centre and considers the following land uses:

- Non Food Retail – 3,100m^2
- Food Retail – 4,595m^2
- B1 Office – 6,910m^2
- Residential Dwellings – 179 (49 one bedroom flats, 117 two bedroom flats, 13 three bedroom townhouses)
- Flexible uses (assumed B1, A2 or food retail) – 5,010m^2

4.1.2 Initially, three sources of parking standards were examined and compared; these included the KCC parking standards and standards from ABC for commercial and residential uses. However, it was agreed with ABC that ABC standards, i.e. PPG13 for commercial uses and ABC's Residential Parking and Design Guidance should be used.

4.1.3 In terms of commercial parking, ABC have acknowledged that there is potential for a reduction of the standard, although this has not been quantified. In accordance with Ashford's Future Car Parking Strategy a reduction of PPG13 standards by 20% (and up to 50% in highly accessible places) is possible.

4.1.4 The resulting maximum number of car parking spaces to be provided based on the current development quantum is 1,112 including disabled spaces, whilst the proposed number of car parking spaces is 976. This equates to a reduction in commercial standards of 15%.

4.1.5 It was considered that the B1 employment and flexible uses elements would be suitable for shared use of parking provision with the residential use, based on the profile of parking demand for the respective land uses.

4.1.6 For the reserved matters application it will be necessary to develop a strategy for managing car parking demand in key areas. At this juncture it is envisaged that car parking would be designated as:

- Very short-stay - up to 30 minutes
- Short stay - up to 2 hours
- Long stay - Over 2 hours

4.1.7 It is likely that long-stay parking could be restricted to permit parking and could be subject to a nominal charge in the long-term, as a financing and enforcement measure for the Travel Plan.

4.2 CONCLUSIONS

4.2.1 It is concluded that the level of parking currently proposed is sufficient, although it is proposed that parking management is introduced. Servicing requirements have not been taken into account in this report and an allowance for this will be made in the design of the district centre layout.

Annex, Figures & Tables

Appendix A Parking Standards - Extracts

Annex D: Maximum parking standards

This table should be read in conjunction with the text on parking in paragraphs 49 to 56.

Use	**National Maximum Parking Standard** 1 space per square metre (m^2) of gross floorspace unless otherwise stated	**Threshold from and above which standard applies** (gross floorspace)
Food retail	1 space per 14m^2	1000 m^2
Non food retail	1 space per 20m^2	1000m^2
Cinemas and conference facilities	1 space per 5 seats	1000m^2
D2 (other than cinemas, conference facilities and stadia)	1 space per 22m^2	1000m^2
B1 including offices	1 space per 30m^2	2500m^2
Higher and further education	1 space per 2 staff + 1 space per 15 students (see note 1)	2500m^2
Stadia	1 space per 15 seats (see note 2)	1500 seats

Notes:

1. The standard for students relates to the total number of students attending an educational establishment, rather than full-time equivalent figures.
2. For stadia, sufficient coach parking should be provided to the satisfaction of the local authority and treated separately from car parking. Coach parking should be designed and managed so that it will not be used for car parking.
3. Parking for disabled people should be additional to the maximum parking standards. Development proposals should provide adequate parking for disabled motorists, in terms of numbers and design (see Traffic Advice Leaflet 5/95, *Parking for Disabled People*).
4. For mixed use development, the gross floorspace given over to each use should be used to calculate the overall total maximum parking figure. For land uses not covered in these standards, the most stringent regional or local standards should apply.

'CENTRAL' LOCATION GUIDANCE	
On-street controls that are pro-actively enforced or proposed funding thereof in urban extensions?	Yes. (1) Controls prevent either all (or all long stay) on-street parking and/or (2) residents' parking scheme in operation or existing on-street parking at saturation point. (3) Applicable to area shown in Figure 6 and, exceptionally, some parts of the urban extensions
Nature of guidance	'MAXIMUM' (see Notes A and B)
1 & 2-bed flat	1 space per flat (see Note C)
FORM	Combination of;- (1) controlled access to private or communal private realms, and, (2) unallocated provision where new streets are provided creating further on-street parking capacity
1 & 2-bed houses	1 space per house (see Note C)
FORM	As per 1 & 2 bed flats above
3-bed dwellings	Up to 1.5 spaces per dwelling (see Notes C & D)
FORM	As per 1 & 2 bed flats above
4-bed+ houses	Up to 1.5 spaces per house (see Notes C & D)
FORM	As per 1 & 2 bed flats above
Can car barns be counted?	(1) Yes – small scale (re)development and infill type schemes only. (2) See 'Toolkit 2' for dimensions
Can garages be counted?	(1) Yes providing 'oversized' to ensure well-used parking. Generally only suited to small scale (re)development and infill type schemes. (2) See 'Toolkit 2' for dimensions
Visitor parking?	Primarily off-plot in short stay car parks OR on-plot at 0.2 spaces per dwelling in major residential schemes where layout permits.

12 Powered Two-Wheeler Parking

D, the following

13 Cycle Parking

Cycling can be part of an
neighbourhood journeys. It ca
o medium distances to the w
journey can then be continu

Recent initiatives such as the
maximum based car parking
has made good progress to d
n the Borough as a result of
cycle network and will continu

Accordingly, cycle parking in re
n terms of size, security, con
Credits are available for cycle
he EcoHome or Code for Sust
he achievement of Policy CS1
sustainable design and constru
cycle provision so as to accru
part of this process in creating
excess of the requirements of
Plan will also be strongly encc

For schemes where the CFSH
and dimensions should be acc

(a) Studios or 1-bed dwell

Storage for 1 cycle per dwe

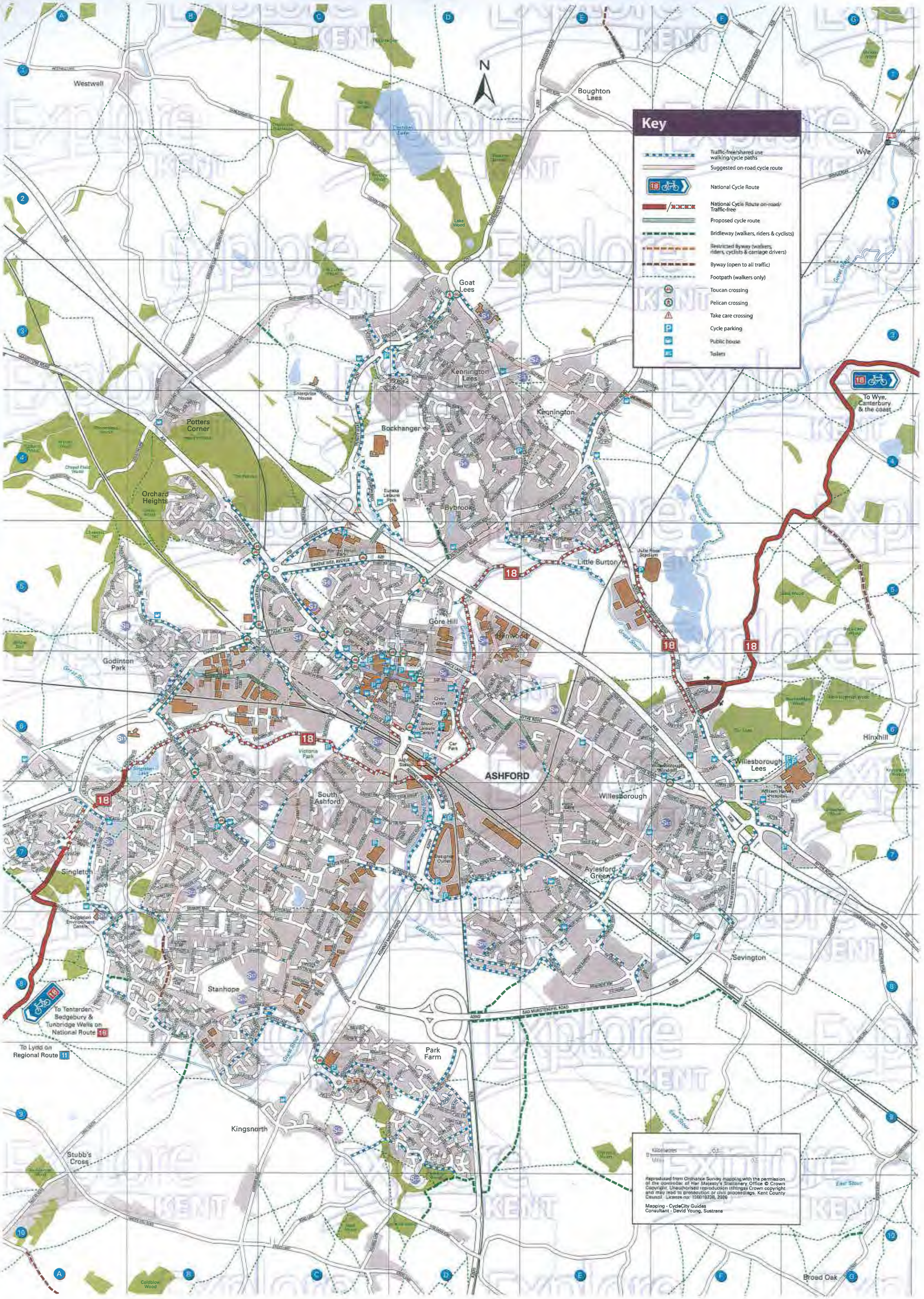
(b) 2 and 3-bed dwellings

Storage for 2 cycles per dw

(c) 4-bed (and above) dwe

Storage for 4 cycles per dw

Appendix C of Ashford KCC Pedestrian and Cycle Map


Key
Traffic-free/shared use walking/cycle paths
Suggested on-road cycle route
National Cycle Route
National Cycle Route on-road/ Traffic-free
Proposed cycle route
Bridleway (walkers, riders & cyclists)
Restricted Byway (walkers, riders, cyclists & carriage drivers)
Byway (open to all traffic)
Footpath (walkers only)
Toucan crossing
Pelican crossing
Take care crossing
Cycle parking
Public house
Toilets
N
Westwell
Boughton Lees
Goat Lees
Kennington Lees
Kennington
Bockhanger
Potters Corner
Orchard Heights
Bybrook
Little Burton
Gore Hill
Godinton Park
ASHFORD
South Ashford
Willesborough
Willesborough Lees
Hinxhill
Singleton
Stanhope
Aylesford Green
Sevington
Park Farm
Kingsnorth
Stubb's Cross
Broad Oak
To Wye, Canterbury & the coast
To Tenterden, Sedgebury & Tunbridge Wells on National Route 18
To Lydd on Regional Route 11
Wye
Kilometres
Miles
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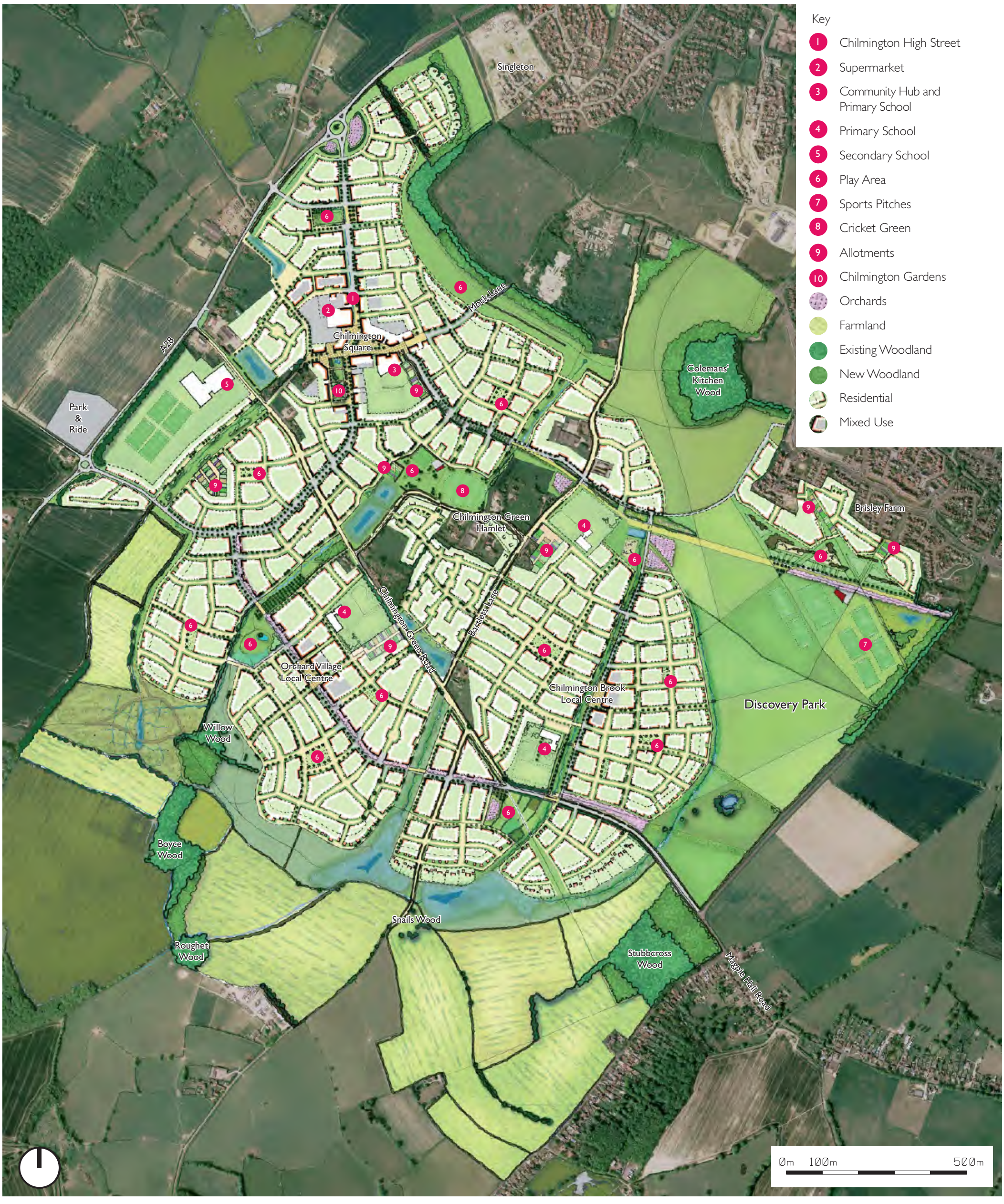
Mapping - CycleCity Guides
Consultant - David Young, Sustrans

Appendix D Chilmington Green Master Plan

The Masterplan

ChilmingtonGreen



CHILMINGTON GREEN

WSP Grontmij jtp

Appendix E KCC/Jacobs Modelling Reports

JACOBS

Ashford - Chilmington Green VISSIM Model Validation Report

DRAFT

December 2010

Contents

List of Figures

List of Tables

JACOBS

Document control sheet

Client: Kent County Council
Project: Ashford Chilmington Green VISSIM Model Job No: B1566500
Title: Ashford - Chilmington Green VISSIM Model LMVR

	Prepared by	Reviewed by	Approved by
ORIGINAL	NAME **Shaleen Srivastava**	NAME **Tao Lu**	NAME **Sam Peng**
DATE **16 Dec, 2010**	SIGNATUREtav [redacted]	SIGNATURE	SIGNATURE

REVISION	NAME	NAME	NAME
DATE	SIGNATURE	SIGNATURE	SIGNATURE

REVISION	NAME	NAME	NAME
DATE	SIGNATURE	SIGNATURE	SIGNATURE

REVISION	NAME	NAME	NAME
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1 Introduction

1.1 Project Background

The Greater Ashford Development Framework (GADF) highlights the need for Ashford to accommodate a planned increase of 30,000 additional houses and 28,000 new jobs by 2031. It has always been recognised that the growth of Ashford to accommodate this level of development is likely to require a significant highway building programme, including Motorway works. The Ashford Highway Transport Study was therefore undertaken in order to develop an integrated transport strategy for the Ashford area, providing a framework for transport improvements in the short, medium and long term.

Major new development areas identified within the GADF include Chilmington Green. Chilmington Green is likely to accommodate 6,700 dwellings and 1,125 jobs by 2031. Proposed developments in Chilmington Green are located in close proximity to the A28, so that if nothing is done traffic generated by the development could potentially result in capacity issues on the A28.

Transportation measures likely to mitigate this impact - including bus improvements and the completion of the new Victoria Way road link – have already been identified. However the impact of the developments is likely to be complex. Jacobs have therefore been commissioned to extend the existing VISSIM microsimulation model of Ashford to cover Chilmington Green in order to assess the impact of the proposed development and to test the effectiveness of the proposed A28 improvements.

1.2 Purpose of this Report

This report describes the development and validation of the extended 2010 VISSIM microsimulation model to cover Chilmington Green area. Development of the future year models and their use for option testing will be described in a separate report.

1.3 Existing Models

A number of recent existing transport models which cover all or part of the study area are already in existence. These are:

1) 2009 Ashford VISUAL TM Multimodal Model (developed by Peter Davidson Consultancy for KCC).
2) 2009 Ashford Saturn Model (developed by Peter Davidson for KCC)
3) 2008-09 Ashford Town Centre VISSIM model (developed by Jacobs for KCC)

Data input from the above models were made use of in the extension of the existing VISSIM model to Chilmington Green.

1.4 Outline of Modelling Methodology

1.4.1 Periods Modelled

Separate transport models have been developed for the AM Peak Hour (8.00 to 9.00 AM) and for the PM Peak hour (17.00 to 18.00 PM).

1.4.2 Chilmington Green Extension of the Ashford VISSIM Model

A microsimulation model has two main elements, a Network model and an Origin – Destination matrix.

For the extension of the existing 2008-09 Ashford VISSIM model, the network model represents the existing highway and bus service networks within the study area. This is map based and includes not only the highway links, but also the detailed geometry (and hence the capacity) of the junctions within the network.

The Origin – Destination (or 'O-D') matrix describes the pattern and number of trips that start or finish in each part of the study area, which is divided into numbered 'zones' for this purpose. The OD matrices of the existing 2008-09 VISSIM model were observed in the year 2008 and assumed to remain unchanged by the year 2010. The extension of the OD matrices to the additional new zones, in extended Chilmington Green area, was done based on the existing development data and destination choice model (gravity model) using the existing VISSIM and SATURN models. The extended model OD matrices were checked using comprehensive new traffic surveys (junctions classified turning movement counts surveys and classified link flows surveys).

1.4.3 Calibration and Validation of the Extended Model

VISSIM model integrates the network model and OD demand matrices, as discussed above, to determine the number of vehicles that will actually use each link and junction in the network. This process is iterative and takes into account not only the directness of alternative routes but also likely driver response to peak hour congestion at particular locations, and to travel costs such as choosing an alternative route, or switching to the bus, to make their desired trips.

At this stage the model was calibrated, by adjusting the modelling parameters as necessary to ensure that the modelled network behaviour accurately reflects actual junction and link capacities.

Finally, the extended model was validated to confirm that it a realistic model of the existing network. This is done by comparing the model output with entirely independent surveys of traffic flows and journey times. This is based on the additional data that was not used in either constructing or calibrating the model.

Validation methodology and criteria have been adopted as per the Department for Transport Design manual for Road and Bridge Works (DMRB) guidelines.

1.4.4 Principal Sources of data used

- **The 2010 Base network** is derived from the existing Geo-database (GIS) integrated transport network (ITN) and took precedence from the existing VISSIM town centre model. The network checks were made using specific site surveys and google/bing maps.

- **Bus and coach frequencies and time tables** have been obtained from the relevant service providers and updated where necessary to reflect the real situation in October 2010.

1.4.5 Detailed modelling Methodology

Details of the development, calibration and validation of the 2010 extended model are given in Section 2 to Section 7 of this Report

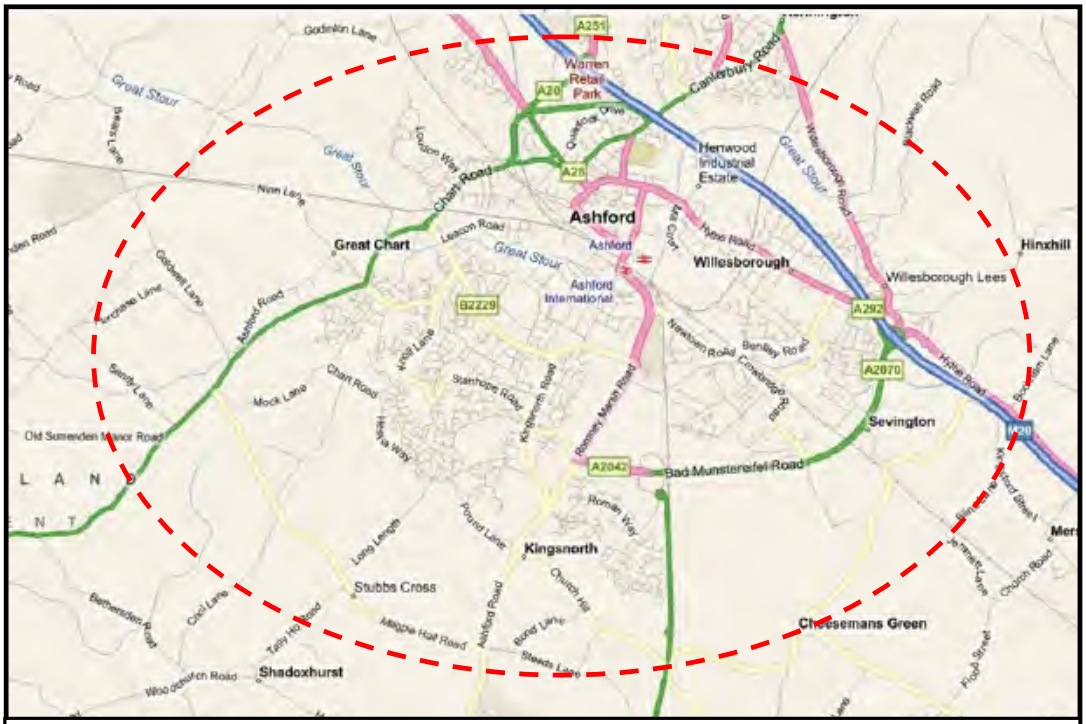
2 Model Specification

2.1 Model Area Coverage

The 2010 VISSIM model network extends the existing Ashford Town Centre VISSIM Model as far as the A28 Canterbury Road/A20 Simone Weil Avenue junction in the North, the M20 Junction 9 in Northwest, A28 Ashford Road/Chilmington Green Road Junction in the Southwest, Ashford Road/Magpie Hall Road junction in the South and M20 Junction 10 in the East.

The model coverage can be seen from Figure 2.1 below.

Figure 2.1 Study Areas



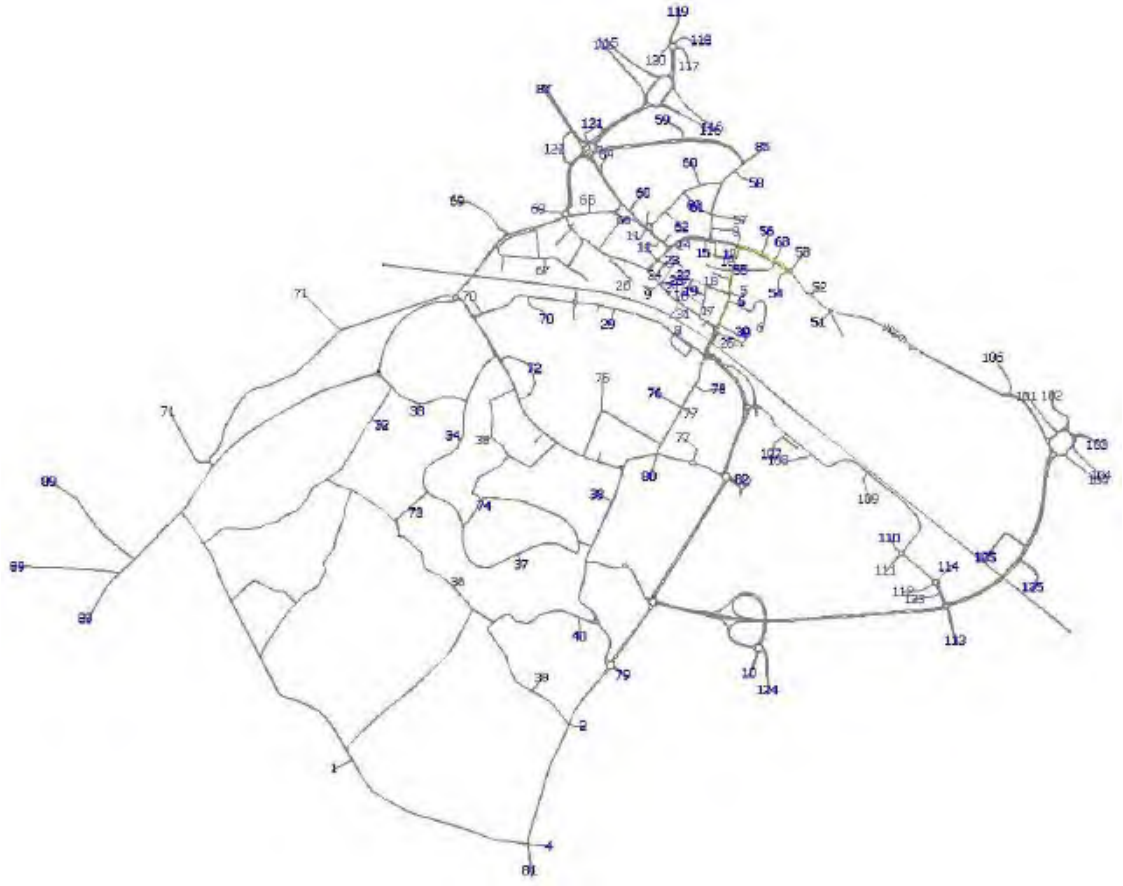
2010 Extended Ashford VISSIM Model Study Area

2.2 Model Zoning System

The Zoning system adopted is in two parts: town centre zones are based on the existing Ashford Town Centre VISSIM Model, and wider zones are based on Ashford Saturn Transport Model. The model zones are further refined/disaggregated/manoeuvred to the level of specific origin and destination areas. These refined zones are disaggregated to the level of car parks, wherever applicable.

The resulting VISSIM zones are shown in Figure 2.2 below. The model zoning system comprises of total 97 zones in 2010 extended model in contrast to 62 zones in 2008-09 existing VISSIM model.

Figure 2.2 ASHFORD VISSIM Zone Location Map



2.3 Time Periods Modelled

Models have been constructed for two one hour time periods: the AM Peak (8:00-9:00) and the PM Peak (17:00-18:00) hours. An additional 15 minutes each side of the central one hour period is modelled in each case to allow the model to preload (warming up) and to clear (cooling down). The choice of a 15 minute period is based on an analysis of the journey time needed to pass through the 2010 extended model.

2.4 Public Transport Data used

The public transport network and trip matrices have been based on information on Bus and Coach services and frequencies provided by the relevant service operators, together with the latest published timetables and existing situation in October 2010. Altogether 56 public transport services in the am peak and 56 public transport services in the pm peak have been coded within the simulation area modelled.

In most cases, the services included in the model are operated by Stagecoach.

2.5 2010 Trip Matrices

The extension of the OD matrices to the additional new zones, in extended Chilmington Green area, was done based on the existing development data and destination choice model (gravity model) using the existing VISSIM and SATURN models. The extended model OD matrices were checked using comprehensive new traffic surveys (junctions classified turning movement counts surveys and classified

link flows surveys). The OD matrices of the existing 2008-09 VISSIM model were observed in the year 2008 and assumed to remain unchanged by the year 2010.

Trip matrices are segregated into four 15 minute demand matrices for each period modelled. In addition to the peak hour, a further 15 minutes 'preload' and 15 minutes 'post load' periods have been included, this is to ensure that peak conditions are reflected throughout the network from the beginning of the modelled period; the 15 minute period as been chosen based on available demand data.

The 2010 model represents highway journeys across the Ashford area under two separate demand segments: Cars (including Light Goods Vehicles) and Heavy Goods Vehicles.

Details of Matrix development are given in Section 5 of this Report

2.6 Calibration / Validation Methodology

The calibration and validation of the extended VISSIM model is based on the requirements of the Department of Transports Design Manual for Roads and Bridges (DMRB) and according to the latest DTO Modelling Guidelines.

The calibration and validation has been an iterative process. In order to ensure that the parameters under which the model runs are robust and that the model outputs comply with the requirements of the DMRB, the following criteria have been used to assess the fitness of the model

- Traffic flow comparison
- Journey time comparison

Details of Calibration and Validation are given in Sections 6 and 7 of this Report.

2.7 Model Specification

Table 2.1 gives an overview of the model specification.

Table 2-1 Summary of Ashford 2008 VISSIM Model Specification

Model Development	Specifications
Zoning System	97x97
Time Periods	AM (0800-0900), PM (1700-1800)
Simulation Area	see Figure 2.1 Study Area
Link Types	A Road, B Road, Local Road, pedestrian
Trip Matrices	Car and HGV Matrices
Public Transport	AM - 56 Services / PM - 50 Services
Assignment	Dynamic Assignment using VISSIM 5.3 - 02
Calibration / Validation	Comply with all DMRB requirements

3 Traffic Data and Analysis

3.1 Traffic Count Data

To enable the calibration and validation of the model, Manual Classified Counts (MCC) and Automatic Traffic Counts (ATC) data was obtained for key links and junctions within the study area.

A total of 12 MCCs and 4 ATCs were carried out by Jacobs for this study. ATC and MCC data was collected in October 2010. In order to ensure that data used was representative, all data was examined before use and any data that appeared abnormal for the site was removed from the analysis.

3.2 Journey Time Data

In addition to reliable volumetric traffic count data, accurate data on observable journey times within an area are a vital component in the development of the model. A comprehensive set of journey time data including additional surveys for the Chilmington Green area was collected in October 2010 by Jacobs on behalf of Kent Highway Services.

Altogether a total of 8 routes were validated out of which 3 are the new journey time routes surveyed in Chilmington Green area for each of the modelled time periods. These are:

.

- **Route A (red):** From New Street/ Magazine Road Roundabout through the Mace Lane/ Henwood Roundabout to Romney Marsh Road/ Norman Road Roundabout
- **Route B (purple):** From the New Street/ Magazine Road Roundabout to Chart Road/ Brookfield Road Roundabout in both directions
- **Route C (yellow):** From Romney Marsh Road/ Norman road Roundabout to Chart Road/ Brookfield Road Roundabout in both direction
- **Route D (green):** From New Street/Edinburgh Road to Station Road/ Dover Place via Elwick Road
- **Route E (blue):** From Romney Marsh Road/ Norman Road Roundabout to New Street/ Magazine Road Roundabout via Somerset Road
- **Route F (new):** From Ashford Road/ Pound Lane Junction through the Ashford Road/ Magpie Hall Road Junction, Chilmington Green Road/ Mock Lane Junction, Mock Lane/ Chart Road Junction and back to Ashford Road/ Pound Lane Junction in both clockwise and anticlockwise directions
- **Route G (new):** From A2070 Bad Munstereifel Road/ The Boulevard Roundabout through A2042 Romney Marsh Road/ Bad Munstereifel Road Roundabout to Ashford Road/Forestall Meadow Roundabout in both directions
- **Route H (new):** From A28 Ashford Road/ The Tithe Barn Lane Junction to Chilmington Green Road Junction in both directions

Plans of the highway network showing the journey time routes can be seen in Figure 3.1 - 3.4 below.

Figure 3.1 2008-09 Journey Time Routes Map

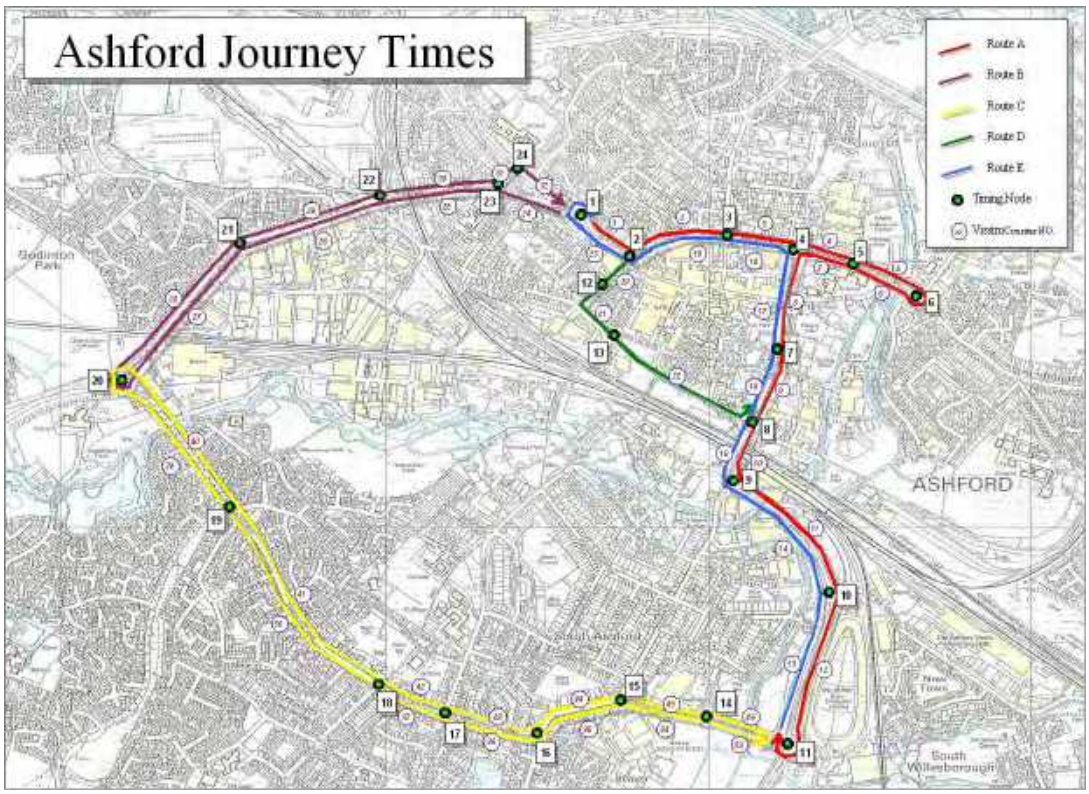
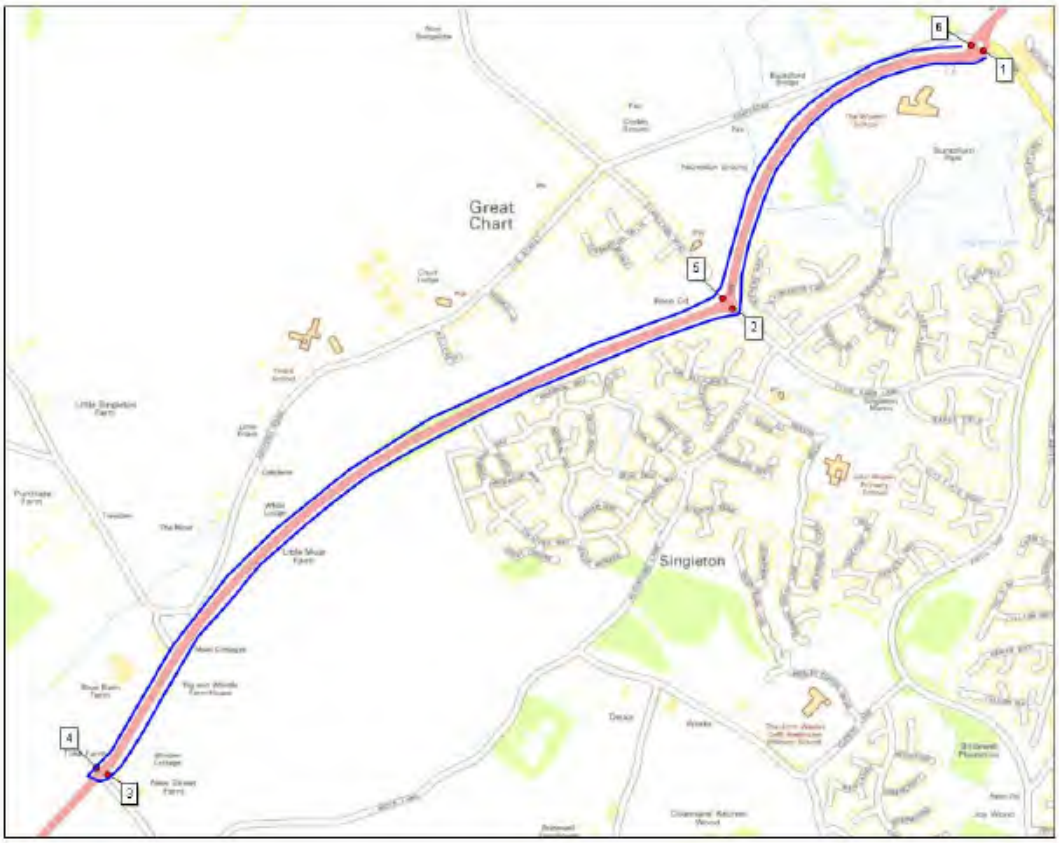


Figure 3.2 2010 Journey time Map for Route 1

Figure 3.3 2010 Journey time Map for Route 2

Figure 3.4 2010 Journey time Map for Route 3



Each route was driven a number of times during each period to ensure that Journey Times used in validation are robust and representative of average traffic conditions.

Table 3.5 shows the overall number of runs for each route carried out in each period in the surveys carried out for this model.

Table 3.5 Number of Journey Time Runs

Route	Direction	Number of Runs Surveyed		
		AM	IP	PM
A	SEB	12	21	12
B	WB	11	20	12
	EB	12	20	12
C	WB	2	3	3
	EB	2	3	3
D	EB	12	21	12
E	NWB	12	21	12
F	Clockwise	5	-	5
	Anti-Clockwise	5	-	6
G		10	-	11
H		8	-	10

4 Development of 2010 Highway Network

4.1 Extension of the Network Model

In order to ensure that the VISSIM model produces reliable results, it is essential that the network geometry used accurately reflects conditions on the real road network. To do this accurately and cost-effectively, the model network extension was carried out directly from Ordnance Survey GIS mapping data using ArcView software and checked using online mapping sources e.g. Google maps, Bing Maps etc. This was then converted directly into a VISSIM network using an in-house software developed by Jacobs.

To supplement map based geometrical data, details of traffic signal phasing was also obtained from the Urban Traffic Management Centre (UTMC) in Miller House and from other relevant sources, as appropriate.

5 Development of 2010 Highway Matrices

5.1 Extended Model Matrix Development

The development of the model trip demand matrices is one of the key components of the 2010 extended model development. In order to make best use of the available data and to ensure that the data is utilised in a consistent way free of double counting or replacement of the wrong trip movements, the matrix enhancement was divided into seven stages as follows:

- Stage 1 – Obtain existing 2008-09 validated VISSIM model matrices as initial matrix.
- Stage 2 – Estimate trip generation in the extended zones based on the existing development data in Chilmington Green and existing trip rates.
- Stage 3 – Estimate a gravity model based on the existing 2008-09 VISSIM model and 2009 SATURN model of Ashford.
- Stage 4 – Generate OD matrices, from Stage-2 and Stage-3 above, for the extended zones and tie it up with the existing OD matrices from 2008-09 VISSIM model (Stage-1).
- Stage 5 – calibrate matrices using the doubly constrained fuzzy logic method and independent turning movement data to complete 2010 extended model AM and PM peak hour matrices.
- Stage 6 – segregate hourly matrices into 15 minutes matrices (using time profile factor derived from MCC data).
- Stage 7 – allow 15 minutes for VISSIM model preload and post load for each time period (factor derived from ATC/MCC data).

6 Extended Model Calibration

6.1 VISSIM Parameters Calibration

The accuracy of VISSIM micro-simulation modelling is mainly dependent on the quality of its modelling of vehicle behaviour. Calibrating the model by correctly setting the parameters that determine factors such as car following and lane changing behaviour is therefore crucial to the accuracy of the model.

In order to represent driver behaviour on the real network, and minimum vehicle weaving behaviour, the following parameters have been set up in the in the Ashford VISSIM model:

- Vehicle models, Road types, and desired speed
- Car following parameters: Weidemann 74 and Weidemann 99
- Lane change parameters

Once appropriate parameters have been identified and the acceptable range for each set, a 'Genetic Algorithm' (GA) based fitness function is applied to find the optimal parameter value for each. Multiple runs of the model are then conducted, with default parameters and GA-derived parameters separately, for comparison. Finally a distribution of performance measure (saturation flows and free flow link speeds) is developed for each parameter set.

These are then compared with actual vehicle behaviour as recorded by field measurement. Visual representations from multiple runs of each model are also compared with the range of actual observed behaviour verify that the model output is realistic.

6.2 Error Checking

Error-checking is necessary to identify and correct any model coding errors before calibration is carried out. Coding errors can distort the model calibration process, resulting in the adoption of incorrect values for the calibration parameters.

The following details of network setting are therefore also checked, as a preliminary to the calibration process:

- Merge sections on main roads
- Priority setting at heavily congested junctions

6.3 Model Calibration by Saturation Flows

Unlike macro models such as SATURN, micro-simulation models output saturation flow. This can be checked against observed saturation flows or from well estimated function models and forms a useful additional check to ensure the micro-simulation of junctions is correct.

Table 6.1 shows the calibration results for saturation flows on all signalised junctions in the model area.

Table 6-1 VISSIM Saturation Flow Calibration for Signalised Junction

Calibration VISSIM Saturation Flow for Signalised Junction													
Site No.	Location	Direction	Lanes	Vis. No.	Movement	Mid to Kerb	Width	Radius (m)	Sat. Flow	Mod. Flow	Diff.	GEH	Diff in %
72	Chart Rd/ Loudon Way	North	2	1	N-W	1	3.25	22.4	1949	1874	-75	1.7	3.9%
				2	N-E	2	3.25	14.4	1757	1784	27	0.6	1.5%
		West	2	3	W-E	1	4	0	2155	2142	-13	0.3	0.6%
				4	W-N	2	4	20	1874	1899	25	0.6	1.3%
		East	3	5	E-N	1	3.25	20.8	1940	1977	37	0.8	1.9%
				6	E-W	2	3.25	0	2080	2010	-70	1.5	3.4%
				7	E-W	3	3.25	0	1940	1872	-68	1.6	3.5%
521	Cantbury Rd/ Magazine Rd	North	1	8	N-W	1	3.5	88.8	1932	1974	42	0.9	2.2%
			1	9	N-S	1	3.5	0	1965	1972	7	0.2	0.4%
		West	1	10	W-N	1	3.5	85.2	1931	1946	15	0.3	0.8%
		South	1	11	S-N	1	3.5	0	1965	1899	-66	1.5	3.4%
644	Beaver Ln/ Kingsnorth Rd	North	2	12	N-W	1	3.25	50	2019	2108	89	1.9	4.4%
				13	N-S	2	3.25	28.4	1843	1897	54	1.3	2.9%
		West	2	14	W-S	1	3.25	14.2	1881	1924	43	1.0	2.3%
				15	W-N	2	3.25	64	1896	1926	30	0.7	1.6%
		South	1	16	S-N	1	3.5	22.7	1843	1801	-42	1.0	2.3%
714	Beaver Rd/ Norman Rd	North	1	17	N-S	1	3.25	0	1940	1980	40	0.9	2.1%
		West	1	18	W-E	1	3.25	0	1940	1984	44	1.0	2.3%
		South	2	19	S-E	1	3.25	25.2	1963	1974	11	0.2	0.6%
				20	S-N	2	3.25	0	1940	1986	46	1.0	2.4%
		East	2	21	E-N	1	3.25	29.4	1979	1923	-56	1.3	2.8%
				22	E-W	2	3.25	0	1940	1912	-28	0.6	1.4%
721	Canterbury Rd/ Simone Weil Av	North	2	23	N-W	1	4.2	32	2078	2117	39	0.9	1.9%
				24	N-E	2	4.2	19.8	1892	1971	79	1.8	4.2%
		West	2	25	W-E	1	3.5	0	2105	2075	-30	0.7	1.4%
				26	W-N	2	3.5	25.6	1856	1901	45	1.0	2.4%
		EAST	2	27	E-N	1	3.5	15	1914	1867	-47	1.1	2.4%
				28	E-W	2	3.5	0	1965	1987	22	0.5	1.1%
722	Simone Weil Ave	North	2	29	N-W	1	3.5	28.4	1999	2006	7	0.1	0.3%
				30	N-E	2	3.5	14.9	1785	1876	91	2.1	5.1%
		West	2	31	W-E	1	3.5	0	2105	2046	-59	1.3	2.8%
				32	W-N	2	3.5	19.8	1827	1907	80	1.9	4.4%
		East	2	33	E-N	1	3.9	25.6	2026	1956	-70	1.6	3.5%
				34	E-W	2	3.9	0	2005	1978	-27	0.6	1.3%
805	Beaver Ln/ Brookfield Rd	West	1	35	W-S	1	3.25	20	1805	1846	41	1.0	2.3%
			1	36	W-E	1	3.25	0	1940	1989	49	1.1	2.5%
		South	1	37	S-E	1	3.25	22.7	1820	1874	54	1.3	3.0%
		East	1	38	E-W	1	3.5	0	1965	1956	-9	0.2	0.5%
807 West	Brookfield Rd/ Knoll Ln	North	1	39	N-W	1	3.25	28.4	1843	1887	44	1.0	2.4%
			2	40	N-S	1	3.25	0	2080	2006	-74	1.6	3.6%
				41		2	3.25	0	1940	1987	47	1.1	2.4%
		West	1	42	W-S	1	3.25	25.6	1833	1874	41	1.0	2.3%
		South	2	43	S-N	1	3.25	0	2080	2016	-64	1.4	3.1%
				44		2	3.25	0	1940	1962	22	0.5	1.1%
807 East	Brookfield Rd/ Arlington	North	2	45	N-S	1	3.25	0	2080	2078	-2	0.0	0.1%
				46		2	3.25	0	1940	1908	-32	0.7	1.6%
		South	1	47	S-E	1	3.5	18.5	1818	1887	69	1.6	3.8%
			2	48	S-N	1	3.25	0	2080	2057	-23	0.5	1.1%
				49		2	3.25	0	1940	1901	-39	0.9	2.0%
		East	1	50	E-N	1	3.25	25.6	1833	1877	44	1.0	2.4%
949	Mace Ln	North	1	51	N-W	1	3.5	29.1	1869	1901	32	0.7	1.7%
		West	2	52	W-E	1	3.25	0	2080	2013	-67	1.5	3.2%
				53		2	3.5	0	1965	1905	-60	1.4	3.1%
		East	1	54	E-N	1	3.25	29.1	1845	1907	62	1.4	3.4%
			2	55	E-W	1	3.25	0	2080	1987	-93	2.1	4.5%
				56		2	3.25	0	1940	1978	38	0.9	2.0%
1032	Elwick Rd/ Station Rd	North	3	57	N-W	1	3.5	14.3	1905	1958	53	1.2	2.8%
				58	N-S	2	3.5	0	2105	2024	-81	1.8	3.8%
				59		3	3.5	0	1965	1904	-61	1.4	3.1%
		West	2	60	W-S	1	3.5	64.4	2057	2004	-53	1.2	2.6%
				61	W-E	2	3.5	0	1965	1912	-53	1.2	2.7%
		South	3	62	S-E	1	3.5	25.7	1989	1954	-35	0.8	1.8%
				63	S-N	2	3.5	0	2105	2046	-59	1.3	2.8%
				64		3	3.5	0	1965	1945	-20	0.5	1.0%
		East	2	65	E-N	1	3.25	28.6	1976	1987	11	0.2	0.5%
				66	E-W	2	3.25	0	1940	1935	-5	0.1	0.3%
1034	Somerset Rd/ New St	North	2	67	N-W	1	3.5	22.7	1975	1975	0	0.0	0.0%
				68	N-E	2	3.5	19.8	1827	1877	50	1.2	2.8%
		West	1	69	W-E	1	3.5	0	1965	1945	-20	0.5	1.0%
		East	2	70	E-N	1	3.5	24.6	1984	2047	63	1.4	3.2%
				71	E-W	2	3.5	0	1965	1977	12	0.3	0.6%
1035	Somerset Rd/ North St	North	2	72	N-W	1	3.5	22.7	1975	1945	-30	0.7	1.5%
				73	N-E	2	3.5	18.5	1818	1889	71	1.7	3.9%
		West	2	74	W-E	1	3.5	0	2105	2041	-64	1.4	3.0%
				75	W-N	2	3.5	18.5	1818	1835	17	0.4	1.0%
		East	2	76	E-N	1	3.5	22.7	1975	1912	-63	1.4	3.2%
				77	E-W	2	3.5	0	1965	1978	13	0.3	0.7%
1036	Somerset Rd/ Wellesley Rd	North	1	78	N-E	1	4	19.2	1869	1902	33	0.8	1.8%
		West	2	79	W-E	1	3.5	0	2105	2035	-70	1.5	3.3%
				80		2	3.5	0	1965	1905	-60	1.4	3.1%
		South	2	81	S-E	1	3.5	35.5	2020	1978	-42	0.9	2.1%
				82	S-W	2	3.5	29.1	1869	1924	55	1.3	3.0%
		East	2	83	E-W	1	3.5	32	2011	1984	-27	0.6	1.3%
				84		2	3.5	32	1877	1928	51	1.2	2.7%
1038	Station Rd/ Vicarage Ln	North	1	85	N-S	1	3.25	0	1940	1943	3	0.1	0.2%
		West	2	86	W-S	1	3.25	14.2	1881	1879	-2	0.1	0.1%
				87	W-E	2	3.25	0	1940	1924	-16	0.4	0.8%
		South	1	88	S-N	1	3.25	0	1940	1934	-6	0.1	0.3%
			1	89	S-E	1	3.25	14.9	1763	1853	90	2.1	5.1%
		East	1	90	E-N	1	3.25	17.8	1789	1827	38	0.9	2.1%
7621	Chart Rd/ Maidstone Rd (North)	West	2	91	W-E	1	3.25	0	2080	1987	-93	2.1	4.5%
				92		2	3.25	0	1940	1978	38	0.9	2.0%
		South	3	93	S-E	1	4	19.8	2003	1925	-78	1.8	3.9%
				94		2	4	25.6	2036	1938	-98	2.2	4.8%
				95	S-W	3	4	20.6	1878	1978	100	2.3	5.3%
7622	Chart Rd/ Maidstone Rd (South)	West	3	96	W-N	1	3.25	0	2080	1928	-152	3.4	7.3%
				97		2	3.25	0	2080	1978	-102	2.3	4.9%
				98		3	3.25	0	1940	1874	-66	1.5	3.4%
		East	2	99	E-N	1	3.5	25.6	1988	2046	58	1.3	2.9%
				100		2	3.5	27.6	1864	1906	42	1.0	2.3%

For Roundabout capacity, theoretical circulation flows and entry flows are derived according to DMRB Volume 13, Section 1 (the COBA MANUAL).

Table 6.2 shows the calibration results for roundabout capacity on key junctions in model area.

Table 6-2 VISSIM Capacity Calibration for Roundabout

No	Location	Arm	Final Equation			Circulating Flow	Entry Flow	Model Flow	GEH	Diff in %
			a	b	Formular	Q_c	Q_e			
R1	A28 Chart Rd/ A28 Ashford Rd/ B2229 Brookfield Rd	Chart Rd (W)	0.54	1253.88	Qe=1253.88-0.54Qc	1161	627	706	3.1	12.6%
						1974	188	206	1.3	9.5%
		A28 Chart Rd (N)	0.52	1108.91	Qe=1108.91-0.52Qc	1066	554	612	2.4	10.4%
						1813	166	187	1.6	12.4%
		A28 Ashford Rd	0.61	1706.49	Qe=1706.49-0.61Qc	1399	853	906	1.8	6.2%
						2378	256	299	2.6	16.8%
		B2229 Brookfield Rd	0.78	2442.88	Qe=2442.88-0.78Qc	1566	1221	1309	2.5	7.2%
						2662	366	406	2.0	10.8%
R2	St Theressa's Cl/ A292 Maidstone Rd/ Barrow Hill/ A292 New St/ A292 Magazine Rd	St Theressa's Cl	0.55	1632.37	Qe=1632.37-0.55Qc	1484	816	894	2.7	9.5%
						2523	245	291	2.8	18.8%
		A292 Maidstone Rd	0.64	2188.94	Qe=2188.94-0.64Qc	1710	1094	1205	3.3	10.1%
						2907	328	369	2.2	12.4%
		Barrow Hill	0.43	1003.99	Qe=1003.99-0.43Qc	1167	502	587	3.6	16.9%
						1985	151	189	2.9	25.5%
		A292 New St	0.67	2332.24	Qe=2332.24-0.67Qc	1740	1166	1207	1.2	3.5%
						2959	350	418	3.5	19.5%
		A292 Magazine Rd	0.56	1721.61	Qe=1721.61-0.56Qc	1537	861	924	2.1	7.3%
						2613	258	316	3.4	22.4%
R3	Henwood/ A292 Hythe Rd/ Mill Ct/ A292 Mace Ln	Henwood	0.67	1752.99	Qe=1752.99-0.67Qc	1308	876	907	1.0	3.5%
						2224	263	307	2.6	16.8%
		A292 Hythe Rd	0.52	1107.61	Qe=1107.61-0.52Qc	1065	554	602	2.0	8.7%
						1811	166	206	2.9	24.0%
		Mill Ct	0.53	1234.31	Qe=1234.31-0.53Qc	1164	617	703	3.3	13.9%
						1980	185	231	3.2	24.8%
		A292 Mace Ln	0.69	2062.35	Qe=2062.35-0.69Qc	1494	1031	1106	2.3	7.3%
						2541	309	369	3.2	19.3%
R4	A2042 Romney Marsh Rd/ B2229 Norman Rd/ Kimberley Way	A2042 Romney Marsh Rd (S)	0.76	2125.31	Qe=2125.31-0.76Qc	1398	1063	1121	1.8	5.5%
						2377	319	378	3.2	18.6%
		B2229 Norman Rd	0.54	1743.74	Qe=1743.74-0.54Qc	1615	872	924	1.7	6.0%
						2745	262	306	2.6	17.0%
		A2042 Romney Marsh Rd (N)	0.74	2623.9	Qe=2623.9-0.74Qc	1773	1312	1381	1.9	5.3%
						3014	394	427	1.6	8.5%
		Kimbeley Way	0.64	2202.65	Qe=2202.65-0.64Qc	1721	1101	1193	2.7	8.3%
						2925	330	367	2.0	11.1%
R5	A2070 Bad Munstereifel Rd	North	0.66	2628.9	Qe=2628.9-0.66Qc	1992	1314	1223	2.6	7.0%
						3386	394	433	1.9	9.8%
		East	0.63	2573.46	Qe=2573.46-0.63Qc	2042	1287	1188	2.8	7.7%
						3472	386	419	1.6	8.5%
		South	0.44	1481.35	Qe=1481.35-0.44Qc	1683	741	837	3.4	13.0%
						2862	222	280	3.6	26.0%
		West	0.45	1388.67	Qe=1388.67-0.45Qc	1543	694	594	4.0	14.5%
						2623	208	243	2.3	16.7%
R6	Romney Marsh Rd/ Ashford Rd/ Forestall Meadow	North	0.66	2628.9	Qe=2628.9-0.66Qc	1992	1314	1199	3.3	8.8%
						3386	394	472	3.7	19.7%
		East	0.64	2573.46	Qe=2573.46-0.64Qc	2011	1287	1165	3.5	9.5%
						3418	386	332	2.9	14.0%
		South	0.45	1481.35	Qe=1481.35-0.45Qc	1646	741	831	3.2	12.2%
						2798	222	180	3.0	19.0%
		West	0.45	1388.67	Qe=1388.67-0.45Qc	1543	694	787	3.4	13.3%
						2623	208	165	3.2	20.8%
R7	Malcom Sargent Rd/ Romney Marsh Rd/ Bad Munstereifel Rd	North	0.65	2432.82	Qe=2432.82-0.65Qc	1871	1216	1345	3.6	10.6%
						3181	365	301	3.5	17.5%
		East	0.66	2453.85	Qe=2453.85-0.66Qc	1859	1227	1298	2.0	5.8%
						3160	368	412	2.2	11.9%
		South	0.68	2577.62	Qe=2577.62-0.68Qc	1895	1289	1408	3.2	9.2%
						3222	387	456	3.4	17.9%
		West	0.49	1544.35	Qe=1544.35-0.49Qc	1576	772	809	1.3	4.8%
						2679	232	295	3.9	27.3%
R8	A28/ The Bann Ln	North	0.64	1712.2	Qe=1712.2-0.64Qc	1338	856	940	2.8	9.8%
						2274	257	310	3.2	20.7%
		East	0.61	1608.79	Qe=1608.79-0.61Qc	1319	804	890	2.9	10.6%
						2242	241	226	1.0	6.3%
		West	0.65	1774.68	Qe=1774.68-0.65Qc	1365	887	798	3.1	10.1%
						2321	266	332	3.8	24.7%

The calibration results show that all GEH values calculated are less then 4, confirming that capacities in the VISSIM modal are accurately modelled.

6.4 Turning Counts Calibration

MCC survey sites were used to validate the extended AM and PM peak VISSIM models for turning counts.

A comparison of all turning movements for each of the 30 junctions is given in Appendix A and B.

Results show that around 87% of all turning movements during AM Peak and 85% of all turning movements during PM peak respectively fulfil the DMRB criteria for GEH less than 5.

7 Network Validation

7.1 VISSIM Model Validation by ATC data

After calibration the extended models were validated against independent counts data. 18 ATC sites were used to validate the modelled link flows. Table 7.1 and 7.2 show the validation results for AM and PM peaks.

Table 7-1 2010 Ashford VISSIM Model Validation table by ATC Data - AM

Ashford VISSIM Validation Table by ATC Data ---- AM PEAK									
Location Name	Movement	SURV	MOD	GEH	GEH<5	Flows	<700	700-2700	>2700
A28 Chart Road	EB	450	522	3.3	Pass	Pass	Pass	n/a	n/a
	WB	387	386	0.1	Pass	Pass	Pass	n/a	n/a
A292 Maidstone Road	EB	777	688	3.3	Pass	Pass	n/a	Pass	n/a
	WB	518	427	4.2	Pass	Pass	Pass	n/a	n/a
A28 Canterbury Road	NB	741	762	0.8	Pass	Pass	n/a	Pass	n/a
	SB	922	964	1.4	Pass	Pass	n/a	Pass	n/a
A292 Hythe Road	EB	608	524	3.5	Pass	Pass	Pass	n/a	n/a
	WB	778	685	3.4	Pass	Pass	n/a	Pass	n/a
A2042 Beaver Road	NB	1481	1195	7.8	Fail	Fail	n/a	Fail	n/a
	SB	644	563	3.3	Pass	Pass	Pass	n/a	n/a
A28 Ashford Road	EB	465	466	0.0	Pass	Pass	Pass	n/a	n/a
	WB	459	522	2.9	Pass	Pass	Pass	n/a	n/a
A2070 Bad Munstereifel Rd	WB	1253	1375	3.4	Pass	Pass	n/a	Pass	n/a
	EB	896	1067	5.4	Fail	Fail	n/a	Fail	n/a
A2042 Bad Munstereifel Rd	WB	944	1001	1.8	Pass	Pass	n/a	Pass	n/a
	EB	1086	1249	4.7	Pass	Pass	n/a	Pass	n/a
Romney Marhs Rd	SB	507	462	2.1	Pass	Pass	Pass	n/a	n/a
	NB	752	731	0.8	Pass	Pass	n/a	Pass	n/a
Ashford Rd Section 1 b/n Forestall Meadow and Church	SB	358	380	1.1	Pass	Pass	Pass	n/a	n/a
	NB	538	461	3.5	Pass	Pass	Pass	n/a	n/a
Ashford Rd Section 2 b/n Church Hill and Steeds Ln	SB	257	246	0.7	Pass	Pass	Pass	n/a	n/a
	NB	354	404	2.5	Pass	Pass	Pass	n/a	n/a
Maggie Hall Lane	WB	149	273	8.5	Fail	Fail	Fail	n/a	n/a
	EB	118	172	4.5	Pass	Pass	Pass	n/a	n/a
A28 Section 1 b/n Chilmington Rd and Tithe Barn Lane	SB	365	448	4.1	Pass	Pass	Pass	n/a	n/a
	NB	340	385	2.4	Pass	Pass	Pass	n/a	n/a
A28 Section 2 A28 b/n Tithe Barn Lane and B2229	SB	266	412	7.9	Fail	Fail	Fail	n/a	n/a
	NB	460	499	1.8	Pass	Pass	Pass	n/a	n/a
A28 Section 3 b/n B229 and Loudon Way	SB	808	920	3.8	Pass	Pass	n/a	Pass	n/a
	NB	1167	1152	0.4	Pass	Pass	n/a	Pass	n/a
A28 Section 4 b/n Loudon Way and Carlton Rd	SB	887	1019	4.3	Pass	Pass	n/a	Pass	n/a
	NB	1365	1316	1.4	Pass	Pass	n/a	Pass	n/a
A28 Section 5 Bn Carlton Road and A292	SB	750	854	3.7	Pass	Pass	n/a	Pass	n/a
	NB	1089	977	3.5	Pass	Pass	n/a	Pass	n/a
Knoll Lane	EB	237	228	0.6	Pass	Pass	Pass	n/a	n/a
	WB	255	390	7.5	Fail	Fail	Fail	n/a	n/a
% GEH Less Than 5	86.1%								
- Individual Flows Within 100 vph for flows <700	86.1%								
- Individual Flows Within 15% for flows (700-2700 vph)									
- Individual Flows Within 400 vph for flows >2700									

Table 7-2 2010 Ashford VISSIM Model Validation table by ATC Data -- PM

Ashford VISSIM Validation Table by ATC Data ---- PM PEAK									
Location Name	Movement	SURV	MOD	GEH	GEH<5	Flows	<700	700-2700	>2700
A28 Chart Road	EB	714	771	2.1	Pass	Pass	n/a	Pass	n/a
	WB	231	233	0.1	Pass	Pass	Pass	n/a	n/a
A292 Maidstone Road	EB	609	531	3.3	Pass	Pass	Pass	n/a	n/a
	WB	696	770	2.7	Pass	Pass	Pass	n/a	n/a
A28 Canterbury Road	NB	978	1035	1.8	Pass	Pass	n/a	Pass	n/a
	SB	605	542	2.6	Pass	Pass	Pass	n/a	n/a
A292 Hythe Road	EB	976	838	4.6	Pass	Pass	n/a	Pass	n/a
	WB	383	449	3.3	Pass	Pass	Pass	n/a	n/a
A2042 Beaver Road	NB	947	957	0.3	Pass	Pass	n/a	Pass	n/a
	SB	1317	1475	4.2	Pass	Pass	n/a	Pass	n/a
A28 Ashford Road	EB	608	521	3.7	Pass	Pass	Pass	n/a	n/a
	WB	754	797	1.5	Pass	Pass	n/a	Pass	n/a
A2070 Bad Munstereifel Rd	WB	1128	1247	3.5	Pass	Pass	n/a	Pass	n/a
	EB	1345	1376	0.8	Pass	Pass	n/a	Pass	n/a
A2042 Bad Munstereifel Rd	WB	1329	1293	1.0	Pass	Pass	n/a	Pass	n/a
	EB	1229	1249	0.6	Pass	Pass	n/a	Pass	n/a
Romney Marhs Rd	SB	811	912	3.4	Pass	Pass	n/a	Pass	n/a
	NB	489	473	0.7	Pass	Pass	Pass	n/a	n/a
Ashford Rd Section 1 b/n Forestall Meadow and Church	SB	507	515	0.4	Pass	Pass	Pass	n/a	n/a
	NB	495	406	4.2	Pass	Pass	Pass	n/a	n/a
Ashford Rd Section 2 b/n Church Hill and Steeds Ln	SB	372	438	3.3	Pass	Pass	Pass	n/a	n/a
	NB	338	324	0.8	Pass	Pass	Pass	n/a	n/a
Maggie Hall Lane	WB	210	223	0.9	Pass	Pass	Pass	n/a	n/a
	EB	167	304	8.9	Fail	Fail	Fail	n/a	n/a
A28 Section 1 b/n Chilmington Rd and Tithe Barn Lane	SB	314	421	5.6	Fail	Fail	Fail	n/a	n/a
	NB	479	463	0.7	Pass	Pass	Pass	n/a	n/a
A28 Section 2 A28 b/n Tithe Barn Lane and B2229	SB	683	682	0.0	Pass	Pass	Pass	n/a	n/a
	NB	423	464	2.0	Pass	Pass	Pass	n/a	n/a
A28 Section 3 b/n B229 and Loudon Way	SB	1286	1240	1.3	Pass	Pass	n/a	Pass	n/a
	NB	1000	1050	1.5	Pass	Pass	n/a	Pass	n/a
A28 Section 4 b/n Loudon Way and Carlton Rd	SB	1322	1355	0.9	Pass	Pass	n/a	Pass	n/a
	NB	1108	1073	1.1	Pass	Pass	n/a	Pass	n/a
A28 Section 5 Bn Carlton Road and A292	SB	1052	1062	0.3	Pass	Pass	n/a	Pass	n/a
	NB	1023	887	4.4	Pass	Pass	n/a	Pass	n/a
Knoll Lane	EB	129	164	2.9	Pass	Pass	Pass	n/a	n/a
	WB	255	390	7.5	Fail	Fail	Fail	n/a	n/a
% GEH Less Than 5	91.7%								
- Individual Flows Within 100 vph for flows <700	91.7%								
- Individual Flows Within 15% for flows (700-2700 vph)									
- Individual Flows Within 400 vph for flows >2700									

Approximately 86.1% of all sites in the AM peak and 91.7% of all sites in PM peak meet the DMRB model validation criteria shown in Table 7.3.

7.2 VISSIM Model Validation by Journey Time

To complete the calibration of the model, modelled journey times were checked against observed journey time survey data. The validation criterion for Journey Time from the DFT DMRB validation guidelines (Criterion 5 in Table 7.3) were used as a test of acceptability for this.

Table 7-3 Model Validation Criteria from DMRB

Criteria and Measures	Acceptability Guideline
Assigned Hourly Flows Compared with Observed Flows:	
1. Individual flows within 15% for flows 700 – 2700 vph	)
2. Individual flows within 100 vph for flows <700 vph	) > 85% of cases
3. Individual flows within 400 vph for flows > 2700	)
4. GEH statistic: Individual flows GEH < 5	> 85% of routes
5. Times within 15% (or 1 minute if higher)	> 85% of routes

Tables 7.4 and 7.5 show modelled and observed journey times on each of the existing 5 Journey Time routes and 3 new Journey Time routes shown in Figure 3.1 above.

Table 7-4 Journey Time Summary Statistics Table - AM

Journey Time Summary Statistics Table --AM									
Route	Direction	Observed Journey Time (Seconds)	No. of Survey Runs	Modelled Journey Time (Seconds)	Difference	% Difference	Higher Limit(+15%)	Lower Limit(-15%)	DMRB Criteria
A	SEB	550	12	535	-15	-3%	633	468	OK
B	WB	154	11	152	-2	-1%	177	131	OK
	EB	241	12	249	8	3%	277	205	OK
C	WB	299	2	299	-1	0%	344	255	OK
	EB	344	2	341	-3	-1%	396	292	OK
D	EB	135	12	125	-10	-7%	155	115	OK
E	NWB	352	12	345	-7	-2%	405	299	OK
F	Clockwise	718	5	716	-2	0%	826	610	OK
	Anticlockwise	809	5	811	2	0%	930	688	OK
G		354	10	345	-9	-3%	407	301	OK
H		362	8	365	3	1%	416	308	OK

Summary Statistics

Journey Time Validation for All Routes	
Times Within 15% (or 1 minute)	100%

Table 7-5 Journey Time Summary Statistics Table - PM

Journey Time Summary Statistics Table --PM									
Route	Direction	Observed Journey Time (Seconds)	No. of Survey Runs	Modelled Journey Time (Seconds)	Difference	% Difference	Higher Limit(+15%)	Lower Limit(-15%)	DMRB Criteria
A	SEB	559	12	533	-26	-5%	643	475	OK
B	WB	172	12	169	-3	-2%	198	146	OK
	EB	196	12	193	-3	-2%	226	167	OK
C	WB	341	3	347	5	2%	393	290	OK
	EB	354	3	353	-1	0%	407	301	OK
D	EB	156	12	152	-4	-3%	179	133	OK
E	NWB	346	12	352	7	2%	398	294	OK
F	Clockwise	695	5	715	20	3%	799	591	OK
	Anticlockwise	702	6	712	10	1%	807	597	OK
G		297	11	326	29	10%	342	252	OK
H		364	10	363	-1	0%	419	309	OK

Summary Statistics

Journey Time Validation for All Routes	
Times Within 15% (or 1 minute)	100%

The comparison of VISSIM model results and surveyed journey time shows100% fulfilled DMRB criteria, and all single modelled journey time routes are within 15% difference of survey data.

ndix A - Ashford VISSIM Calibration Table by MCC Data - AM

ASHFORD VISSIM Turning Counts Validation Table ---- AM Peak										
Site Location	Site No.	Movement	SURV	MOD	GEH	GEH<5	Flows	<700	700-2700	>2700
Norman Road/ Kimberley Way/ A2042/ Romney Marsh Road RAB	1	W-N	281	339	3.3	Pass	Pass	Pass	n/a	n/a
		W-E	34	44	1.6	Pass	Pass	Pass	n/a	n/a
		W-S	159	171	0.9	Pass	Pass	Pass	n/a	n/a
		N-W	158	130	2.3	Pass	Pass	Pass	n/a	n/a
		N-S	403	356	2.4	Pass	Pass	Pass	n/a	n/a
		N-E	56	86	3.6	Pass	Pass	Pass	n/a	n/a
		E-N	29	51	3.5	Pass	Pass	Pass	n/a	n/a
		E-W	46	47	0.1	Pass	Pass	Pass	n/a	n/a
		E-S	44	45	0.1	Pass	Pass	Pass	n/a	n/a
		S-W	244	252	0.5	Pass	Pass	Pass	n/a	n/a
		S-N	851	804	1.5	Pass	Pass	n/a	Pass	n/a
		S-E	70	71	0.1	Pass	Pass	Pass	n/a	n/a
Mace Lane/ Henwood/ Hythe Rd/ Mill Court RAB	2	W-N	198	224	1.8	Pass	Pass	Pass	n/a	n/a
		W-E	500	554	2.4	Pass	Pass	Pass	n/a	n/a
		W-S	39	50	1.6	Pass	Pass	Pass	n/a	n/a
		N-W	48	43	0.7	Pass	Pass	Pass	n/a	n/a
		N-S	3	4	0.5	Pass	Pass	Pass	n/a	n/a
		N-E	32	30	0.4	Pass	Pass	Pass	n/a	n/a
		E-N	98	91	0.7	Pass	Pass	Pass	n/a	n/a
		E-W	880	794	3.0	Pass	Pass	n/a	Pass	n/a
		E-S	39	43	0.6	Pass	Pass	Pass	n/a	n/a
		S-W	50	50	0.0	Pass	Pass	Pass	n/a	n/a
		S-N	20	20	0.0	Pass	Pass	Pass	n/a	n/a
		S-E	38	43	0.8	Pass	Pass	Pass	n/a	n/a
A2070 Bad Munsterfiel Road/The Blvd	3	E-N	34	34	0.0	Pass	Pass	Pass	n/a	n/a
		E-W	4	9	2.0	Pass	Pass	Pass	n/a	n/a
		E-S	24	13	2.6	Pass	Pass	Pass	n/a	n/a
		N-W	350	363	0.7	Pass	Pass	Pass	n/a	n/a
		N-S	789	644	5.4	Fail	Fail	n/a	Fail	n/a
		N-E	24	40	2.8	Pass	Pass	Pass	n/a	n/a
		S-W	442	415	1.3	Pass	Pass	Pass	n/a	n/a
		S-N	922	918	0.1	Pass	Pass	n/a	Pass	n/a
		S-E	11	13	0.8	Pass	Pass	Pass	n/a	n/a
		W-E	6	11	1.8	Pass	Pass	Pass	n/a	n/a
		W-S	262	240	1.4	Pass	Pass	Pass	n/a	n/a
The Blvd/Monument Way	4	N-W	9	46	7.0	Fail	Pass	Pass	n/a	n/a
		N-S	1	13	4.6	Pass	Pass	Pass	n/a	n/a
		N-E	40	19	4.9	Pass	Pass	Pass	n/a	n/a
		E-S	193	185	0.6	Pass	Pass	Pass	n/a	n/a
		E-W	430	414	0.8	Pass	Pass	Pass	n/a	n/a
		E-N	31	33	0.3	Pass	Pass	Pass	n/a	n/a
		S-W	10	10	0.0	Pass	Pass	Pass	n/a	n/a
		S-N	3	10	2.8	Pass	Pass	Pass	n/a	n/a
		S-E	185	177	0.6	Pass	Pass	Pass	n/a	n/a
		W-N	7	6	0.2	Pass	Pass	Pass	n/a	n/a
		W-E	249	293	2.6	Pass	Pass	Pass	n/a	n/a
		W-S	10	22	3.0	Pass	Pass	Pass	n/a	n/a
The Blvd/The Long Barrow Way/Crowbridge Road	5	E-N	366	341	1.3	Pass	Pass	Pass	n/a	n/a
		E-W	52	56	0.5	Pass	Pass	Pass	n/a	n/a
		E-S	31	43	2.0	Pass	Pass	Pass	n/a	n/a
		N-W	4	3	0.7	Pass	Pass	Pass	n/a	n/a
		N-S	27	27	0.0	Pass	Pass	Pass	n/a	n/a
		N-E	245	251	0.4	Pass	Pass	Pass	n/a	n/a
		S-W	4	0	2.4	Pass	Pass	Pass	n/a	n/a
		S-N	13	11	0.6	Pass	Pass	Pass	n/a	n/a
		S-E	10	17	1.8	Pass	Pass	Pass	n/a	n/a
		W-N	7	13	1.9	Pass	Pass	Pass	n/a	n/a
		W-E	12	51	7.0	Fail	Pass	Pass	n/a	n/a
		W-S	3	8	2.0	Pass	Pass	Pass	n/a	n/a
A2042 Romney Marsh Road/ New Town Road	6	E-N	138	107	2.8	Pass	Pass	Pass	n/a	n/a
		E-S	164	132	0.9	Pass	Pass	Pass	n/a	n/a
		S-N	981	770	7.1	Fail	Fail	n/a	Fail	n/a
		S-E	238	168	4.9	Pass	Pass	Pass	n/a	n/a
		N-S	478	396	3.9	Pass	Pass	Pass	n/a	n/a
		N-E	149	158	0.7	Pass	Pass	Pass	n/a	n/a
A2042 Romney Marsh Road/Beaver Road/Victoria Way	7	E-N	992	770	7.5	Fail	Fail	n/a	Fail	n/a
		E-W	86	53	4.0	Pass	Pass	Pass	n/a	n/a
		E-S	15	20	1.2	Pass	Pass	Pass	n/a	n/a
		N-W	56	43	1.8	Pass	Pass	Pass	n/a	n/a
		N-S	77	76	0.1	Pass	Pass	Pass	n/a	n/a
		N-E	515	497	0.8	Pass	Pass	Pass	n/a	n/a
		S-W	11	0	4.7	Pass	Pass	Pass	n/a	n/a
		S-N	79	78	0.1	Pass	Pass	Pass	n/a	n/a
		S-E	52	36	2.4	Pass	Pass	Pass	n/a	n/a
		W-N	43	53	1.4	Pass	Pass	Pass	n/a	n/a
		W-E	49	39	1.6	Pass	Pass	Pass	n/a	n/a
		W-S	9	0	4.2	Pass	Pass	Pass	n/a	n/a
Ashford Road/Steeds Lane/Magpie Hall Lane	8	E-N	17	19	0.6	Pass	Pass	Pass	n/a	n/a
		E-W	19	13	1.4	Pass	Pass	Pass	n/a	n/a
		E-S	2	17	4.9	Pass	Pass	Pass	n/a	n/a
		S-W	35	23	2.1	Pass	Pass	Pass	n/a	n/a
		S-N	234	245	0.7	Pass	Pass	Pass	n/a	n/a
		S-E	5	7	1.0	Pass	Pass	Pass	n/a	n/a
		W-E	21	22	0.4	Pass	Pass	Pass	n/a	n/a
		W-S	38	37	0.2	Pass	Pass	Pass	n/a	n/a
		N-W	119	82	3.7	Pass	Pass	Pass	n/a	n/a
		N-S	143	146	0.3	Pass	Pass	Pass	n/a	n/a
		N-E	6	28	5.4	Fail	Pass	Pass	n/a	n/a
Ashford Road/Pound Lane/Church Hill	9	E-N	93	108	1.3	Pass	Pass	Pass	n/a	n/a
		E-W	21	7	3.6	Pass	Pass	Pass	n/a	n/a
		E-S	10	16	1.7	Pass	Pass	Pass	n/a	n/a
		S-W	6	1	2.5	Pass	Pass	Pass	n/a	n/a
		S-N	325	336	0.6	Pass	Pass	Pass	n/a	n/a
		S-E	13	17	1.3	Pass	Pass	Pass	n/a	n/a
		W-N	34	97	7.8	Fail	Pass	Pass	n/a	n/a
		W-E	22	22	0.0	Pass	Pass	Pass	n/a	n/a
		W-S	4	8	1.9	Pass	Pass	Pass	n/a	n/a
		N-W	25	30	1.1	Pass	Pass	Pass	n/a	n/a
		N-S	211	234	1.6	Pass	Pass	Pass	n/a	n/a
		N-E	111	93	1.8	Pass	Pass	Pass	n/a	n/a
Ashford Road/Romney Marsh Road/Forestall Meadow	10	E-N	240	242	0.1	Pass	Pass	Pass	n/a	n/a
		E-W	134	137	0.3	Pass	Pass	Pass	n/a	n/a
		S-N	319	303	0.9	Pass	Pass	Pass	n/a	n/a
		S-E	84	79	0.5	Pass	Pass	Pass	n/a	n/a
		W-N	224	205	1.3	Pass	Pass	Pass	n/a	n/a
		W-E	171	189	1.4	Pass	Pass	Pass	n/a	n/a
		W-S	104	107	0.3	Pass	Pass	Pass	n/a	n/a
		N-W	77	112	3.7	Pass	Pass	Pass	n/a	n/a
		N-S	197	223	1.8	Pass	Pass	Pass	n/a	n/a
		N-E	168	172	0.3	Pass	Pass	Pass	n/a	n/a
A2042 Bad Munstereifel Road/A2070 Bad Munstereifel Road/A2070/Sheepfold Lane	11	SE-W	282	279	0.2	Pass	Pass	Pass	n/a	n/a
		SE-SW	20	0	6.1	Fail	Pass	Pass	n/a	n/a
		SW-SE	29	0	7.5	Fail	Pass	Pass	n/a	n/a
		SW-W	57	48	1.2	Pass	Pass	Pass	n/a	n/a
		W-E	307	276	1.8	Pass	Pass	Pass	n/a	n/a
		W-SE	52	56	0.6	Pass	Pass	Pass	n/a	n/a
A2042 Bad Munstereifel Road/Romney Marsh Road/Malcolm Sargent Road	12	S-W	27	0	7.3	Fail	Pass	Pass	n/a	n/a
		S-N	330	423	7.2	Fail	Fail	Fail	n/a	n/a
		W-N	143	145	0.1	Pass	Pass	Pass	n/a	n/a
		W-S	20	0	6.3	Fail	Pass	Pass	n/a	n/a
		N-W	81	51	3.7	Pass	Pass	Pass	n/a	n/a
		N-S	208	252	2.9	Pass	Pass	Pass	n/a	n/a
A28 Ashford Road/Chilmington Green Road	13	S-N	329	331	0.1	Pass	Pass	Pass	n/a	n/a
		S-SE	89	65	2.8	Pass	Pass	Pass	n/a	n/a
		N-S	377	377	0.0	Pass	Pass	Pass	n/a	n/a
A28 Ashford Road/Tithe Barn Lane	14	E-S	144	183	3.1	Pass	Pass	Pass	n/a	n/a
		E-N	283	252	1.9	Pass	Pass	Pass	n/a	n/a
		S-N	249	214	2.3	Pass	Pass	Pass	n/a	n/a
		S-E	88	115	2.7	Pass	Pass	Pass	n/a	n/a
		N-E	188	116	5.8	Fail	Pass	Pass	n/a	n/a
Knoll Lane/B2229 Brookfield Road/Arlington	15	SW-NW	7	49	8.0	Fail	Pass	Pass	n/a	n/a
		SE-SW	113	139	1.5	Pass	Pass	Pass	n/a	n/a
		SE-NW	438	472	1.6	Pass	Pass	Pass	n/a	n/a
		SE-NE	6	4	0.9	Pass	Pass	Pass	n/a	n/a
		NE-NW	50	82	4.0	Pass	Pass	Pass	n/a	n/a
		NE-SW	9	35	5.6	Fail	Pass	Pass	n/a	n/a
		NW-SW	133	225	6.9	Fail	Pass	Pass	n/a	n/a
		NW-SE	326	339	0.7	Pass	Pass	Pass	n/a	n/a
		NW-NE	105	115	0.9	Pass	Pass	Pass	n/a	n/a

A28 Ashford Road/A28 Chart Road/Chart Road/B2229 Brookfield Road	16	SW-NW	2	29	27	13.70	6.9	Fail	Pass	Pass	n/a	n/a
		SW-N	434	396	-38	-0.09	1.9	Pass	Pass	Pass	n/a	n/a
		SW-SE	18	41	23	1.27	4.2	Pass	Pass	Pass	n/a	n/a
		SE-SW	73	41	-32	-0.44	4.3	Pass	Pass	Pass	n/a	n/a
		SE-NW	39	23	-16	-0.42	3.0	Pass	Pass	Pass	n/a	n/a
		SE-N	631	673	42	0.07	1.6	Pass	Pass	Pass	n/a	n/a
		NW-SW	9	12	3	0.38	1.0	Pass	Pass	Pass	n/a	n/a
		NW-SE	46	65	19	0.42	2.6	Pass	Pass	Pass	n/a	n/a
		NW-N	138	123	-15	-0.11	1.3	Pass	Pass	Pass	n/a	n/a
		N-NW	13	60	47	3.62	7.8	Fail	Pass	Pass	n/a	n/a
		N-SW	261	212	-49	-0.19	3.2	Pass	Pass	Pass	n/a	n/a
		N-SE	563	568	5	0.01	0.2	Pass	Pass	Pass	n/a	n/a
A28 Chart Road/Loudon Way	17	S-W	42	56	14	0.34	2.0	Pass	Pass	Pass	n/a	n/a
		S-N	1059	1086	27	0.03	0.8	Pass	Pass	n/a	Pass	n/a
		W-S	121	74	-47	-0.39	4.7	Pass	Pass	Pass	n/a	n/a
		W-N	308	226	-82	-0.27	5.0	Fail	Pass	Pass	n/a	n/a
		N-W	91	85	-6	-0.07	0.7	Pass	Pass	Pass	n/a	n/a
		N-S	882	702	-180	-0.20	6.4	Fail	Fail	n/a	Fail	n/a
A28 Chart Road/A28 Templar Way/Carlton Road/Army Barracks	18	SW-W	5	28	23	4.52	5.6	Fail	Pass	Pass	n/a	n/a
		SW-N	887	974	87	0.10	2.9	Pass	Pass	n/a	Pass	n/a
		SW-E	338	416	78	0.23	4.0	Pass	Pass	Pass	n/a	n/a
		W-SW	5	1	-4	-0.84	2.5	Pass	Pass	Pass	n/a	n/a
		W-E	1	8	7	6.80	3.2	Pass	Pass	Pass	n/a	n/a
		W-N	8	10	2	0.25	0.7	Pass	Pass	Pass	n/a	n/a
		N-W	12	4	-8	-0.67	2.8	Pass	Pass	Pass	n/a	n/a
		N-SW	733	613	-120	-0.16	4.6	Pass	Fail	n/a	Fail	n/a
		N-SE	114	96	-18	-0.15	1.7	Pass	Pass	Pass	n/a	n/a
		N-E	18	36	18	1.02	3.5	Pass	Pass	Pass	n/a	n/a
		E-W	1	19	18	18.20	5.7	Fail	Pass	Pass	n/a	n/a
		E-SW	315	374	59	0.19	3.2	Pass	Pass	Pass	n/a	n/a
		E-SE	58	98	40	0.70	4.6	Pass	Pass	Pass	n/a	n/a
		SE-SW	16	0	-16	-1.00	5.7	Fail	Pass	Pass	n/a	n/a
		SE-E	28	0	-28	-1.00	7.5	Fail	Pass	Pass	n/a	n/a
A20 Maidstone Road/A20 Fougeres Way/A20 Simone Weil Avenue/A292 Maidstone Road/A28 Templar Way	19	E-NE	216	237	21	0.10	1.4	Pass	Pass	Pass	n/a	n/a
		E-S	160	93	-67	-0.42	5.9	Fail	Pass	Pass	n/a	n/a
		E-SE	43	62	19	0.43	2.6	Pass	Pass	Pass	n/a	n/a
		SE-S	17	1	-16	-0.95	5.4	Fail	Pass	Pass	n/a	n/a
		SE-NW	97	81	-16	-0.16	1.7	Pass	Pass	Pass	n/a	n/a
		SE-NE	170	118	-52	-0.31	4.3	Pass	Pass	Pass	n/a	n/a
		SE-E	66	35	-31	-0.47	4.3	Pass	Pass	Pass	n/a	n/a
		S-NW	121	206	85	0.70	6.6	Fail	Pass	Pass	n/a	n/a
		S-NE	636	688	52	0.08	2.0	Pass	Pass	Pass	n/a	n/a
		S-E	150	168	18	0.12	1.4	Pass	Pass	Pass	n/a	n/a
		S-SE	66	27	-39	-0.59	5.8	Fail	Pass	Pass	n/a	n/a
		NW-S	184	151	-33	-0.18	2.6	Pass	Pass	Pass	n/a	n/a
		NW-E	79	93	14	0.17	1.5	Pass	Pass	Pass	n/a	n/a
		NW-NE	269	240	-29	-0.11	1.8	Pass	Pass	Pass	n/a	n/a
		NE-NW	248	310	62	0.25	3.7	Pass	Pass	Pass	n/a	n/a
		NE-S	469	505	36	0.08	1.6	Pass	Pass	Pass	n/a	n/a
		NE-SE	356	229	-127	-0.36	7.4	Fail	Fail	Fail	n/a	n/a
A292 Maidstone Road/A292 New Street/A28 Magazine Road/Barrow Hill	20	S-W	12	20	8	0.65	2.0	Pass	Pass	Pass	n/a	n/a
		S-N	8	5	-3	-0.40	1.3	Pass	Pass	Pass	n/a	n/a
		S-E	6	4	-2	-0.27	0.7	Pass	Pass	Pass	n/a	n/a
		E-S	6	1	-5	-0.83	2.7	Pass	Pass	Pass	n/a	n/a
		E-W	506	588	82	0.16	3.5	Pass	Pass	Pass	n/a	n/a
		E-N	54	51	-3	-0.06	0.5	Pass	Pass	Pass	n/a	n/a
		N-S	6	2	-4	-0.67	2.0	Pass	Pass	Pass	n/a	n/a
		N-E	117	117	0	0.00	0.0	Pass	Pass	Pass	n/a	n/a
		W-S	7	7	0	-0.06	0.2	Pass	Pass	Pass	n/a	n/a
		W-E	709	673	-36	-0.05	1.4	Pass	Pass	n/a	Pass	n/a
		W-N	203	176	-27	-0.13	2.0	Pass	Pass	Pass	n/a	n/a
A28 Magazine Road/A28 North Street/A28 Canterbury Road	21	W-N	220	195	-25	-0.11	1.7	Pass	Pass	Pass	n/a	n/a
		S-N	324	303	-21	-0.06	1.2	Pass	Pass	Pass	n/a	n/a
		S-W	71	81	10	0.15	1.2	Pass	Pass	Pass	n/a	n/a
		N-W	270	221	-49	-0.18	3.1	Pass	Pass	Pass	n/a	n/a
		N-S	588	758	170	0.29	6.6	Fail	Fail	Fail	n/a	n/a
A28 Canterbury Road/A20 Simone Weil Avenue	22	S-W	160	172	12	0.07	0.9	Pass	Pass	Pass	n/a	n/a
		S-N	415	342	-73	-0.18	3.8	Pass	Pass	Pass	n/a	n/a
		W-N	262	272	10	0.04	0.6	Pass	Pass	Pass	n/a	n/a
		N-W	300	241	-59	-0.20	3.6	Pass	Pass	Pass	n/a	n/a
		N-S	756	667	-89	-0.12	3.3	Pass	Pass	n/a	Pass	n/a
A292 Somerset Road/A28 North Street	23	N-W	63	66	3	0.05	0.4	Pass	Pass	Pass	n/a	n/a
		N-E	493	552	59	0.12	2.6	Pass	Pass	Pass	n/a	n/a
		E-N	349	288	-61	-0.18	3.4	Pass	Pass	Pass	n/a	n/a
		E-W	359	449	90	0.25	4.5	Pass	Pass	Pass	n/a	n/a
A292 Mace Lane/A292 Somerset Road/Wellesley Road	24	W-S	501	473	-28	-0.06	1.3	Pass	Pass	Pass	n/a	n/a
		S-W	250	285	35	0.14	2.1	Pass	Pass	Pass	n/a	n/a
		S-E	227	152	-75	-0.33	5.5	Fail	Pass	Pass	n/a	n/a
		E-W	449	444	-5	-0.01	0.2	Pass	Pass	Pass	n/a	n/a
		E-S	334	357	23	0.07	1.2	Pass	Pass	Pass	n/a	n/a
A292 Elwick Road/Apsley Street	25	W-E	299	245	-54	-0.18	3.2	Pass	Pass	Pass	n/a	n/a
		W-N	63	63	0	-0.01	0.1	Pass	Pass	Pass	n/a	n/a
A292 Elwick Road/Church Road	26	W-E	236	172	-64	-0.27	4.5	Pass	Pass	Pass	n/a	n/a
		W-N	55	56	1	0.01	0.1	Pass	Pass	Pass	n/a	n/a
		E-N	138	204	66	0.48	5.1	Fail	Pass	Pass	n/a	n/a
A292 New Street/A292 Forge Lane/A292 Somerset Road	27	W-S	415	470	55	0.13	2.6	Pass	Pass	Pass	n/a	n/a
		S-W	231	191	-40	-0.17	2.8	Pass	Pass	Pass	n/a	n/a
		S-N	50	36	-14	-0.27	2.1	Pass	Pass	Pass	n/a	n/a
		N-W	381	373	-8	-0.02	0.4	Pass	Pass	Pass	n/a	n/a
		N-S	142	135	-7	-0.05	0.6	Pass	Pass	Pass	n/a	n/a
A292 Station Road/Vicarage Lane	28	W-N	66	149	83	1.25	8.0	Fail	Pass	Pass	n/a	n/a
		W-S	74	106	32	0.44	3.4	Pass	Pass	Pass	n/a	n/a
		N-S	641	738	97	0.15	3.7	Pass	Pass	Pass	n/a	n/a
A292 Elwick Road/A292 Station Road/A2042 Beaver Road/Station Road	29	W-N	17	4	-13	-0.75	3.9	Pass	Pass	Pass	n/a	n/a
		W-E	53	48	-5	-0.10	0.7	Pass	Pass	Pass	n/a	n/a
		W-S	162	115	-47	-0.29	4.0	Pass	Pass	Pass	n/a	n/a
		S-N	505	464	-41	-0.08	1.8	Pass	Pass	Pass	n/a	n/a
		S-E	221	160	-61	-0.28	4.4	Pass	Pass	Pass	n/a	n/a
		E-N	49	47	-2	-0.04	0.3	Pass	Pass	Pass	n/a	n/a
		E-W	62	52	-10	-0.16	1.4	Pass	Pass	Pass	n/a	n/a
		E-S	92	93	1	0.01	0.1	Pass	Pass	Pass	n/a	n/a
		N-W	118	126	8	0.07	0.7	Pass	Pass	Pass	n/a	n/a
		N-S	407	401	-6	-0.01	0.3	Pass	Pass	Pass	n/a	n/a
		N-E	100	59	-41	-0.41	4.6	Pass	Pass	Pass	n/a	n/a
Wellesley Road/Park Lane	30	S-W	70	88	18	0.26	2.0	Pass	Pass	Pass	n/a	n/a
		N-S	663	758	95	0.14	3.6	Pass	Pass	Pass	n/a	n/a

% GEH Less Than 5	87%
- Individual Flows Within 100 vph for flows <700	97%
- Individual Flows Within 15% for flows (700-2700 vph)	
- Individual Flows Within 400 vph for flows >2700	

ndix B - Ashford VISSIM Calibration Table by MCC Data - PM

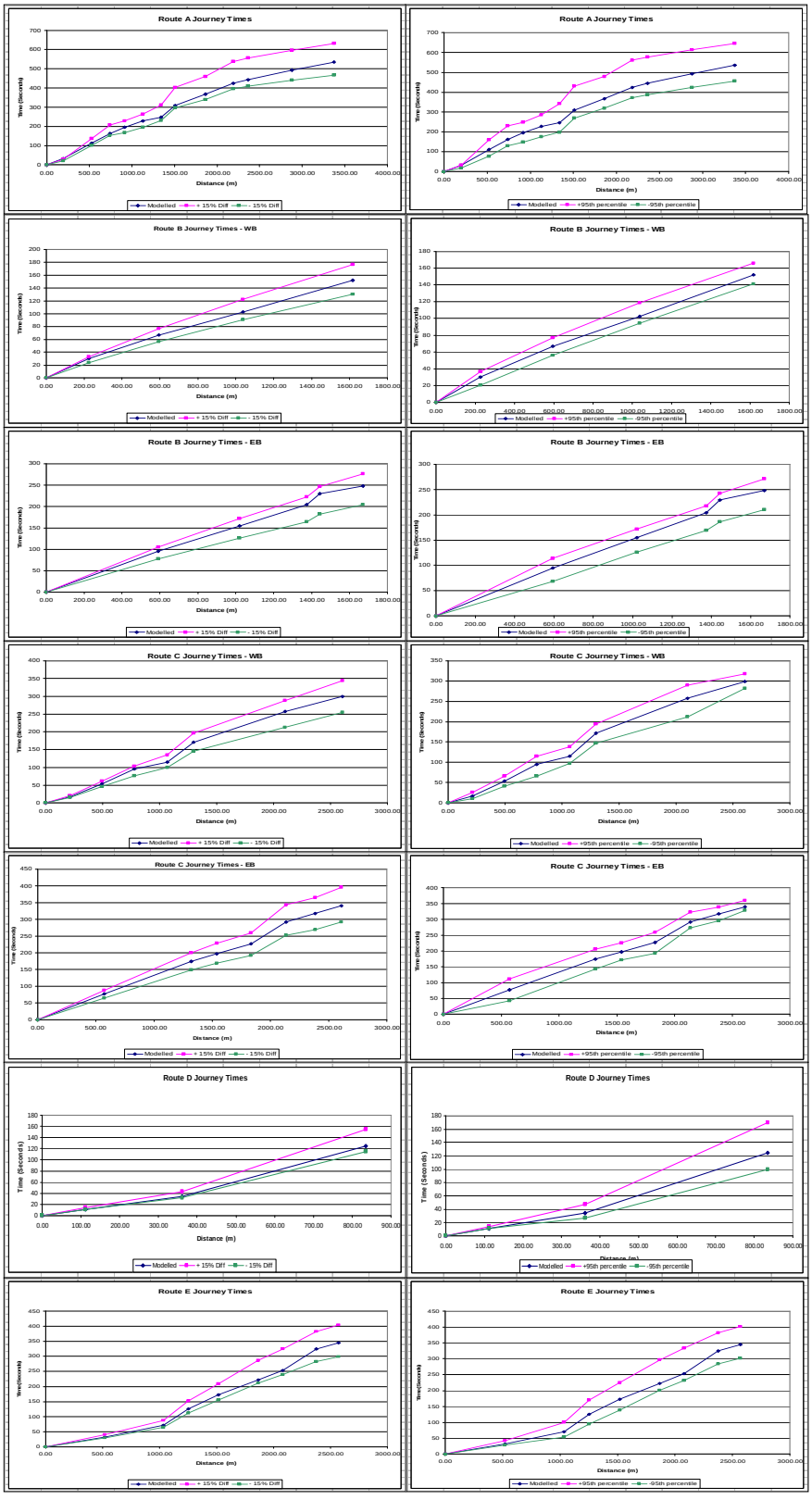
ASHFORD VISSIM Turning Counts Validation Table ---- PM Peak											
Site Location	Site No.	Movement	SURV	MOD	GEH	GEH<5	Flows	<700	700-2700	>2700
Norman Road/ Kimberley Way/ A2042/ Romney Marsh Road RAB	1	W-N	152	154	0.2	Pass	Pass	Pass	n/a	n/a
		W-E	91	78	1.3	Pass	Pass	Pass	n/a	n/a
		W-S	236	245	0.6	Pass	Pass	Pass	n/a	n/a
		N-W	319	293	1.5	Pass	Pass	Pass	n/a	n/a
		N-S	916	886	0.9	Pass	Pass	n/a	Pass	n/a
		N-E	111	135	2.1	Pass	Pass	Pass	n/a	n/a
		E-N	91	125	3.3	Pass	Pass	Pass	n/a	n/a
		E-W	184	163	1.6	Pass	Pass	Pass	n/a	n/a
		E-S	259	260	0.1	Pass	Pass	Pass	n/a	n/a
		S-W	290	335	2.5	Pass	Pass	Pass	n/a	n/a
		S-N	342	408	3.4	Pass	Pass	Pass	n/a	n/a
		S-E	196	198	0.1	Pass	Pass	Pass	n/a	n/a
Mace Lane/ Henwood/ Hythe Rd/ Mill Court RAB	2	W-N	43	24	3.4	Pass	Pass	Pass	n/a	n/a
		W-E	642	605	1.5	Pass	Pass	Pass	n/a	n/a
		W-S	42	60	2.5	Pass	Pass	Pass	n/a	n/a
		N-W	146	152	0.5	Pass	Pass	Pass	n/a	n/a
		N-S	10	9	0.2	Pass	Pass	Pass	n/a	n/a
		N-E	157	134	1.9	Pass	Pass	Pass	n/a	n/a
		E-N	28	22	1.1	Pass	Pass	Pass	n/a	n/a
		E-W	481	484	0.1	Pass	Pass	Pass	n/a	n/a
		E-S	59	57	0.3	Pass	Pass	Pass	n/a	n/a
		S-W	71	61	1.2	Pass	Pass	Pass	n/a	n/a
		S-N	6	8	0.6	Pass	Pass	Pass	n/a	n/a
		S-E	67	49	2.3	Pass	Pass	Pass	n/a	n/a
A2070 Bad Munsterfiel Road/The Blvd	3	E-N	31	34	0.5	Pass	Pass	Pass	n/a	n/a
		E-W	9	12	1.0	Pass	Pass	Pass	n/a	n/a
		E-S	22	32	1.8	Pass	Pass	Pass	n/a	n/a
		N-W	174	187	1.0	Pass	Pass	Pass	n/a	n/a
		N-S	987	971	0.5	Pass	Pass	n/a	Pass	n/a
		N-E	48	48	0.0	Pass	Pass	Pass	n/a	n/a
		S-W	314	316	0.1	Pass	Pass	Pass	n/a	n/a
		S-N	919	927	0.3	Pass	Pass	n/a	Pass	n/a
		S-E	14	13	0.3	Pass	Pass	Pass	n/a	n/a
		W-E	1	11	4.1	Pass	Pass	Pass	n/a	n/a
		W-S	366	344	1.2	Pass	Pass	Pass	n/a	n/a
The Blvd/Monument Way	4	N-W	14	8	1.7	Pass	Pass	Pass	n/a	n/a
		N-S	6	7	0.4	Pass	Pass	Pass	n/a	n/a
		N-E	57	79	2.7	Pass	Pass	Pass	n/a	n/a
		E-S	224	223	0.1	Pass	Pass	Pass	n/a	n/a
		E-W	327	231	5.7	Fail	Pass	Pass	n/a	n/a
		E-N	37	42	0.8	Pass	Pass	Pass	n/a	n/a
		S-W	17	35	3.5	Pass	Pass	Pass	n/a	n/a
		S-N	7	7	0.0	Pass	Pass	Pass	n/a	n/a
		S-E	214	204	0.6	Pass	Pass	Pass	n/a	n/a
		W-N	10	9	0.1	Pass	Pass	Pass	n/a	n/a
		W-E	405	378	1.4	Pass	Pass	Pass	n/a	n/a
		W-S	12	23	2.7	Pass	Pass	Pass	n/a	n/a
The Blvd/The Long Barrow Way/Crowbridge Road	5	E-N	329	226	6.2	Fail	Fail	Fail	n/a	n/a
		E-W	12	23	2.7	Pass	Pass	Pass	n/a	n/a
		E-S	10	26	3.8	Pass	Pass	Pass	n/a	n/a
		N-W	1	8	2.5	Pass	Pass	Pass	n/a	n/a
		N-S	19	27	1.8	Pass	Pass	Pass	n/a	n/a
		N-E	335	294	2.3	Pass	Pass	Pass	n/a	n/a
		S-W	2	1	0.7	Pass	Pass	Pass	n/a	n/a
		S-N	26	7	4.7	Pass	Pass	Pass	n/a	n/a
		S-E	28	58	4.4	Pass	Pass	Pass	n/a	n/a
		W-N	5	1	2.3	Pass	Pass	Pass	n/a	n/a
		W-E	27	57	4.7	Pass	Pass	Pass	n/a	n/a
		W-S	1	1	0.4	Pass	Pass	Pass	n/a	n/a
A2040 Romney Marsh Road/ New Town Road	6	E-N	119	71	4.9	Pass	Pass	Pass	n/a	n/a
		E-S	126	84	4.1	Pass	Pass	Pass	n/a	n/a
		S-N	518	582	2.7	Pass	Pass	Pass	n/a	n/a
		S-E	205	192	1.0	Pass	Pass	Pass	n/a	n/a
		N-S	1063	742	10.7	Fail	Fail	n/a	Fail	n/a
		N-E	193	209	1.2	Pass	Pass	Pass	n/a	n/a
A2040 Romney Marsh Road/Beaver Road/Victoria Way	7	E-N	641	690	2.1	Pass	Pass	Pass	n/a	n/a
		E-W	13	14	0.4	Pass	Pass	Pass	n/a	n/a
		E-S	51	21	4.9	Pass	Pass	Pass	n/a	n/a
		N-W	14	12	0.4	Pass	Pass	Pass	n/a	n/a
		N-S	77	76	0.2	Pass	Pass	Pass	n/a	n/a
		N-E	1126	810	10.1	Fail	Fail	n/a	Fail	n/a
		S-W	3	0	2.2	Pass	Pass	Pass	n/a	n/a
		S-N	79	77	0.2	Pass	Pass	Pass	n/a	n/a
		S-E	83	67	1.9	Pass	Pass	Pass	n/a	n/a
		W-N	34	48	2.2	Pass	Pass	Pass	n/a	n/a
		W-E	52	74	2.8	Pass	Pass	Pass	n/a	n/a
		W-S	4	0	2.8	Pass	Pass	Pass	n/a	n/a
Ashford Road/Steeds Lane/Magpie Hall Lane	8	E-N	8	18	2.8	Pass	Pass	Pass	n/a	n/a
		E-W	11	3	2.9	Pass	Pass	Pass	n/a	n/a
		E-S	5	5	0.0	Pass	Pass	Pass	n/a	n/a
		S-W	41	62	3.0	Pass	Pass	Pass	n/a	n/a
		S-N	172	177	0.4	Pass	Pass	Pass	n/a	n/a
		S-E	5	5	0.2	Pass	Pass	Pass	n/a	n/a
		W-E	28	10	4.1	Pass	Pass	Pass	n/a	n/a
		W-S	41	57	2.2	Pass	Pass	Pass	n/a	n/a
		N-W	252	101	11.3	Fail	Fail	Fail	n/a	n/a
		N-S	213	227	0.9	Pass	Pass	Pass	n/a	n/a
		N-E	19	41	4.1	Pass	Pass	Pass	n/a	n/a
Ashford Road/Pound Lane/Church Hill	9	E-N	79	77	0.2	Pass	Pass	Pass	n/a	n/a
		E-W	19	4	4.5	Pass	Pass	Pass	n/a	n/a
		E-S	7	8	0.5	Pass	Pass	Pass	n/a	n/a
		S-W	12	4	3.0	Pass	Pass	Pass	n/a	n/a
		S-N	293	326	1.9	Pass	Pass	Pass	n/a	n/a
		S-E	9	9	0.0	Pass	Pass	Pass	n/a	n/a
		W-N	27	93	8.3	Fail	Pass	Pass	n/a	n/a
		W-E	13	16	0.9	Pass	Pass	Pass	n/a	n/a
		W-S	3	18	4.7	Pass	Pass	Pass	n/a	n/a
		N-W	49	56	0.9	Pass	Pass	Pass	n/a	n/a
		N-S	381	346	1.8	Pass	Pass	Pass	n/a	n/a
		N-E	111	103	0.8	Pass	Pass	Pass	n/a	n/a
Ashford Road/Romney Marsh Road/Forestall Meadow	10	E-N	161	162	0.1	Pass	Pass	Pass	n/a	n/a
		E-W	246	166	5.6	Fail	Pass	Pass	n/a	n/a
		S-N	209	255	3.6	Pass	Pass	Pass	n/a	n/a
		S-E	131	131	0.0	Pass	Pass	Pass	n/a	n/a
		W-N	64	62	0.3	Pass	Pass	Pass	n/a	n/a
		W-E	177	185	0.6	Pass	Pass	Pass	n/a	n/a
		W-S	62	91	3.3	Pass	Pass	Pass	n/a	n/a
		N-W	213	205	0.6	Pass	Pass	Pass	n/a	n/a
		N-S	289	285	0.2	Pass	Pass	Pass	n/a	n/a
		N-E	343	319	1.3	Pass	Pass	Pass	n/a	n/a
A2042 Bad Munstereifel Road/A2070 Bad Munstereifel Road/A2070/Sheepfold Lane	11	SE-W	159	187	2.1	Pass	Pass	Pass	n/a	n/a
		SE-SW	24	24	0.1	Pass	Pass	Pass	n/a	n/a
		SW-SE	42	42	0.1	Pass	Pass	Pass	n/a	n/a
		SW-W	28	30	0.3	Pass	Pass	Pass	n/a	n/a
		W-E	457	453	0.2	Pass	Pass	Pass	n/a	n/a
		W-SE	218	228	0.7	Pass	Pass	Pass	n/a	n/a
A2042 Bad Munstereifel Road/Romney Marsh Road/Malcolm Sargent Road	12	S-W	16	2	4.7	Pass	Pass	Pass	n/a	n/a
		S-N	244	250	0.4	Pass	Pass	Pass	n/a	n/a
		W-N	101	101	0.0	Pass	Pass	Pass	n/a	n/a
		W-S	43	0	9.3	Fail	Pass	Pass	n/a	n/a
		N-W	100	94	0.6	Pass	Pass	Pass	n/a	n/a
		N-S	486	360	6.1	Fail	Fail	Fail	n/a	n/a
A28 Ashford Road/Chilmington Green Road	13	S-N	402	424	1.1	Pass	Pass	Pass	n/a	n/a
		S-SE	113	76	3.8	Pass	Pass	Pass	n/a	n/a
		N-S	316	293	1.3	Pass	Pass	Pass	n/a	n/a
A28 Ashford Road/Tithe Barn Lane	14	E-S	80	76	0.5	Pass	Pass	Pass	n/a	n/a
		E-N	203	89	9.5	Fail	Fail	Fail	n/a	n/a
		S-N	299	337	2.1	Pass	Pass	Pass	n/a	n/a
		S-E	154	134	1.7	Pass	Pass	Pass	n/a	n/a
		N-E	462	452	0.5	Pass	Pass	Pass	n/a	n/a
Knoll Lane/B2229 Brookfield Road/Arlington	15	SW-NW	9	31	5.0	Pass	Pass	Pass	n/a	n/a
		SE-SW	162	246	5.9	Fail	Pass	Pass	n/a	n/a
		SE-NW	427	488	2.9	Pass	Pass	Pass	n/a	n/a
		SE-NE	1	11	4.1	Pass	Pass	Pass	n/a	n/a
		NE-NW	105	52	6.0	Fail	Pass	Pass	n/a	n/a
		NE-SW	7	27	4.9	Pass	Pass	Pass	n/a	n/a
		NW-SW	263	273	0.6	Pass	Pass	Pass	n/a	n/a
		NW-SE	520	505	0.7	Pass	Pass	Pass	n/a	n/a
		NW-NE	50	82	4.0	Pass	Pass	Pass	n/a	n/a

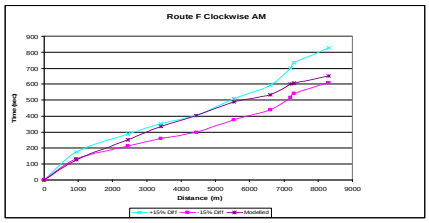
A28 Ashford Road/A28 Chart Road/Chart Road/B2229 Brookfield Road	16	SW-NW	7	9	0.7	Pass	Pass	Pass	n/a	n/a
		SW-N	381	367	0.7	Pass	Pass	Pass	n/a	n/a
		SW-SE	31	50	3.0	Pass	Pass	Pass	n/a	n/a
		SE-SW	62	41	2.9	Pass	Pass	Pass	n/a	n/a
		SE-NW	48	19	4.9	Pass	Pass	Pass	n/a	n/a
		SE-N	577	539	1.6	Pass	Pass	Pass	n/a	n/a
		NW-SW	12	25	3.1	Pass	Pass	Pass	n/a	n/a
		NW-SE	55	64	1.2	Pass	Pass	Pass	n/a	n/a
		NW-N	71	90	2.1	Pass	Pass	Pass	n/a	n/a
		N-NW	51	93	4.9	Pass	Pass	Pass	n/a	n/a
		N-SW	504	615	4.7	Pass	Fail	Fail	n/a	n/a
		N-SE	686	661	1.0	Pass	Pass	Pass	n/a	n/a
A28 Chart Road/Loudon Way	17	S-W	81	47	4.3	Pass	Pass	Pass	n/a	n/a
		S-N	989	958	1.0	Pass	Pass	n/a	Pass	n/a
		W-S	55	66	1.4	Pass	Pass	Pass	n/a	n/a
		W-N	63	55	1.0	Pass	Pass	Pass	n/a	n/a
		N-W	173	226	3.7	Pass	Pass	Pass	n/a	n/a
		N-S	1183	1128	1.6	Pass	Pass	n/a	Pass	n/a
A28 Chart Road/A28 Templar Way/Carlton Road/Army Barracks	18	SW-W	2	4	1.1	Pass	Pass	Pass	n/a	n/a
		SW-N	782	779	0.1	Pass	Pass	n/a	Pass	n/a
		SW-E	303	420	6.2	Fail	Fail	Fail	n/a	n/a
		W-SW	4	18	4.3	Pass	Pass	Pass	n/a	n/a
		W-E	2	6	2.1	Pass	Pass	Pass	n/a	n/a
		W-N	7	1	2.7	Pass	Pass	Pass	n/a	n/a
		N-W	4	0	2.4	Pass	Pass	Pass	n/a	n/a
		N-SW	1004	928	2.4	Pass	Pass	n/a	Pass	n/a
		N-SE	43	108	7.5	Fail	Pass	Pass	n/a	n/a
		N-E	28	12	3.5	Pass	Pass	Pass	n/a	n/a
		E-W	3	19	4.8	Pass	Pass	Pass	n/a	n/a
		E-SW	322	344	1.2	Pass	Pass	Pass	n/a	n/a
		E-SE	18	51	5.6	Fail	Pass	Pass	n/a	n/a
		SE-SW	23	0	6.8	Fail	Pass	Pass	n/a	n/a
		SE-E	36	0	8.5	Fail	Pass	Pass	n/a	n/a
A20 Maidstone Road/A20 Fougeres Way/A20 Simone Weil Avenue/A292 Maidstone Road/A28 Templar Way	19	E-NE	117	87	3.0	Pass	Pass	Pass	n/a	n/a
		E-S	323	195	7.9	Fail	Fail	Fail	n/a	n/a
		E-SE	33	36	0.5	Pass	Pass	Pass	n/a	n/a
		SE-S	29	0	7.6	Fail	Pass	Pass	n/a	n/a
		SE-NW	181	122	4.8	Pass	Pass	Pass	n/a	n/a
		SE-NE	195	175	1.5	Pass	Pass	Pass	n/a	n/a
		SE-E	72	26	6.6	Fail	Pass	Pass	n/a	n/a
		S-NW	145	211	4.9	Pass	Pass	Pass	n/a	n/a
		S-NE	483	599	5.0	Pass	Fail	Fail	n/a	n/a
		S-E	184	171	1.0	Pass	Pass	Pass	n/a	n/a
		S-SE	40	34	1.1	Pass	Pass	Pass	n/a	n/a
		NW-S	147	125	1.9	Pass	Pass	Pass	n/a	n/a
		NW-E	101	115	1.3	Pass	Pass	Pass	n/a	n/a
		NW-NE	198	238	2.7	Pass	Pass	Pass	n/a	n/a
		NE-NW	357	357	0.0	Pass	Pass	Pass	n/a	n/a
		NE-S	545	735	7.5	Fail	Fail	Fail	n/a	n/a
		NE-SE	276	161	7.8	Fail	Fail	Fail	n/a	n/a
A292 Maidstone Road/A292 New Street/A28 Magazine Road/Barrow Hill	20	S-W	2	3	0.7	Pass	Pass	Pass	n/a	n/a
		S-N	1	1	0.4	Pass	Pass	Pass	n/a	n/a
		S-E	3	2	0.4	Pass	Pass	Pass	n/a	n/a
		E-S	4	7	1.4	Pass	Pass	Pass	n/a	n/a
		E-W	664	704	1.5	Pass	Pass	Pass	n/a	n/a
		E-N	113	101	1.1	Pass	Pass	Pass	n/a	n/a
		N-S	3	1	1.6	Pass	Pass	Pass	n/a	n/a
		N-E	69	70	0.1	Pass	Pass	Pass	n/a	n/a
		W-S	5	7	0.7	Pass	Pass	Pass	n/a	n/a
		W-E	624	449	7.6	Fail	Fail	Fail	n/a	n/a
		W-N	163	187	1.8	Pass	Pass	Pass	n/a	n/a
A28 Magazine Road/A28 North Street/A28 Canterbury Road	21	W-N	235	218	1.1	Pass	Pass	Pass	n/a	n/a
		S-N	591	499	3.9	Pass	Pass	Pass	n/a	n/a
		S-W	51	121	7.6	Fail	Pass	Pass	n/a	n/a
		N-W	192	188	0.3	Pass	Pass	Pass	n/a	n/a
		N-S	516	571	2.4	Pass	Pass	Pass	n/a	n/a
A28 Canterbury Road/A20 Simone Weil Avenue	22	S-W	226	214	0.8	Pass	Pass	Pass	n/a	n/a
		S-N	604	506	4.1	Pass	Pass	Pass	n/a	n/a
		W-N	410	412	0.1	Pass	Pass	Pass	n/a	n/a
		N-W	286	131	10.8	Fail	Fail	Fail	n/a	n/a
		N-S	544	433	5.0	Fail	Fail	Fail	n/a	n/a
A292 Somerset Road/A28 North Street	23	N-W	59	27	4.8	Pass	Pass	Pass	n/a	n/a
		N-E	460	463	0.1	Pass	Pass	Pass	n/a	n/a
		E-N	509	484	1.1	Pass	Pass	Pass	n/a	n/a
		E-W	355	300	3.1	Pass	Pass	Pass	n/a	n/a
A292 Mace Lane/A292 Somerset Road/Wellesley Road	24	W-S	438	496	2.7	Pass	Pass	Pass	n/a	n/a
		S-W	402	447	2.2	Pass	Pass	Pass	n/a	n/a
		S-E	226	157	5.0	Pass	Pass	Pass	n/a	n/a
		E-W	446	347	5.0	Pass	Pass	Pass	n/a	n/a
		E-S	283	292	0.5	Pass	Pass	Pass	n/a	n/a
A292 Elwick Road/Apsley Street	25	W-E	412	94	20.0	Fail	Fail	Fail	n/a	n/a
		W-N	66	26	6.0	Fail	Pass	Pass	n/a	n/a
A292 Elwick Road/Church Road	26	W-E	398	75	21.0	Fail	Fail	Fail	n/a	n/a
		W-N	36	3	7.6	Fail	Pass	Pass	n/a	n/a
		E-N	118	177	4.9	Pass	Pass	Pass	n/a	n/a
A292 New Street/A292 Forge Lane/A292 Somerset Road	27	W-S	280	187	6.1	Fail	Pass	Pass	n/a	n/a
		S-W	292	350	3.2	Pass	Pass	Pass	n/a	n/a
		S-N	70	99	3.2	Pass	Pass	Pass	n/a	n/a
		N-W	437	263	9.3	Fail	Fail	Fail	n/a	n/a
		N-S	162	65	9.1	Fail	Pass	Pass	n/a	n/a
A292 Station Road/Vicarage Lane	28	W-N	159	201	3.1	Pass	Pass	Pass	n/a	n/a
		W-S	194	268	4.9	Pass	Pass	Pass	n/a	n/a
		N-S	641	720	3.0	Pass	Pass	Pass	n/a	n/a
A292 Elwick Road/A292 Station Road/A2042 Beaver Road/Station Road	29	W-N	59	0	10.9	Fail	Pass	Pass	n/a	n/a
		W-E	39	20	3.5	Pass	Pass	Pass	n/a	n/a
		W-S	305	56	18.5	Fail	Fail	Fail	n/a	n/a
		S-N	361	264	5.5	Fail	Pass	Pass	n/a	n/a
		S-E	123	85	3.7	Pass	Pass	Pass	n/a	n/a
		E-N	91	102	1.1	Pass	Pass	Pass	n/a	n/a
		E-W	60	33	4.0	Pass	Pass	Pass	n/a	n/a
		E-S	220	239	1.3	Pass	Pass	Pass	n/a	n/a
		N-W	114	135	1.8	Pass	Pass	Pass	n/a	n/a
		N-S	655	597	2.3	Pass	Pass	Pass	n/a	n/a
		N-E	99	86	1.4	Pass	Pass	Pass	n/a	n/a
Wellesley Road/Park Lane	30	S-W	70	59	1.4	Pass	Pass	Pass	n/a	n/a
		N-S	637	755	4.5	Pass	Fail	Fail	n/a	n/a

% GEH Less Than 5	85%
- Individual Flows Within 100 vph for flows <700	92%
- Individual Flows Within 15% for flows (700-2700 vph)	
- Individual Flows Within 400 vph for flows >2700	

ndix C - Journey Time Validation Table

Journey Time within ± 15% differences & ± 95% CI – AM Peak

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Distance (m)
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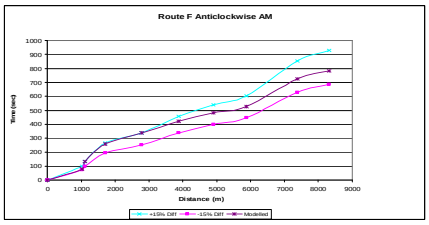
-15% Diff
Modelled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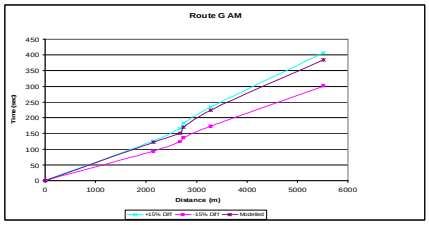
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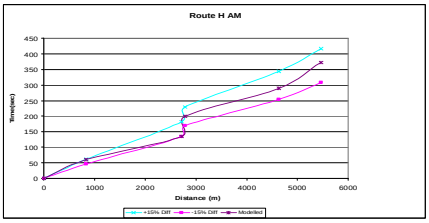
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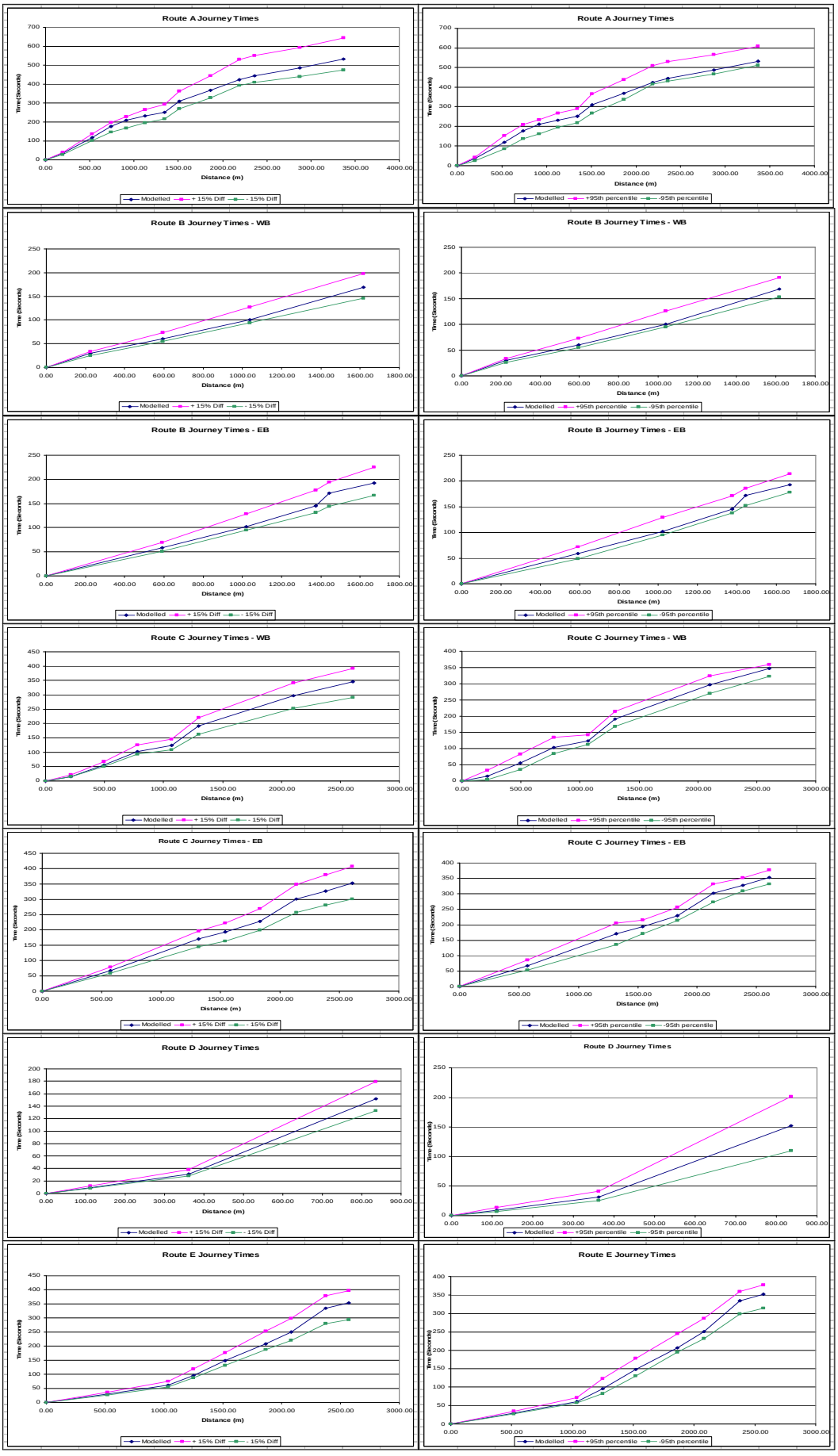
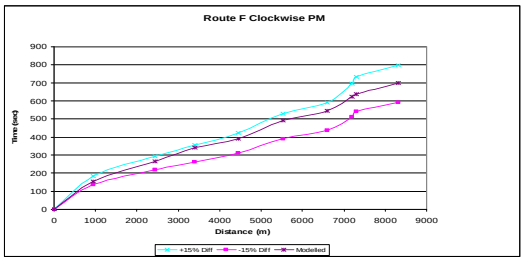
Journey Time within ± 15% differences & ± 95% CI – PM Peak

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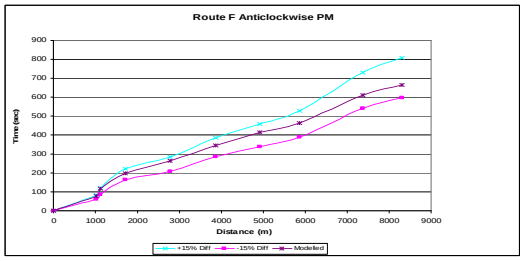
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Distance (m)
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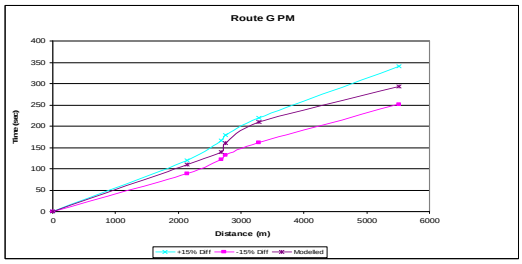
Modelled


Route G PM
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Distance (m)
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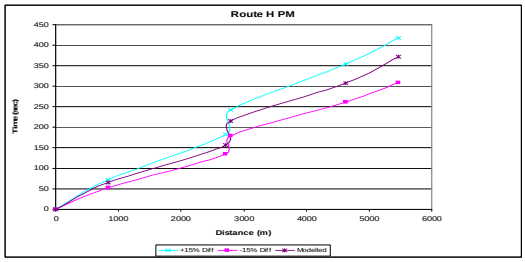
Route H PM
Time (sec)
Distance (m)
+15% Diff
-15% Diff
Modelled

Chilmington Green Master Planning VISSIM Model Option Testing

2031 Do Minimum Draft Report

January 2012

JACOBS

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	Originator	Checked by	Reviewed by	Approved by
ORIGINAL	NAME Tao Lu	NAME Sam Peng	NAME Sam Peng	NAME Shaleen Srivastava
DATE: 19 Sep 2011	SIGNATURE	SIGNATURE	SIGNATURE	SIGNATURE
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REVISION	NAME Tao Lu Gareth Elphick	NAME Shaleen Srivastava	NAME Shaleen Srivastava	NAME Shaleen Srivastava
DATE 1 Feb 2012	SIGNATURE	SIGNATURE	SIGNATURE	SIGNATURE
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Contents

1 Introduction

Jacobs has developed a VISSIM model of the Ashford area for a variety of projects relating to Ashford as a growth area. The calibrated / validated 2010 Base year model has been used as a basis to test master planning forecast scenarios. The model study area is presented in Figure 1-A. Initial modelling work completed by Jacobs assessed the Chilmington Green master plan for a 2031 Scenario 2, which included highway capacity improvements on the A28. The 2031 Do Minimum Scenario is set up to test the traffic performance both in the whole Ashford area, generally, and on the A28 corridor in particular.

For further details of this work see the report *Chilmington Green – Ashford Master Planning Scenario Testing, VISSIM Model Development, April 2011*.

Figure 1-A Study Area

This report refers to an updated DM run undertaken in January 2012, which included signalisation of J9. Comparisons with Scenario 2 relate to the commensurate run.

In 2031 Do Minimum test, the model assumes that the Chilmington Green development scheme will not be implemented and neither does any improvement schemes for the A28 corridor between Tank Roundabout and Matalan Roundabout, except for some minor changes to facilitate the SmartLink scheme. Other highway infrastructure schemes that are already committed are shown as below:

- *Completion of Victoria Way*
- *Signalisation of J9 (January 2012 run)*
- *Warren Park & Ride*
- *Completed ring road shared space project with two-way restricted flow*
- *Signalisation of Drovers Roundabout*
- *Signalisation of Leacon Road / Brookfield Road and Gasworks Lane / Victoria Way*
- *Closure of Gasworks Lane - access via Victoria Way*
- *Completion of M20 Junction 10A and related network improvements*

- *The proposed Bellamy Roberts junctions providing access to Cheeseman's Green (T- Junction) and Waterbrook*
- *The existing A2070 Bad Munstereifel Road / Waterbrook Avenue / The Boulevard roundabout to be upgraded into a large at-grade signalised junction*

In addition to the above committed highway infrastructure schemes, it assumes, in line with the new developments and particularly the Cheeseman's Green development, the Orchard Way scheme is also completed, except, as in Scenario 2, for the corresponding section to the Kingsnorth urban extension. The alignment and associated junctions for Orchard Way are based on the GADF plans and are presented in Appendix A.

A SVD (Selective Vehicle Detection) is installed at Tank Roundabout to be triggered by the SmartLink buses to help them to access the roundabout.

The purpose of this report is to present the results of 2031 do-minimum for the AM (08:00 – 09:00) and PM (17:00 – 18:00) peak hours. Section 2 of this report describes the modelling methodology and assumptions for the assessment. The results of the assessment for 2031 Do Minimum are presented in Section 3. Finally, the summary and conclusions are presented in Section 4.

2 Methodology and Assumptions

2.1 Development Assumptions

2.1.1 Chilmington Green

The Chilmington Green development scheme and its associated highway network improvements are excluded from this round of test.

2.1.2 Ashford Developments

Table 2-A presents the assumptions in terms of the number of dwellings and jobs for all other developments to be included in this model.

Location	Dwellings	Jobs
Ashford Hosp'l/Kings Ave	80	-
Brisley Farm	74	-
Chart Estate	350	300
Cheeseman's Green (+extension)	4,450	1,200
Conningbrook	200	-
Bockhanger Wood	-	5,085
Godinton Park extension	-	-
Hunter Avenue	350	-
Jemmet Road	230	-
Kingsnorth Urban Extension	-	-
Newtown Works	700	200
Park Farm south and east	401	-
Orbital Park	-	850
Henwood	-	200
Singleton	100	-
Stanhope	-	-
Sevington	-	2,500
Town Centre	3,500	12,000
Warren P&R	-	320

Waterbrook	600	1,225
William Harvey area / land east of Willesborough Lees	200	-
Templar & Rowcroft Barracks (Repton Park)	965	200
Kennington	-	-
Lower Queens Road	40	-
Maidstone Road	70	-
Leacon Road	100	-
Bishops Green	20	-
Associate House	15	-
Mabledon Avenue	20	-
Warren Lane	65	-
Abbey Way / Blackwall Rd	60	-
Tile Kiln Road	-	-
Discovery Park	-	-
Cobbs Wood	-	-
Additional, windfall development, etc.	2,500	-

Table 2-A Development Assumptions in Ashford Source: Ashford's Future Company

2.2 Development Trip Generation

Trip rates for the developments in the study area can be found in Appendix B and all the numbers have been agreed by Kent Highway Services, Ashford Future's Company and Highways Agency.

2.3 Background Traffic Growth

The background traffic for the 2031 forecast year was produced using growth factors from TEMPRO 6.2 using dataset NTEM 5.4. From 19 July 2011 NTEM 6.2 became the definitive version from DfT, however it is necessary to be consistent with previous tests. TEMPRO is widely used to estimate the number of trips in future years. The default factors from TEMPRO take into account future committed developments in the study area. To avoid double counting and to provide more accurate estimation of trips, TEMPRO is only used to estimate the trips that generated by natural growth (population, economic growth, etc) and trips that are generated from the new developments are considered separately. The growth rates obtained from TEMPRO for 2010 to 2031 can be found in Table 2-B. The background traffic is distributed using the Furness method.

Year	Time Period	Urban		Rural	
		Origin	Destination	Origin	Destination
2010-2031	AM	0.94	1.07	0.93	1.06
	PM	1.04	0.96	1.03	0.94

Table 2-B Growth Factors for Background Traffic

2.4 Traffic Matrix Totals

The final matrices for 2031 Do Minimum were produced in two parts, the background traffic and the traffic from new developments. Table 2-C presents the traffic matrix totals for 2031 Do Minimum.

Traffic Type	AM Peak	PM Peak
Background Growth (excl. Committed Development)	18139	19772
Committed Development Trips (excl. from Background Growth)	5503	4346
Total Vehicle Trips	23642	24118

Table 2-C 2031 Do Minimum Traffic Matrix Totals

3 Assessment

3.1 Model Convergence

2031 Do Minimum Scenario was simulated using the dynamic assignment module in VISSIM, which is computed by running the simulation until convergence is achieved. The convergence criteria set for this model was the travel time on paths, which is also the recommended criterion for convergence of a stochastic dynamic assignment model. In this model, the criterion is that the change of travel time on paths is within 10%. The dynamic assignment is stopped when all the vehicles meet the requirement.

Figure 3-A and Figure 3-B below show percentages of total vehicles that meet the criterion in each model run in the AM and PM peaks.

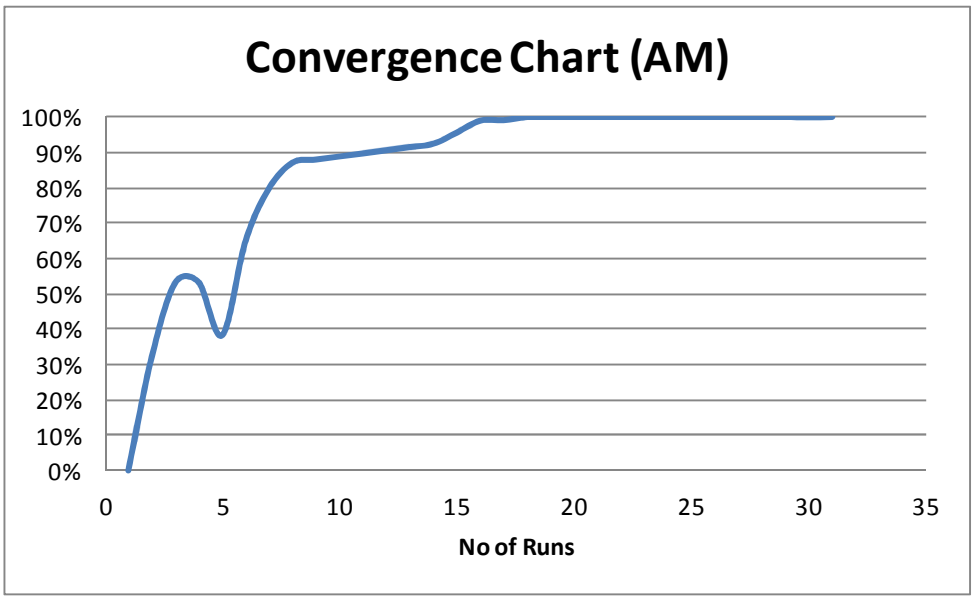


Figure 3-A Convergence Chart for 2031 DM AM Model

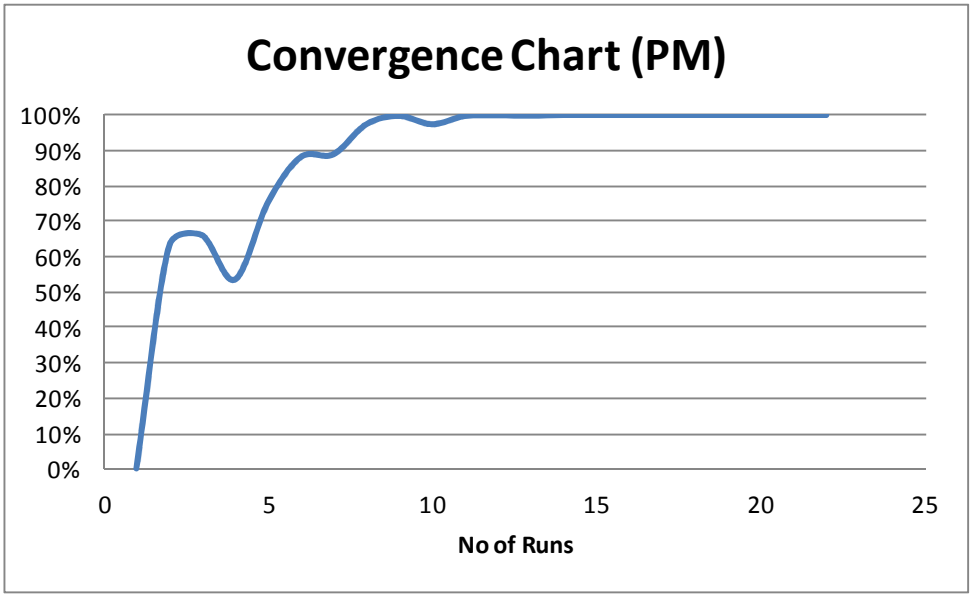


Figure 3-B Convergence Chart for 2031 DM PM Model

3.2 Ashford Wide Highway Network Statistics

The Scenario 2 is agreed as a baseline forecast scenario which was developed as a benchmark of nil-detriment for any A28 scheme (Please refer to *Chilmington Green Master Planning VISSIM Model Option Testing – Scenario 2 Draft Report, June 2011* for further information, with an updated run reported in Jan 2012). The whole Ashford wide highway network performance for 2010, 2031 Scenario 2 and 2031 DM is presented in Table 3-A. Average delay time per vehicle, average speed and total travel time for all the vehicles are calculated. The results are evaluated based on the converged models and an average over 5 different random seeds.

The results indicate that traffic performance in 2031 (both Scenario 2 and Do minimum) is worse than 2010 base year. This is due to higher demand in the future year. It is observed that the average delay time per vehicle in 2031 DM is slightly shorter than that in 2031 Scenario 2 while the average speeds in both models are similar.

Network Performance	Average delay time per vehicle [s]		
	2010	2031 Scenario 2	2031 DM
AM	112	255	225
PM	102	194	188

Network Performance	Average speed [mph]		
	2010	2031 Scenario 2	2031 DM
AM	22	16	17
PM	22	19	18

Network Performance	Total travel time [h]		
	2010	2031 Scenario 2	2031 DM
AM	1715	3714	3082
PM	1818	3067	2817

Table 3-A Overall network performance for 2010 Base, 2031 Scenario 2 (Jan 2012 run) and 2031 DM (Jan 2012 run)

3.3 A28 Chart Road Key Junction Performance

The following Figure 3-C shows the comparison of maximum queue lengths (northbound traffic in the AM and southbound traffic in the PM) in 2010 Base Model, 2031 Scenario 2 and 2031 DM.

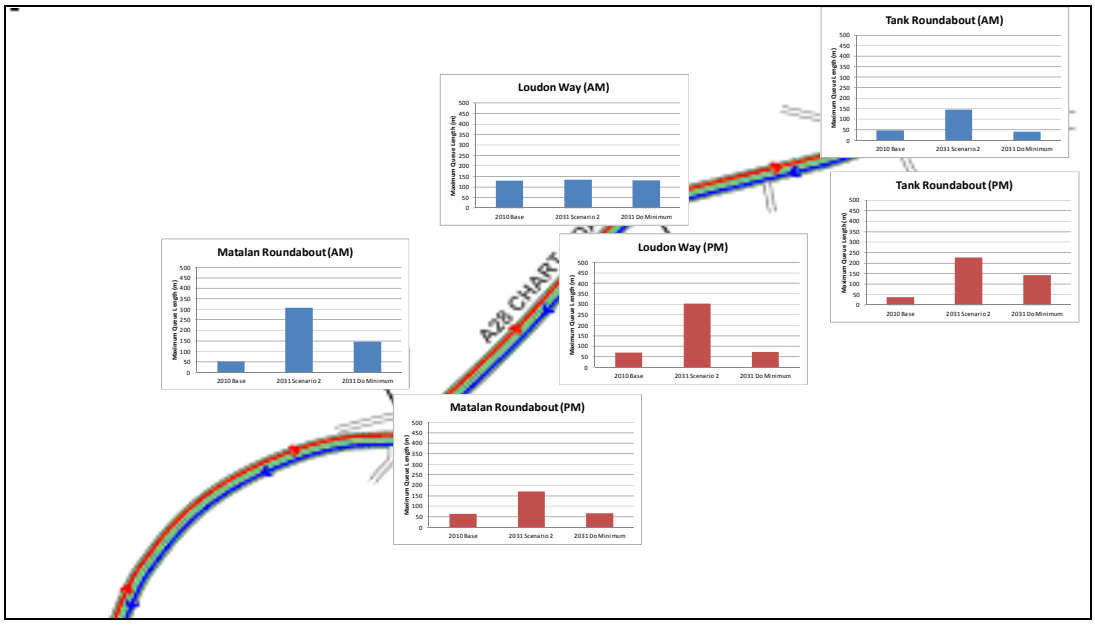


Figure 3-C Maximum Queue Lengths along A28

Figure 3-D, Table 3-C and Table 3-D show turning movements and queue lengths and flow-weighted average delays (Level of Service delays) at Tank Roundabout, Loudon Way signalised junction and Matalan Roundabout.

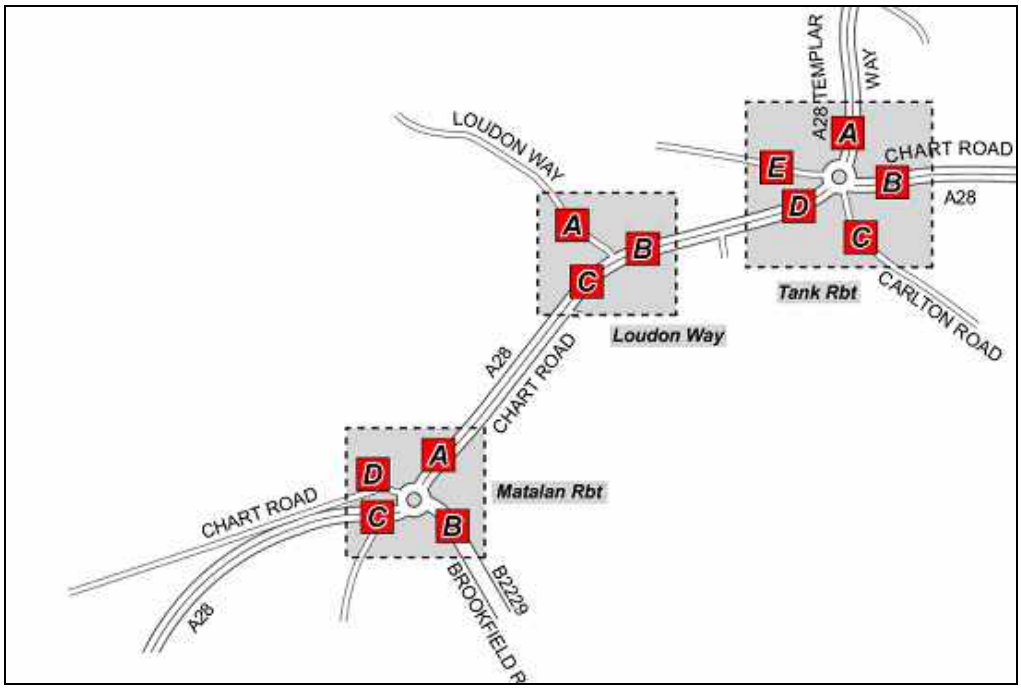


Figure 3-D Turning movements along the A28 corridor

Tank Roundabout	FLOWS (veh)		Queues (m)		Flow-weighted Average Delays (sec/veh)	
	2031 AM	2031 PM	2031 AM	2031 PM	2031 AM	2031 PM
AB	76	31	48	142	11	66
AC	22	19	48	142		
AD	755	1347	48	142		
AE	57	85	48	142		
BA	101	106	30	192		
BC	30	6	30	192		
BD	362	290	30	192		
BE	61	62	30	192		
CA	6	6	0	0		
CB	6	6	0	0		
CD	0	0	0	0		
CE	0	0	0	0		
DA	1212	748	41	27		
DB	391	165	41	27		
DC	0	0	41	27		
DE	49	58	41	27		
EA	100	48	11	11		
EB	87	47	11	11		
EC	0	0	11	11		
ED	46	89	11	11		

Table 3-B Traffic Performance: Tank Roundabout

Loudon Way	FLOWS (veh)		Queues (m)		Flow-weighted Average Delays (sec/veh)	
	2031 AM	2031 PM	2031 AM	2031 PM	2031 AM	2031 PM
AB	258	56	457	25	43	22
BA	129	177	39	72		
BC	784	1519	39	72		
CA	43	54	133	128		
CB	1383	860	133	128		

Table 3-C Traffic Performance: Loudon Way

Matalan Roundabout	FLOWS (veh)		Queues (m)		Flow-weighted Average Delays (sec/veh)	
	2031 AM	2031 PM	2031 AM	2031 PM	2031 AM	2031 PM
AB	500	878	24	65	26	18
AC	341	760	24	65		
AD	57	94	24	65		
BA	834	472	52	61		
BC	56	77	52	61		
BD	28	23	52	61		
CA	695	382	145	39		
CB	34	23	145	39		
CD	27	8	145	39		
DA	129	76	18	6		
DB	50	63	18	6		
DC	14	31	18	6		

Table 3-D Traffic Performance: Matalan Roundabout

3.4 Corridors / Network sections

The network is considered in more detail in two additional sections:

- *A2070 Corridor*
- *Motorway junctions – M20 J9, J10 and 10A*

Turning flows, delays and queues are presented in Appendix C for each of the network sections.

3.6.1 A2070 Corridor

Traffic performance on the A2070 corridor is generally within acceptable level. No serious congestion has been observed.

3.6.2 Motorway Junctions

The motorway junctions (M20 Junction 9, Junction 10 and the proposed Junction 10A) in general cope well with the traffic demand. The queue lengths and delays at all the arms of the junctions are generally within an acceptable level. No significant change in traffic performance has been found.

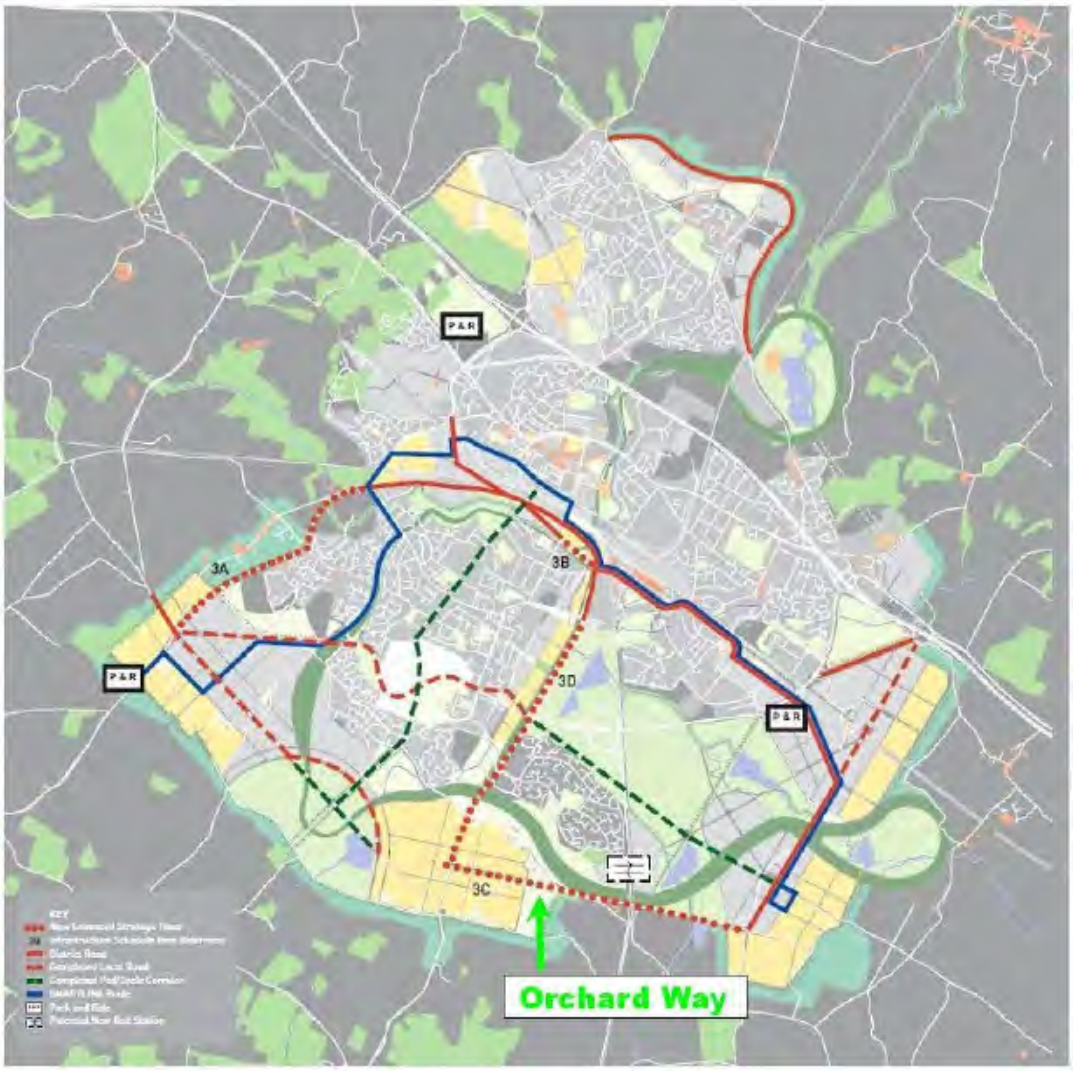
4 Summary and Conclusions

2031 Do Minimum Model represents forecast model without Chilmington Green developments and related infrastructure improvements on A28 corridor. It has assumed all other developments and network improvements schemes as in Scenario 2 (please refer to Scenario 2 option test report). The model also considers Smartlink and its related infrastructure. Both the Do-Minimum and Scenario 2 in this report relate to runs undertaken in January 2012 which include signalisation of J9.

The objective of the Do Minimum model is to understand the impact of the background growth and other developments on the traffic performance both in Ashford in general and on the A28 in particular. The Do Minimum model is also aimed to quantify impact of Chilmington Green developments, by comparing with other scenarios. A comparison has been made of the Do Minimum model with base 2010 and 2031 Scenario 2 models to analyse impact on traffic performance of 'without Chilmington Green-without A28 improvements' and with 'Chilmington Green-with A28 improvements alternatives'. The Scenario 2 is a baseline forecast scenario which was developed as a benchmark of nil-detriment for any A28 scheme.

The DM 2031 scenario analysis showed that due to the consideration of background and other developments growth, the traffic performance in Ashford deteriorates. However, since there is no consideration of Chilmington Green developments in this option, the traffic performance on A28 corridor is still acceptable when comparing to the agreed baseline/benchmark traffic performance indicators. This is in spite of the fact that DM 2031 scenario excludes any proposed improvements on A28 corridor. This suggests that proposed developments in Chilmington Green are viable only with A28 improvement scheme as considered in Scenario 2.

Appendix A Orchard Way



Appendix B Trip Rates for Dwellings, Jobs and Schools

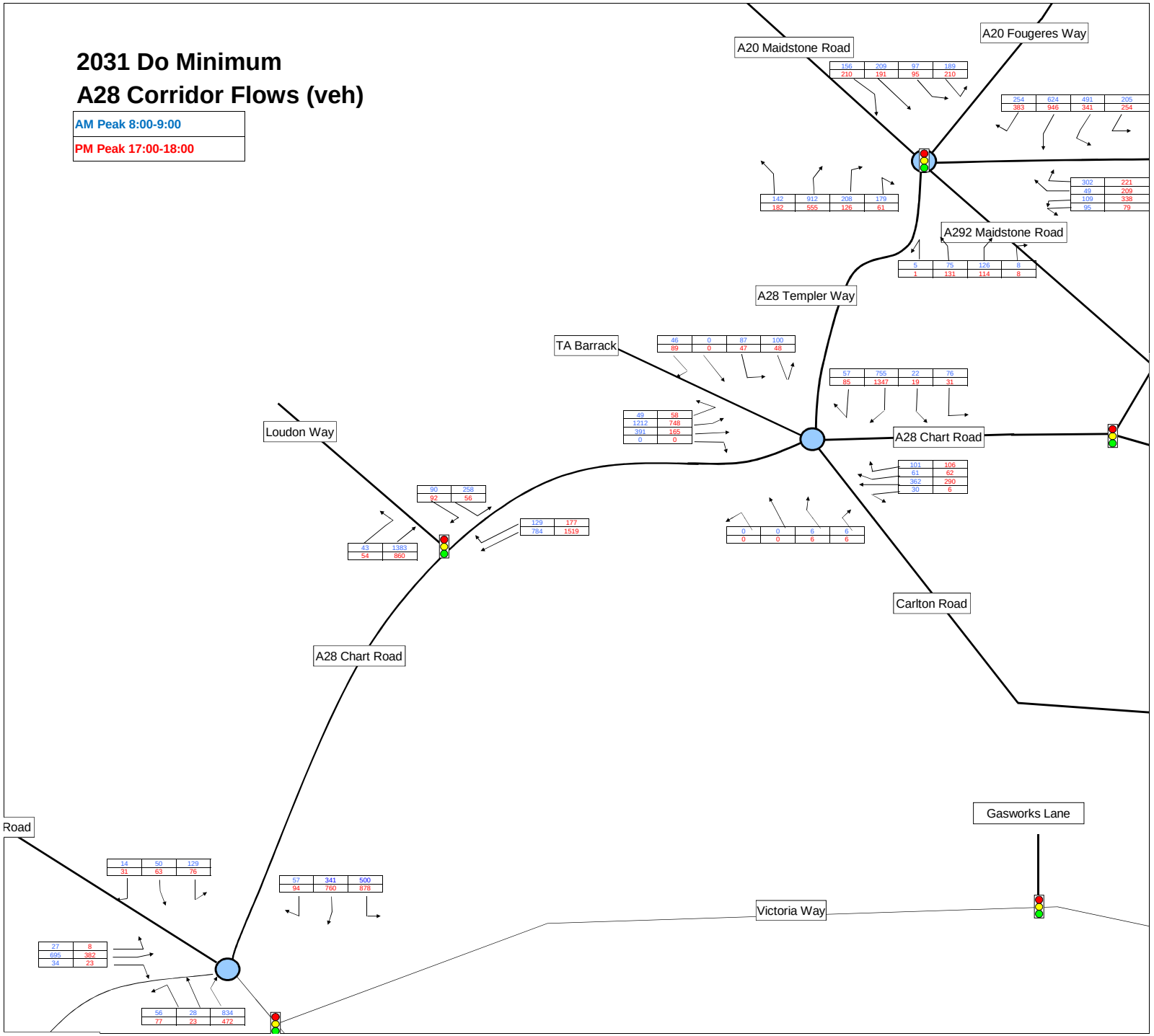
Projected New Dwellings	AM		PM	
Location	OUT	IN	OUT	IN
Ashford Hosp'l/Kings Ave	0.34	0.19	0.21	0.31
Brisley Farm	0.36	0.19	0.21	0.33
Chart Estate	0.22	0.12	0.13	0.20
Cheeseman's Green	0.29	0.16	0.17	0.27
Conningbrook	0.24	0.13	0.14	0.22
Godinton Park extension	0.20	0.11	0.12	0.18
Hunter Avenue	0.22	0.12	0.13	0.20
Newtown Works	0.23	0.13	0.14	0.21
Park Farm south and east	0.36	0.19	0.21	0.33
Singleton	0.30	0.17	0.18	0.28
Waterbrook	0.24	0.13	0.14	0.22
William Harvey area	0.34	0.19	0.21	0.31
Templar & Rowcroft Barracks	0.26	0.14	0.15	0.24
Lower Queens Road	0.36	0.19	0.21	0.33
Maidstone Road	0.36	0.19	0.21	0.33
Leacon Road	0.30	0.17	0.18	0.28
Bishops Green	0.30	0.17	0.18	0.28
Associate House	0.30	0.17	0.18	0.28
Mabledon Avenue	0.30	0.17	0.18	0.28
Warren Lane	0.30	0.17	0.18	0.28
Abbey Way / Blackwall Rd	0.30	0.17	0.18	0.28

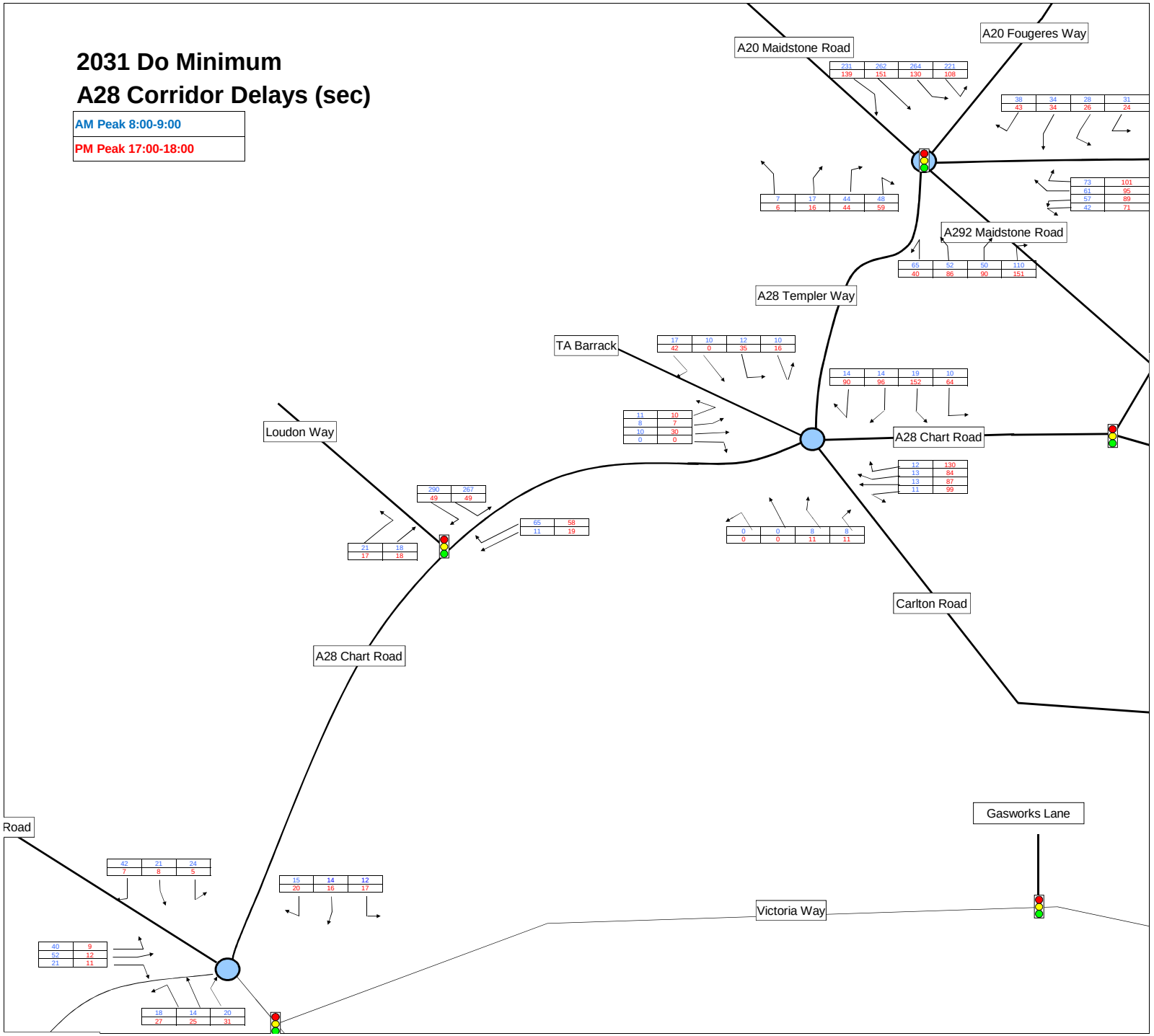
Projected New Jobs	AM		PM	
Location	OUT	IN	OUT	IN
Chart Estate	0.04	0.11	0.12	0.04
Cheeseman's Green	0.06	0.16	0.15	0.06
Chilmington Green	0.06	0.16	0.15	0.06
Eureka Park/ Bockhanger Wood	0.05	0.17	0.16	0.05
Newtown Works	0.07	0.18	0.20	0.06
Orbital Park	0.07	0.18	0.17	0.07
Henwood	0.06	0.17	0.16	0.06
Park Farm/Singleton	0.06	0.16	0.15	0.06
Sevington	0.05	0.16	0.17	0.05
Warren P&R	0.05	0.17	0.16	0.05
Waterbrook	0.06	0.17	0.16	0.06
Templar & Rowcroft Barracks	0.04	0.11	0.10	0.04

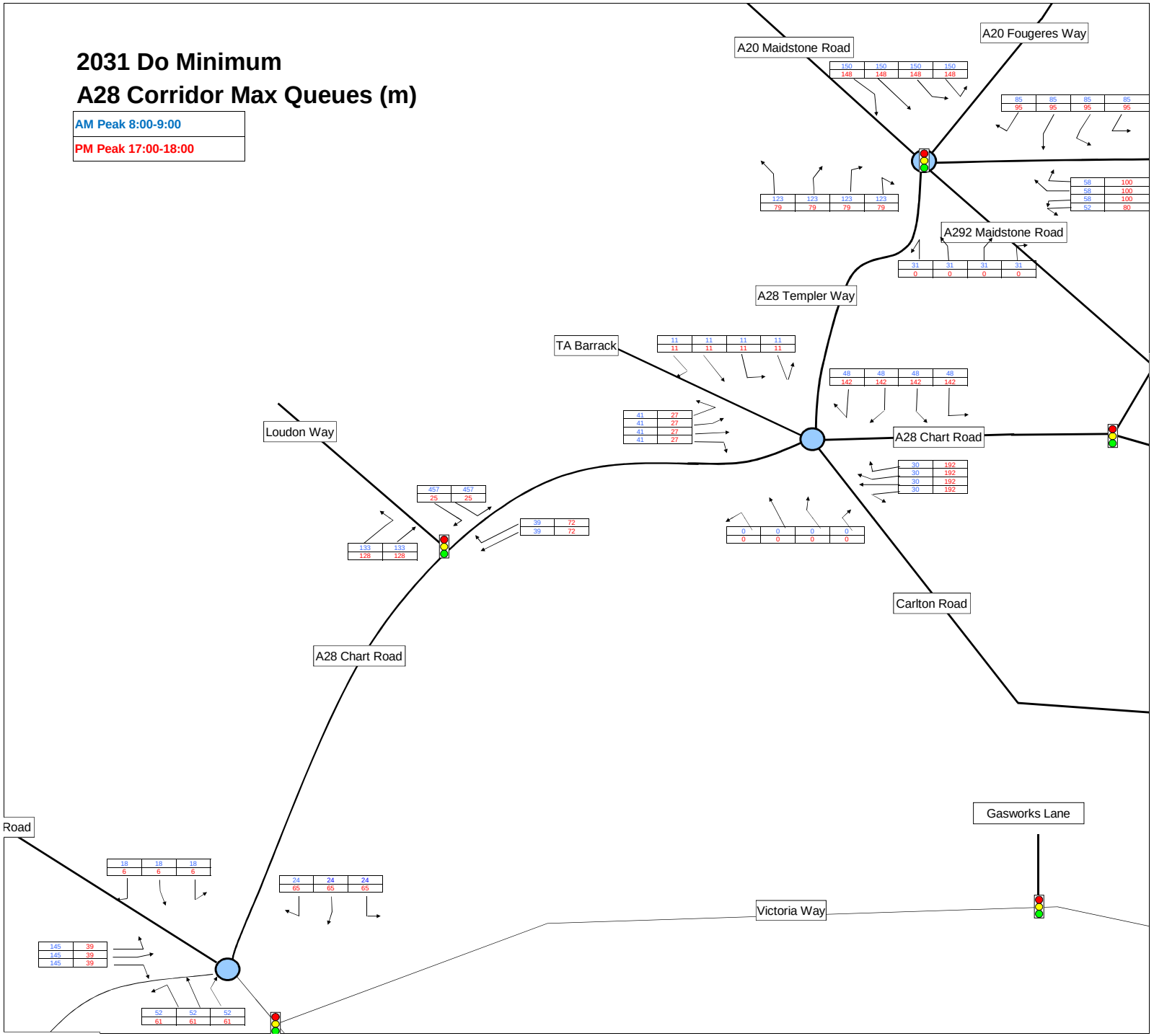
Appendix C Corridors / Network Sections

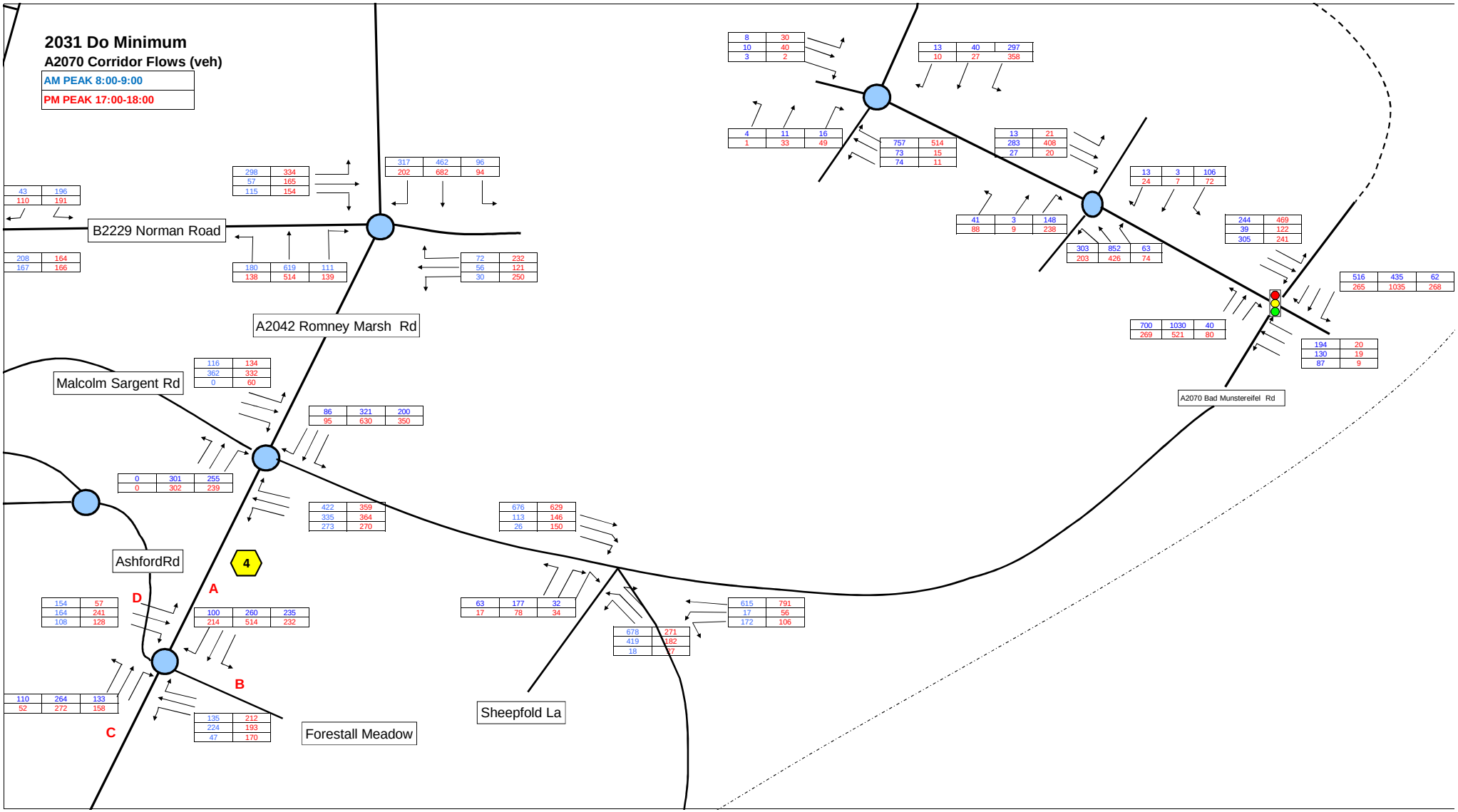
2031 Do Minimum
A28 Corridor Flows (veh)

AM Peak 8:00-9:00
PM Peak 17:00-18:00




2031 Do Minimum
A28 Corridor Delays (sec)
AM Peak 8:00-9:00
PM Peak 17:00-18:00
A20 Maidstone Road
A20 Fougeres Way
A292 Maidstone Road
A28 Templer Way
TA Barrack
Loudon Way
A28 Chart Road
Carlton Road
A28 Chart Road
Road
Gasworks Lane
Victoria Way


2031 Do Minimum
A28 Corridor Max Queues (m)
AM Peak 8:00-9:00
PM Peak 17:00-18:00
A20 Maidstone Road
A20 Fougeres Way
A292 Maidstone Road
A28 Templer Way
TA Barrack
Loudon Way
A28 Chart Road
Carlton Road
A28 Chart Road
Road
Gasworks Lane
Victoria Way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PM PEAK 17:00-18:00
B2229 Norman Road
A2042 Romney Marsh Rd
Malcolm Sargent Rd
AshfordRd
Forestall Meadow
Sheepfold La
A2070 Bad Munstereifel Rd
A
B
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4
43 196
110 191
208 164
167 166
298 334
57 165
115 154
180 619 111
138 514 139
317 462 96
202 682 94
72 232
56 121
30 250
8 30
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3 2
4 11 16
1 33 49
757 514
73 15
74 11
13 40 297
10 27 358
13 21
283 408
27 20
41 3 148
88 9 238
13 3 106
24 7 72
303 852 63
203 426 74
244 469
39 122
305 241
516 435 62
265 1035 268
700 1030 40
269 521 80
194 20
130 19
87 9
116 134
362 332
0 60
86 321 200
95 630 350
0 301 255
0 302 239
422 359
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273 270
676 629
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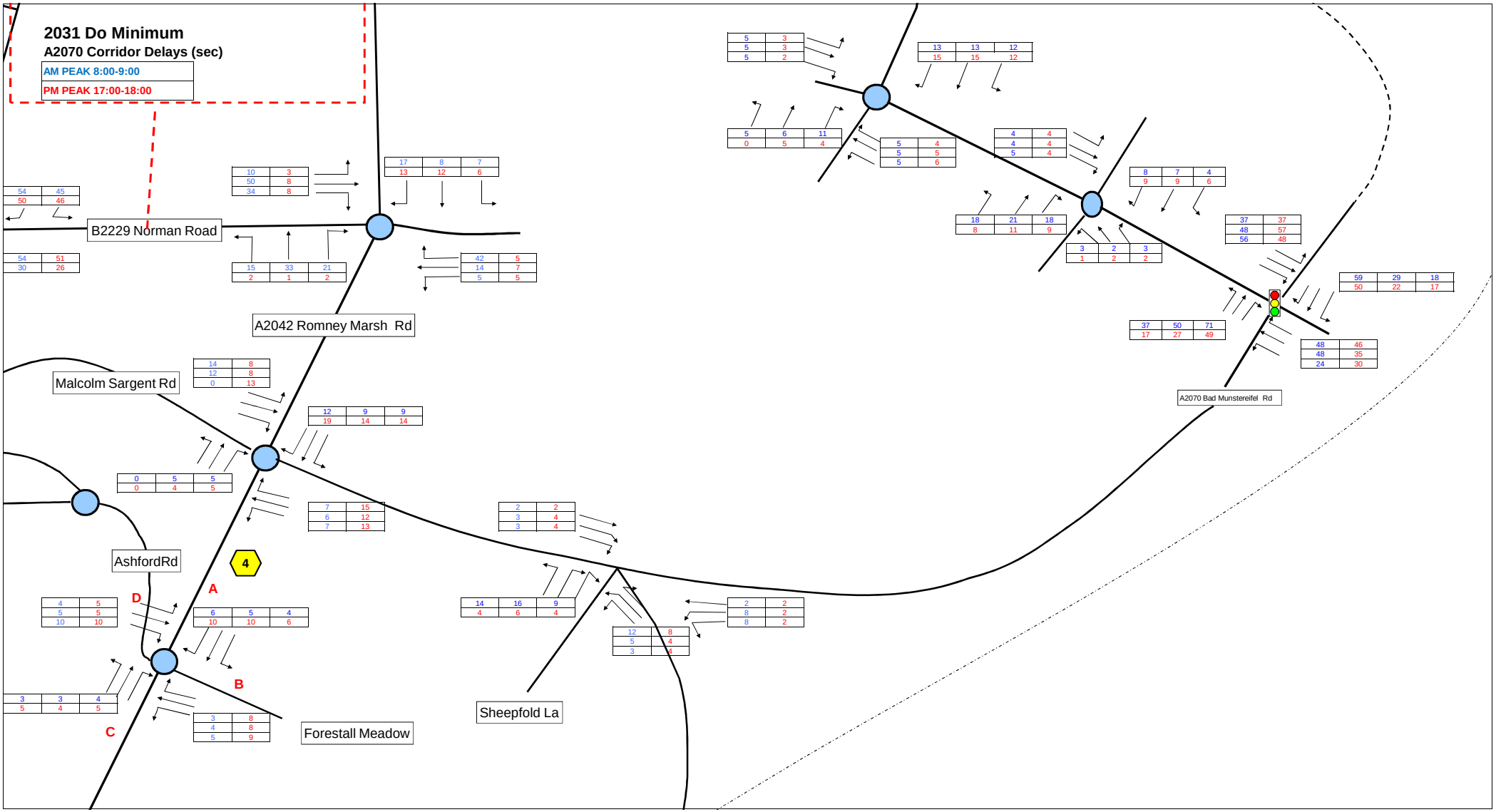
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PM PEAK 17:00-18:00
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AshfordRd
Forestall Meadow
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A2070 Bad Munstereifel Rd
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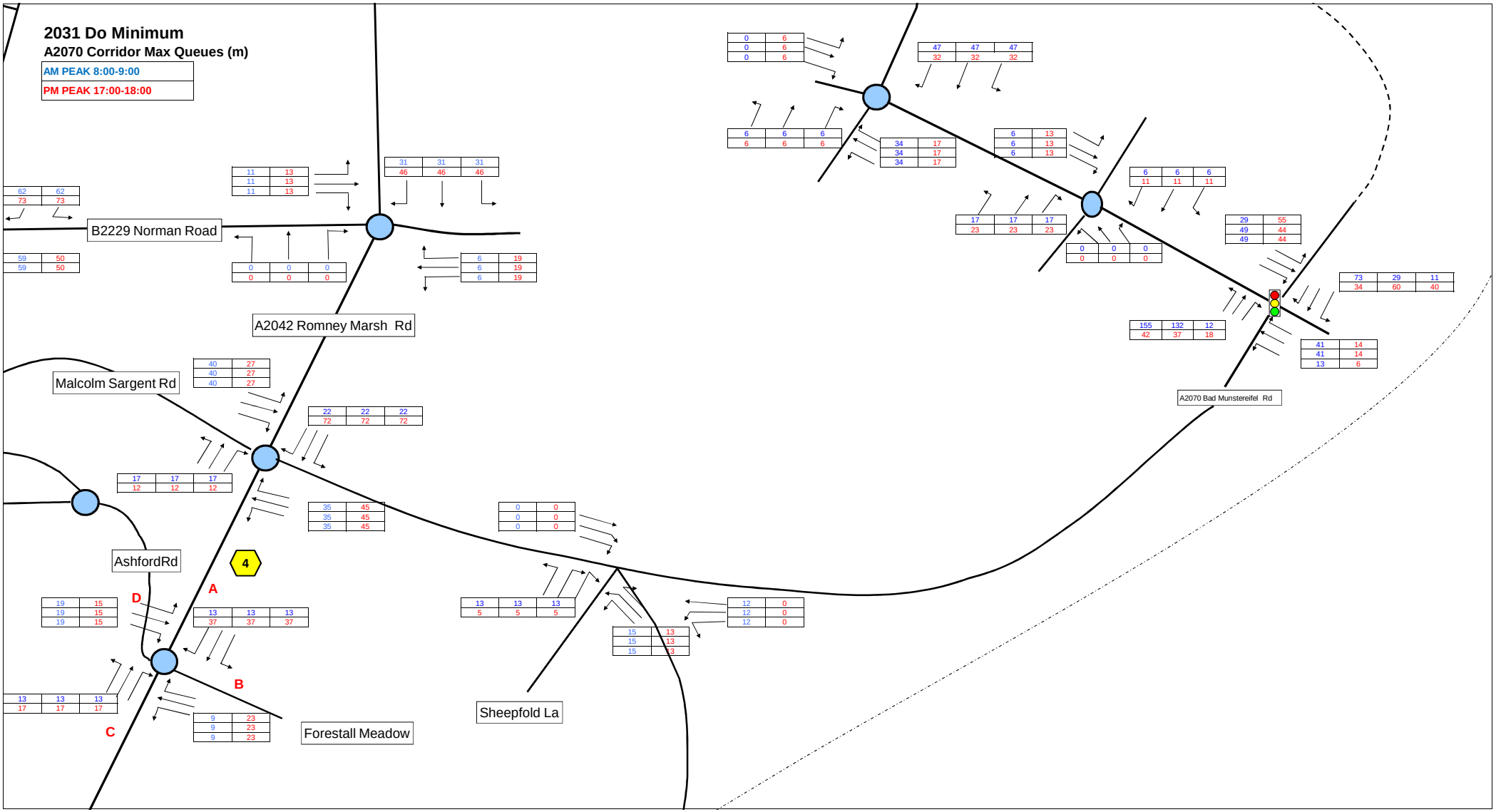
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PM PEAK 17:00-18:00
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Malcolm Sargent Rd
AshfordRd
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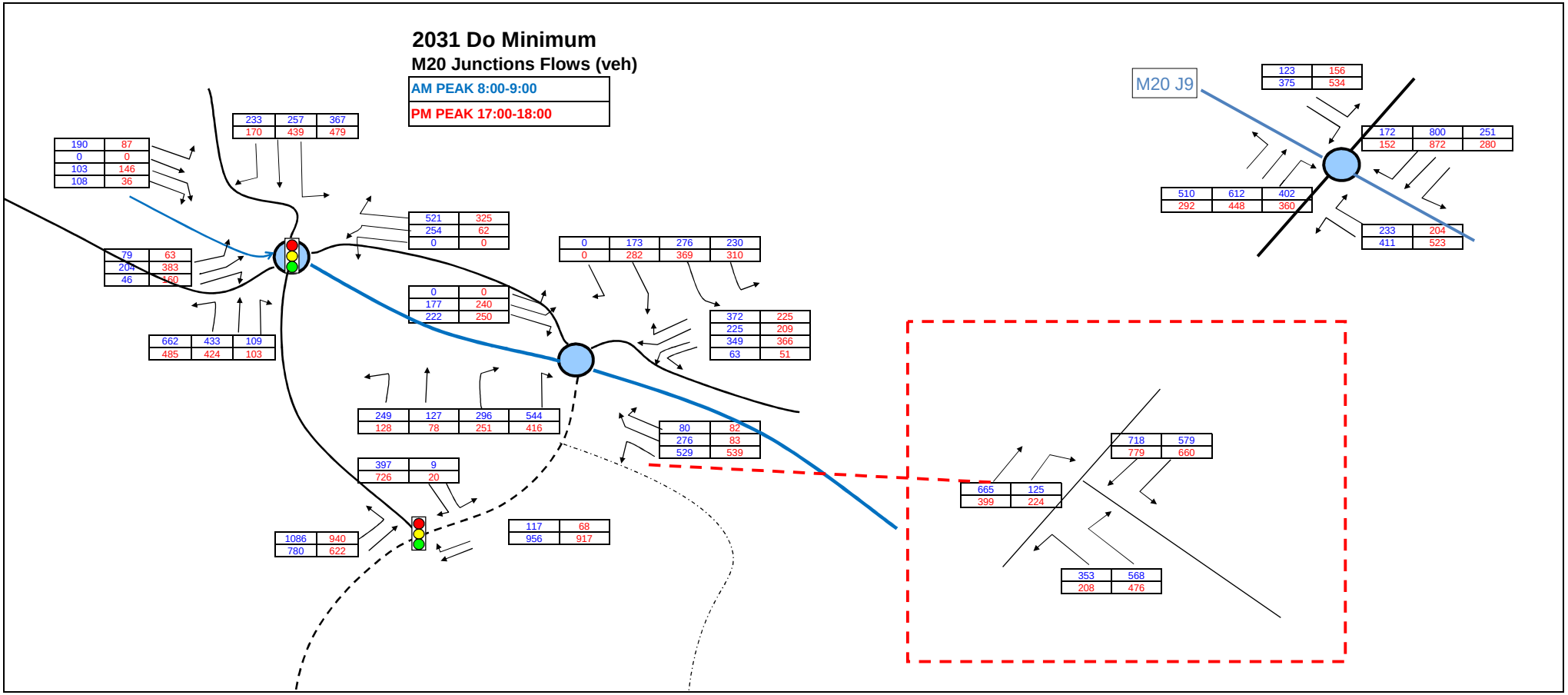
D
Forestall Meadow
Sheepfold La
A2070 Bad Munstereifel Rd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PM PEAK 17:00-18:00
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108 36
233 257 367
170 439 479
521 325
254 62
0 0
79 63
204 383
46 160
0 173 276 230
0 282 369 310
0 0
177 240
222 250
372 225
225 209
349 366
63 51
662 433 109
485 424 103
249 127 296 544
128 78 251 416
80 82
276 83
529 539
397 9
726 20
1086 940
780 622
117 68
956 917
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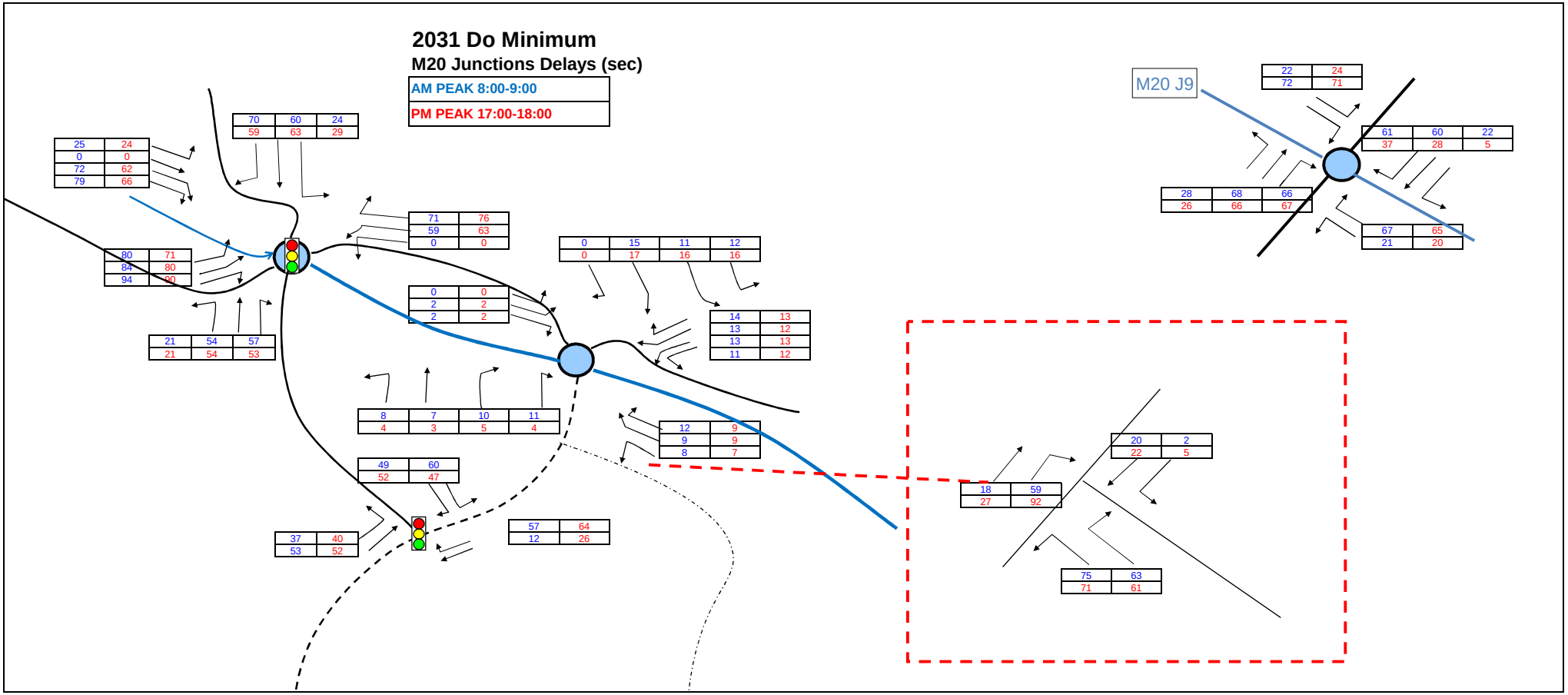
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PM PEAK 17:00-18:00
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70 60 24
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71 76
59 63
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94 90
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0 17 16 16
0 0
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2 2
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13 13
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4 3 5 4
12 9
9 9
8 7
49 60
52 47
37 40
53 52
57 64
12 26
22 24
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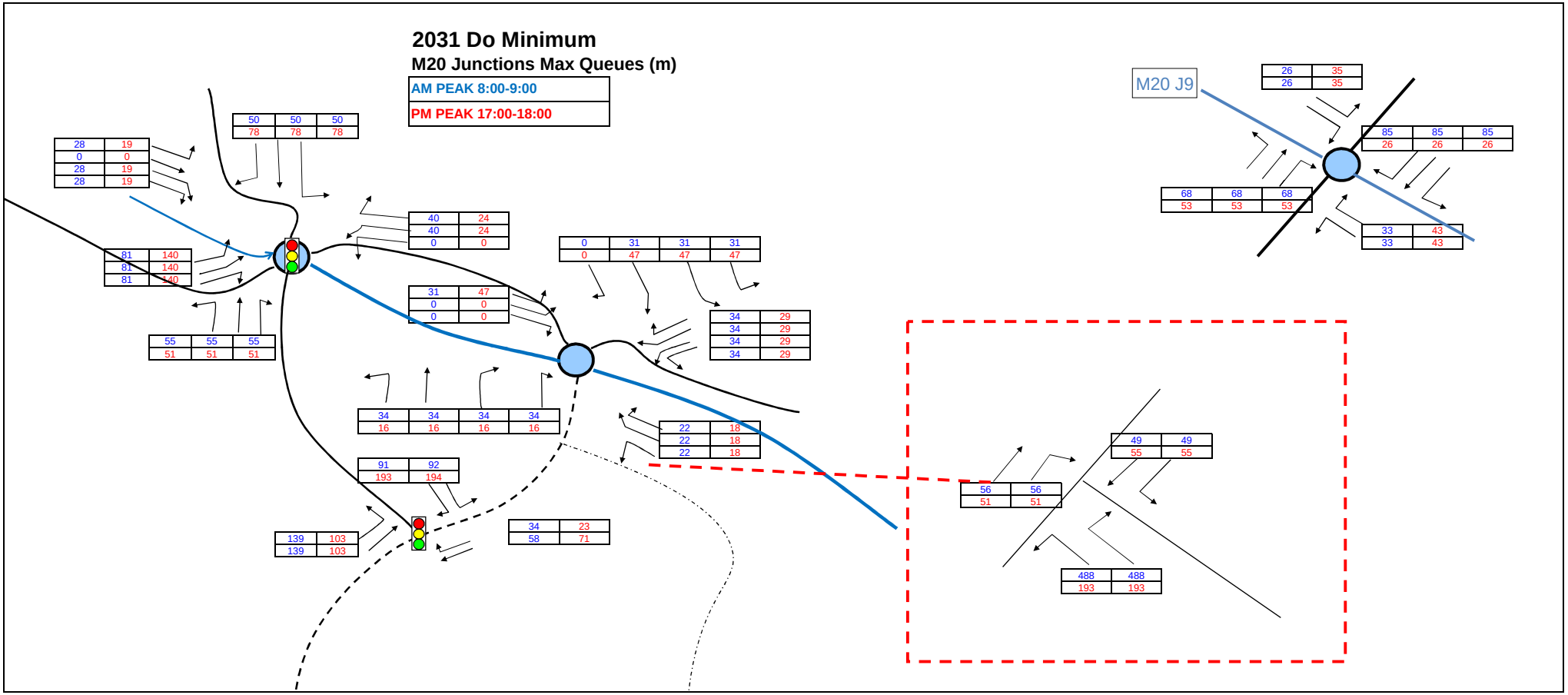
2031 Do Minimum
M20 Junctions Max Queues (m)
AM PEAK 8:00-9:00
PM PEAK 17:00-18:00
M20 J9
28 19
0 0
28 19
28 19
50 50 50
78 78 78
40 24
40 24
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81 140
81 140
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139 103
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55 55
56 56
51 51
488 488
193 193

Chilmington Green Master Planning VISSIM Model Option Testing

Scenario 1 Draft Report

31 May 2011

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Contents

1 Introduction

Jacobs has developed a VISSIM model of the Ashford area for a variety of projects relating to Ashford as a growth area. The calibrated / validated 2010 Base year model has been used as a basis to test master planning forecast scenarios. The model study area is presented in Figure 1-A. Initial modelling work completed by Jacobs assessed the Chilmington Green master plan for a 2031 forecast scenario, which included highway capacity improvements on the A28. For further details of this work see the report *Chilmington Green – Ashford Master Planning Scenario Testing, VISSIM Model Development, March 2011*.

Figure 1-A Study Area

Jacobs has been commissioned to further assess the Chilmington Green proposals. The modelling scenarios to be tested are:

- ***Scenario 1*** *– 2031 with all developments and highway infrastructure schemes, including Kingsnorth urban extension, Orchard Way, A28 full dual carriageway between Tank and Matalan roundabouts and 7,000 dwellings at Chilmington Green. This scenario will establish the benchmark (acceptable) highway capacity position in 2031.*

- ***Scenario 2*** *– As scenario 1 except Kingsnorth urban extension and corresponding section of Orchard Way are not included.*

- ***Scenario 2a*** *– If scenario 2 exceeds the benchmark highway capacity, the quantum of development at Chilmington Green that will not exceed the benchmark will be established.*

- ***Scenario 3*** *– 2031 with the more deliverable/viable, but reduced capacity, A28 improvement option. This scenario will establish the quantum of development at Chilmington Green that would enable this option to maintain the acceptable highway capacity position.*

The following highway infrastructure schemes are committed and included in all scenarios:

- *Completion of Victoria Way*
- *Warren Park & Ride*
- *Completed ring road shared space project with two-way restricted flow*
- *Signalisation of Drovers Roundabout*
- *Signalisation of Leacon Road / Brookfield Road and Gasworks Lane / Victoria Way*
- *Closure of Gasworks Lane - access via Victoria Way*
- *Completion of M20 Junction 10A and related network improvements*
- *The proposed Bellamy Roberts junctions providing access to Cheeseman's Green (T- Junction) and Waterbrook*
- *The existing A2070 Bad Munstereifel Road / Waterbrook Avenue / The Boulevard roundabout to be upgraded into a large at-grade signalised junction*

In addition to the committed highway infrastructure schemes, **Scenario 1** assumes the full Orchard Way scheme is completed and the A28 between Matalan Roundabout and Tank Roundabout is fully dualled with two lanes each way. A second bridge over the Ashford to Tonbridge railway line, to the south of the existing bridge, has also been assumed in this option. Both Matalan Roundabout and Tank Roundabout are enlarged to have a 15m circulatory width. The junction at Hilton Road is closed and a left in left out access arrangement is proposed for the junction of the A28 Chart Road and Brunswick Road. From the junctions of Loudon Way and Brunswick Road, the traffic is only allowed to turn left to the A28. There are two new pedestrian signal crossings assumed at Tank Roundabout, which are set to be pre-signalled (SVD) by the SmartLink buses to help them to access the roundabout. The first signal crossing is on the west of the roundabout and the other is on the east approach from the gyratory system.

The purpose of this report is to present the results of **Scenario 1** for the AM (08:00 – 09:00) and PM (17:00 – 18:00) peak hours. Section 2 of this report describes the modelling methodology and assumptions for the assessment. The results of the assessment for Scenario 1 are presented in Section 3. Finally, the summary and conclusions are presented in Section 4.

2 Methodology and Assumptions

2.1 Development Assumptions

2.1.1 Chilmington Green

The forecast assessment year is 2031 and in Scenario 1 it is assumed that 7,000 dwellings are to be completed at Chilmington Green. Table 2-A presents a summary of the Chilmington Green development proposal.

Land Use	Development Size
Residential	7,000 dwellings
Employment	1,000 jobs
Town centre - Retail	8,000 sqm
Local centres- Retail	2,000 sqm
Town centre - Education / community	5,000 sqm

Table 2-A Chilmington Green Development Assumptions Source: Ashford's Future Company

To incorporate the proposed developments in the Chilmington Green area, some of the existing roads would be improved and new roads would be constructed. Routes such as Ashford Road, passing Great Chart and Magpie Hall Road, and Chilmington Green Road were modelled with reduced speeds to reflect the traffic calming measures used to restrict the increases of traffic on these routes and encourage the use of Orchard Way. Outlines the network assumptions in the Chilmington Green area is provided by WSP and shown in Figure 2-A.

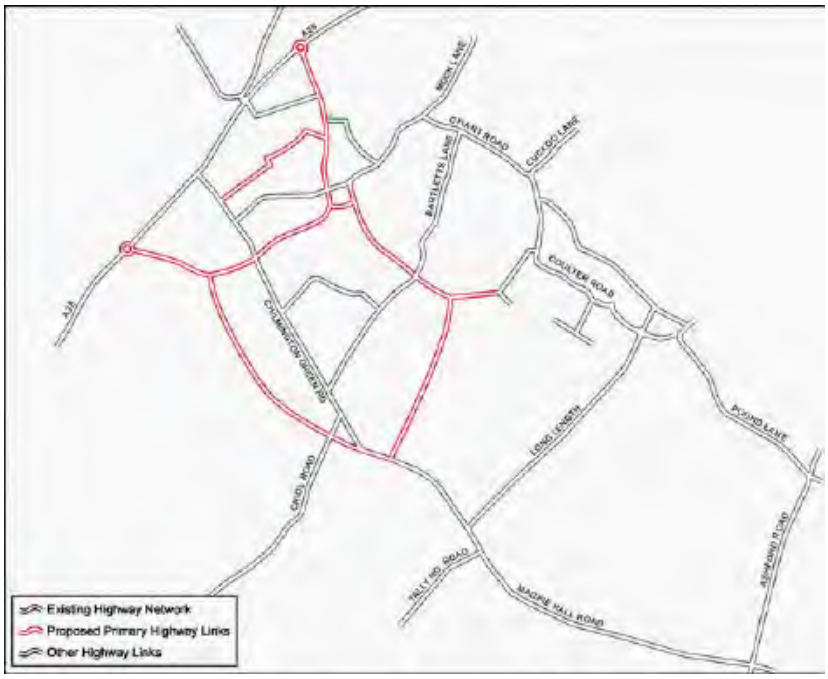


Figure 2-A Proposed Primary Highway Network for Chilmington Green Area

2.1.2 Ashford Developments

Table 2-B presents the assumptions in terms of the number of dwellings and jobs for all other developments to be included in Scenario 1.

Location	Dwellings	Jobs
Ashford Hosp'l/Kings Ave	80	-
Brisley Farm	74	-
Chart Estate	350	300
Cheeseman's Green (+extension)	4,450	1,200
Conningbrook	200	-
Bockhanger Wood	-	5,085
Godinton Park extension	-	-
Hunter Avenue	350	-
Jemmet Road	230	-
Kingsnorth urban extension	3,000	450
Newtown Works	700	200
Park Farm south and east	401	-
Orbital Park	-	850
Henwood	-	200
Singleton	100	-
Stanhope	-	-
Sevington	-	2,500
Town Centre	3,500	12,000
Warren P&R	-	320
Waterbrook	600	1,225
William Harvey area / land east of Willesborough Lees	200	-
Templar & Rowcroft Barracks (Repton Park)	965	200
Kennington	-	-
Lower Queens Road	40	-
Maidstone Road	70	-
Leacon Road	100	-

Bishops Green	20	-
Associate House	15	-
Mabledon Avenue	20	-
Warren Lane	65	-
Abbey Way / Blackwall Rd	60	-
Tile Kiln Road	-	-
Discovery Park	-	-
Cobbs Wood	-	-
Additional, windfall development, etc.	2,500	-

Table 2-B Development Assumptions in Ashford Source: Ashford's Future Company

Orchard Way is included in Scenario 1. The alignment and associated junctions for Orchard Way are based on the GADF plans and are presented in Appendix A.

2.2 Development Trip Generation

Trip rates for the developments in the Chilmington Green area can be found in Table 2-C and vehicle trip generation in Chilmington Green is shown in Table 2-D. Trip rates for the other developments are presented in Appendix B.

Type	Trip Rate			
	AM (8:00-9:00)		PM (17:00-18:00)	
	Departure	Arrival	Departure	Arrival
Dwellings (vehicles/per dwelling)	0.29	0.15	0.16	0.27
Employment (vehicles/per job)	0.06	0.16	0.17	0.06
Retail (vehicles/per 100 sqm GFA)	0.88	0.82	0.89	0.81
Education/ Community (vehicles/per 100 sqm GFA)	0.92	1.46	0 .14	0

Table 2-C Trip Rates in Chilmington Green- Source: (Trip rates for dwellings, employment and retail are from Agreed trip generation rates with Kent Highway Services, Ashford Future's Company and the Highways Agency. Trip rates for education/ community are from TRICS 2011(a) v6.7.1)

Type	Vehicle Trips			
	AM (8:00-9:00)		PM (17:00-18:00)	
	Origin	Destination	Origin	Destination
Dwellings	2030	1050	1120	1890
Employment	60	160	170	60
Retail	88	82	89	81
Education/ Community	46	73	7	0
Total	**2224**	**1365**	**1386**	**2031**

Table 2-D Trip Generation in Chilmington Green in 2031

It should be noticed that the trip rates used for employment includes all jobs in offices, retail stores, etc and employee trips for retail were not double counted. The agreed trip rates do not provide information for the school and community developments. The trip rates provided by TRICS are used in this model. The school/ community trip rates do not exclude employment trips to school/ community due to the lack of supporting data. However, considering the small amount of the school employment trips, the impact to the whole network is assumed to be very marginal.

2.3 Development Trip Distribution

The distribution of the development trips is based on the generalised cost of travelling between each pair of zones considering the distance and travel time. Table 2-E and Table 2-F present the external and internal vehicle trip distribution in the Chilmington Green area for the AM and PM peak hours respectively. There are 10 - 20% internal to internal vehicular trips in the AM and PM peak hours, as per the modelling assumptions provided by WSP.

Vehicle Trip Distribution (2031 AM)		
Total Origin	Internal-Internal	234
	Internal-External	1990
Total Destination	Internal-Internal	234
	External-Internal	1131

Table 2-E Vehicle Trip Distribution in Chilmington Green (2031 AM)

Vehicle Trip Distribution (2031 PM)		
Total Origin	Internal-Internal	209
	Internal-External	1177
Total Destination	Internal-Internal	209
	External-Internal	1822

Table 2-F Vehicle Trip Distribution in Chilmington Green (2031 PM)

2.4 Background Traffic Growth

The background traffic for the 2031 forecast year was produced using growth factors from TEMPRO 6.2 using dataset NTEM 5.4, which is the current definitive version from DfT. TEMPRO is widely used to estimate the number of trips in future years. However, the default factors from TEMPRO take into account future committed developments in the study area. To avoid double counting and to provide more accurate estimation of trips, TEMPRO is only used to estimate the trips that generated by natural growth (population, economic growth, etc) and trips that are generated from the new developments are considered separately.

The growth rates obtained from TEMPRO for 2010 to 2031 can be found in Table 2-G. The background traffic is distributed using the Furness method.

Year	Time Period	Urban		Rural	
		Origin	Destination	Origin	Destination
2010-2031	AM	0.94	1.07	0.93	1.06
	PM	1.04	0.96	1.03	0.94

Table 2-G Growth Factors for Background Traffic

2.5 Traffic Matrix Totals

The final matrices for Scenario 1 were produced in two parts, the background traffic and the traffic from new developments. Table 2-H presents the traffic matrix totals for Scenario 1.

Traffic Type	AM Peak	PM Peak
Background Growth (excl. Committed Development)	18139	19772
Committed Development Trips (excl. from Background Growth) refer	8529	7575
Total Vehicle Trips	26668	27347

Table 2-H Scenario 1 Traffic Matrix Totals

3 Assessment

3.1 Model Convergence

Scenario 1 was simulated using the dynamic assignment module in VISSIM, which is computed by running the simulation until convergence is achieved. The convergence criteria set for this model was the travel time on paths, which is also the recommended criterion for convergence of a stochastic dynamic assignment model. In this model, the criterion is the change of travel time on paths is within 10%. The dynamic assignment is stopped when all the vehicles meet the requirement.

Figure 3-A and Figure 3-B below show percentages of total vehicles that meet the criterion in each model run in the AM and PM peaks.

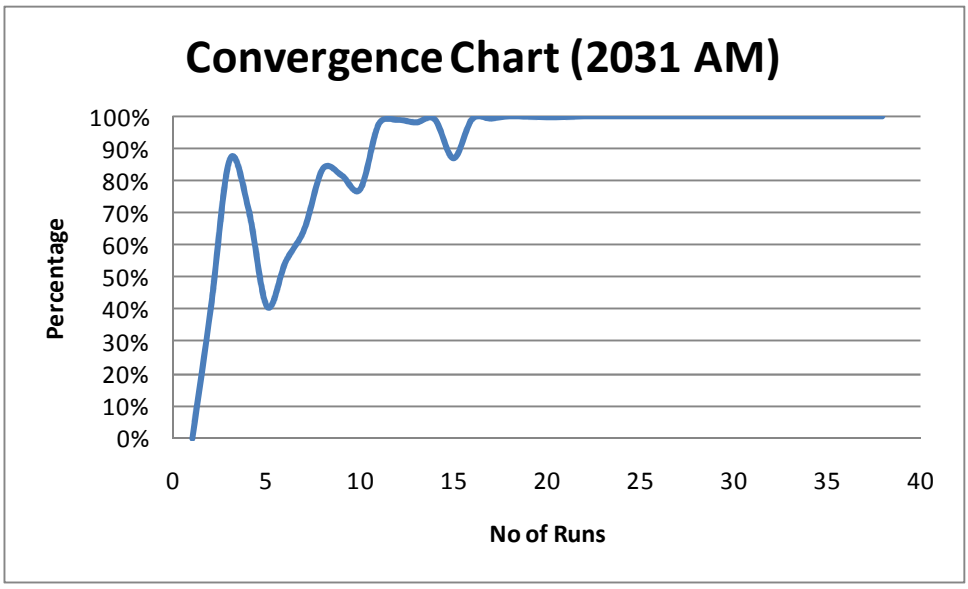


Figure 3-A Convergence Chart for 2031 AM Model

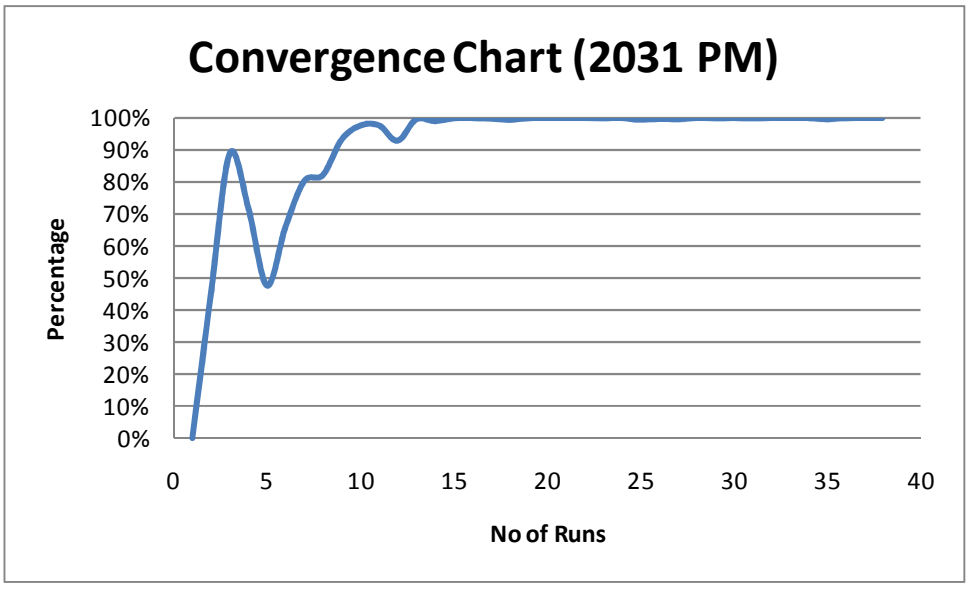


Figure 3-B Convergence Chart for 2031 PM Model

3.2 Ashford Wide Highway Network Statistics

The whole Ashford wide highway network performance for Scenario 1 is presented in Table 3-A. Average delay time per vehicle, average speed and total travel time for all the vehicles are calculated. The results are evaluated based on the converged models and an average over 5 different random seeds.

Network Performance	Average delay time per vehicle [s]	Average speed [km/h]	Total travel time [h]	Total number of vehicles
AM	289	24	4088	29763
PM	207	29	3431	30220

Table 3-A Scenario 1 Overall network performance

3.3 A28 Chart Road

Scenario 1 includes the Full Standard Scheme proposed for the A28 Chart Road, providing a full dual carriageway between the Tank and Matalan roundabouts. Refer to A28 Phase 2 design report for further details of the scheme (also used in the model).

Figure 3-C below shows the journey time counters A28 Chart Road. and Table 3-C present the northbound and southbound journey times along the A28 corridor. In the morning peak, the journey times for the northbound traffic are longer than those for the southbound traffic while in the evening peak time, the situation is the opposite. This reflects the imbalanced traffic demand in the morning and evening peaks. The more detailed analysis on turning flows, queue lengths and level of services at key junctions can be found in Section 3.5.

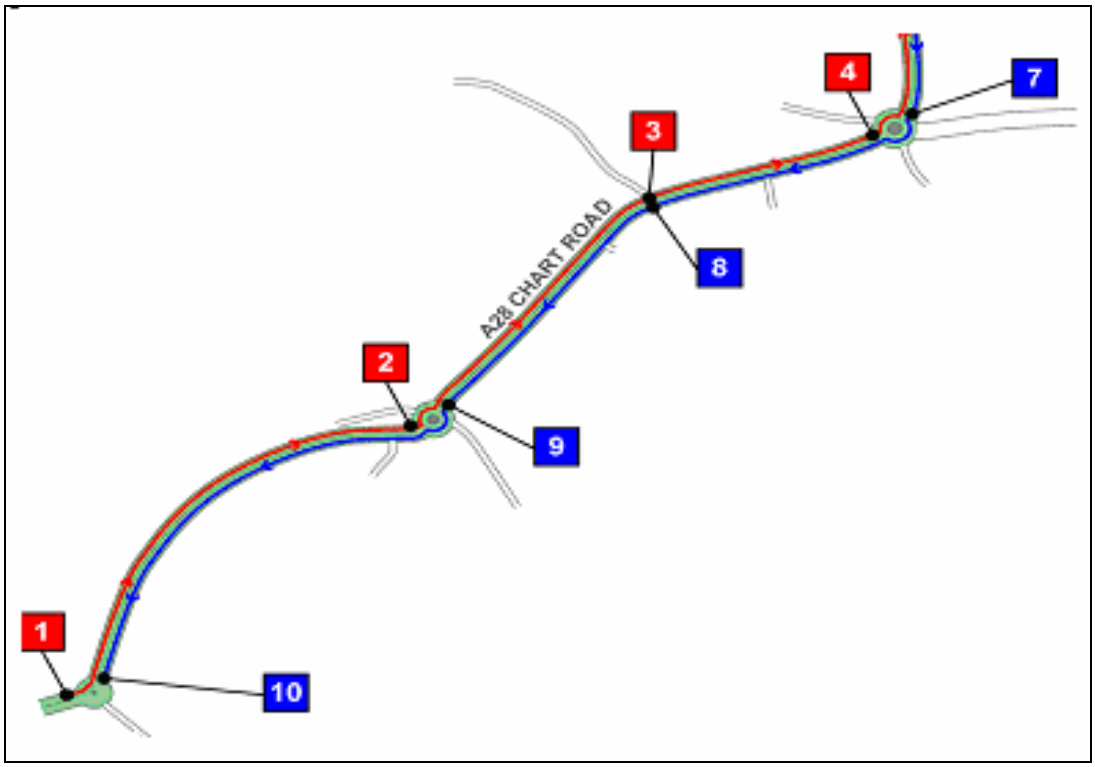


Figure 3-C Journey Time Counters on the A28 Corridor

Northbound			
Section	From - To	AM (Sec)	PM (Sec)
1 to 2	A28 Ashford Road - Matalan RAB	147	75
2 to 3	Matalan RAB - Loudon Way	121	66
3 to 4	Loudon Way - Tank RAB	59	37

Table 3-B A28 Chart Road Journey Times (Northbound)

Southbound			
Section	From - To	AM (Sec)	PM (Sec)
7 to 8	Tank RAB - Loudon Way	42	62
8 to 9	Loudon Way - Matalan RAB	40	77
9 to 10	Matalan RAB - A28 Ashford Road	84	124

Table 3-C A28 Chart Road Journey Times (Southbound)

3.4 Chilmington Green Local Roads

The following Figure 3-D presents the Chilmington Green local road network. Overall the local road network performance does not show any considerable problems as far as traffic movement is concerned. Turning flows and queue lengths for the local road network are included in Appendix C.

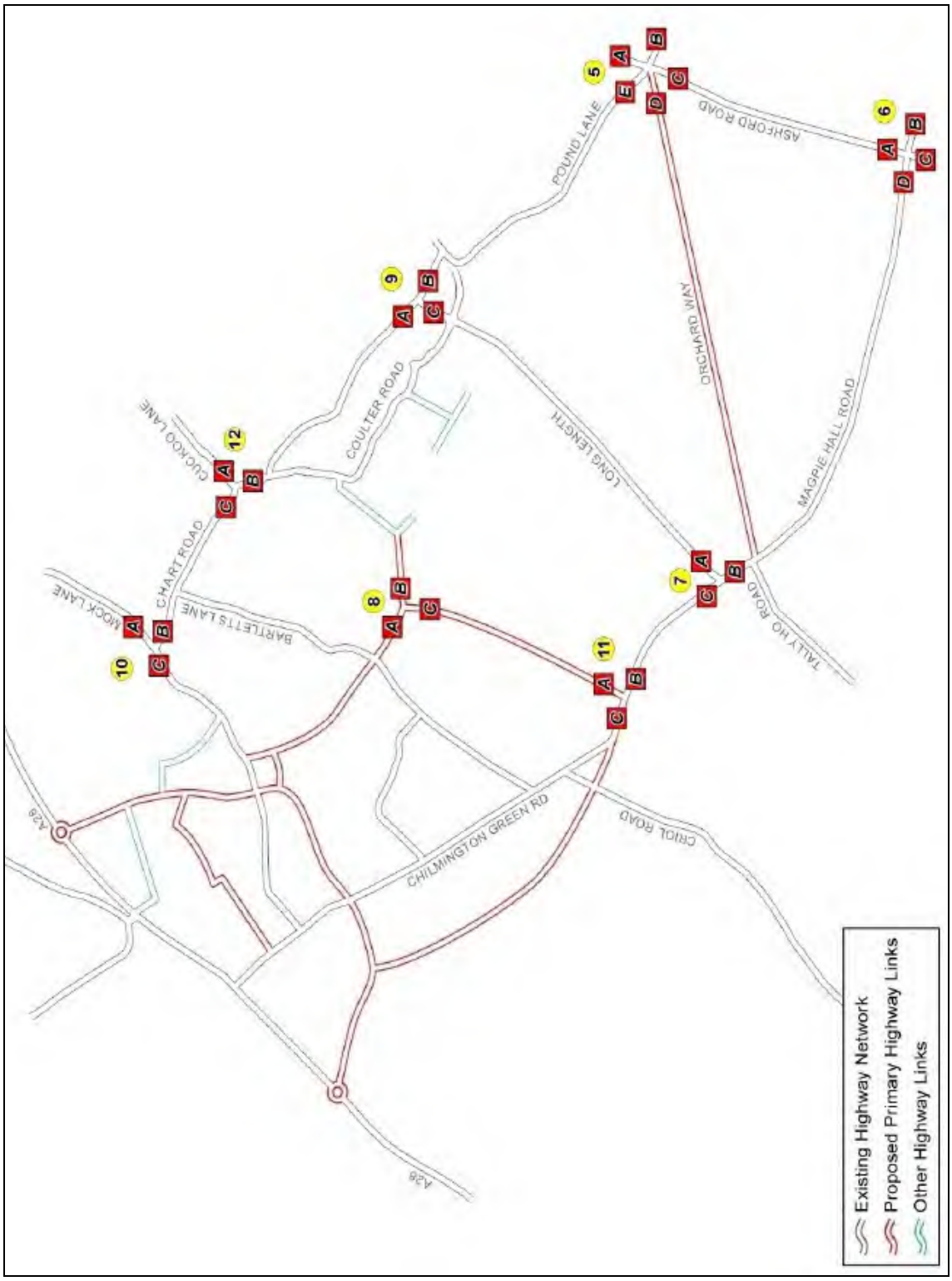


Figure 3-D Chilmington Green Network

3.5 Key Junction Performance

Figure 3-E, Table 3-D, Table 3-E and Table 3-F show turning movements, queue lengths and flow-weighted average delays (Level of Service delays) at Tank Roundabout, Loudon Way signalised junction and Matalan Roundabout.

It is observed that in the morning peak, the northbound traffic will see congestion and queues along the A28 Chart Road corridor. The queue length at Matalan Roundabout is about 286m for northbound traffic in the morning peak. In the evening peak, congestion and delays are observed along the A28 Chart Road corridor for the southbound vehicles.

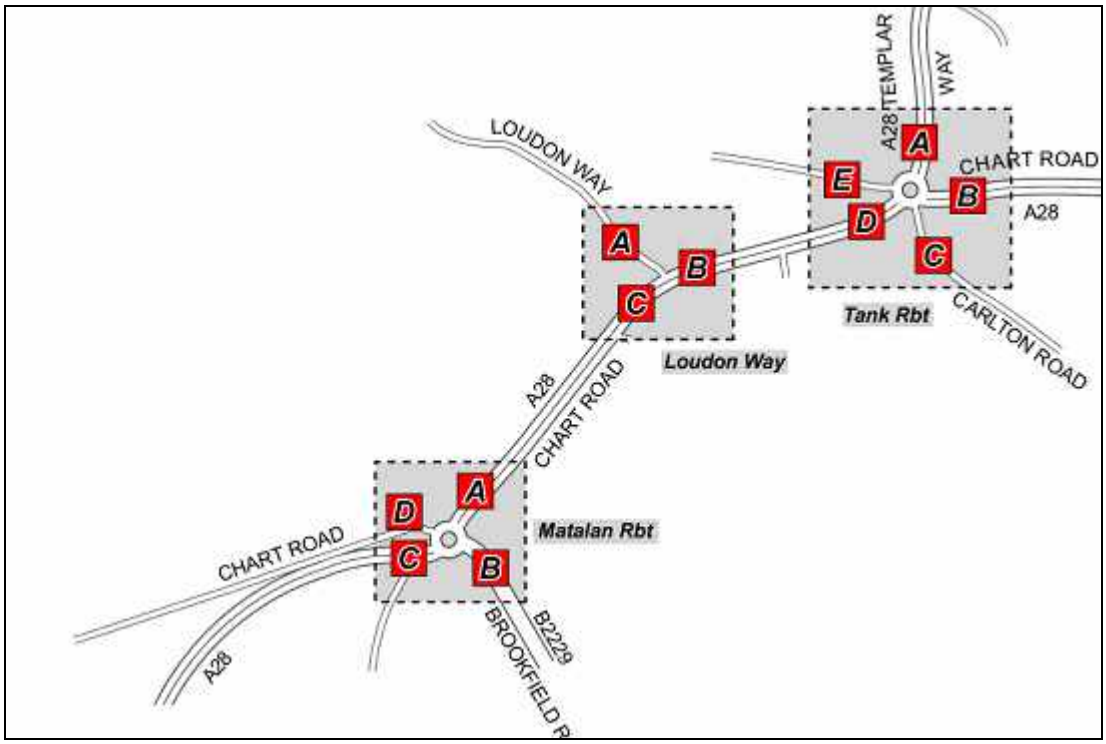


Figure 3-E Turning movements along the A28 corridor

Tank Roundabout	FLOWS (veh)		Queues (m)		Flow-weighted Average Delays (sec/veh)	
	2031 AM	2031 PM	2031 AM	2031 PM	2031 AM	2031 PM
AB	82	18	278	173	31	29
AC	120	49	278	173		
AD	843	1987	278	173		
AE	12	20	278	173		
BA	131	118	277	386		
BC	111	28	277	386		
BD	461	623	277	386		
BE	0	0	277	386		
CA	29	98	10	41		
CB	77	204	10	41		
CD	2	62	10	41		
CE	14	1	10	41		
DA	1475	1012	81	22		
DB	1178	255	81	22		
DC	144	24	81	22		
DE	12	6	81	22		
EA	11	8	11	11		
EB	15	7	11	11		
EC	2	3	11	11		
ED	4	17	11	11		

Table 3-D Traffic Performance: Tank Roundabout

Loudon Way	FLOWS (veh)		Queues (m)		Flow-weighted Average Delays (sec/veh)	
	2031 AM	2031 PM	2031 AM	2031 PM	2031 AM	2031 PM
AB	544	188	457	28	24	13
BA	104	203	43	287		
BC	1432	2551	43	287		
CA	88	100	107	107		
CB	2488	1205	107	107		

Table 3-E Traffic Performance: Loudon Way

Matalan Roundabout	FLOWS (veh)		Queues (m)		Flow-weighted Average Delays (sec/veh)	
	2031 AM	2031 PM	2031 AM	2031 PM	2031 AM	2031 PM
AB	643	987	5	39	24	20
AC	584	1628	5	39		
AD	46	90	5	39		
BA	1158	468	50	29		
BC	46	93	50	29		
BD	25	16	50	29		
CA	1311	749	286	24		
CB	95	74	286	24		
CD	37	24	286	24		
DA	113	75	23	16		
DB	35	49	23	16		
DC	9	59	23	16		

Table 3-F Traffic Performance: Matalan Roundabout

3.6 Corridors / Network sections

The network is considered in more detail in two additional sections:

- *A2070 Corridor*
- *Motorway junctions – M20 J9, J10 and 10A*

Turning flows, delays and queues are presented in Appendix D for each of the network sections.

3.6.1 A2070 Corridor

A2070 corridor analysis indicates the high traffic demand in the year of 2031. In particular, in the morning peak hour there are delays observed for the eastbound traffic at The Blvd/A2070 Bad Munstereifel Road/Waterbrook Avenue junction. This reflects the high traffic demand in the AM peak in the year 2031.

3.6.2 Motorway Junctions

The motorway junctions (M20 Junction 9, Junction 10 and the proposed Junction 10A) in general cope well with the traffic demand. The queue lengths and delays at all the arms of the junctions are generally within an acceptable level. At the new T-junction on the A2070 linking Junction 10 and Junction 10A, queues and delays are observed in the model. At the proposed A2070/ Orchard Way junction, vehicles are observed to experience some delays at the Orchard Way arm. However, the current layouts around this area are largely conceptual rather than detailed. It is felt that these problems can be mitigated once the final realistic development assumptions are adopted and the detailed design for Junction10A and its surrounds are completed.

4 Summary and Conclusions

Jacobs has been commissioned to model a number of scenarios to provide a robust assessment of the Chilmington Green development proposals. This report presents the results for Scenario 1.

The forecast year for the assessment is 2031. Scenario 1 includes all developments and highway infrastructure schemes including the Kingsnorth urban extension, Orchard Way, A28 full dual carriageway between Tank and Matalan roundabouts and 7,000 dwellings at Chilmington Green.

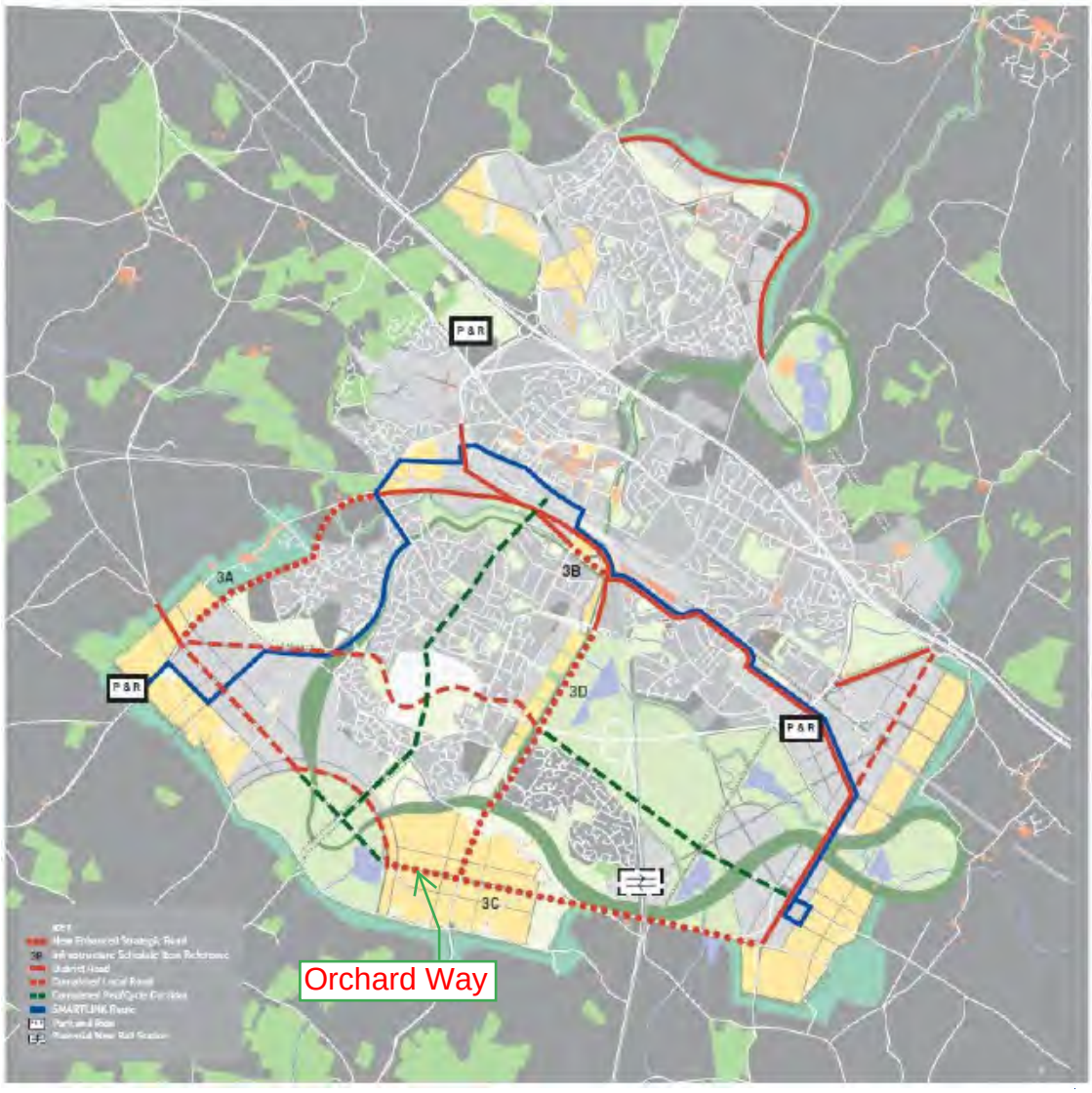
The Scenario 1 results presented in this report for the AM (08:00 – 09:00) and PM (17:00 – 18:00) peak hours form the acceptable highway capacity position in Ashford for 2031. The results will be used as the benchmark to compare the performance of the additional scenario results.

One of the main interests is the traffic performance on the A28 Chart Road corridor. Due to the high demand that is generated by the new developments in Ashford, congestion and delays are observed at the major junctions along the corridor.

Motorway junctions in the study area generally cope well with the traffic situation.

At the Magpie Hall Lane/ Ashford Road Junction, the traffic performance is within an acceptable level. This is due to the construction of Orchard Way as an alternative for the eastbound traffic. On the A2070 corridor some congestion and delays are observed at some junctions.

Appendix A Orchard Way



Appendix B Trip Rates for Dwellings, Jobs and Schools

Projected New Dwellings	AM		PM	
Location	OUT	IN	OUT	IN
Ashford Hosp'l/Kings Ave	0.34	0.19	0.21	0.31
Brisley Farm	0.36	0.19	0.21	0.33
Chart Estate	0.22	0.12	0.13	0.20
Cheeseman's Green	0.29	0.16	0.17	0.27
Conningbrook	0.24	0.13	0.14	0.22
Godinton Park extension	0.20	0.11	0.12	0.18
Hunter Avenue	0.22	0.12	0.13	0.20
Newtown Works	0.23	0.13	0.14	0.21
Park Farm south and east	0.36	0.19	0.21	0.33
Singleton	0.30	0.17	0.18	0.28
Waterbrook	0.24	0.13	0.14	0.22
William Harvey area	0.34	0.19	0.21	0.31
Templar & Rowcroft Barracks	0.26	0.14	0.15	0.24
Lower Queens Road	0.36	0.19	0.21	0.33
Maidstone Road	0.36	0.19	0.21	0.33
Leacon Road	0.30	0.17	0.18	0.28
Bishops Green	0.30	0.17	0.18	0.28
Associate House	0.30	0.17	0.18	0.28
Mabledon Avenue	0.30	0.17	0.18	0.28
Warren Lane	0.30	0.17	0.18	0.28
Abbey Way / Blackwall Rd	0.30	0.17	0.18	0.28

Projected New Jobs	AM		PM	
Location	**OUT**	**IN**	**OUT**	**IN**
Chart Estate	0.04	0.11	0.12	0.04
Cheeseman's Green	0.06	0.16	0.15	0.06
Chilmington Green	0.06	0.16	0.15	0.06
Eureka Park/ Bockhanger Wood	0.05	0.17	0.16	0.05
Newtown Works	0.07	0.18	0.20	0.06
Orbital Park	0.07	0.18	0.17	0.07
Henwood	0.06	0.17	0.16	0.06
Park Farm/Singleton	0.06	0.16	0.15	0.06
Sevington	0.05	0.16	0.17	0.05
Warren P&R	0.05	0.17	0.16	0.05
Waterbrook	0.06	0.17	0.16	0.06
Templar & Rowcroft Barracks	0.04	0.11	0.10	0.04

TRICS 2011(a)v6.7.1 221210 B14.45 (C) 2011 JMP Consultants Ltd on behalf of the TRICS Consortium Friday 04/02/11 Page 2

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TRIP RATE for Land Use 04 - EDUCATION/A - PRIMARY

VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	1	3700	0.027	1	3700	0.027	1	3700	0.054
08:00 - 09:00	1	3700	1.459	1	3700	0.919	1	3700	2.378
09:00 - 10:00	**1**	**3700**	**4.892**	**1**	**3700**	**3.946**	**1**	**3700**	**8.838**
10:00 - 11:00	1	3700	0.135	1	3700	0.270	1	3700	0.405
11:00 - 12:00	1	3700	0.135	1	3700	0.162	1	3700	0.297
12:00 - 13:00	1	3700	0.162	1	3700	0.162	1	3700	0.324
13:00 - 14:00	1	3700	1.081	1	3700	0.270	1	3700	1.351
14:00 - 15:00	1	3700	1.405	1	3700	1.838	1	3700	3.243
15:00 - 16:00	1	3700	0.649	1	3700	1.973	1	3700	2.622
16:00 - 17:00	1	3700	0.324	1	3700	0.568	1	3700	0.892
17:00 - 18:00	1	3700	0.000	1	3700	0.135	1	3700	0.135
18:00 - 19:00	0	0	0.000	0	0	0.000	0	0	0.000
19:00 - 20:00	0	0	0.000	0	0	0.000	0	0	0.000
20:00 - 21:00	0	0	0.000	0	0	0.000	0	0	0.000
21:00 - 22:00	0	0	0.000	0	0	0.000	0	0	0.000
22:00 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			10.269			10.270			20.539

Parameter summary

Trip rate parameter range selected:	3700 - 3700 (units: sqm)
Survey date date range:	01/01/02 - 15/06/07
Number of weekdays (Monday-Friday):	1
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

Appendix C Chilmington Green Local Road Network

Junction	Movement	2031 AM		2031 PM	
		Flows (vph)	Queues (m)	Flows (vph)	Queues (m)
Junction 5	AB	161	35	517	116
	AC	110	35	237	116
	AD	201	35	406	116
	AE	21	35	55	116
	BA	371	13	87	13
	BC	58	13	30	13
	BD	94	13	139	13
	BE	211	13	66	13
	CA	323	24	154	11
	CB	87	24	16	11
	CD	2	24	-	-
	CE	9	24	10	11
	DA	439	30	366	27
	DB	115	30	121	27
	DC	-	-	2	27
	DE	19	30	8	27
	EA	33	33	13	25
	EB	145	33	282	25
	EC	15	33	24	25
	ED	13	33	47	25

Junction	Movement	2031 AM		2031 PM	
		Flows (vph)	Queues (m)	Flows (vph)	Queues (m)
Junction 6	AB	9	0	23	0
	AC	129	0	216	0
	AD	48	0	55	0
	BA	6	0	8	6
	BC	2	0	6	0
	BD	27	0	24	0
	CA	245	0	170	0
	CB	7	0	4	0
	CD	90	0	114	0
	DA	174	6	1	0
	DB	48	5	29	0
	DC	86	5	98	6

Junction	Movement	2031 AM		2031 PM	
		Flows (vph)	Queues (m)	Flows (vph)	Queues (m)
Junction 7	AB	77	6	73	6
	AC	78	6	28	4
	BA	83	6	13	0
	BC	640	0	501	0
	CA	125	0	26	0
	CB	529	0	517	0

Junction	Movement	2031 AM		2031 PM	
		Flows (vph)	Queues (m)	Flows (vph)	Queues (m)
Junction 8	AB	236	0	223	0
	AC	20	0	22	0
	BA	280	32	308	50
	BC	167	36	317	52
	CA	153	9	54	2
	CB	254	16	141	7

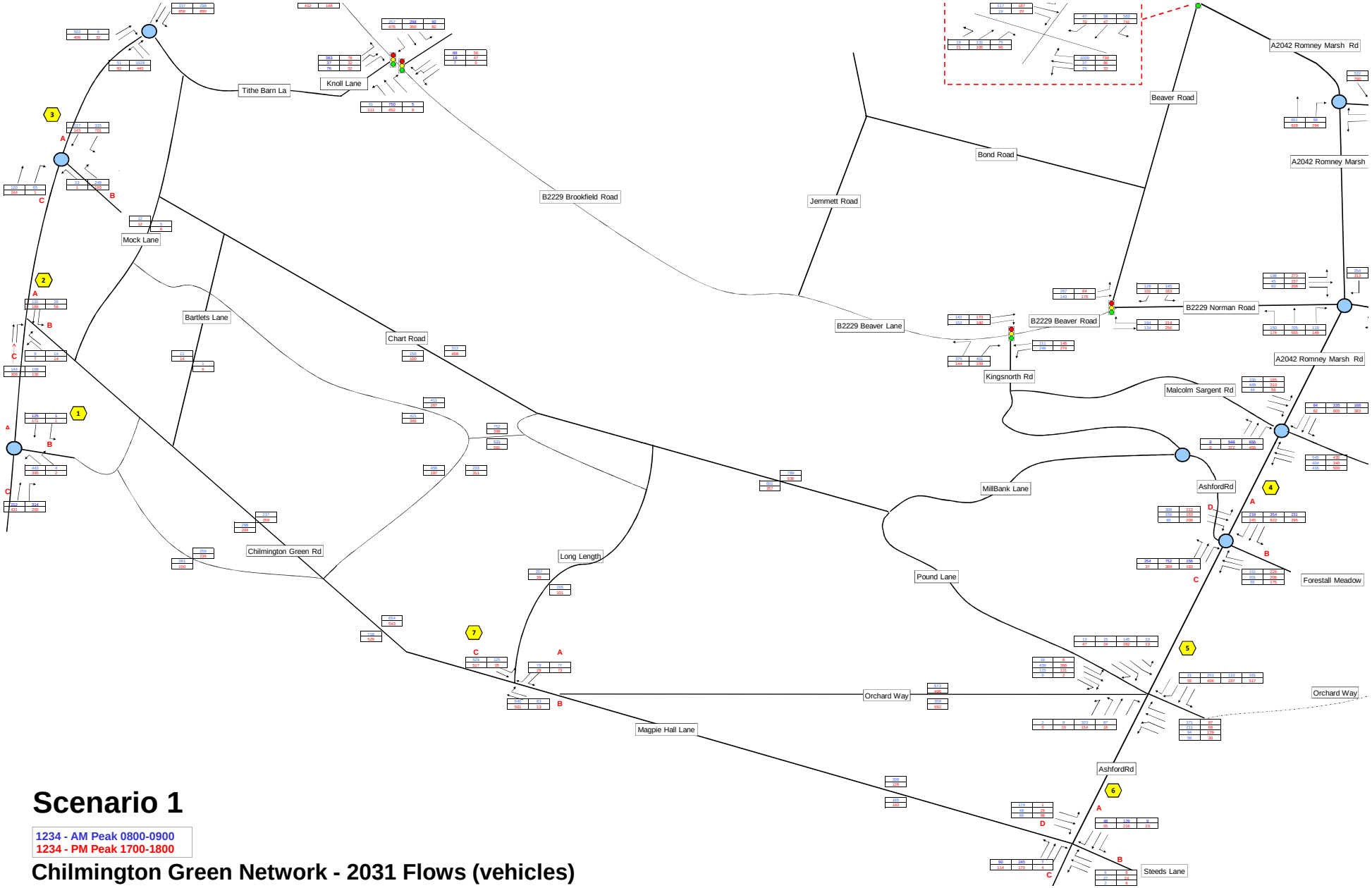
Junction	Movement	2031 AM		2031 PM	
		Flows (vph)	Queues (m)	Flows (vph)	Queues (m)
Junction 9	AB	384	10	369	0
	AC	22	12	1	0
	BA	293	0	198	0
	BC	236	0	126	0
	CA	18	23	16	19
	CB	264	23	239	19

Junction	Movement	2031 AM		2031 PM	
		Flows (vph)	Queues (m)	Flows (vph)	Queues (m)
Junction 10	AB	272	0	383	0
	AC	111	0	43	0
	BA	358	36	192	13
	BC	30	41	28	14
	CA	468	0	107	0
	CB	42	4	38	5

Junction	Movement	2031 AM		2031 PM	
		Flows (vph)	Queues (m)	Flows (vph)	Queues (m)
Junction 11	AB	141	22	182	21
	AC	85	21	56	22
	BA	287	55	142	21
	BC	487	38	332	9
	CA	57	0	54	0
	CB	522	0	406	0

Junction	Movement	2031 AM		2031 PM	
		Flows (vph)	Queues (m)	Flows (vph)	Queues (m)
Junction 12	AB	429	9	571	57
	AC	83	18	96	34
	BA	547	0	248	0
	BC	123	0	72	0
	CA	131	35	111	27
	CB	211	35	290	27

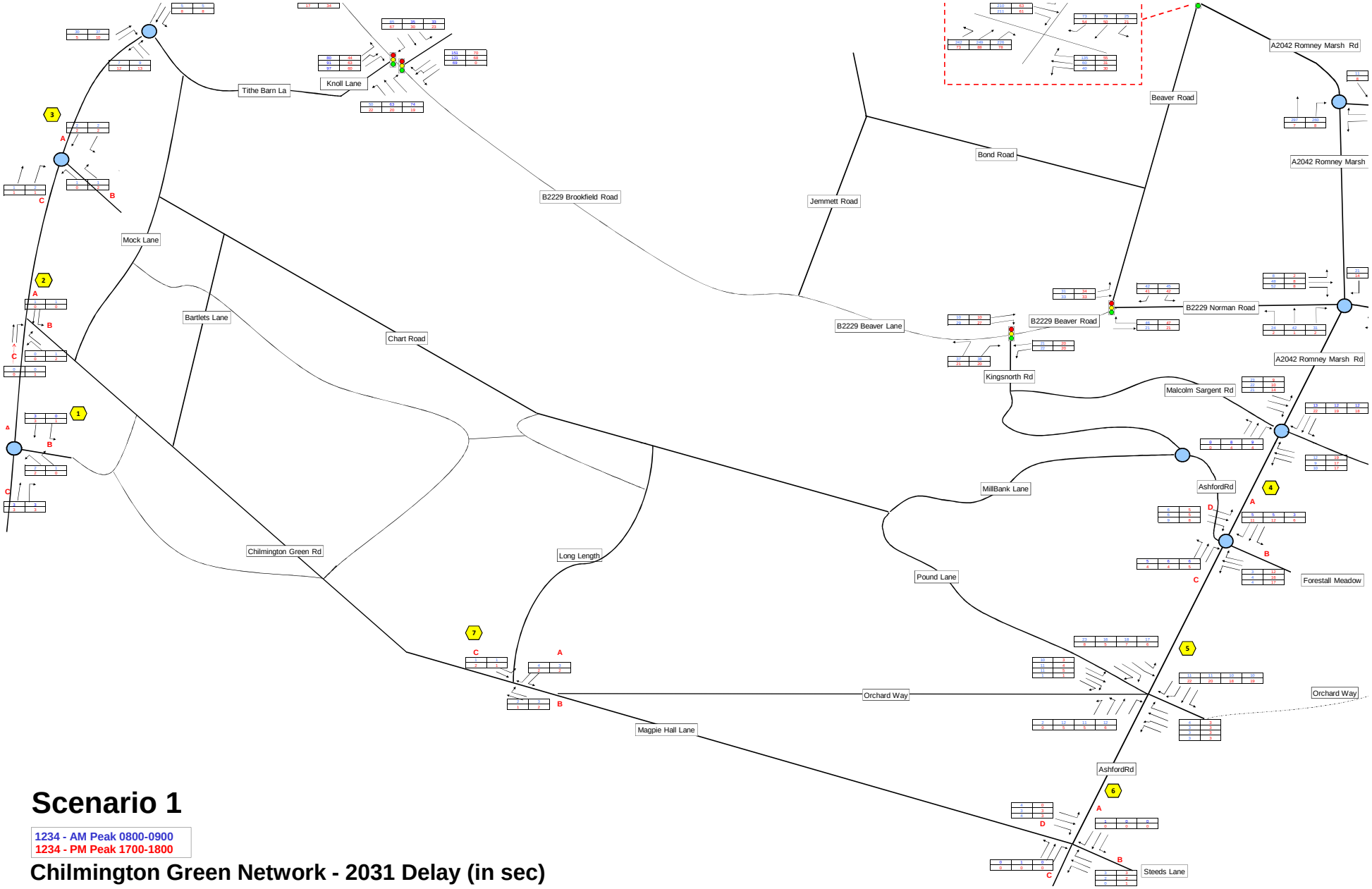
Appendix D Corridors / Network Sections



Scenario 1

1234 - AM Peak 0800-0900
1234 - PM Peak 1700-1800

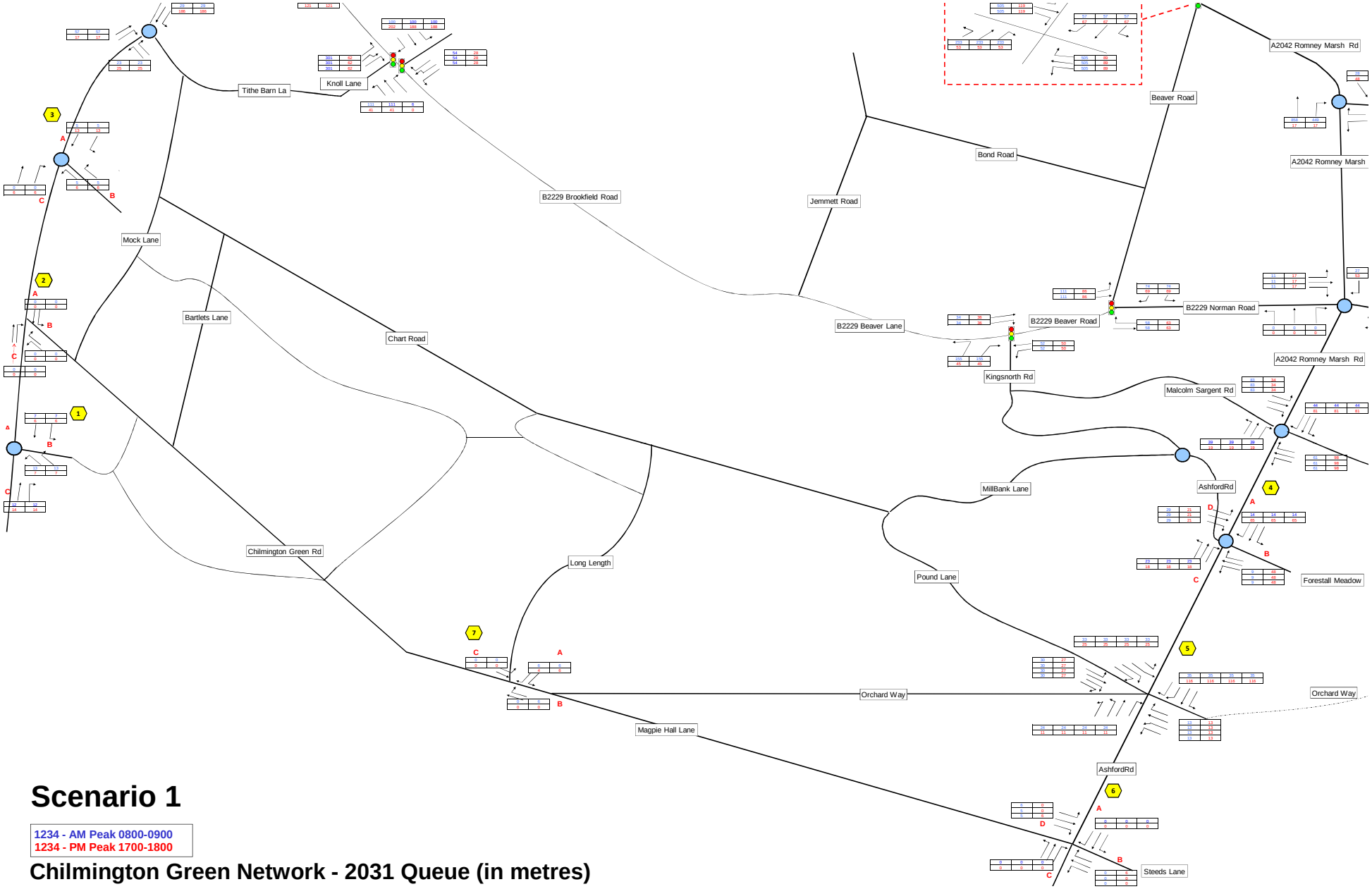
Chilmington Green Network - 2031 Flows (vehicles)



Scenario 1

1234 - AM Peak 0800-0900
1234 - PM Peak 1700-1800

Chilmington Green Network - 2031 Delay (in sec)



Scenario 1

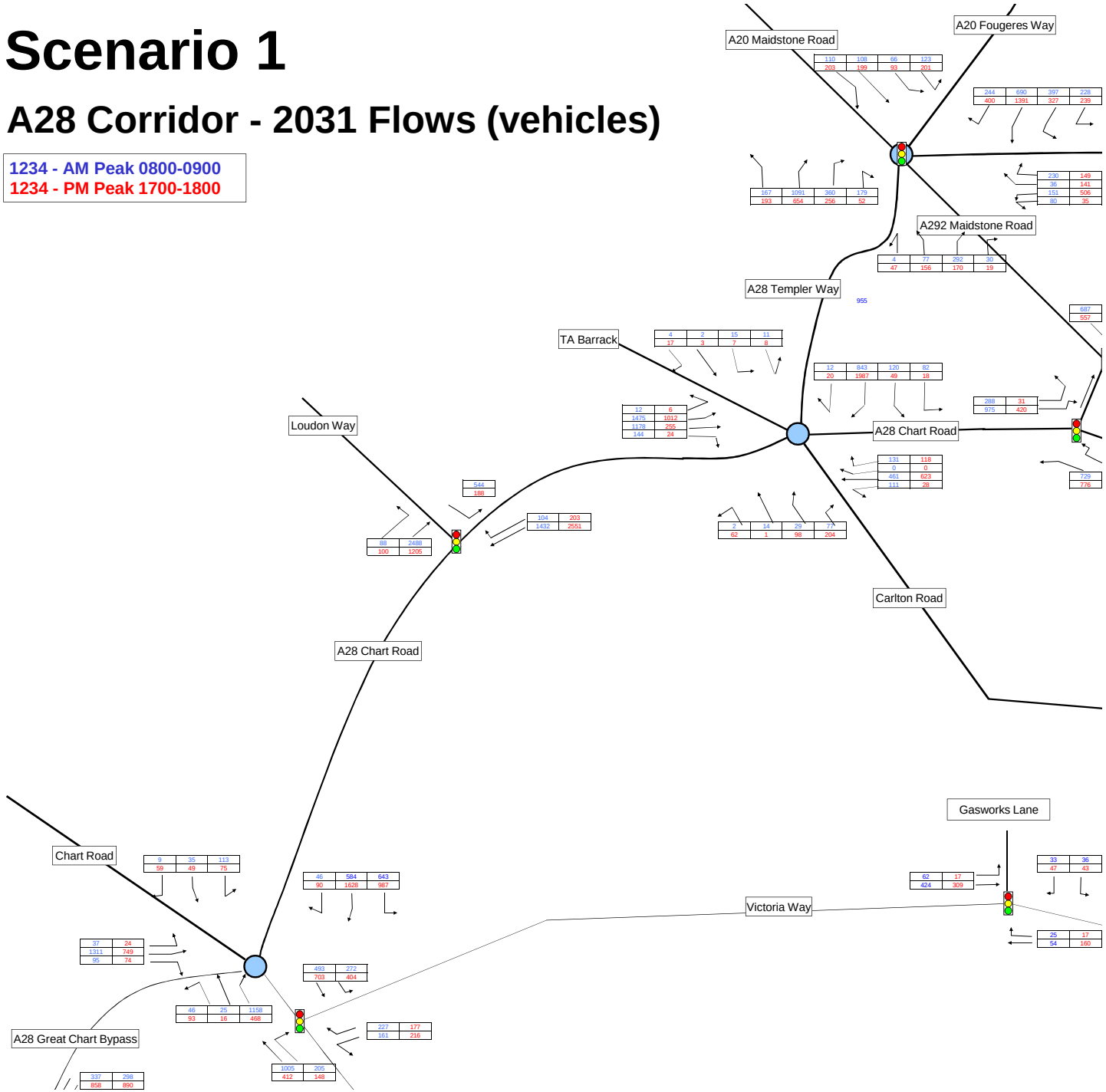
1234 - AM Peak 0800-0900
1234 - PM Peak 1700-1800

Chilmington Green Network - 2031 Queue (in metres)

Scenario 1

A28 Corridor - 2031 Flows (vehicles)

1234 - AM Peak 0800-0900
1234 - PM Peak 1700-1800



Scenario 1

A28 Corridor - 2031 Delays (in sec)

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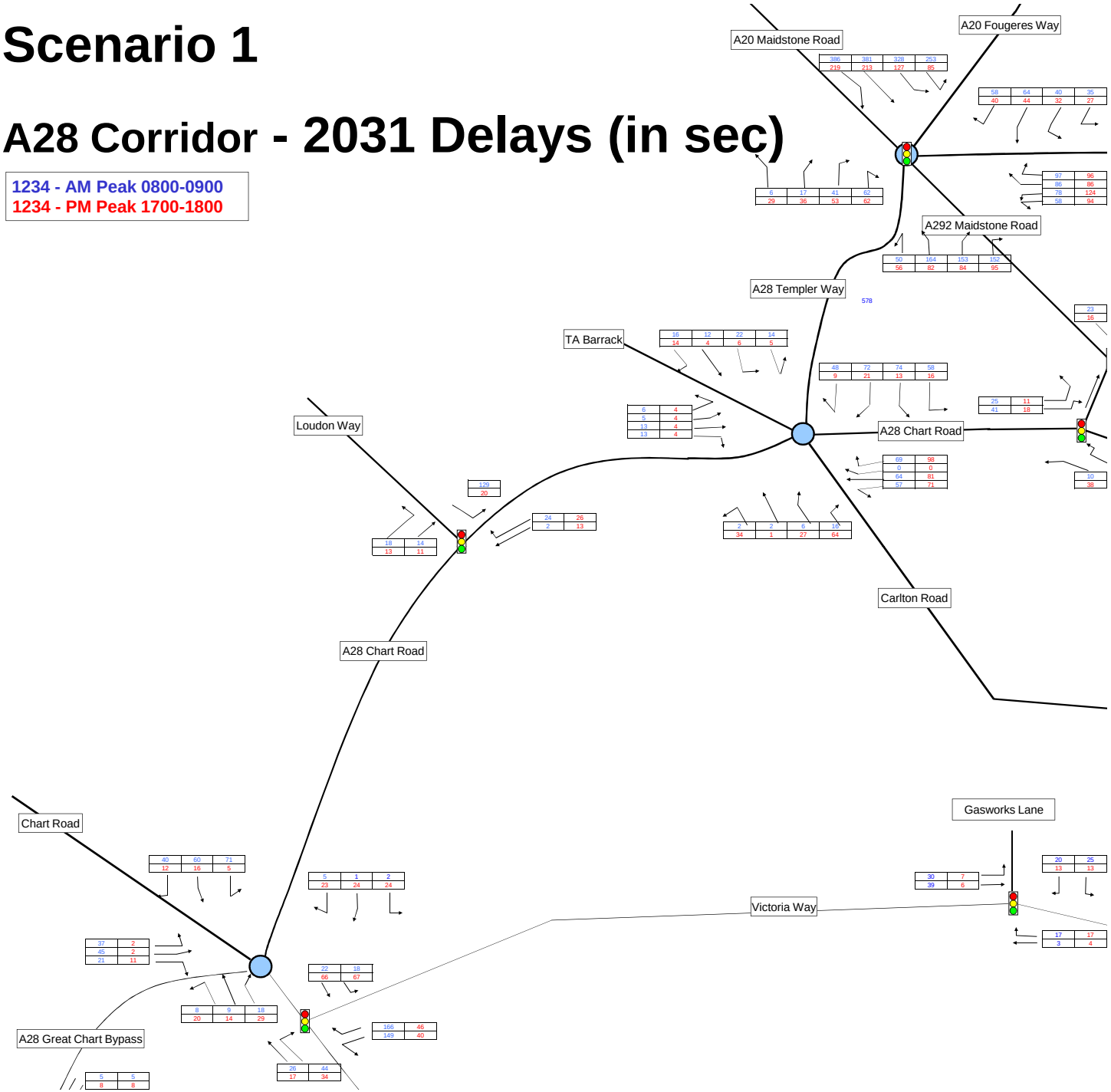
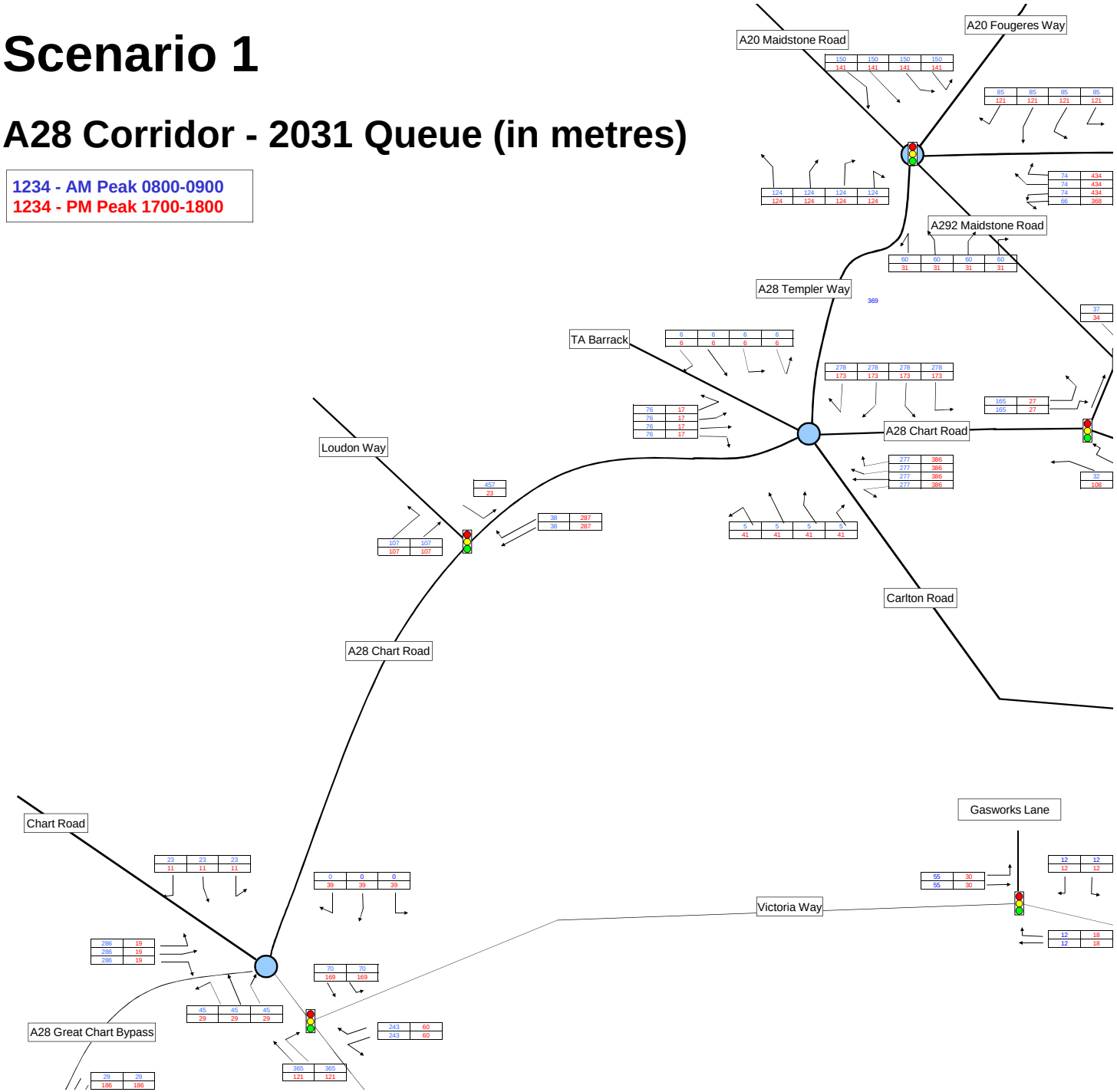
1234 - PM Peak 1700-1800

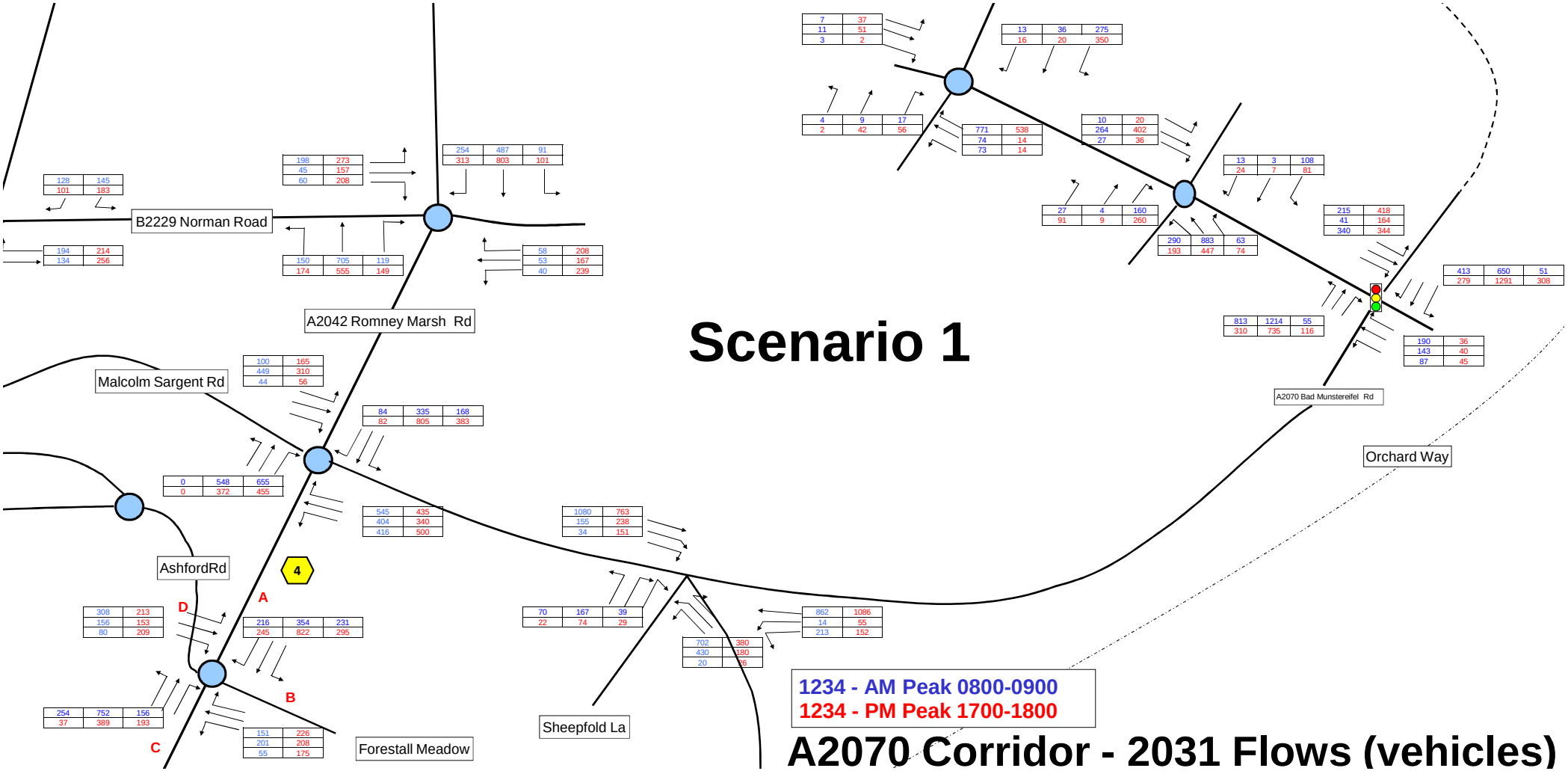


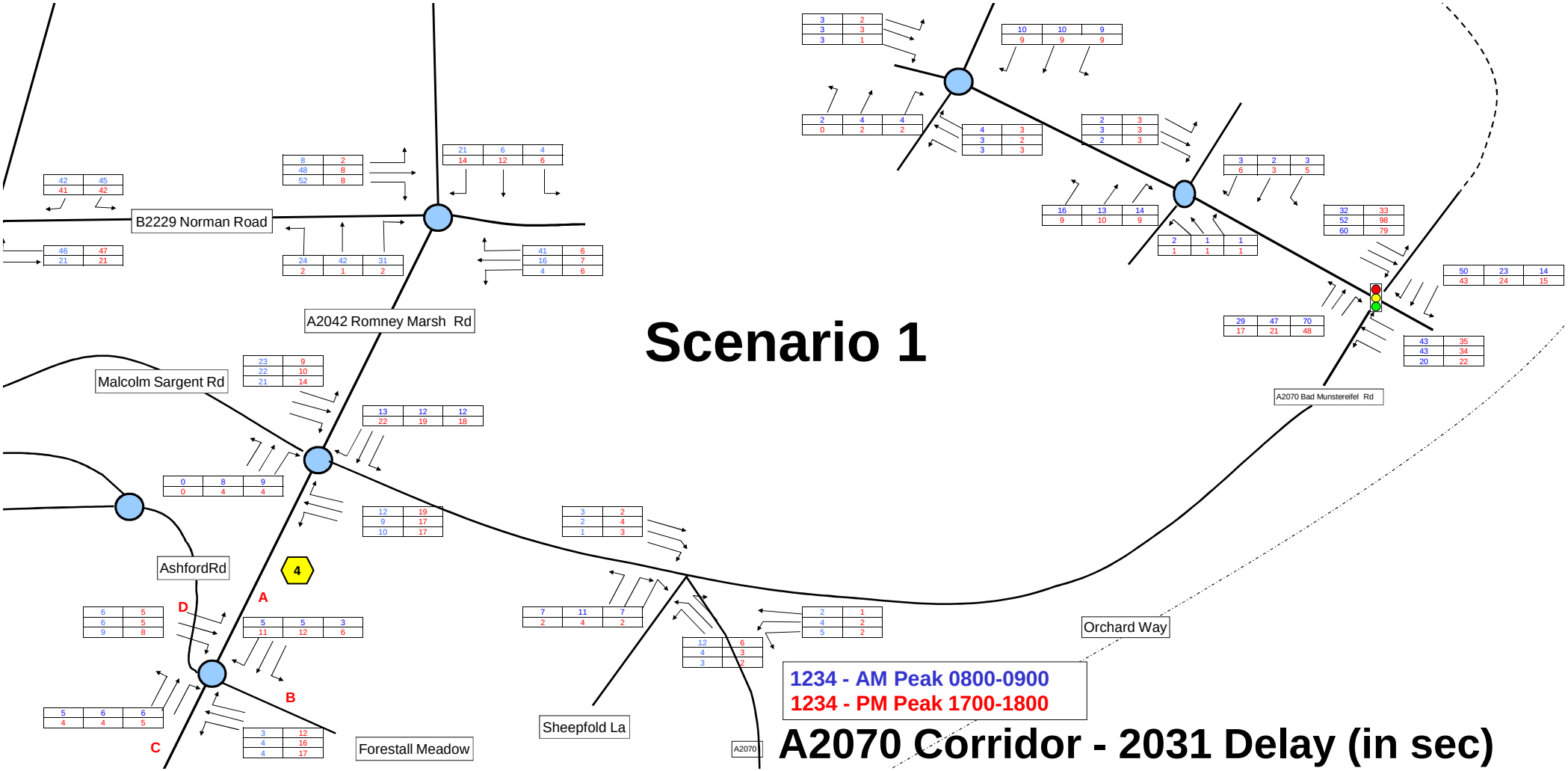
Scenario 1

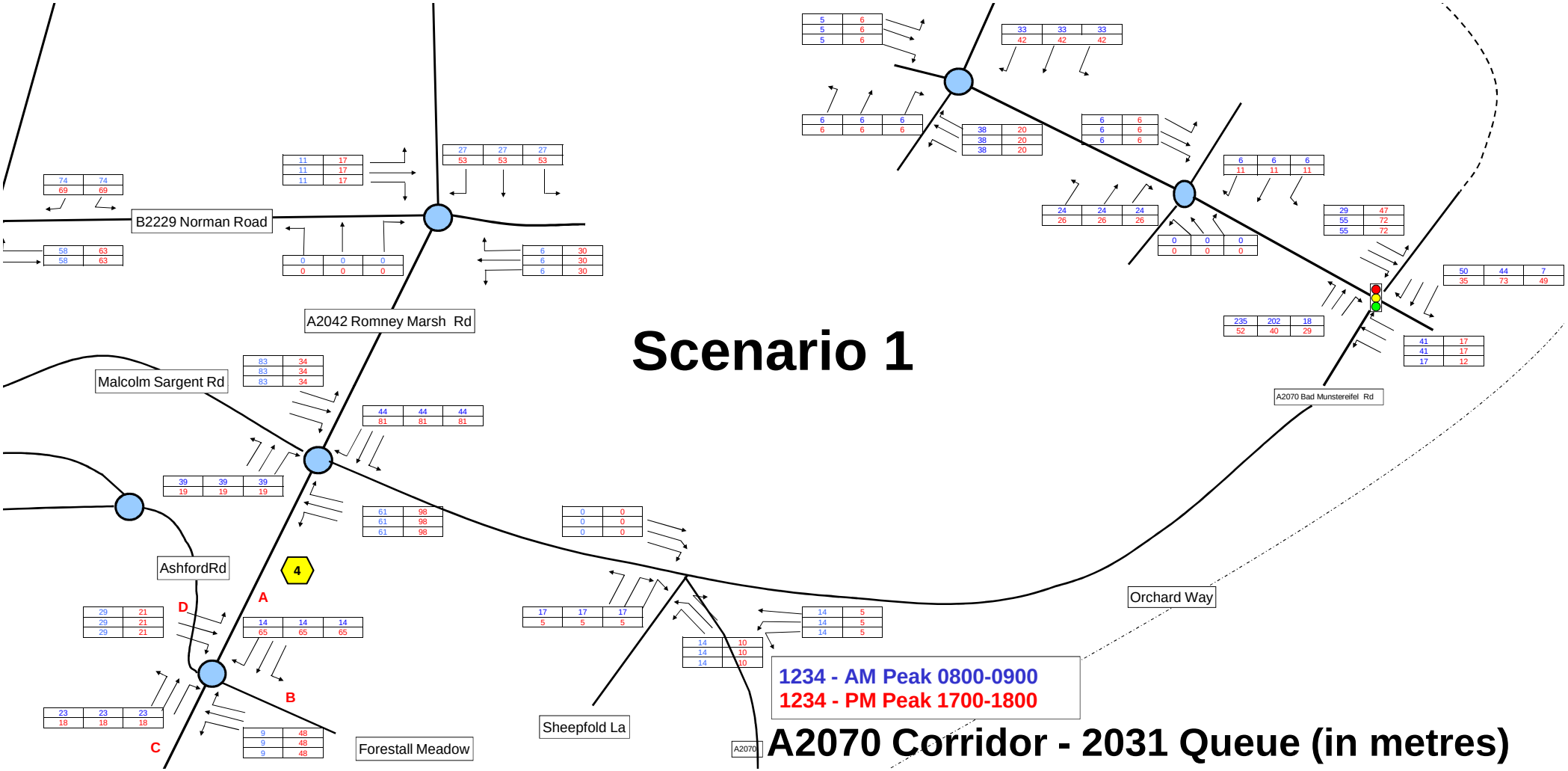
A28 Corridor - 2031 Queue (in metres)

1234 - AM Peak 0800-0900
1234 - PM Peak 1700-1800




B2229 Norman Road
A2042 Romney Marsh Rd
Malcolm Sargent Rd
AshfordRd
Forestall Meadow
Sheepfold La
A2070 Bad Munstereifel Rd
Orchard Way
A
B
C
D
4
Scenario 1
1234 - AM Peak 0800-0900
1234 - PM Peak 1700-1800
A2070 Corridor - 2031 Flows (vehicles)


B2229 Norman Road
A2042 Romney Marsh Rd
Malcolm Sargent Rd
AshfordRd
Forestall Meadow
Sheepfold La
A2070
A2070 Bad Munstereifel Rd
Orchard Way
A
B
C
D
4
Scenario 1
1234 - AM Peak 0800-0900
1234 - PM Peak 1700-1800
A2070 Corridor - 2031 Delay (in sec)


B2229 Norman Road
A2042 Romney Marsh Rd
Malcolm Sargent Rd
AshfordRd
Forestall Meadow
Sheepfold La
A2070
Orchard Way
A2070 Bad Munstereifel Rd
A
B
C
D
4
Scenario 1
1234 - AM Peak 0800-0900
1234 - PM Peak 1700-1800
A2070 Corridor - 2031 Queue (in metres)

Scenario 1

M20 Junctions - 2031 Flows (vehicles)

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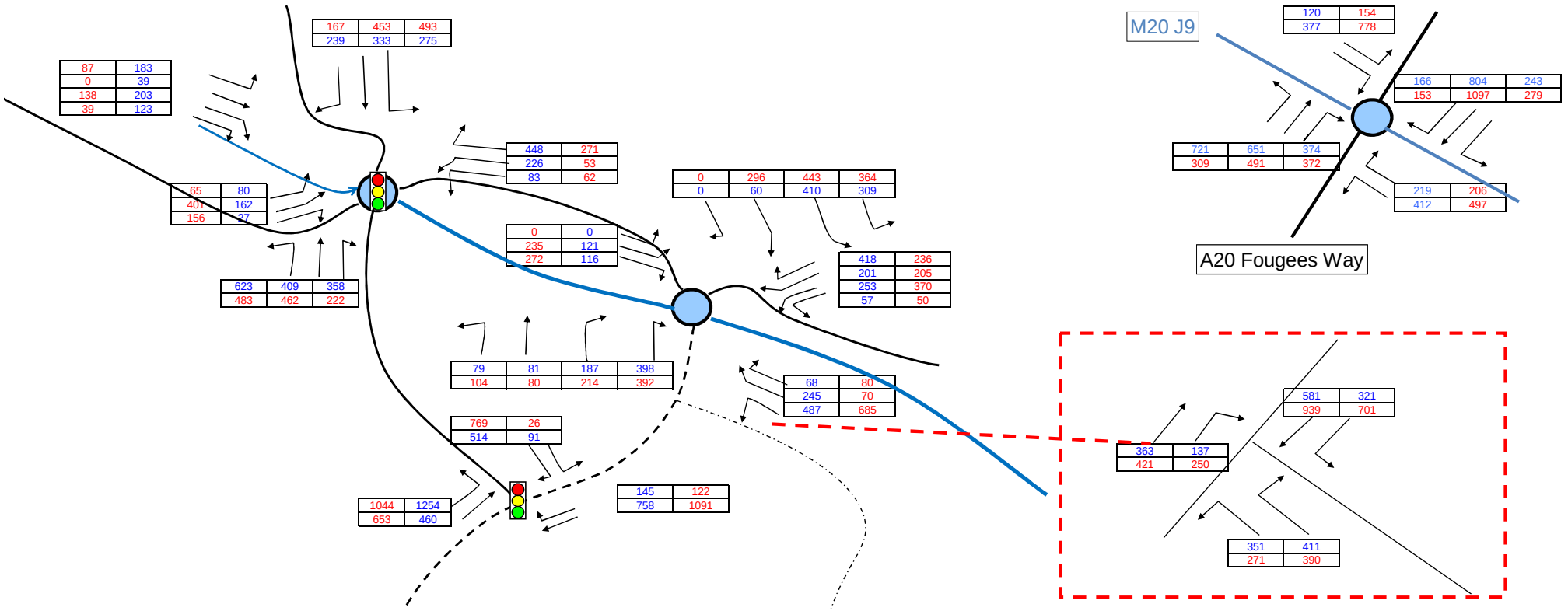
1234 - PM Peak 1700-1800



Scenario 1

M20 Junctions - 2031 Delays (in sec)

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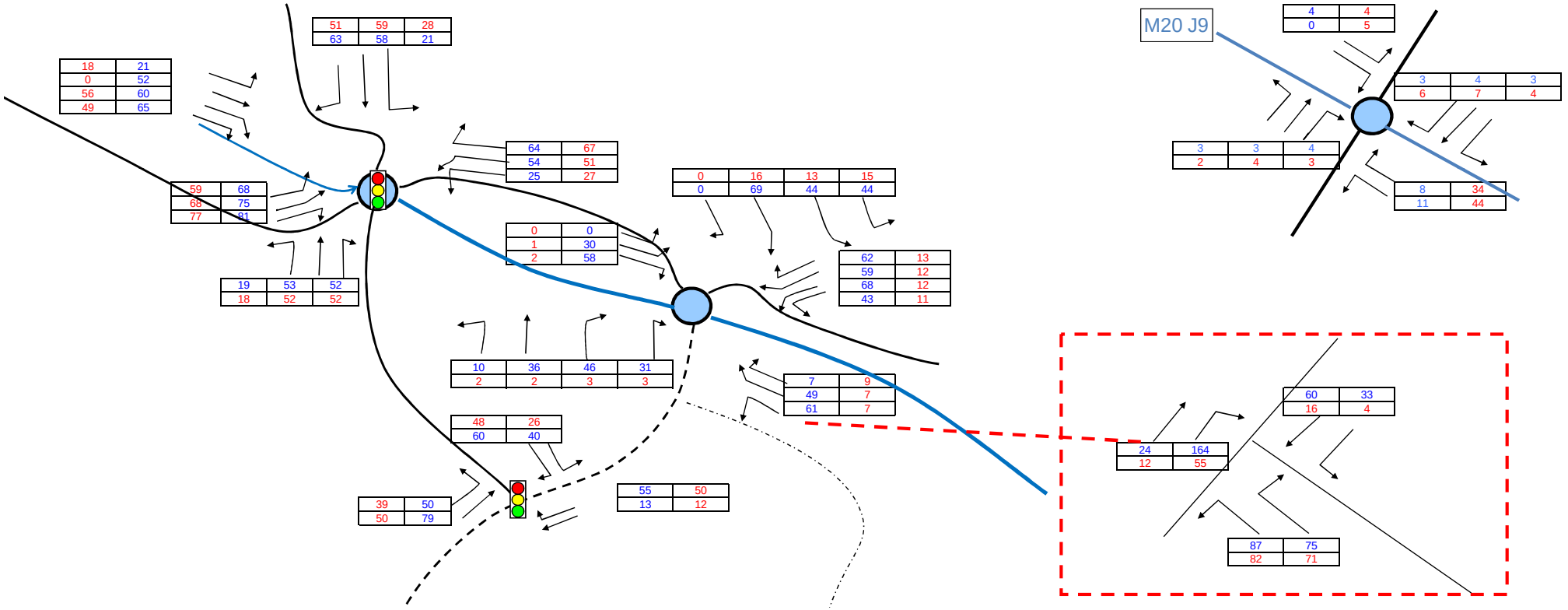
1234 - PM Peak 1700-1800



Scenario 1

M20 Junctions - 2031 Queues (in metres)

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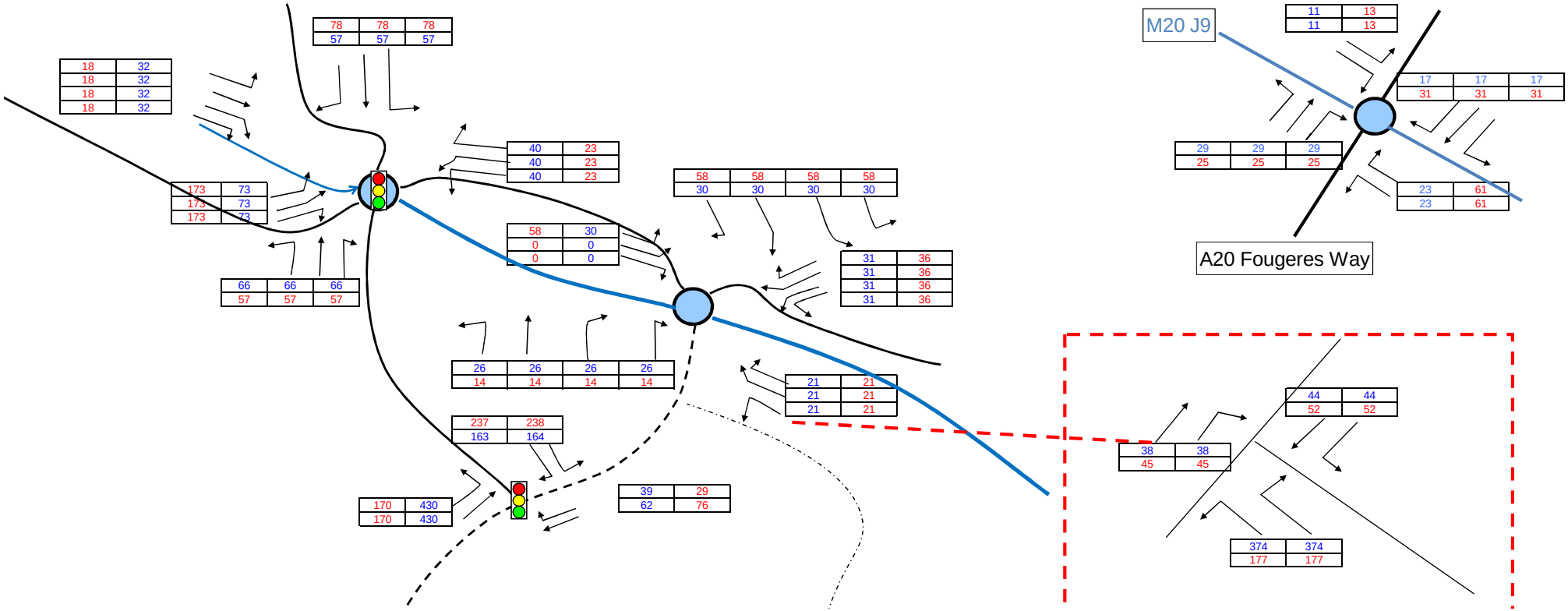
1234 - PM Peak 1700-1800



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Kent Highway Services

Chilmington Green Master Planning VISSIM Model Option Testing

Scenario 2 (January 2012 update) Draft Report

January 2012

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Document control sheet BPP 04 F8

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DATE: 30/01/2012	SIGNATURE	SIGNATURE	SIGNATURE	SIGNATURE
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Contents

1 Introduction

Jacobs has developed a VISSIM model of the Ashford area for a variety of projects relating to Ashford as a growth area. The calibrated / validated 2010 Base year model has been used as a basis to test master planning forecast scenarios. The model study area is presented in Figure 1-A. Initial modelling work completed by Jacobs assessed the Chilmington Green master plan for a 2031 forecast scenario, which included highway capacity improvements on the A28. For further details of this work see the report *Chilmington Green – Ashford Master Planning Scenario Testing, VISSIM Model Development, April 2011*. Further work has been defined as particular scenarios; of which Scenario 2 has become a benchmark. This report refers to a January 2012 run of Scenario 2.

Figure 1-A Study Area

Scenario 2 considers the A28 with full dual carriageway between Tank and Matalan roundabouts, 7,000 dwellings at Chilmington Green and all other developments and highway infrastructure schemes. There is one exception of excluding the Kingsnorth urban extension and corresponding section of Orchard Way.

The following highway infrastructure schemes are committed and included in all scenarios:

- *Completion of Victoria Way*
- *Warren Park & Ride*
- *Completed ring road shared space project with two-way restricted flow*
- *Signalisation of Drovers Roundabout*
- *Signalisation of Leacon Road / Brookfield Road and Gasworks Lane / Victoria Way*
- *Closure of Gasworks Lane - access via Victoria Way*
- *Completion of M20 Junction 10A and related network improvements*
- *The proposed Bellamy Roberts junctions providing access to Cheeseman's Green (T- Junction) and Waterbrook*

- *The existing A2070 Bad Munstereifel Road / Waterbrook Avenue / The Boulevard roundabout to be upgraded into a large at-grade signalised junction*

As mentioned, in addition to the committed highway infrastructure schemes, Scenario 2 assumes the Orchard Way scheme is completed except for the corresponding section to the Kingsnorth urban extension is completed. The alignment and associated junctions for Orchard Way are based on the GADF plans and are presented in Appendix A. The A28 between Matalan Roundabout and Tank Roundabout is fully dualled with two lanes each way in this scenario. A second bridge over the Ashford to Tonbridge railway line, to the south of the existing bridge, has also been assumed in this option. Both Matalan Roundabout and Tank Roundabout are enlarged to have a 15m circulatory width. The junction at Hilton Road is closed and a left in left out access arrangement is proposed for the junction of the A28 Chart Road and Brunswick Road. From the junctions of Loudon Way and Brunswick Road, the traffic is only allowed to turn left to the A28. There are two new pedestrian signal crossings assumed at Tank Roundabout, which are set to be pre-signalled (SVD) by the SmartLink buses to help them to access the roundabout. The first signal crossing is on the west of the roundabout and the other is on the east approach from the gyratory system.

In January 2012 an updated run was undertaken to incorporate the signalisation of J9 of the M20; and other points agreed with WSP.

The purpose of this report is to present the results of this scenario (Scenario 2) for the AM (08:00 – 09:00) and PM (17:00 – 18:00) peak hours. Section 2 of this report describes the modelling methodology and assumptions for the assessment. The results of the assessment for Scenario 2 are presented in Section 3. Finally, the summary and conclusions are presented in Section 4.

2 Methodology and Assumptions

2.1 Development Assumptions

2.1.1 Chilmington Green

The forecast assessment year is 2031 and in Scenario 2 it is assumed that 7,000 dwellings are to be completed at Chilmington Green. Table 2-A presents a summary of the Chilmington Green development proposal.

Land Use	Development Size
Residential	7,000 dwellings
Employment	1,000 jobs
Town centre - Retail	8,000 sqm
Local centres- Retail	2,000 sqm
Town centre - Education / community	5,000 sqm

Table 2-A Chilmington Green Development Assumptions Source: Ashford's Future Company

To incorporate the proposed developments in the Chilmington Green area, some of the existing roads would be improved and new roads would be constructed. Routes such as Ashford Road, passing Great Chart and Magpie Hall Road, and Chilmington Green Road were modelled with reduced speeds to reflect the traffic calming measures used to restrict the increases of traffic on these routes and encourage the use of Orchard Way. The network assumptions in the Chilmington Green area are provided by WSP and shown in Figure 2-A.

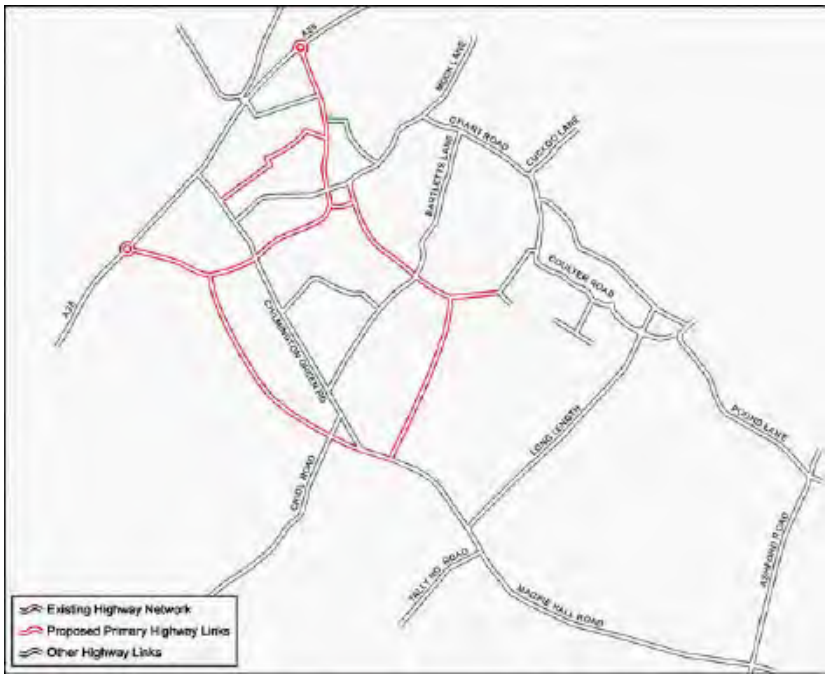

Figure 2-A Proposed Primary Highway Network for Chilmington Green Area

2.1.2 Ashford Developments

Table 2-B presents the assumptions in terms of the number of dwellings and jobs for all other developments to be included in Scenario 2.

Location	Dwellings	Jobs
Ashford Hosp'l/Kings Ave	80	-
Brisley Farm	74	-
Chart Estate	350	300
Cheeseman's Green (+extension)	4,450	1,200
Conningbrook	200	-
Bockhanger Wood	-	5,085
Godinton Park extension	-	-
Hunter Avenue	350	-
Jemmet Road	230	-
Kingsnorth Urban Extension	-	-
Newtown Works	700	200
Park Farm south and east	401	-
Orbital Park	-	850
Henwood	-	200
Singleton	100	-
Stanhope	-	-
Sevington	-	2,500
Town Centre	3,500	12,000
Warren P&R	-	320
Waterbrook	600	1,225
William Harvey area / land east of Willesborough Lees	200	-
Templar & Rowcroft Barracks (Repton Park)	965	200
Kennington	-	-
Lower Queens Road	40	-
Maidstone Road	70	-
Leacon Road	100	-

Bishops Green	20	-
Associate House	15	-
Mabledon Avenue	20	-
Warren Lane	65	-
Abbey Way / Blackwall Rd	60	-
Tile Kiln Road	-	-
Discovery Park	-	-
Cobbs Wood	-	-
Additional, windfall development, etc.	2,500	-

Table 2-B Development Assumptions in Ashford Source: Ashford's Future Company

2.2 Development Trip Generation

Trip rates for the developments in the Chilmington Green area can be found in Table 2-C and vehicle trip generation in Chilmington Green is shown in Table 2-D. Trip rates for the other developments are presented in Appendix B.

Type	Trip Rate			
	AM (8:00-9:00)		PM (17:00-18:00)	
	Departure	Arrival	Departure	Arrival
Dwellings (vehicles/per dwelling)	0.29	0.15	0.16	0.27
Employment (vehicles/per job)	0.06	0.16	0.17	0.06
Retail (vehicles/per 100 sqm GFA) (No employment)	0.88	0.82	0.89	0.81
Education/ Community (vehicles/per 100 sqm GFA)	0.92	1.46	0 .14	0

Table 2-C Trip Rates in Chilmington Green- Source: (Trip rates for dwellings, employment and retail are from Agreed trip generation rates with Kent Highway Services, Ashford Future's Company and the Highways Agency. Trip rates for education/ community are from TRICS 2011(a) v6.7.1)

Type	Vehicle Trips			
	AM (8:00-9:00)		PM (17:00-18:00)	
	Origin	Destination	Origin	Destination
Dwellings	2030	1050	1120	1890
Employment	60	160	170	60
Retail	88	82	89	81
Education/ Community	46	73	7	0
Total	**2224**	**1365**	**1386**	**2031**

Table 2-D Trip Generation in Chilmington Green in 2031

It should be noticed that the trip rates used for employment includes all jobs in offices, retail stores, etc and employee trips for retail were not double counted. The agreed trip rates do not provide information for the school and community developments. The trip rates provided by TRICS are used in this model. The school/ community trip rates do not exclude employment trips to school/ community due to the lack of supporting data. However, considering the small amount of the school employment trips, the impact to the whole network is assumed to be very marginal.

2.3 Development Trip Distribution

The developments in Kingsnorth are assumed to be removed in Scenario 2 and the development trips are re-distributed. The distribution of the development trips is based on the generalised cost of travelling between each pair of zones considering the distance and travel time. Table 2-E and Table 2-F present the external and internal vehicle trip distribution in the Chilmington Green area for the AM and PM peak hours respectively. There are 10 - 20% internal to internal vehicular trips in the AM and PM peak hours, as per the modelling assumptions provided by WSP.

Vehicle Trip Distribution (2031 AM)		
Total Origin	Internal-Internal	234
	Internal-External	1990
Total Destination	Internal-Internal	234
	External-Internal	1131

Table 2-E Vehicle Trip Distribution in Chilmington Green (2031 AM)

Vehicle Trip Distribution (2031 PM)		
Total Origin	Internal-Internal	209
	Internal-External	1177
Total Destination	Internal-Internal	209
	External-Internal	1822

Table 2-F Vehicle Trip Distribution in Chilmington Green (2031 PM)

2.4 Background Traffic Growth

The background traffic for the 2031 forecast year was produced using growth factors from TEMPRO 6.2 using dataset NTEM 5.4 This dataset has been retained, despite the release of the newer NTEM 6.2, to keep consistency throughout the project. TEMPRO is widely used to estimate the number of trips in future years. However, the default factors from TEMPRO take into account future committed developments in the study area. To avoid double counting and to provide more accurate estimation of trips, TEMPRO is only used to estimate the trips that generated by natural growth (population, economic growth, etc) and trips that are generated from the new developments are considered separately.

The growth rates obtained from TEMPRO for 2010 to 2031 can be found in Table 2-G. The background traffic is distributed using the Furness method.

Year	Time Period	Urban		Rural	
		Origin	Destination	Origin	Destination
2010-2031	AM	0.94	1.07	0.93	1.06
	PM	1.04	0.96	1.03	0.94

Table 2-G Growth Factors for Background Traffic

2.5 Traffic Matrix Totals

The final matrices for Scenario 2 were produced in two parts, the background traffic and the traffic from new developments. Table 2-H presents the traffic matrix totals for Scenario 2.

Traffic Type	AM Peak	PM Peak
Background Growth (excl. Committed Development)	18139	19772
Committed Development Trips (excl. from Background Growth) refer	7493	6168
Total Vehicle Trips	25632	25940

Table 2-H Scenario 2 Traffic Matrix Totals

3 Assessment

3.1 Model Convergence

Scenario 2 was simulated using the dynamic assignment module in VISSIM, which is computed by running the simulation until convergence is achieved. The convergence criteria set for this model was the travel time on paths, which is also the recommended criterion for convergence of a stochastic dynamic assignment model. In this model, the criterion is the change of travel time on paths is within 10%. The dynamic assignment is stopped when all the vehicles meet the requirement.

Figure 3-A and Figure 3-B below show percentages of total vehicles that meet the criterion in each model run in the AM and PM peaks.

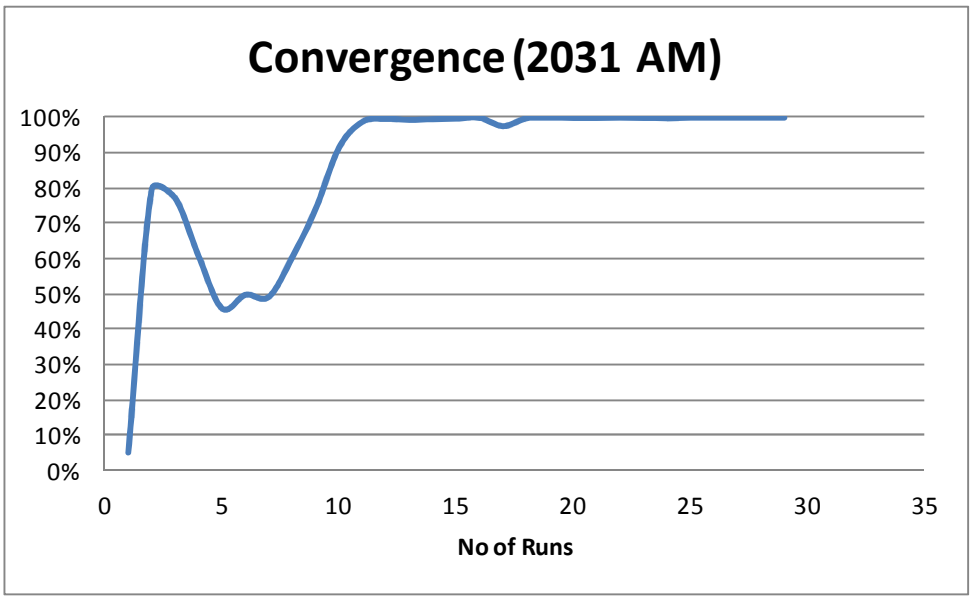

Figure 3-A Convergence Chart for 2031 AM Model

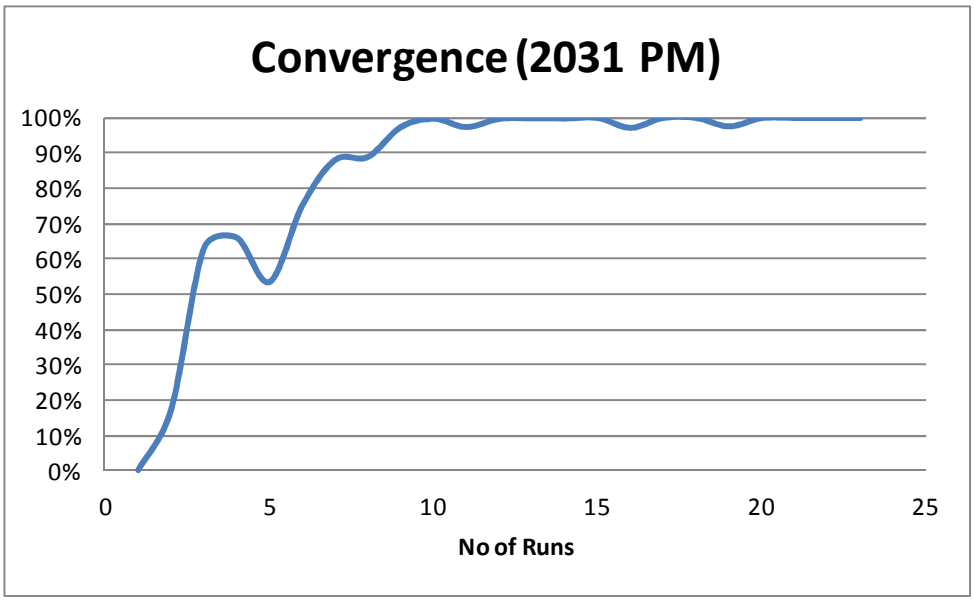

Figure 3-B Convergence Chart for 2031 PM Model

3.2 Ashford Wide Highway Network Statistics

The whole Ashford wide highway network performance for Scenario 2 is presented in Table 3-A. Average delay time per vehicle, average speed and total travel time for all the vehicles are calculated. The results are evaluated based on the converged models and an average over 5 different random seeds.

Network Performance	Average delay time per vehicle [s]	Average speed [mph]	Total travel time [h]
AM	255	16	3714
PM	194	19	3067

Table 3-A Overall network performance for Scenario 2

3.3 A28 Chart Road Key Junction Performance

Scenario 2 includes the Full Standard Scheme proposed for the A28 Chart Road, providing a full dual carriageway between the Tank and Matalan roundabouts. Refer to A28 Phase 2 design report for further details of the scheme (also used in the model).

The following Table 3-B and Table 3-C show the comparison of maximum queue lengths for the A28 throughflow (tidal flows) in Scenario 2.

2031 AM (Northbound)	Flows (veh)	Maximum Queue (m)
Tank Roundabout	1368	146
Loudon Way	2497	134
Matalan Roundabout	1320	308

Table 3-B Queue lengths (AM)

2031 AM (Northbound)	Flows (veh)	Maximum Queue (m)
Tank Roundabout	2119	227
Loudon Way	2642	304
Matalan Roundabout	1755	169

Table 3-C Queue lengths (PM)

Figure 3-C, Table 3-D, Table 3-E and show turning movements, queue lengths and flow-weighted average delays (Level of Service delays) at Tank Roundabout, Loudon Way signalised junction and Matalan Roundabout.

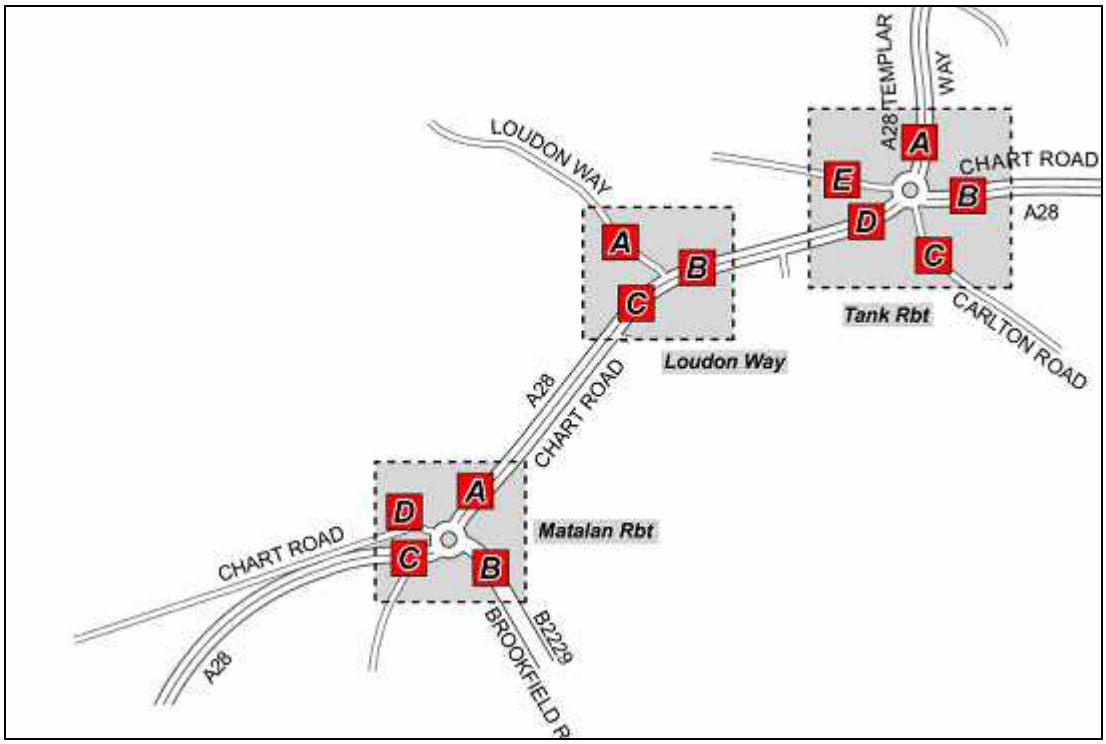

Figure 3-C Turning movements along the A28 corridor

Tank Roundabout	FLOWS (veh)		Queues (m)		Flow-weighted Average Delays (sec/veh)	
	2031 AM	2031 PM	2031 AM	2031 PM	2031 AM	2031 PM
AB	35	24	199	227	37	22
AC	77	46	199	227		
AD	756	2119	199	227		
AE	42	80	199	227		
BA	138	157	382	391		
BC	139	19	382	391		
BD	416	503	382	391		
BE	56	63	382	391		
CA	33	91	22	197		
CB	85	177	22	197		
CD	1	28	22	197		
CE	0	5	0	197		
DA	1368	1008	146	75		
DB	1231	242	146	75		
DC	107	18	146	75		
DE	68	54	146	75		
EA	80	59	80	25		
EB	74	43	80	25		
EC	0	12	0	25		
ED	44	95	80	25		

Table 3-D Traffic Performance: Tank Roundabout

Loudon Way	FLOWS (veh)		Queues (m)		Flow-weighted Average Delays (sec/veh)	
	2031 AM	2031 PM	2031 AM	2031 PM	2031 AM	2031 PM
AB	606	175	260	22	18	17
BA	97	154	46	304		
BC	1418	2642	46	304		
CA	84	106	134	112		
CB	2497	1264	134	112		

Table 3-E Traffic Performance: Loudon Way

Matalan Rbt	FLOWS (veh)		Queues (m)		Flow-weighted Average Delays (sec/veh)	
	2031 AM	2031 PM	2031 AM	2031 PM	2031 AM	2031 PM
AB	597	1004	66	169	35	8
AC	617	1755	66	169		
AD	33	49	66	169		
BA	1279	583	118	160		
BC	101	123	118	160		
BD	8	7	118	160		
CA	1320	717	308	35		
CB	79	71	308	35		
CD	8	5	308	35		
DA	67	29	39	16		
DB	14	9	39	16		
DC	4	15	39	16		

Table 3-F Traffic Performance: Matalan Roundabout

3.4 Chilmington Green Local Roads

The following Figure 3-D presents the Chilmington Green local road network. Overall the local road network performance does not show any considerable problems as far as traffic movement is concerned. Turning flows and queue lengths for the local road network are included in Appendix C.

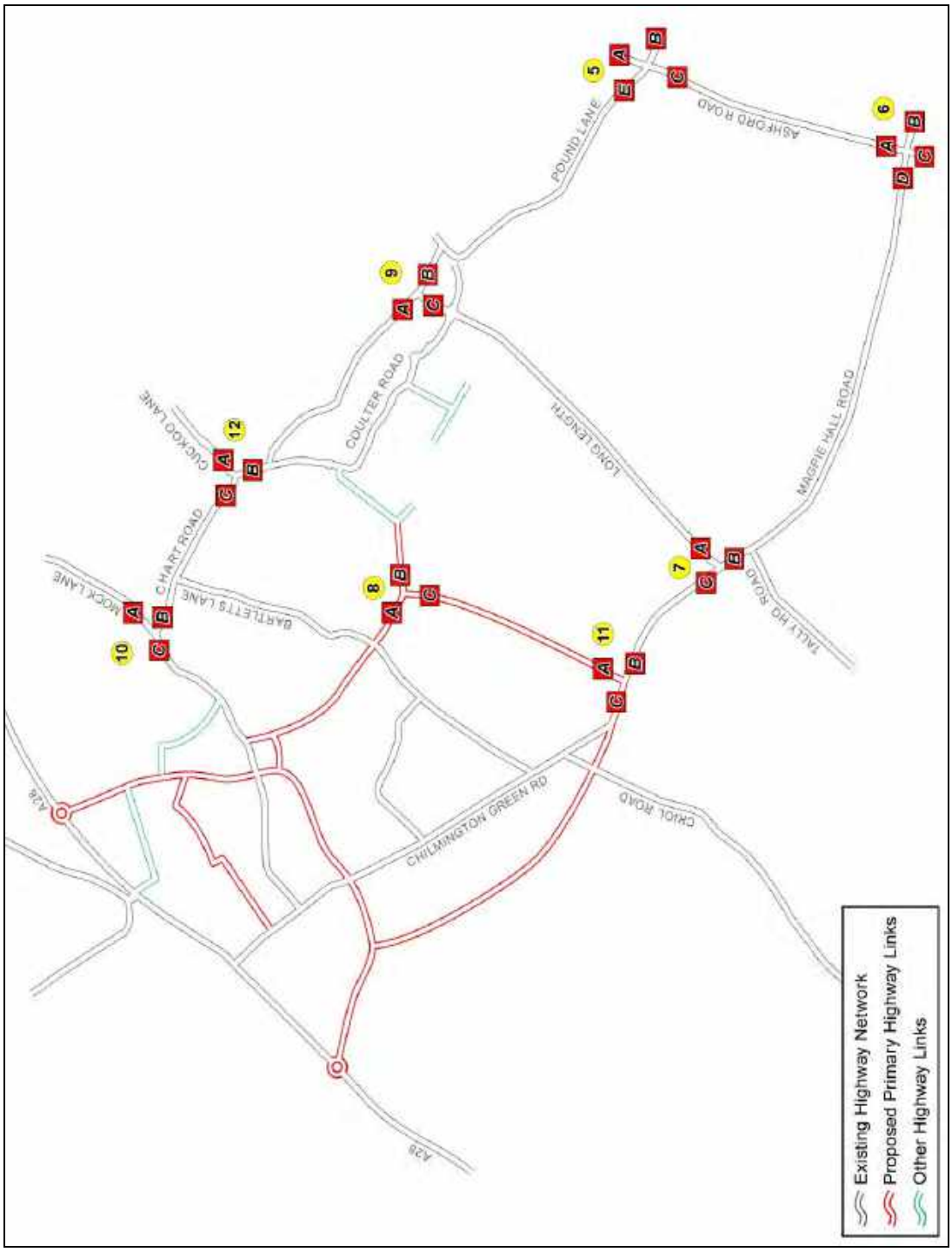

Figure 3-D Chilmington Green Network

3.5 Corridors / Network sections

The network is considered in more detail in two additional sections:

- *A2070 Corridor*
- *Motorway junctions – M20 J9, J10 and 10A*

Turning flows, delays and queues are presented in Appendix D for each of the network sections.

4 Summary and Conclusions

Jacobs has been commissioned to model a number of scenarios to provide a robust assessment of the Chilmington Green development proposals. This report presents the results for a January 2012 update of Scenario 2.

The forecast year for the assessment is 2031. Scenario 2 includes all developments and highway infrastructure schemes, but excluding the Kingsnorth urban extension and the corresponding section of Orchard Way. The A28 is a full dual carriageway between Tank and Matalan roundabouts, and 7,000 dwellings are being assumed at Chilmington Green. The trips that will be generated by the new developments after taking out developments at Kingsnorth extension are re-distributed based on the generalised cost of travelling between each pair of zones considering the distance and travel time.

Scenario 2 is being regarded as an appropriate benchmark.

The Scenario 2 results presented in this report for the AM (08:00 – 09:00) and PM (17:00 – 18:00) peak hours form the acceptable highway capacity position in Ashford for 2031.

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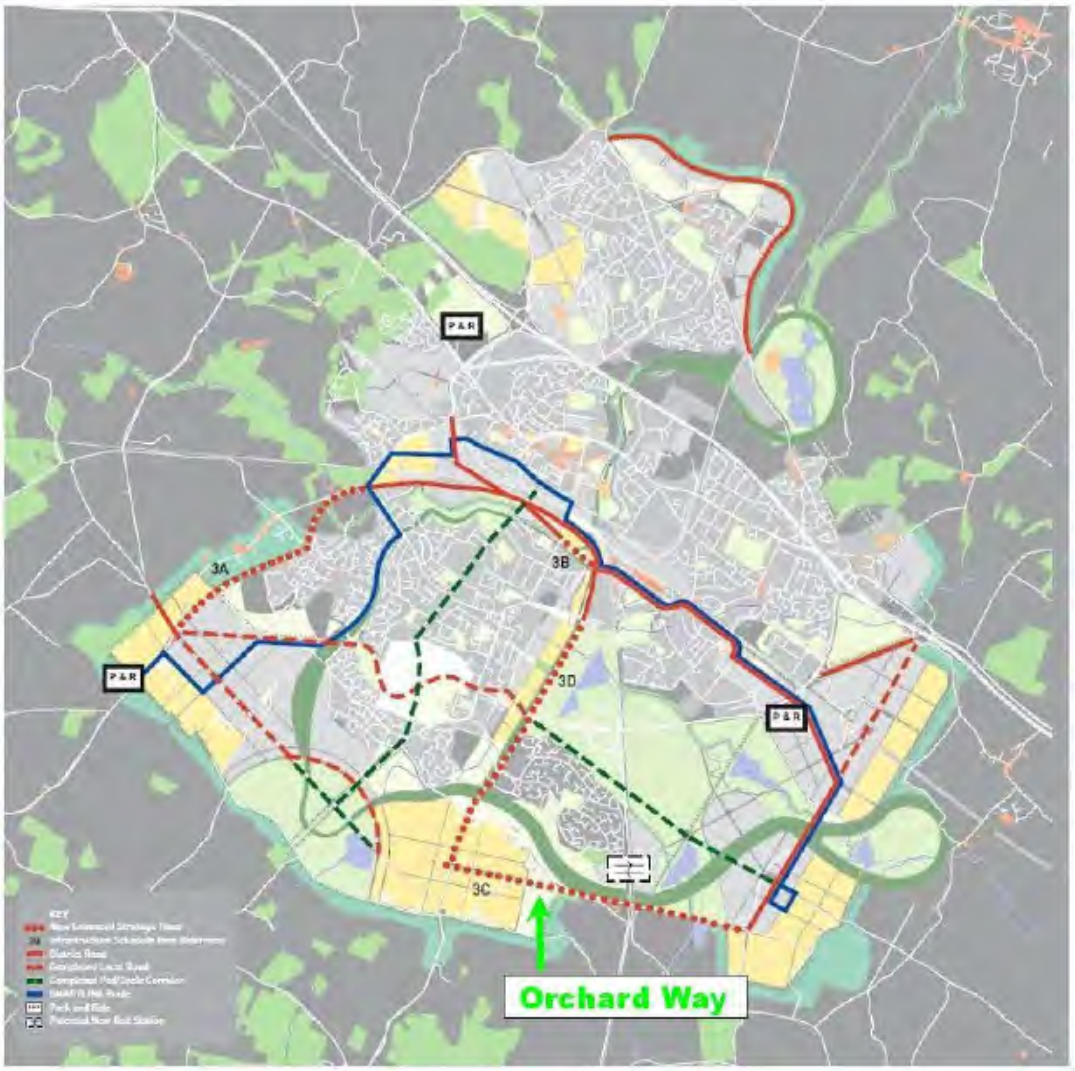
Appendix A Orchard Way



Appendix B Trip Rates for Dwellings, Jobs and Schools

Projected New Dwellings	AM		PM	
Location	OUT	IN	OUT	IN
Ashford Hosp'l/Kings Ave	0.34	0.19	0.21	0.31
Brisley Farm	0.36	0.19	0.21	0.33
Chart Estate	0.22	0.12	0.13	0.20
Cheeseman's Green	0.29	0.16	0.17	0.27
Conningbrook	0.24	0.13	0.14	0.22
Godinton Park extension	0.20	0.11	0.12	0.18
Hunter Avenue	0.22	0.12	0.13	0.20
Newtown Works	0.23	0.13	0.14	0.21
Park Farm south and east	0.36	0.19	0.21	0.33
Singleton	0.30	0.17	0.18	0.28
Waterbrook	0.24	0.13	0.14	0.22
William Harvey area	0.34	0.19	0.21	0.31
Templar & Rowcroft Barracks	0.26	0.14	0.15	0.24
Lower Queens Road	0.36	0.19	0.21	0.33
Maidstone Road	0.36	0.19	0.21	0.33
Leacon Road	0.30	0.17	0.18	0.28
Bishops Green	0.30	0.17	0.18	0.28
Associate House	0.30	0.17	0.18	0.28
Mabledon Avenue	0.30	0.17	0.18	0.28
Warren Lane	0.30	0.17	0.18	0.28
Abbey Way / Blackwall Rd	0.30	0.17	0.18	0.28

Projected New Jobs	AM		PM	
Location	**OUT**	**IN**	**OUT**	**IN**
Chart Estate	0.04	0.11	0.12	0.04
Cheeseman's Green	0.06	0.16	0.15	0.06
Chilmington Green	0.06	0.16	0.15	0.06
Eureka Park/ Bockhanger Wood	0.05	0.17	0.16	0.05
Newtown Works	0.07	0.18	0.20	0.06
Orbital Park	0.07	0.18	0.17	0.07
Henwood	0.06	0.17	0.16	0.06
Park Farm/Singleton	0.06	0.16	0.15	0.06
Sevington	0.05	0.16	0.17	0.05
Warren P&R	0.05	0.17	0.16	0.05
Waterbrook	0.06	0.17	0.16	0.06
Templar & Rowcroft Barracks	0.04	0.11	0.10	0.04

TRICS 2011(a)v6.7.1 221210 B14.45 (C) 2011 JMP Consultants Ltd on behalf of the TRICS Consortium Friday 04/02/11 Page 2

KENT COUNTY COUNCIL ST MICHAELS CLOSE MAIDSTONE Licence No: 446201

TRIP RATE for Land Use 04 - EDUCATION/A - PRIMARY

VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	1	3700	0.027	1	3700	0.027	1	3700	0.054
08:00 - 09:00	1	3700	1.459	1	3700	0.919	1	3700	2.378
09:00 - 10:00	**1**	**3700**	**4.892**	**1**	**3700**	**3.946**	**1**	**3700**	**8.838**
10:00 - 11:00	1	3700	0.135	1	3700	0.270	1	3700	0.405
11:00 - 12:00	1	3700	0.135	1	3700	0.162	1	3700	0.297
12:00 - 13:00	1	3700	0.162	1	3700	0.162	1	3700	0.324
13:00 - 14:00	1	3700	1.081	1	3700	0.270	1	3700	1.351
14:00 - 15:00	1	3700	1.405	1	3700	1.838	1	3700	3.243
15:00 - 16:00	1	3700	0.649	1	3700	1.973	1	3700	2.622
16:00 - 17:00	1	3700	0.324	1	3700	0.568	1	3700	0.892
17:00 - 18:00	1	3700	0.000	1	3700	0.135	1	3700	0.135
18:00 - 19:00	0	0	0.000	0	0	0.000	0	0	0.000
19:00 - 20:00	0	0	0.000	0	0	0.000	0	0	0.000
20:00 - 21:00	0	0	0.000	0	0	0.000	0	0	0.000
21:00 - 22:00	0	0	0.000	0	0	0.000	0	0	0.000
22:00 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			10.269			10.270			20.539

Parameter summary

Trip rate parameter range selected:	3700 - 3700 (units: sqm)
Survey date date range:	01/01/02 - 15/06/07
Number of weekdays (Monday-Friday):	1
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

Appendix C Chilmington Green Local Road Network

Junction	Movement	2031 AM		2031 PM	
		Flows (vph)	Queues (m)	Flows (vph)	Queues (m)
Junction 5	AB	170	29	442	114
	AC	183	29	275	114
	AE	26	29	49	114
	BA	203	15	184	22
	BC	93	15	61	22
	BE	184	15	98	22
	CA	318	32	209	26
	CB	83	32	72	26
	CE	20	32	22	26
	EA	93	38	14	58
	EB	175	38	253	58
	EC	34	38	26	58

Junction	Movement	2031 AM		2031 PM	
		Flows (vph)	Queues (m)	Flows (vph)	Queues (m)
Junction 6	AB	6	1	24	0
	AC	164	1	238	0
	AD	143	1	101	0
	BA	8	3	7	6
	BC	2	3	6	6
	BD	22	3	20	6
	CA	256	1	182	0
	CB	7	1	5	0
	CD	67	1	93	0
	DA	159	36	113	84
	DB	48	36	27	84
	DC	52	36	59	84

Junction	Movement	2031 AM		2031 PM	
		Flows (vph)	Queues (m)	Flows (vph)	Queues (m)
Junction 7	AB	72	15	120	22
	AC	141	15	149	22
	BA	95	0	99	0
	BC	265	0	251	0
	CA	306	0	121	0
	CB	237	0	131	0

Junction	Movement	2031 AM		2031 PM	
		Flows (vph)	Queues (m)	Flows (vph)	Queues (m)
Junction 8	AB	401	0	129	0
	AC	20	0	8	0
	BA	353	15	184	12
	BC	99	15	126	12

	CA	11	0	11	0
	CB	2	0	0	0

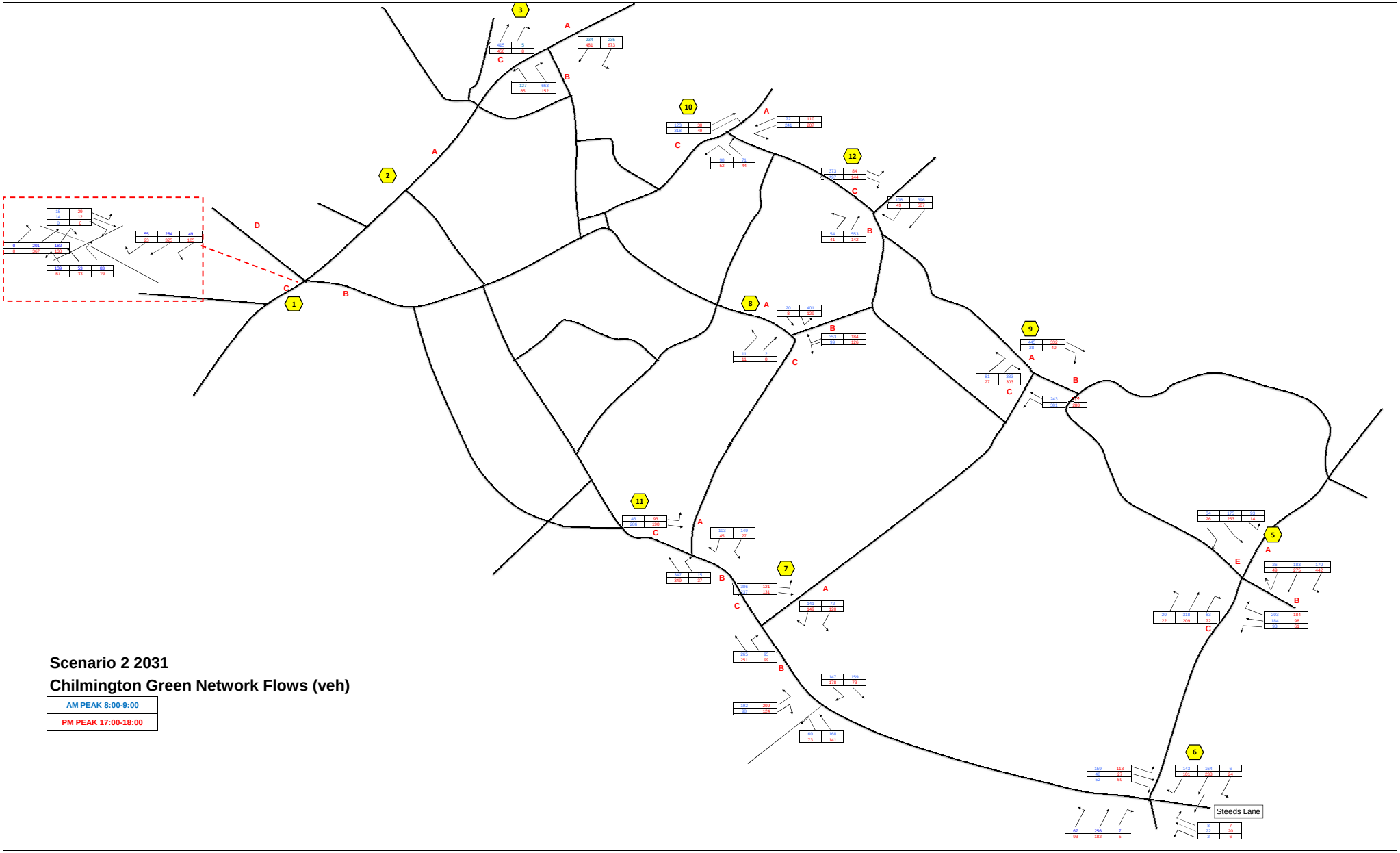
Junction	Movement	2031 AM		2031 PM	
		Flows (vph)	Queues (m)	Flows (vph)	Queues (m)
Junction 9	AB	445	5	332	22
	AC	28	5	40	22
	BA	243	0	202	0
	BC	381	0	288	0
	CA	81	49	27	37
	CB	383	49	303	37

Junction	Movement	2031 AM		2031 PM	
		Flows (vph)	Queues (m)	Flows (vph)	Queues (m)
Junction 10	AB	241	0	207	0
	AC	72	0	110	0
	BA	71	9	44	11
	BC	98	9	52	11
	CA	123	1	30	0
	CB	318	1	49	0

Junction	Movement	2031 AM		2031 PM	
		Flows (vph)	Queues (m)	Flows (vph)	Queues (m)
Junction 11	AB	149	9	27	10
	AC	103	9	45	10
	BA	15	14	37	24
	BC	347	14	349	24
	CA	46	0	93	0
	CB	286	0	190	0

Junction	Movement	2031 AM		2031 PM	
		Flows (vph)	Queues (m)	Flows (vph)	Queues (m)
Junction 12	AB	396	26	507	13
	AC	108	26	49	13
	BA	553	0	142	0
	BC	54	0	41	0
	CA	373	33	84	21
	CB	197	33	144	21

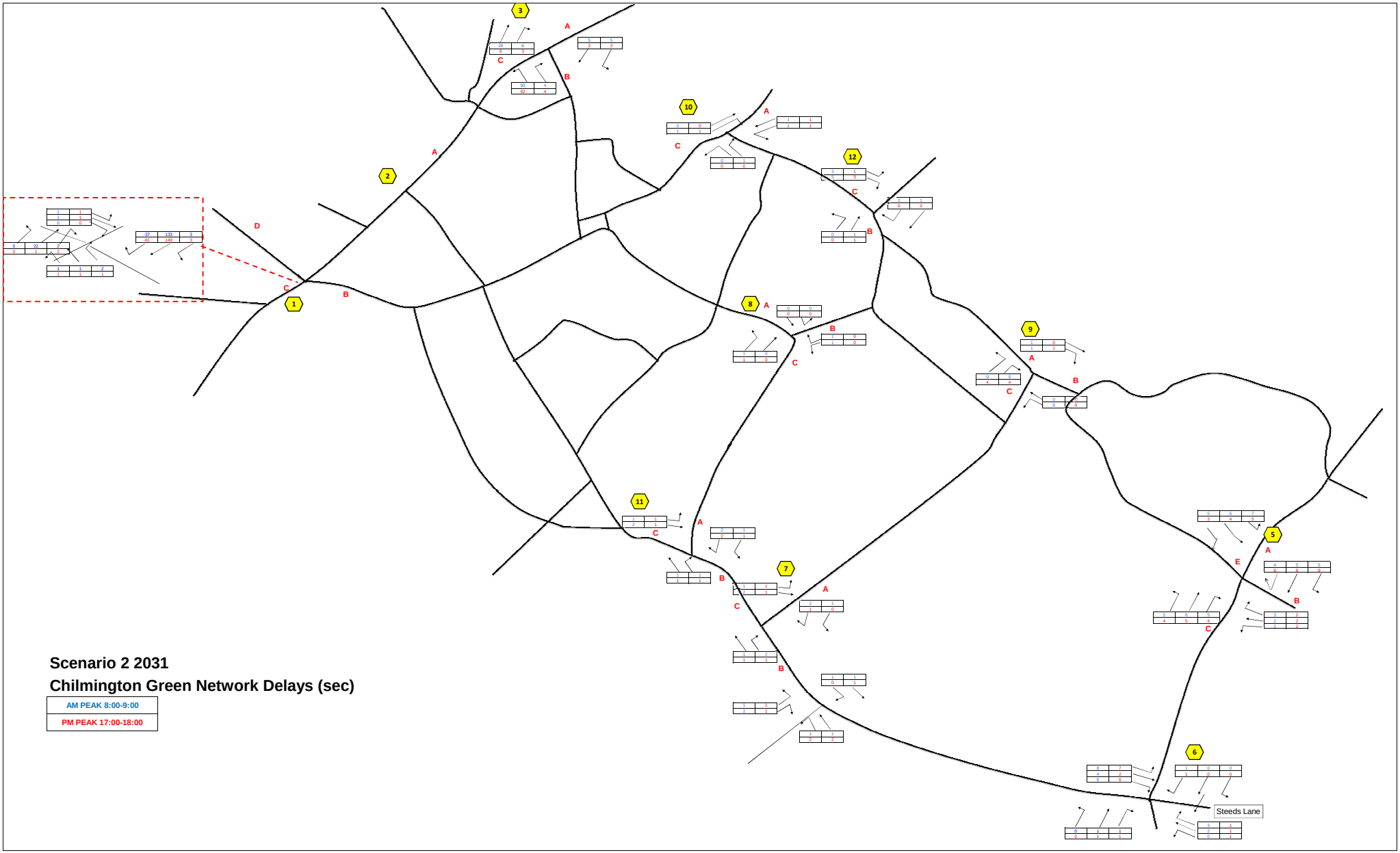
Appendix D Corridors / Network Sections



Scenario 2 2031

Chilmington Green Network Flows (veh)

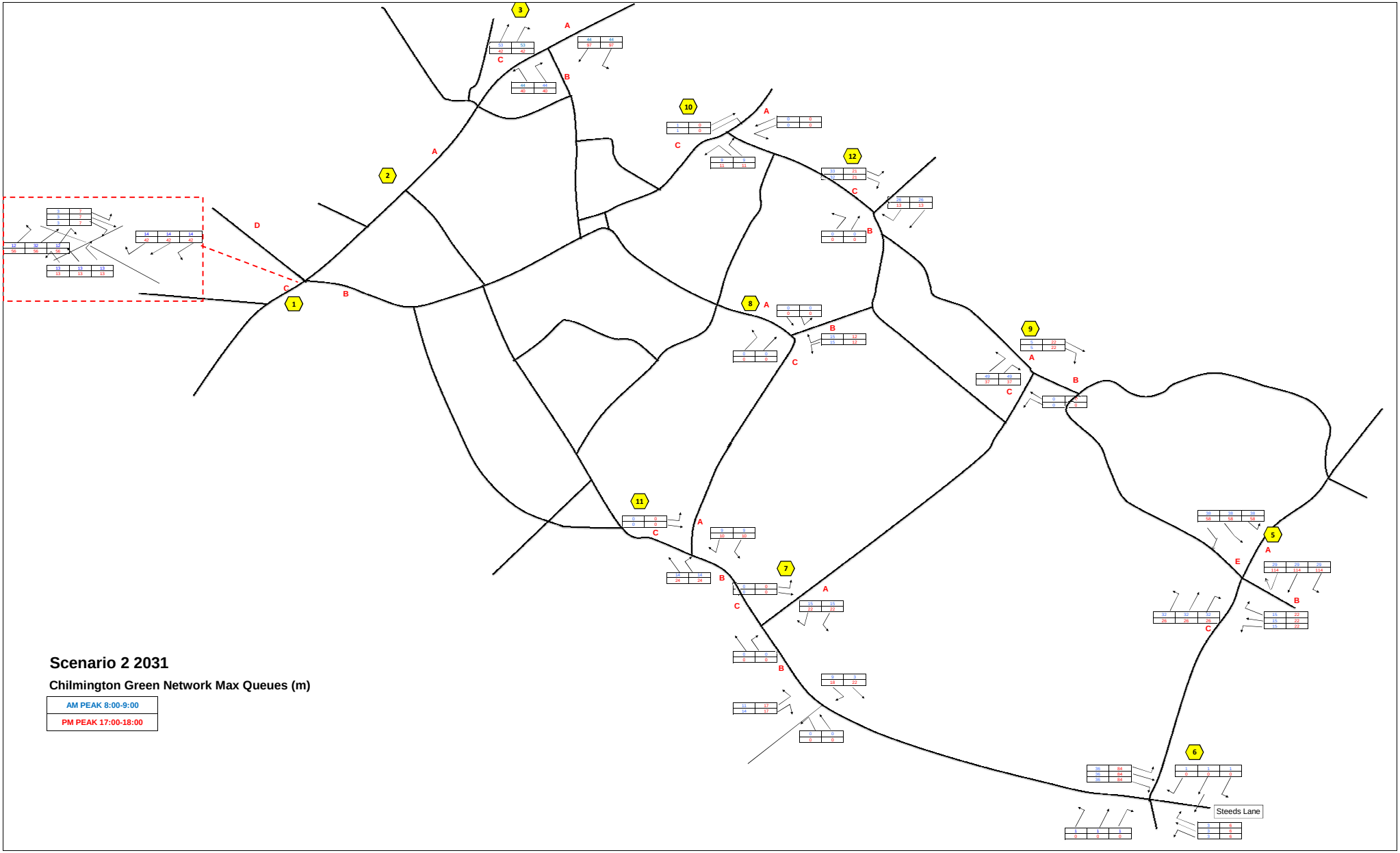
AM PEAK 8:00-9:00
PM PEAK 17:00-18:00



Scenario 2 2031

Chilmington Green Network Delays (sec)

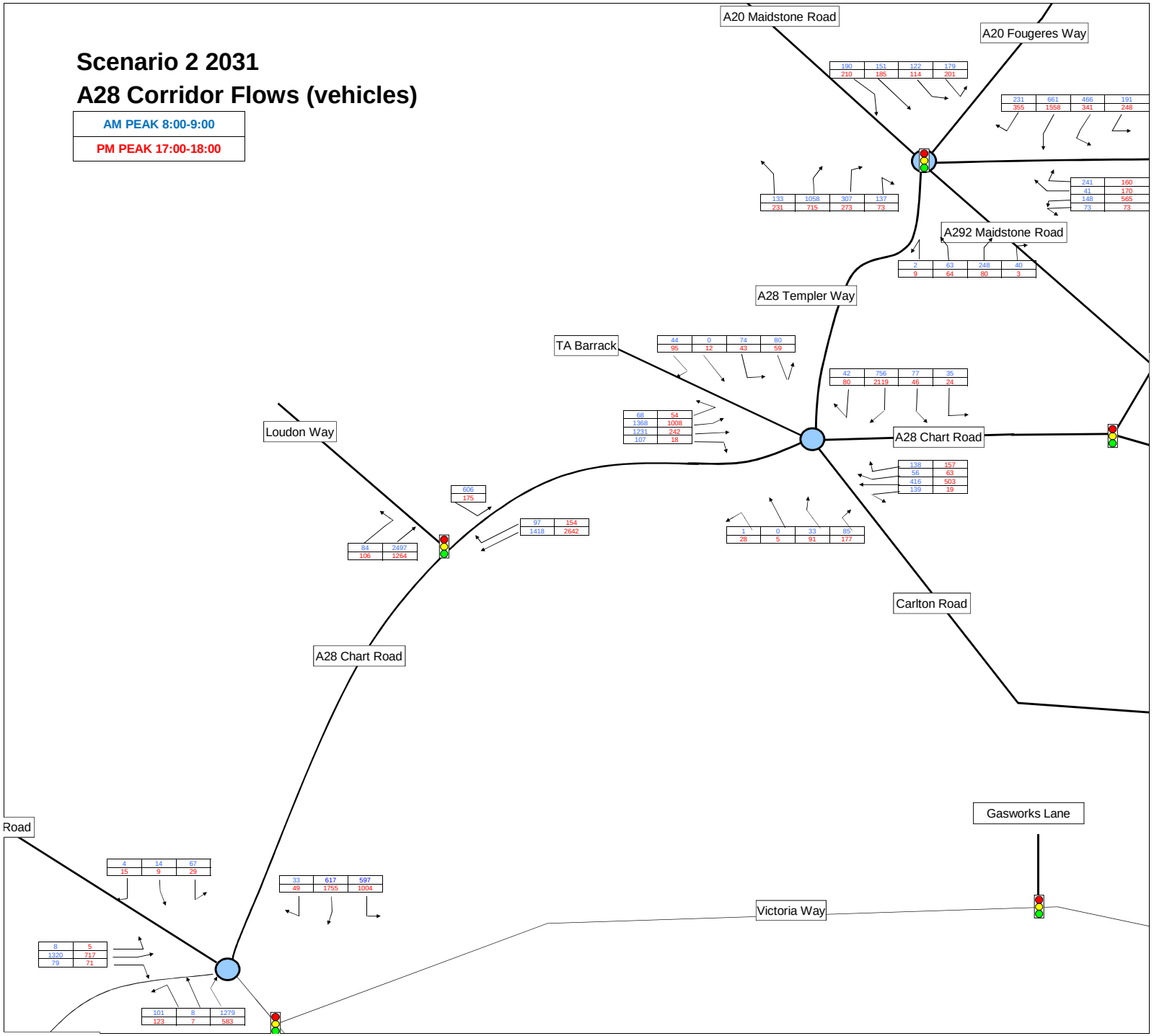
AM PEAK 8:00-9:00
PM PEAK 17:00-18:00

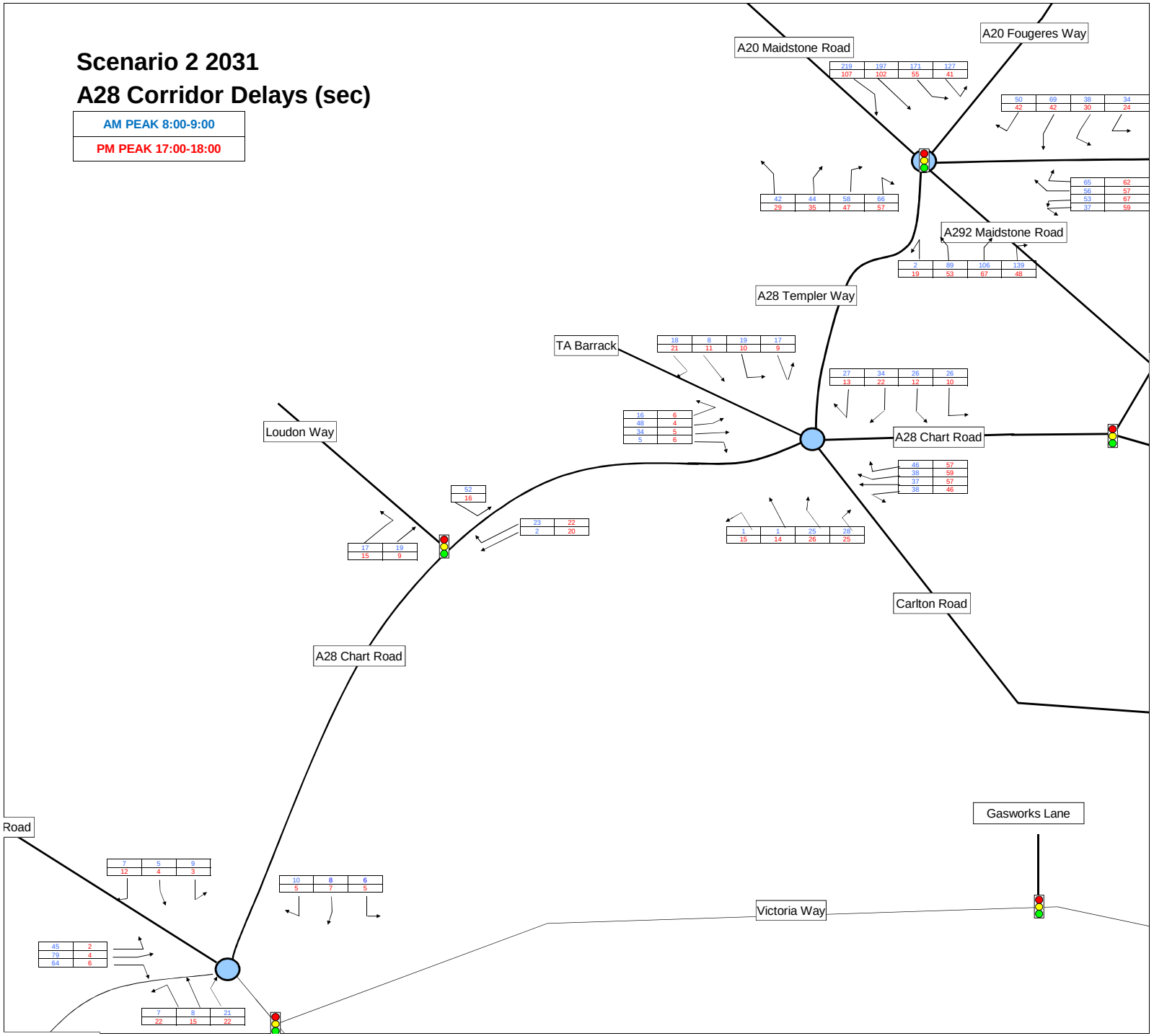


Scenario 2 2031

Chilmington Green Network Max Queues (m)

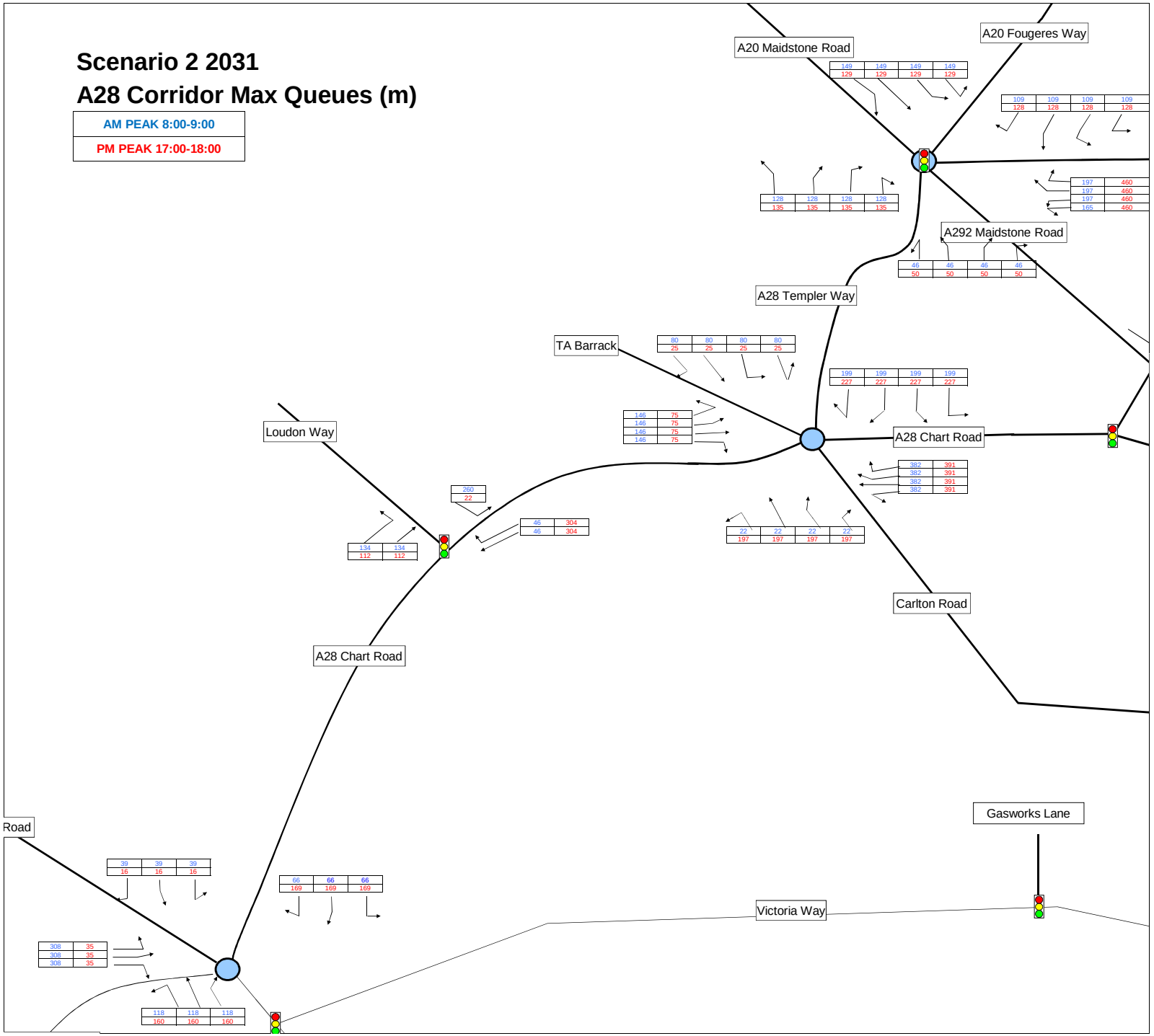
AM PEAK 8:00-9:00
PM PEAK 17:00-18:00

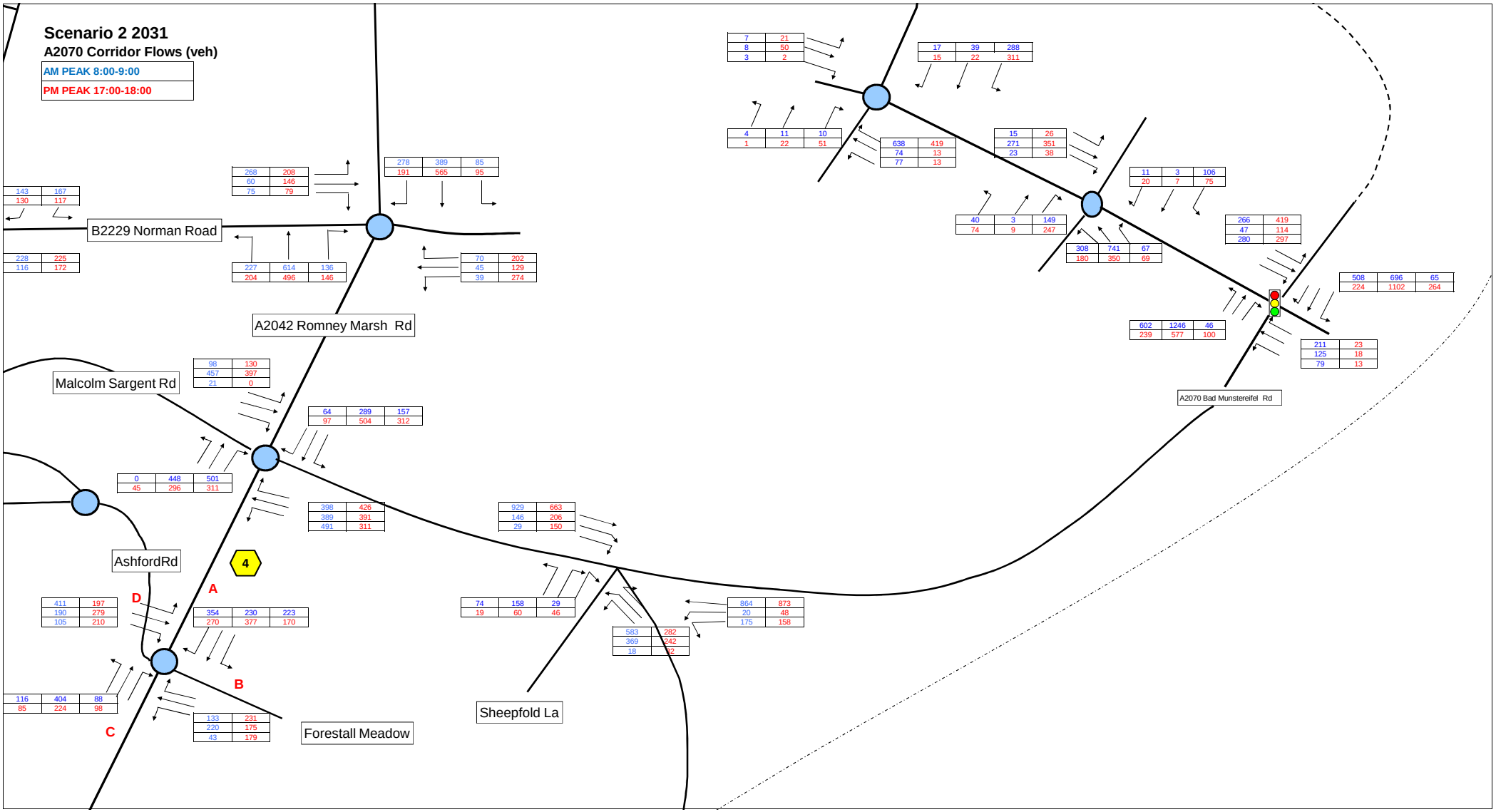

Scenario 2 2031
A28 Corridor Flows (vehicles)
AM PEAK 8:00-9:00
PM PEAK 17:00-18:00
A20 Maidstone Road
A20 Fougeres Way
A292 Maidstone Road
A28 Templer Way
TA Barrack
Loudon Way
A28 Chart Road
Carlton Road
A28 Chart Road
Road
Gasworks Lane
Victoria Way

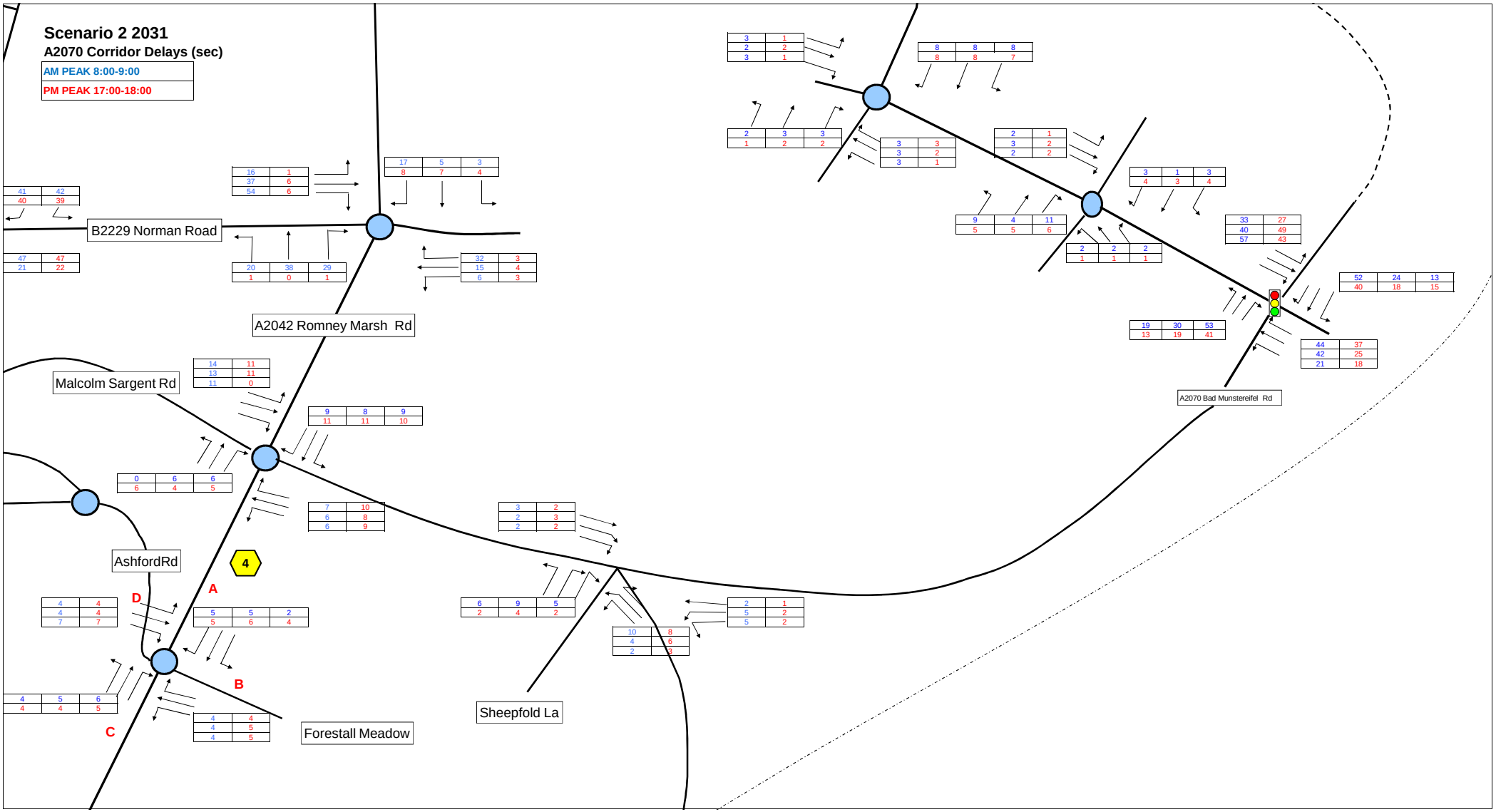

Scenario 2 2031
A28 Corridor Delays (sec)
AM PEAK 8:00-9:00
PM PEAK 17:00-18:00
A20 Maidstone Road
A20 Fougeres Way
A292 Maidstone Road
A28 Templer Way
TA Barrack
Loudon Way
A28 Chart Road
Carlton Road
A28 Chart Road
Road
Gasworks Lane
Victoria Way

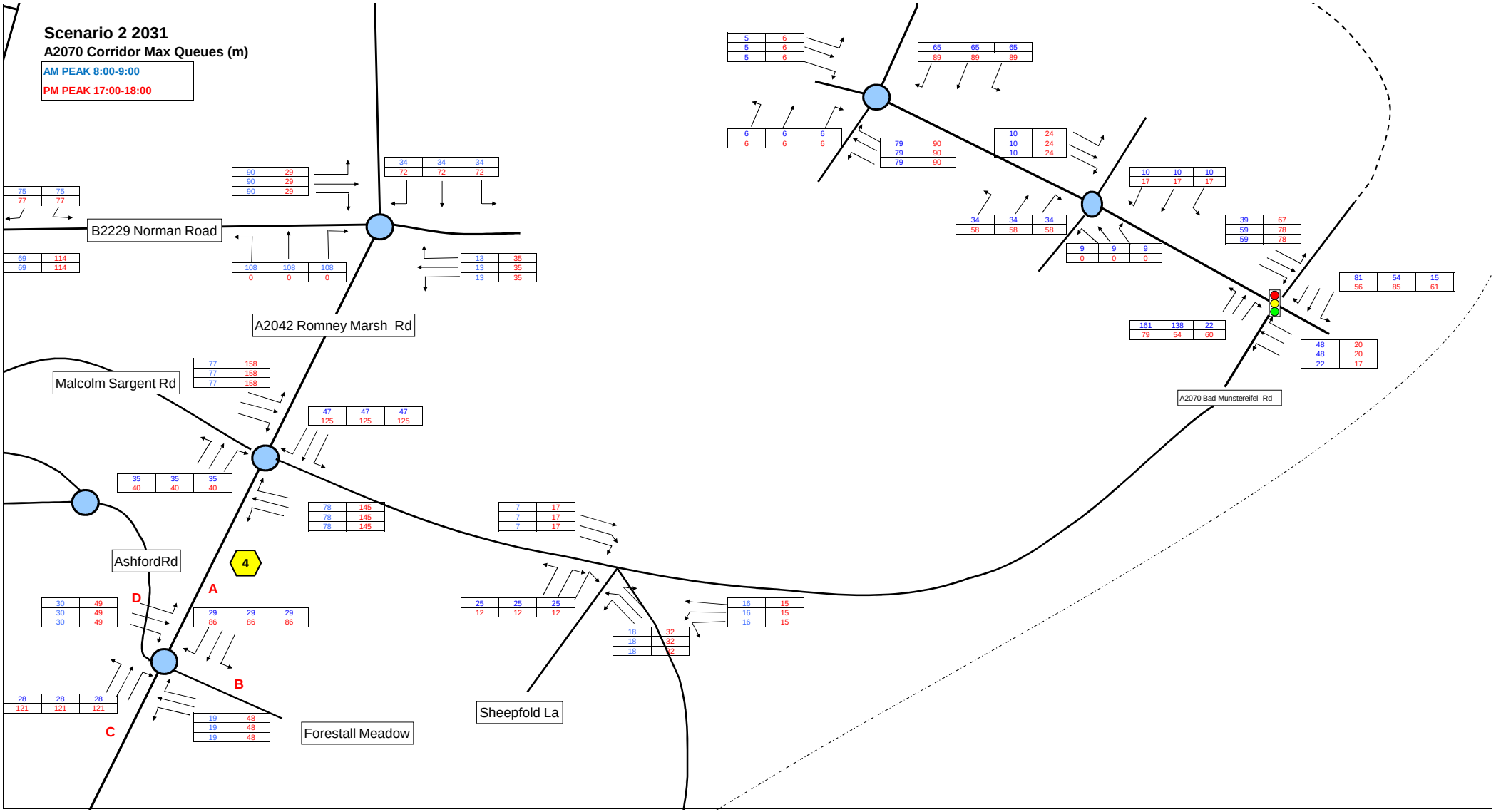
Scenario 2 2031
A28 Corridor Max Queues (m)

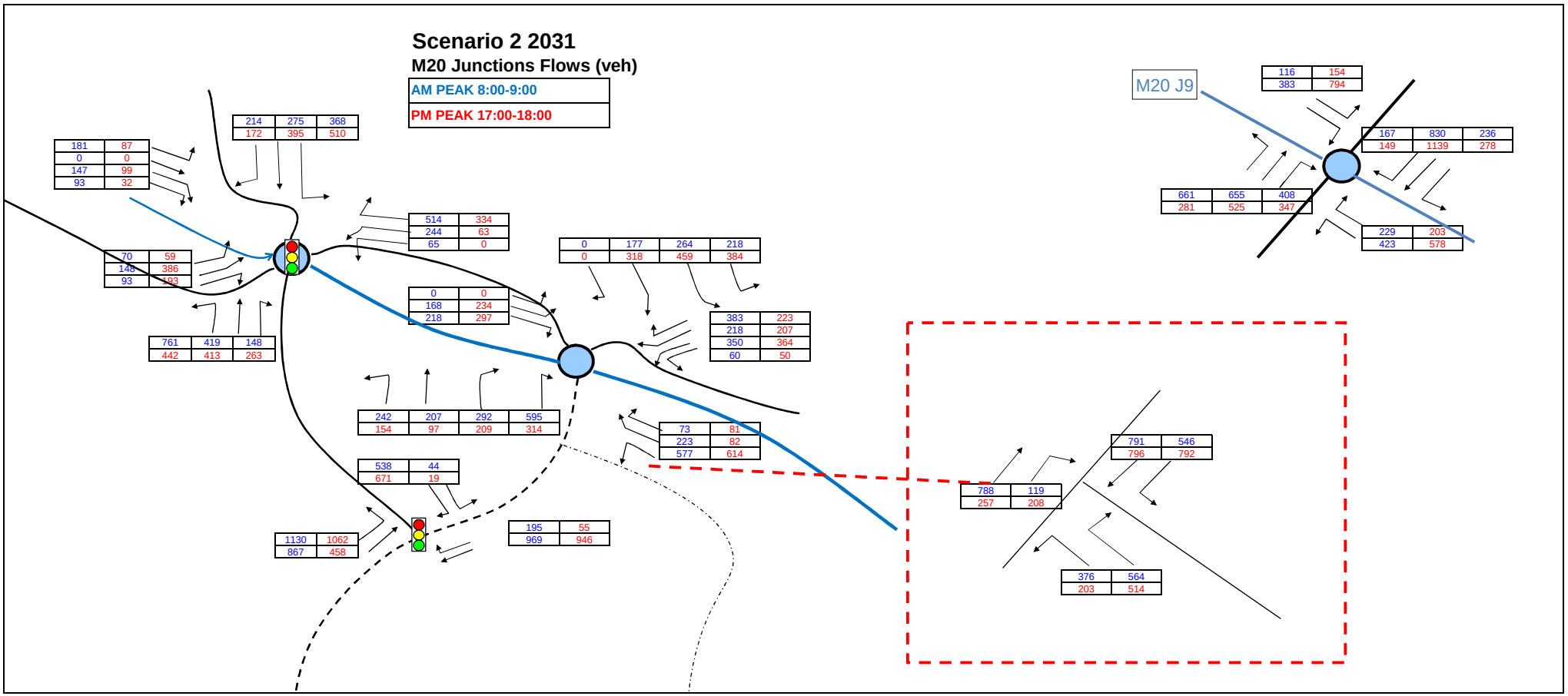
AM PEAK 8:00-9:00
PM PEAK 17:00-18:00

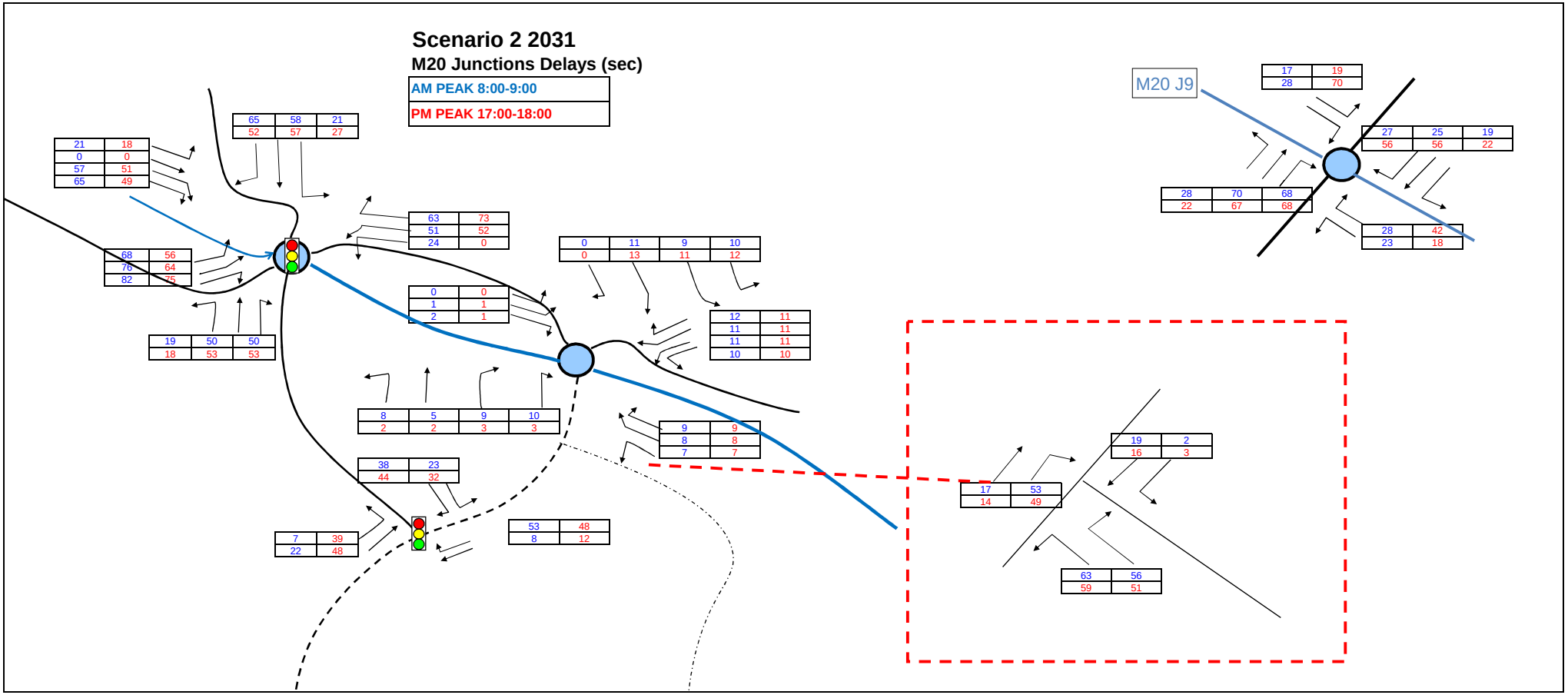


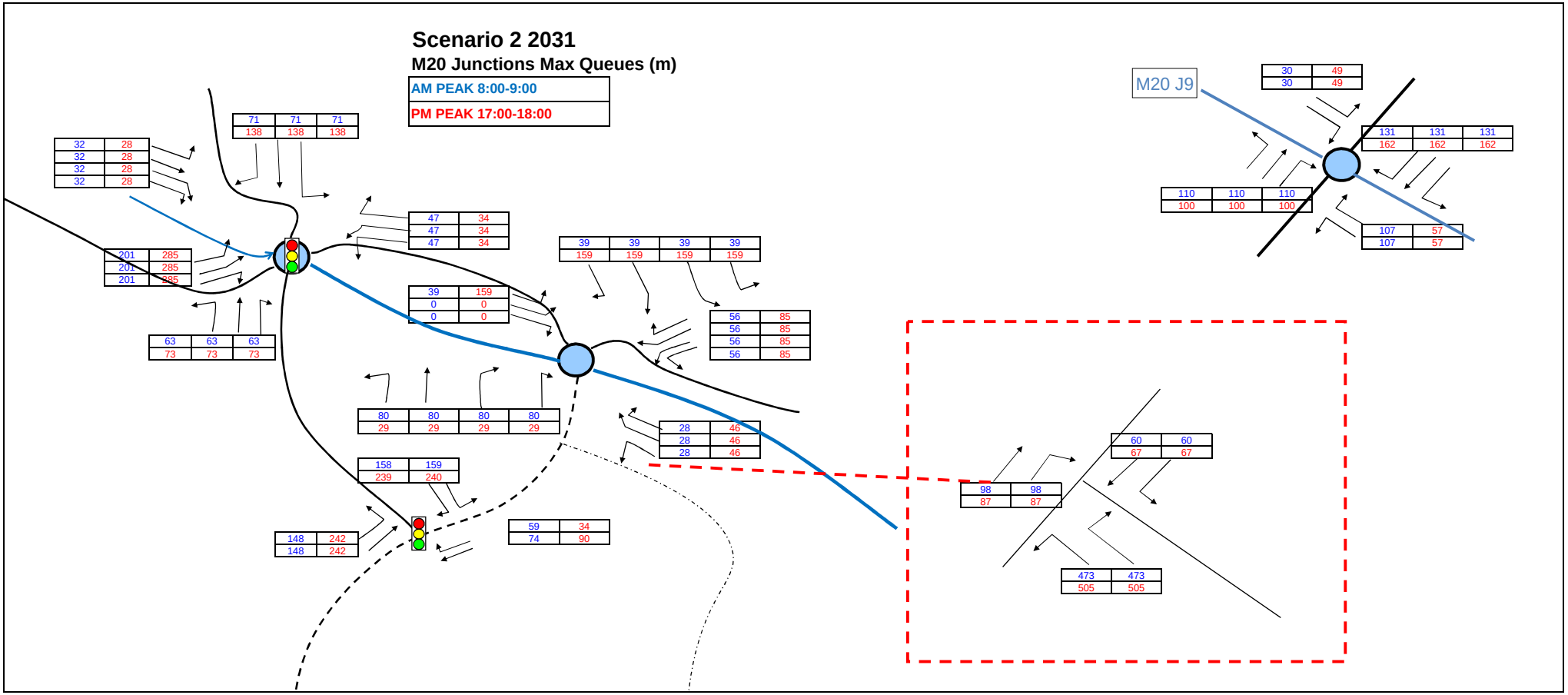

Scenario 2 2031
A2070 Corridor Flows (veh)
AM PEAK 8:00-9:00
PM PEAK 17:00-18:00
B2229 Norman Road
A2042 Romney Marsh Rd
Malcolm Sargent Rd
AshfordRd
Forestall Meadow
Sheepfold La
A2070 Bad Munstereifel Rd
A
B
C
D
4
143 167
130 117
228 225
116 172
268 208
60 146
75 79
227 614 136
204 496 146
278 389 85
191 565 95
70 202
45 129
39 274
98 130
457 397
21 0
64 289 157
97 504 312
0 448 501
45 296 311
398 426
389 391
491 311
929 663
146 206
29 150
74 158 29
19 60 46
583 282
369 242
18 32
864 873
20 48
175 158
411 197
190 279
105 210
354 230 223
270 377 170
116 404 88
85 224 98
133 231
220 175
43 179
7 21
8 50
3 2
4 11 10
1 22 51
638 419
74 13
77 13
17 39 288
15 22 311
15 26
271 351
23 38
40 3 149
74 9 247
11 3 106
20 7 75
308 741 67
180 350 69
266 419
47 114
280 297
602 1246 46
239 577 100
508 696 65
224 1102 264
211 23
125 18
79 13


Scenario 2 2031
A2070 Corridor Delays (sec)
AM PEAK 8:00-9:00
PM PEAK 17:00-18:00
B2229 Norman Road
A2042 Romney Marsh Rd
Malcolm Sargent Rd
AshfordRd
4
A
B
C
D
Forestall Meadow
Sheepfold La
A2070 Bad Munstereifel Rd


Scenario 2 2031
A2070 Corridor Max Queues (m)
AM PEAK 8:00-9:00
PM PEAK 17:00-18:00
B2229 Norman Road
A2042 Romney Marsh Rd
Malcolm Sargent Rd
AshfordRd
4
A
B
C
D
Forestall Meadow
Sheepfold La
A2070 Bad Munstereifel Rd


Scenario 2 2031
M20 Junctions Flows (veh)
AM PEAK 8:00-9:00
PM PEAK 17:00-18:00
M20 J9
181 87
0 0
147 99
93 32
214 275 368
172 395 510
514 334
244 63
65 0
70 59
146 386
93 193
761 419 148
442 413 263
0 0
168 234
218 297
0 177 264 218
0 318 459 384
383 223
218 207
350 364
60 50
242 207 292 595
154 97 209 314
73 81
223 82
577 614
538 44
671 19
1130 1062
867 458
195 55
969 946
116 154
383 794
167 830 236
149 1139 278
661 655 408
281 525 347
229 203
423 578
791 546
796 792
788 119
257 208
376 564
203 514


Scenario 2 2031
M20 Junctions Delays (sec)
AM PEAK 8:00-9:00
PM PEAK 17:00-18:00
M20 J9
21 18
0 0
57 51
65 49
65 58 21
52 57 27
63 73
51 52
24 0
68 56
76 64
82 75
19 50 50
18 53 53
0 11 9 10
0 13 11 12
0 0
1 1
2 1
12 11
11 11
11 11
10 10
8 5 9 10
2 2 3 3
9 9
8 8
7 7
38 23
44 32
7 39
22 48
53 48
8 12
17 19
28 70
27 25 19
56 56 22
28 70 68
22 67 68
28 42
23 18
19 2
16 3
17 53
14 49
63 56
59 51


Scenario 2 2031
M20 Junctions Max Queues (m)
AM PEAK 8:00-9:00
PM PEAK 17:00-18:00
M20 J9
32 28
32 28
32 28
32 28
71 71 71
138 138 138
47 34
47 34
47 34
201 285
201 285
201 285
39 39 39 39
159 159 159 159
39 159
0 0
0 0
56 85
56 85
56 85
56 85
63 63 63
73 73 73
80 80 80 80
29 29 29 29
28 46
28 46
28 46
158 159
239 240
148 242
148 242
59 34
74 90
30 49
30 49
131 131 131
162 162 162
110 110 110
100 100 100
107 57
107 57
60 60
67 67
98 98
87 87
473 473
505 505

Appendix F KCC/Jacobs Raw Model Data

Table 1: Delay by Junction					
NODE	JUNCTION	AVERAGE DELAY IN SECONDS PER VEHICLE			
		AM		PM	
		Delays (s)	LOS (A-F)	Delays (s)	LOS (A-F)
J1	A20 Maidstone Rd Roundabout	66	F	59	F
J2	A28 Chart Road / A28 Templar Way	11	B	66	F
J3	A28 Chart Road / Loudon Way	43	D	22	C
J4	A292 West Street / New Street / Somerset Road	60	E	96	F
J5	A292 Somerset Road / A28 North Street	106	F	54	D
J6	A292 Somerset Road / A292 Wellesley Road	97	F	75	E
J7	A292 Elwick Road / A2042 Beaver Road	178	F	281	F
J8	A28 Chart Road / B2229 Brookfield Road	26	D	18	C
J9	B2229 Brookfield Road / Knoll Lane	44	D	47	D
J10	Knoll Lane / Tithe Barn Lane	3	A	3	A
J11	Tithe Barn Lane / Bucksford Lane / Singleton Hill	3	A	2	A
J12	A28 / Tithe Barn Lane Roundabout	5	A	4	A
J13	Singleton Road / Ninn Lane / Chart Road	1	A	0	A
J15	Bucksford Lane / Mock Lane / Chart Road	2	A	2	A
J16	Chart Road / Bartletts Lane	2	A	1	A
J17	Chart Road / Cuckoo Lane	3	A	3	A
J18	Cuckoo Lane / Knoll Lane	3	A	3	A
J19	B2229 Beaver Lane / Kingsnorth Road	28	C	24	C
J20	B2229 Norman Road / A2042 Romney Marsh Road	20	C	6	A
J21	A2042 Romney Marsh Road / A2042 Bad Munstereifel Road	8	A	11	B
J22	Romney Marsh Road / Ashford Road Roundabout	5	A	7	A
J23	Ashford Road / Britannia Lane	5	A	3	A
J24	Milbank Road / Chart Road	3	A	2	A
J25	Chart Road / Long Length	2	A	2	A
J27	Pound Lane / Ashford Road / Church Hill	7	A	10	A
J30	B229 Norman Road/ Access Road	7	A	6	A
J31	Steeds Lane / Magpie Hall Road / Ashford Road	2	A	2	A
J32	Magpie Hall Road / Tally Ho Road	1	A	1	A
J33	Magpie Hall Road / Long Length	0	A	0	A
J35	Chilmington Green Road / Bartletts Lane	1	A	0	A
J36	Bartletts Lane / Unnamed Road	1	A	0	A
J37	Chilmington Green Road / Unnamed Road	1	A	0	A
J38	Chilmington Green Road / Mock Lane	1	A	1	A
J39	A28/ Ashford Road/ Goldwell Lane	3	A	2	A
J40	A28 Ashford Road / Chilmington Green Road	2	A	1	A
J41	A28 Ashford Road/ Sandy Lane	3	A	4	A
J42	A28 Ashford Road / Old Surrenden Manor Road	2	A	2	A
J44	M20 Junction 10	45	E	41	E
J45	M20 Junction 9	51	F	41	F

Table 2: Delay by Arm

NODE	JUNCTION	No	APPROACH	AVERAGE DELAY IN SECONDS PER VEHICLE			
				AM		PM	
				Delays (s)	LOS (A-F)	Delays (s)	LOS (A-F)
J1	A20 Maidstone Rd Roundabout	1.1	A28 Templar Way	24	C	21	C
		1.2	A20 Maidstone Road	224	F	117	F
		1.3	A20 Fougeres Way	34	D	34	D
		1.4	A20 Simone Weil Avenue	64	F	93	F
		1.5	A292 Maidstone Road	53	F	90	F
J2	A28 Chart Road / A28 Templar Way	2.1	A28 Chart Road e/b	9	A	11	B
		2.2	Unnamed Road	14	B	35	D
		2.3	A28 Templar Way	13	B	94	F
		2.4	A28 Chart Road e/b	14	B	107	F
		2.5	Carlton Road	8	A	11	B
J3	A28 Chart Road / Loudon Way	3.1	A28 Chart Road e/b	18	B	18	B
		3.2	Loudon Road	267	F	49	D
		3.3	A28 Chart Road w/b	19	B	23	C
J4	A292 West Street / New Street / Somerset Road	4.1	A292 Forge Lane	54	D	81	F
		4.2	A292 New Street	66	E	100	F
		4.3	A292 Somerset Road	50	D	107	F
J5	A292 Somerset Road / A28 North Street	5.1	A292 Somerset Road e/b	130	F	62	E
		5.2	A28 North Street	88	F	78	E
		5.3	A292 Somerset Road w/b	95	F	34	C
J6	A292 Somerset Road / A292 Wellesley Road	6.1	A292 Mace Lane	119	F	76	E
		6.2	A292 Wellesley Road	46	D	23	C
		6.3	A292 Somerset Road e/b	107	F	130	F
J7	A292 Elwick Road / A2042 Beaver Road	7.1	A2042 Beaver Road	226	F	413	F
		7.2	A292 Elwick Road	120	F	100	F
		7.3	A292 Station Road	136	F	206	F
		7.4	Station Road (unclassified)	84	F	98	F
J8	A28 Chart Road / B2229 Brookfield Road	8.1	A28 Chart Road ne/b	50	E	12	B
		8.2	Chart Road	24	C	7	A
		8.3	A28 Chart Road sw/b	13	B	17	C
		8.4	B2229 Brookfield Road	20	C	30	D
J9	B2229 Brookfield Road / Knoll Lane	9.1	B2229 Brookfield Road n/b	30	C	27	C
		9.2	Knoll Lane L 20.2 B2229 Norman Road	69	E	70	E
		9.3	B2229 Brookfield Road s/b	50	D	55	E
J10	Knoll Lane / Tithe Barn Lane	10.1	Knoll Lane n/b	2	A	2	A
		10.2	Tithe Barn Lane	4	A	5	A
		10.3	Knoll Lane s/b	4	A	3	A
J11	Tithe Barn Lane / Bucksford Lane / Singleton Hill	11.1	Tithe Barn Lane w/b	2	A	2	A
		11.2	Singleton Hill	4	A	5	A
		11.3	Tithe Barn Lane e/b	2	A	2	A
J12	A28 / Tithe Barn Lane Roundabout	12.1	A28 Chart Road	8	A	5	A
		12.2	A28 Ashford Road	3	A	3	A
		12.3	Tithe Barn Lane	5	A	4	A
J13	Singleton Road / Ninn Lane / Chart Road	13.1	The Street	0	A	0	A
		13.2	Ninn Lane	1	A	1	A
		13.3	Chart Road	1	A	0	A
J15	Bucksford Lane / Mock Lane / Chart Road	15.1	Bucksford Lane	1	A	1	A
		15.2	Chart Road	2	A	3	A
		15.3	Mock Lane	3	A	2	A
J16	Chart Road / Bartletts Lane	16.1	Chart Road nw/b	0	A	0	A
		16.2	Bartletts Lane	3	A	1	A
		16.3	Chart Road se/b	2	A	2	A
J17	Chart Road / Cuckoo Lane	17.1	Chart Road n/b	5	A	3	A
		17.2	Cuckoo Lane	2	A	3	A
		17.3	Chart Road s/b	1	A	1	A
J18	Cuckoo Lane / Knoll Lane	18.1	Knoll Lane n/b	4	A	4	A
		18.2	Cuckoo Lane	2	A	1	A
		18.3	Knoll Lane s/b	4	A	3	A
J19	B2229 Beaver Lane / Kingsnorth Road	19.1	B2229 Beaver Lane w/b	30	C	28	C
		19.2	Kingsnorth Road	27	C	24	C
		19.3	B2229 Beaver Lane e/b	26	C	22	C
J20	B2229 Norman Road / A2042 Romney Marsh Road	20.1	A2042 Romney Marsh Road n/b	28	D	1	A
		20.2	B2229 Norman Road	20	C	5	A
		20.3	A2042 Romney Marsh Road s/b	11	B	12	B
		20.4	Kimberley Way	25	C	6	A
J21	A2042 Romney Marsh Road / A2042 Bad Munstereifel Road	21.1	Romney Marsh Road n/b	5	A	5	A
		21.2	Malcolm Sargent Road	13	B	9	A
		21.3	A2042 Romney Marsh Road s/b	9	A	15	B
		21.4	A2042 Bad Munstereifel Road	7	A	13	B
J22	Romney Marsh Road / Ashford Road Roundabout	22.1	Ashford Road n/b	4	A	4	A
		22.2	Ashford Road s/b	6	A	6	A
		22.3	Romney Marsh Road	5	A	9	A
		22.4	Forestall Meadow	4	A	8	A
J23	Ashford Road / Britannia Lane	23.1	Ashford Road	2	A	1	A
		23.2	Britannia Lane	4	A	3	A
		23.3	Ashford Road	8	A	7	A
J24	Milbank Road / Chart Road	24.1	Milbank Road	0	A	0	A
		24.2	Pound Lane	2	A	1	A
		24.3	Chart Road	4	A	4	A
J25	Chart Road / Long Length	25.1	Chart Road	0	A	0	A
		25.2	Long Length	4	A	3	A
		25.3	Chart Road	4	A	3	A
J27	Pound Lane / Ashford Road / Church Hill	27.1	Pound Lane	12	B	11	B
		27.2	Ashford Road s/b	10	A	14	B
		27.2	Church Hill	10	A	14	B
		27.4	Ashford Road n/b	4	A	4	A
J30	B229 Norman Road/ Access Road	30.1	B229 Norman Road e/b	7	A	6	A
		30.2	Access Road	4	A	3	A
		30.3	B229 Norman Road w/b	8	A	7	A
		31.1	Ashford Road s/b	1	A	1	A

J31	**Steeds Lane / Magpie Hall Road / Ashford Road**	31.2	Steeds Lane	4	A	4	A
		31.3	Ashford Road n/b	0	A	0	A
		31.4	Magpie Hall Road	4	A	3	A
J32	**Magpie Hall Road / Tally Ho Road**	32.1	Chilmington Green Road	0	A	1	A
		32.2	Magpie Hall Road	2	A	3	A
		32.3	Tally Ho Road	1	A	1	A
J33	**Magpie Hall Road / Long Length**	33.1	Chilmington Green Road s/b	0	A	0	A
		33.2	Long Length	0	A	0	A
		33.3	Chilmington Green Road n/b	0	A	0	A
J35	**Chilmington Green Road / Bartletts Lane**	35.1	Chilmington Green Road s/b	0	A	0	A
		35.2	Bartletts Lane	0	0	0	0
		35.3	Chilmington Green Road n/b	1	A	0	A
J36	**Bartletts Lane / Unnamed Road**	36.1	Bartletts Lane n/b	0	A	0	A
		36.2	Unnamed Road	0	0	0	0
		36.3	Bartletts Lane s/b	1	A	1	A
J37	**Chilmington Green Road / Unnamed Road**	37.1	Chilmington Green Road s/b	0	A	0	A
		37.2	Unnamed Road	3	A	2	A
		37.3	Chilmington Green Road n/b	1	A	0	A
J38	**Chilmington Green Road / Mock Lane**	38.1	Chilmington Green Road s/b	1	A	0	A
		38.2	Mock Lane	1	A	0	A
		38.3	Chilmington Green Road n/b	2	A	1	A
J39	**A28/ Ashford Road/ Goldwell Lane**	39.1	A28 Ashford Road n/b	1	A	1	A
		39.2	Ashford Road	7	A	6	A
		39.3	A28 Ashford Road s/b	3	A	2	A
J40	**A28 Ashford Road / Chilmington Green Road**	40.1	A28 Ashford Road s/b	2	A	2	A
		40.2	Chilmington Green Road	2	A	1	A
		40.3	A28 Ashford Road n/b	1	A	1	A
J42	**A28 Ashford Road / Old Surrenden Manor Road**	42.1	A28 Ashford Road n/b	0	A	0	A
		42.2	Old Surrenden Manor Road	2	A	0	A
		42.3	A28 Ashford Road s/b	4	A	4	A
J41	**A28 Ashford Road / Sandy Lane**	41.1	A28 Ashford Road n/b	0	A	0	A
		41.2	Sandy Lane	1	A	1	A
		41.3	A28 Ashford Road s/b	4	A	3	A
J44	**M20 Junction 10**	44.1	A2070	2	A	2	A
		44.2	A292	84	F	81	F
		44.4	Southbound off slip	52	F	50	F
		44.5	B2164	65	F	62	F
		44.6	Hythe Road	2	A	2	A
J45	**M20 Junction 9**	45.1	A20 Fougeres Way	54	D	56	E
		45.3	Southbound off slip	60	E	61	E
		45.4	Trinity Road	53	D	24	C
		45.6	Northbound off slip	37	D	33	C

Table 3: Queue Length by Arm

NODE	JUNCTION	No	APPROACH	Average Maximum Queue (m)							
				AM				PM			
				8.00-8.15	8.15-8.30	8.30-8.45	8.45-9.00	17.00-17.15	17.15-17.30	17.30-17.45	17.45-18.00
J1	A20 Maidstone Rd Roundabout	1.1	A28 Templar Way	99	122	122	123	72	79	64	66
		1.2	A20 Maidstone Road	150	150	150	150	82	83	130	148
		1.3	A20 Fougeres Way	76	85	77	72	95	72	78	77
		1.4	A20 Simone Weil Avenue	32	58	52	52	79	85	100	89
		1.5	A292 Maidstone Road	0	0	0	31	0	0	0	0
J2	A28 Chart Road / A28 Templar Way	2.1	A28 Chart Road e/b	36	41	41	26	16	27	12	17
		2.2	Unnamed Road	11	11	11	6	6	5	11	5
		2.3	A28 Templar Way	46	44	48	29	89	128	142	139
		2.4	A28 Chart Road e/b	30	30	18	13	151	192	192	92
		2.5	Carlton Road	0	0	0	0	0	0	0	0
J3	A28 Chart Road / Loudon Way	3.1	A28 Chart Road e/b	130	133	130	130	122	116	93	128
		3.2	Loudon Road	452	457	453	453	18	25	23	17
		3.3	A28 Chart Road w/b	35	39	35	29	55	51	72	57
J4	A292 West Street / New Street / Somerset Road	4.1	A292 Forge Lane	85	78	67	58	109	85	72	95
		4.2	A292 New Street	95	84	101	146	45	56	59	69
		4.3	A292 Somerset Road	34	27	24	35	24	29	18	24
J5	A292 Somerset Road / A28 North Street	5.1	A292 Somerset Road e/b	96	95	129	187	79	88	93	73
		5.2	A28 North Street	40	175	178	178	29	34	42	41
		5.3	A292 Somerset Road w/b	83	84	64	218	91	82	78	84
J6	A292 Somerset Road / A292 Wellesley Road	6.1	A292 Mace Lane	173	180	180	181	55	63	72	129
		6.2	A292 Wellesley Road	63	69	59	86	54	57	47	78
		6.3	A292 Somerset Road e/b	122	183	221	221	86	70	89	145
J7	A292 Elwick Road / A2042 Beaver Road	7.1	A2042 Beaver Road	56	63	56	84	129	174	175	218
		7.2	A292 Elwick Road	208	208	208	208	153	158	168	164
		7.3	A292 Station Road	41	39	89	89	121	132	132	132
		7.4	Station Road (unclassified)	79	172	173	171	156	173	173	173
J8	A28 Chart Road / B2229 Brookfield Road	8.1	A28 Chart Road ne/b	125	144	117	145	36	32	33	39
		8.2	Chart Road	12	18	16	17	5	6	6	6
		8.3	A28 Chart Road sw/b	24	17	14	19	65	50	14	23
		8.4	B2229 Brookfield Road	30	39	52	46	38	61	53	48
J9	B2229 Brookfield Road / Knoll Lane	9.1	B2229 Brookfield Road n/b	51	67	46	49	28	39	42	48
		9.2	Knoll Lane L 20.2 B2229 Norman Road	40	61	60	58	32	46	31	49
		9.3	B2229 Brookfield Road s/b	39	55	39	38	67	72	87	155
J10	Knoll Lane / Tithe Barn Lane	10.1	Knoll Lane n/b	0	0	0	0	0	0	0	0
		10.2	Tithe Barn Lane	12	12	0	6	12	13	19	13
		10.3	Knoll Lane s/b	0	0	0	0	0	0	0	0
J11	Tithe Barn Lane / Bucksford Lane / Singleton Hill	11.1	Tithe Barn Lane w/b	0	0	0	0	0	0	0	0
		11.2	Singleton Hill	13	12	14	23	6	6	11	6
		11.3	Tithe Barn Lane e/b	0	0	0	0	0	0	0	0
J12	A28 / Tithe Barn Lane Roundabout	12.1	A28 Chart Road	5	6	19	12	0	5	0	5
		12.2	A28 Ashford Road	12	5	17	6	6	17	17	12
		12.3	Tithe Barn Lane	18	12	13	13	0	0	0	5
J13	Singleton Road / Ninn Lane / Chart Road	13.1	The Street	0	0	0	0	0	0	0	0
		13.2	Ninn Lane	0	0	0	0	0	0	0	0
		13.3	Chart Road	0	0	0	0	0	0	0	0
J15	Bucksford Lane / Mock Lane / Chart Road	15.1	Bucksford Lane	0	0	0	0	0	0	0	0
		15.2	Chart Road	0	0	0	0	0	0	0	0
		15.3	Mock Lane	0	0	0	0	0	0	0	0
J16	Chart Road / Bartletts Lane	16.1	Chart Road nw/b	0	0	0	0	0	0	0	0
		16.2	Bartletts Lane	0	0	0	0	0	0	0	0
		16.3	Chart Road se/b	0	0	0	0	0	0	0	0
J17	Chart Road / Cuckoo Lane	17.1	Chart Road n/b	0	0	14	0	0	0	0	0
		17.2	Cuckoo Lane	0	0	0	0	0	0	0	0
		17.3	Chart Road s/b	0	0	0	0	0	0	0	0
J18	Cuckoo Lane / Knoll Lane	18.1	Knoll Lane n/b	0	0	0	0	0	0	0	0
		18.2	Cuckoo Lane	0	0	0	0	0	0	0	0
		18.3	Knoll Lane s/b	19	14	13	20	0	0	0	12
J19	B2229 Beaver Lane / Kingsnorth Road	19.1	B2229 Beaver Lane w/b	24	37	40	22	30	35	30	25
		19.2	Kingsnorth Road	88	86	93	69	34	49	44	47
		19.3	B2229 Beaver Lane e/b	29	35	34	31	30	31	29	34
J20	B2229 Norman Road / A2042 Romney Marsh Road	20.1	A2042 Romney Marsh Road n/b	0	0	0	0	0	0	0	0
		20.2	B2229 Norman Road	11	11	6	11	6	13	11	10
		20.3	A2042 Romney Marsh Road s/b	31	20	19	13	46	23	37	35
		20.4	Kimberley Way	5	6	5	6	18	13	12	19
J21	A2042 Romney Marsh Road / A2042 Bad Munstereifel Road	21.1	Romney Marsh Road n/b	17	11	13	12	12	6	12	6
		21.2	Malcolm Sargent Road	29	21	18	40	26	23	12	27
		21.3	A2042 Romney Marsh Road s/b	20	13	16	22	29	37	72	54
		21.4	A2042 Bad Munstereifel Road	28	21	35	17	45	31	13	41
J22	Romney Marsh Road / Ashford Road Roundabout	22.1	Ashford Road n/b	13	13	5	0	6	12	17	6
		22.2	Ashford Road s/b	19	11	6	6	13	5	13	15
		22.3	Romney Marsh Road	5	5	13	6	13	37	21	24
		22.4	Forestall Meadow	0	6	9	6	14	19	17	23
J23	Ashford Road / Britannia Lane	23.1	Ashford Road	0	0	0	0	0	0	0	0
		23.2	Britannia Lane	6	5	13	5	5	0	0	0
		23.3	Ashford Road	17	12	13	12	12	5	0	11
J24	Milbank Road / Chart Road	24.1	Milbank Road	0	0	0	0	0	0	0	0
		24.2	Pound Lane	0	0	0	6	0	0	0	0
		24.3	Chart Road	0	11	0	0	0	6	0	0
J25	Chart Road / Long Length	25.1	Chart Road	0	0	0	0	0	0	0	0
		25.2	Long Length	5	0	5	6	5	5	6	0
		25.3	Chart Road	0	0	0	0	0	0	0	0
J27	Pound Lane / Ashford Road / Church Hill	27.1	Pound Lane	29	21	28	21	21	20	19	26
		27.2	Ashford Road s/b	20	21	21	5	33	33	33	33
		27.3	Church Hill	5	5	5	6	5	0	0	0
		27.4	Ashford Road n/b	5	12	5	12	5	5	18	5
J30	B229 Norman Road/ Access Road	30.1	B229 Norman Road e/b	21	6	5	0	0	6	0	14
		30.2	Access Road	6	0	5	0	6	6	6	6
		30.3	B229 Norman Road w/b	19	22	13	21	15	26	6	15
J31	Steeds Lane / Magpie Hall Road / Ashford Road	31.1	Ashford Road s/b	0	0	0	0	0	0	0	0
		31.2	Steeds Lane	0	0	0	0	0	0	0	0
		31.3	Ashford Road n/b	0	0	0	0	0	0	0	0
		31.4	Magpie Hall Road	6	0	0	0	0	0	0	0
J32	Magpie Hall Road / Tally Ho Road	32.1	Chilmington Green Road	0	0	0	0	0	0	0	0
		32.2	Magpie Hall Road	0	0	0	0	0	0	0	0
		32.3	Tally Ho Road	0	0	0	0	0	0	0	0
J33	Magpie Hall Road / Long Length	33.1	Chilmington Green Road s/b	0	0	0	0	0	0	0	0
		33.2	Long Length	0	0	0	0	0	0	0	0
		33.3	Chilmington Green Road n/b	0	0	0	0	0	0	0	0
J35	Chilmington Green Road / Bartletts Lane	35.1	Chilmington Green Road s/b	0	0	0	0	0	0	0	0
		35.2	Bartletts Lane	0	0	0	0	0	0	0	0
		35.3	Chilmington Green Road n/b	0	0	0	0	0	0	0	0
J36	Bartletts Lane / Unnamed Road	36.1	Bartletts Lane n/b	0	0	0	0	0	0	0	0
		36.2	Unnamed Road	0	0	0	0	0	0	0	0
		36.3	Bartletts Lane s/b	0	0	0	0	0	0	0	0
J37	Chilmington Green Road / Unnamed Road	37.1	Chilmington Green Road s/b	0	0	0	0	0	0	0	0
		37.2	Unnamed Road	0	0	0	0	0	0	0	0
		37.3	Chilmington Green Road n/b	0	0	0	0	0	0	0	0
J38	Chilmington Green Road / Mock Lane	38.1	Chilmington Green Road s/b	0	0	0	0	0	0	0	0
		38.2	Mock Lane	0	0	0	0	0	0	0	0
		38.3	Chilmington Green Road n/b	0	0	0	0	0	0	0	0
J39	A28 / Ashford Road / Goldwell Lane	39.1	A28 Ashford Road n/b	0	0	0	0	0	0	0	0
		39.2	Ashford Road	0	0	0	0	0	0	0	0
		39.3	A28 Ashford Road s/b	0	0	0	0	0	0	0	0

J40	**A28 Ashford Road / Chilmington Green Road**	40.1	A28 Ashford Road s/b	0	0	0	0	0	0	0	0
		40.2	Chilmington Green Road	0	0	0	0	0	0	0	0
		40.3	A28 Ashford Road n/b	0	0	0	0	0	0	0	0
J41	**A28 Ashford Road / Sandy Lane**	41.1	A28 Ashford Road n/b	0	0	0	0	0	0	0	0
		41.2	Sandy Lane	0	0	0	0	0	0	0	0
		41.3	A28 Ashford Road s/b	5	5	6	5	6	6	13	5
J42	**A28 Ashford Road / Old Surrenden Manor Road**	42.1	A28 Ashford Road n/b	0	0	0	0	0	0	0	0
		42.2	Old Surrenden Manor Road	0	0	0	0	0	0	0	0
		42.3	A28 Ashford Road s/b	7	0	0	6	6	6	5	5
J44	**M20 Junction 10**	44.1	A2070	50	50	50	55	38	50	51	49
		44.2	A292	73	69	70	81	130	132	140	139
		44.4	Southbound off slip	23	28	28	23	17	18	19	17
		44.5	B2164	38	50	48	49	78	70	71	69
		44.6	Hythe Road	40	35	34	35	23	24	23	24
J45	**M20 Junction 9**	45.1	A20 Fougeres Way	57	66	68	51	40	42	40	53
		45.3	Southbound off slip	24	23	26	22	35	27	28	28
		45.4	Trinity Road	75	82	70	85	19	17	22	26
		45.6	Northbound off slip	27	28	33	32	39	34	43	34

Ref	Point
0	A28/ Sandy Lane
1	A28/ Chilmington Green Road
2	A28/ Goldwell Lane
3	A28/ Tithe Barn Lane
4	A28 B2229 Brookfield Road
5	A28/ Loudon Way
6	A28/ Calton Road
7	A28/ A20/ A292
8	A20/ M20

Table 4 Journey Time

Journey Times (Northbound)			Journey Times (Southbound)		
From - To	**AM**	**PM**	**From - To**	**AM**	**PM**
0-1	27s	26s	**8-7**	48s	42s
1-2	23s	23s	**7-6**	45s	1m47s
2-3	1m24s	1m21s	**6-5**	58s	1m29s
3-4	2m0s	1m20s	**5-4**	1m2s	1m30s
4-5	1m37s	1m14s	**4-3**	1m23s	1m23s
5-6	47s	46s	**3-2**	2m8s	2m5s
6-7	1m2s	55s	**2-1**	35s	36s
7-8	1m6s	1m7s	**1-0**	41s	42s

Table 5 Two-way Link Flows									
Link	Point	AM				PM			
		Car & LGV	HGV	Total Vehicle	% HGV	Car & LGV	HGV	Total Vehicle	% HGV
1.1	A28 Templar Way	2239	96	2336	4.1%	2368	50	2419	2.1%
1.2	A20 Maidstone Road	1109	60	1171	5.1%	1573	37	1611	2.3%
1.3	A20 Fougeres Way	2964	139	3104	4.5%	2958	67	3025	2.2%
1.4	A20 Simone Weil Avenue	1037	36	1074	3.4%	1309	22	1331	1.7%
1.5	A292 Maidstone Road	1151	34	1188	2.8%	905	18	926	1.9%
2.1	A28 Chart Road e/b	2704	111	2816	3.9%	2646	50	2697	1.9%
2.2	Unnamed Road	386	14	401	3.6%	381	8	389	2.0%
2.3	A28 Templar Way	2220	101	2331	4.3%	2323	52	2390	2.2%
2.4	A28 Chart Road e/b	1077	32	1115	2.9%	697	9	713	1.3%
2.5	Carlton Road	47	2	64	3.8%	16	1	37	2.7%
3.1	A28 Chart Road e/b	2112	98	2210	4.5%	2386	48	2434	2.0%
3.2	Loudon Road	430	0	431	0.0%	286	0	287	0.0%
3.3	A28 Chart Road w/b	2455	98	2554	3.9%	2564	48	2612	1.8%
4.1	A292 Forge Lane	947	14	964	1.5%	693	3	696	0.4%
4.2	A292 New Street	1548	34	1586	2.2%	1004	11	1017	1.1%
4.3	A292 Somerset Road	1030	23	1057	2.2%	721	10	733	1.3%
5.1	A292 Somerset Road e/b	1054	23	1084	2.1%	940	10	958	1.0%
5.2	A28 North Street	1216	34	1256	2.7%	1244	15	1266	1.2%
5.3	A292 Somerset Road w/b	1597	44	1652	2.7%	1323	17	1352	1.2%
6.1	A292 Mace Lane	1457	40	1519	2.7%	1081	15	1120	1.4%
6.2	A292 Wellesley Road	1787	45	1859	2.4%	1351	15	1393	1.1%
6.3	A292 Somerset Road e/b	1565	43	1618	2.6%	1277	15	1304	1.2%
7.1	A2042 Beaver Road	1907	40	1989	2.0%	2002	12	2056	0.6%
7.2	A292 Elwick Road	830	18	881	2.1%	1004	5	1039	0.5%
7.3	A292 Station Road	1256	20	1287	1.5%	1369	6	1386	0.4%
7.4	Station Road (unclassified)	518	13	556	2.3%	634	3	654	0.5%
8.1	A28 Chart Road ne/b	1107	59	1167	5.1%	1248	33	1281	2.6%
8.2	Chart Road	290	16	306	5.2%	291	5	296	1.6%
8.3	A28 Chart Road sw/b	2448	109	2557	4.3%	2612	51	2662	1.9%
8.4	B2229 Brookfield Road	1449	53	1503	3.5%	1516	20	1537	1.3%
9.1	B2229 Brookfield Road n/b	1205	46	1267	3.7%	1131	19	1165	1.6%
9.2	Knoll Lane L 20.2 B2229 Norman Road	554	26	601	4.3%	728	14	765	1.8%
9.3	B2229 Brookfield Road s/b	1296	48	1358	3.5%	1363	22	1399	1.5%
10.1	Knoll Lane n/b	680	35	719	4.8%	729	13	746	1.7%
10.2	Tithe Barn Lane	606	31	652	4.8%	751	15	778	2.0%
10.3	Knoll Lane s/b	559	25	602	4.2%	734	15	765	1.9%
11.1	Tithe Barn Lane w/b	516	26	554	4.6%	867	16	896	1.8%
11.2	Singleton Hill	767	37	819	4.5%	641	11	666	1.7%
11.3	Tithe Barn Lane e/b	1062	50	1113	4.5%	1081	20	1102	1.8%
12.1	A28 Chart Road	542	39	584	6.6%	653	21	677	3.0%
12.2	A28 Ashford Road	1115	58	1175	4.9%	1271	32	1305	2.5%
12.3	Tithe Barn Lane	1061	51	1113	4.5%	1082	20	1103	1.8%
13.1	The Street	196	11	207	5.3%	203	3	206	1.4%
13.2	Ninn Lane	115	7	122	5.5%	129	2	131	1.4%
13.3	Chart Road	290	16	306	5.4%	291	4	296	1.5%
15.1	Bucksford Lane	412	25	449	5.6%	390	5	407	1.2%
15.2	Chart Road	399	26	431	5.9%	375	5	385	1.2%
15.3	Mock Lane	92	9	107	8.7%	78	0	84	0.2%
16.1	Chart Road nw/b	361	16	376	4.1%	335	3	338	0.9%
16.2	Bartletts Lane	78	4	82	5.4%	55	1	55	1.6%
16.3	Chart Road se/b	412	19	432	4.5%	381	4	385	0.9%
17.1	Chart Road n/b	357	20	378	5.4%	335	4	339	1.3%
17.2	Cuckoo Lane	687	36	723	5.0%	454	9	463	1.9%
17.3	Chart Road s/b	779	41	820	5.0%	495	9	504	1.8%
18.1	Knoll Lane n/b	748	39	793	4.9%	688	13	716	1.8%
18.2	Cuckoo Lane	759	42	801	5.2%	596	10	607	1.7%
18.3	Knoll Lane s/b	725	39	770	5.1%	728	14	757	1.8%
19.1	B2229 Beaver Lane w/b	708	32	754	4.2%	701	10	721	1.3%
19.2	Kingsnorth Road	848	35	895	3.9%	702	7	717	1.0%
19.3	B2229 Beaver Lane e/b	700	27	730	3.7%	640	10	652	1.5%
20.1	A2042 Romney Marsh Road n/b	1461	51	1517	3.3%	1846	27	1877	1.4%
20.2	B2229 Norman Road	964	43	1022	4.2%	1085	18	1115	1.6%
20.3	A2042 Romney Marsh Road s/b	1796	53	1863	2.8%	2022	24	2058	1.1%
20.4	Kimberley Way	387	12	422	2.9%	965	18	1001	1.8%
21.1	Romney Marsh Road n/b	1103	43	1150	3.7%	1473	25	1501	1.7%
21.2	Malcolm Sargent Road	866	33	899	3.7%	968	17	985	1.7%
21.3	A2042 Romney Marsh Road s/b	1393	47	1446	3.3%	1837	29	1869	1.5%
21.4	A2042 Bad Munstereifel Road	1774	72	1847	3.9%	1873	41	1914	2.2%
22.1	Ashford Road n/b	881	40	923	4.4%	1271	21	1294	1.6%
22.2	Ashford Road s/b	821	36	860	4.2%	868	15	886	1.7%
22.3	Romney Marsh Road	1100	44	1148	3.9%	1473	26	1503	1.7%
22.4	Forestall Meadow	901	38	938	4.0%	1184	23	1207	1.9%
23.1	Ashford Road	819	35	858	4.0%	868	16	885	1.8%
23.2	Britannia Lane	751	33	790	4.2%	558	13	575	2.2%
23.3	Ashford Road	800	38	848	4.5%	582	7	595	1.2%
24.1	Milbank Road	426	21	447	4.7%	341	8	349	2.4%

24.2	**Pound Lane**	422	24	448	5.3%	324	6	333	1.9%
24.3	**Chart Road**	807	43	852	5.1%	661	15	678	2.2%
25.1	**Chart Road**	802	43	848	5.1%	663	14	680	2.1%
25.2	**Long Length**	251	15	269	5.6%	227	5	234	1.9%
25.3	**Chart Road**	799	45	844	5.4%	581	11	592	1.9%
27.1	**Pound Lane**	427	24	453	5.2%	374	7	383	1.7%
27.2	**Ashford Road s/b**	875	40	917	4.3%	1263	22	1286	1.7%
27.3	**Church Hill**	727	34	761	4.5%	829	12	841	1.4%
27.4	**Ashford Road n/b**	718	36	758	4.7%	783	17	804	2.1%
28.1	**Ashford Road**	800	38	848	4.5%	582	7	595	1.2%
28.3	**Kingsnorth Road**	800	38	848	4.5%	582	7	595	1.2%
29.2	**Malcolm Sargent Road**	867	32	899	3.6%	968	17	985	1.7%
29.3	**Wotton Road e/b**	867	32	899	3.6%	968	17	985	1.7%
30.1	**B229 Norman Road e/b**	879	36	929	3.9%	891	14	916	1.6%
30.2	**Access Road**	280	16	298	5.4%	304	5	310	1.5%
30.3	**B229 Norman Road w/b**	964	42	1021	4.1%	1086	18	1116	1.6%
31.1	**Ashford Road s/b**	719	36	759	4.7%	781	16	801	2.0%
31.2	**Steeds Lane**	87	7	94	7.6%	89	0	90	0.4%
31.3	**Ashford Road n/b**	514	21	537	4.0%	561	9	572	1.6%
31.4	**Magpie Hall Road**	326	18	346	5.2%	425	7	434	1.7%
32.1	**Chilmington Green Road**	433	32	472	6.9%	494	7	506	1.5%
32.2	**Magpie Hall Road**	319	21	346	6.0%	422	8	435	1.9%
32.3	**Tally Ho Road**	457	28	485	5.8%	563	7	571	1.3%
33.1	**Chilmington Green Road s/b**	394	24	418	5.7%	457	2	459	0.4%
33.2	**Long Length**	258	9	268	3.4%	230	3	234	1.1%
33.3	**Chilmington Green Road n/b**	438	33	472	7.0%	500	4	506	0.8%
35.1	**Chilmington Green Road s/b**	201	18	219	8.0%	268	1	268	0.3%
35.2	**Bartletts Lane**	65	4	70	6.1%	44	1	45	2.0%
35.3	**Chilmington Green Road n/b**	266	22	288	7.6%	311	2	313	0.5%
36.1	**Bartletts Lane n/b**	65	4	70	6.1%	43	1	44	2.1%
36.2	**Unnamed Road**	8	0	13	2.6%	5	0	11	0.0%
36.3	**Bartletts Lane s/b**	73	5	83	5.5%	48	1	55	1.7%
37.1	**Chilmington Green Road s/b**	208	18	231	7.7%	262	1	269	0.3%
37.2	**Unnamed Road**	7	0	13	2.5%	5	0	11	0.0%
37.3	**Chilmington Green Road n/b**	200	18	218	8.0%	267	1	268	0.3%
38.1	**Chilmington Green Road s/b**	198	18	218	8.2%	208	1	209	0.3%
38.2	**Mock Lane**	91	9	106	8.3%	77	0	84	0.2%
38.3	**Chilmington Green Road n/b**	210	18	232	7.6%	264	1	270	0.3%
39.1	**A28 Ashford Road n/b**	650	41	694	5.9%	692	20	715	2.8%
39.2	**Ashford Road**	138	5	143	3.4%	88	0	89	0.5%
39.3	**A28 Ashford Road s/b**	556	36	595	6.0%	654	20	677	2.9%
40.1	**A28 Ashford Road s/b**	649	43	695	6.2%	684	21	707	2.9%
40.2	**Chilmington Green Road**	197	18	216	8.3%	207	1	209	0.3%
40.3	**A28 Ashford Road n/b**	735	57	793	7.1%	875	21	898	2.3%
41.1	**A28 Ashford Road n/b**	728	27	756	3.5%	840	20	863	2.3%
41.2	**Sandy Lane**	35	1	36	3.4%	56	1	57	1.7%
41.3	**A28 Ashford Road s/b**	763	28	792	3.5%	896	21	919	2.3%
42.1	**A28 Ashford Road n/b**	636	46	683	6.7%	753	18	772	2.3%
42.2	**Old Surrenden Manor Road**	65	7	72	9.6%	97	1	98	0.8%
42.3	**A28 Ashford Road s/b**	701	53	755	7.0%	851	18	870	2.1%
44.1	**A2070**	1558	52	1610	3.2%	1720	36	1756	2.0%
44.2	**A292**	1301	44	1352	3.3%	1159	22	1190	1.8%
44.3	**n/b on slip**	217	10	233	4.2%	160	4	170	2.3%
44.4	**Southbound off slip**	382	18	401	4.6%	260	9	269	3.5%
44.5	**B2164**	1992	75	2081	3.6%	1931	40	1986	2.0%
44.6	**Hythe Road**	1402	53	1455	3.6%	1324	27	1352	2.0%
45.1	**A20 Fougeres Way**	2955	143	3110	4.6%	2949	69	3030	2.3%
45.2	**Northbound on slip**	648	34	682	5.0%	434	10	444	2.3%
45.3	**Southbound off slip**	470	29	498	5.8%	673	17	691	2.5%
45.4	**Trinity Road**	2091	88	2191	4.0%	2063	37	2112	1.7%
45.5	**Southbound on slip**	621	32	653	5.0%	625	15	641	2.4%
45.6	**Northbound off slip**	611	33	644	5.2%	710	16	727	2.3%

Table 6A Directional Link Flows and Speeds							
Link	**Point**	**Direction**	**Link Speed (mph)**	**Car & LGV**	**HGV**	**Total Vehicles**	**% HGV**
1.1	**A28 Templar Way**	Inbound (to Junction)	13.9	1385	55	1441	3.8%
		Outbound (from Junction)	33.5	853	41	894	4.5%
1.2	**A20 Maidstone Road**	Inbound (to Junction)	13.2	620	29	651	4.4%
		Outbound (from Junction)	18.3	489	31	520	6.0%
1.3	**A20 Fougeres Way**	Inbound (to Junction)	17.4	1505	69	1574	4.4%
		Outbound (from Junction)	28.4	1459	70	1530	4.6%
1.4	**A20 Simone Weil Avenue**	Inbound (to Junction)	18.7	532	24	556	4.3%
		Outbound (from Junction)	35.3	505	13	518	2.5%
1.5	**A292 Maidstone Road**	Inbound (to Junction)	8.6	208	6	214	2.8%
		Outbound (from Junction)	33.4	943	28	974	2.8%
2.1	**A28 Chart Road e/b**	Inbound (to Junction)	22.9	1591	61	1653	3.7%
		Outbound (from Junction)	22.6	1113	50	1163	4.3%
2.2	**Unnamed Road**	Inbound (to Junction)	35.6	223	10	233	4.3%
		Outbound (from Junction)	24.0	163	4	168	2.6%
2.3	**A28 Templar Way**	Inbound (to Junction)	33.6	870	37	911	4.1%
		Outbound (from Junction)	25.9	1350	64	1420	4.5%
2.4	**A28 Chart Road e/b**	Inbound (to Junction)	21.8	533	22	555	3.9%
		Outbound (from Junction)	30.8	544	10	560	1.8%
2.5	**Carlton Road**	Inbound (to Junction)	12.8	0	0	12	0.0%
		Outbound (from Junction)	29.9	47	2	52	4.7%
3.1	**A28 Chart Road e/b**	Inbound (to Junction)	12.4	1369	57	1426	4.0%
		Outbound (from Junction)	25.9	743	41	784	5.2%
3.2	**Loudon Road**	Inbound (to Junction)	11.1	257	0	258	0.0%
		Outbound (from Junction)	25.1	173	0	173	0.0%
3.3	**A28 Chart Road w/b**	Inbound (to Junction)	16.5	872	41	913	4.5%
		Outbound (from Junction)	22.1	1582	57	1641	3.5%
4.1	**A292 Forge Lane**	Inbound (to Junction)	12.9	333	6	341	1.8%
		Outbound (from Junction)	8.8	614	8	622	1.3%
4.2	**A292 New Street**	Inbound (to Junction)	5.4	1077	22	1102	2.0%
		Outbound (from Junction)	24.7	471	12	484	2.5%
4.3	**A292 Somerset Road**	Inbound (to Junction)	6.8	353	8	360	2.1%
		Outbound (from Junction)	4.1	678	15	697	2.2%
5.1	**A292 Somerset Road e/b**	Inbound (to Junction)	7.1	706	15	728	2.1%
		Outbound (from Junction)	25.3	348	8	356	2.2%
5.2	**A28 North Street**	Inbound (to Junction)	4.1	613	19	635	3.0%
		Outbound (from Junction)	7.8	603	15	621	2.4%
5.3	**A292 Somerset Road w/b**	Inbound (to Junction)	3.6	614	16	633	2.6%
		Outbound (from Junction)	3.1	982	28	1019	2.7%
6.1	**A292 Mace Lane**	Inbound (to Junction)	3.2	915	23	948	2.5%
		Outbound (from Junction)	19.4	541	17	571	3.0%
6.2	**A292 Wellesley Road**	Inbound (to Junction)	5.4	554	15	581	2.6%
		Outbound (from Junction)	18.4	1233	30	1278	2.4%
6.3	**A292 Somerset Road e/b**	Inbound (to Junction)	7.9	935	25	969	2.6%
		Outbound (from Junction)	6.6	630	17	649	2.7%
7.1	**A2042 Beaver Road**	Inbound (to Junction)	8.1	1203	33	1262	2.6%
		Outbound (from Junction)	15.2	704	7	727	1.0%
7.2	**A292 Elwick Road**	Inbound (to Junction)	12.4	210	2	212	1.1%
		Outbound (from Junction)	14.0	620	16	668	2.4%
7.3	**A292 Station Road**	Inbound (to Junction)	14.8	645	5	656	0.7%
		Outbound (from Junction)	20.5	611	15	630	2.4%
7.4	**Station Road (unclassified)**	Inbound (to Junction)	10.2	198	6	225	2.6%
		Outbound (from Junction)	20.5	320	7	330	2.2%
8.1	**A28 Chart Road ne/b**	Inbound (to Junction)	10.5	719	37	756	4.9%
		Outbound (from Junction)	25.0	388	22	412	5.4%
8.2	**Chart Road**	Inbound (to Junction)	39.1	184	10	194	5.1%
		Outbound (from Junction)	20.8	106	6	112	5.4%
8.3	**A28 Chart Road sw/b**	Inbound (to Junction)	20.4	856	42	899	4.7%
		Outbound (from Junction)	17.6	1592	66	1658	4.0%
8.4	**B2229 Brookfield Road**	Inbound (to Junction)	18.2	888	29	919	3.2%
		Outbound (from Junction)	22.6	561	23	584	4.0%
9.1	**B2229 Brookfield Road n/b**	Inbound (to Junction)	12.0	729	29	759	3.8%
		Outbound (from Junction)	21.5	476	17	507	3.4%
9.2	**Knoll Lane L 20.2 B2229 Norman Road**	Inbound (to Junction)	7.8	240	10	267	3.8%
		Outbound (from Junction)	34.4	313	16	334	4.7%
9.3	**B2229 Brookfield Road s/b**	Inbound (to Junction)	12.1	558	21	586	3.5%
		Outbound (from Junction)	24.1	738	27	771	3.5%
10.1	**Knoll Lane n/b**	Inbound (to Junction)	28.7	389	19	411	4.7%
		Outbound (from Junction)	33.2	292	16	308	5.1%
10.2	**Tithe Barn Lane**	Inbound (to Junction)	38.0	223	12	241	4.9%
		Outbound (from Junction)	31.2	383	20	410	4.8%

10.3	**Knoll Lane s/b**	Inbound (to Junction)	32.5	311	15	334	4.4%
		Outbound (from Junction)	35.0	248	10	268	3.9%
11.1	**Tithe Barn Lane w/b**	Inbound (to Junction)	29.8	318	16	342	4.6%
		Outbound (from Junction)	31.4	198	10	213	4.7%
11.2	**Singleton Hill**	Inbound (to Junction)	29.5	513	22	540	4.0%
		Outbound (from Junction)	25.7	254	15	279	5.5%
11.3	**Tithe Barn Lane e/b**	Inbound (to Junction)	24.7	341	19	361	5.3%
		Outbound (from Junction)	32.0	720	31	752	4.2%
12.1	**A28 Chart Road**	Inbound (to Junction)	34.6	247	19	268	7.3%
		Outbound (from Junction)	29.1	296	19	316	6.1%
12.2	**A28 Ashford Road**	Inbound (to Junction)	23.8	392	23	415	5.5%
		Outbound (from Junction)	27.2	723	35	760	4.7%
12.3	**Tithe Barn Lane**	Inbound (to Junction)	29.1	721	32	753	4.2%
		Outbound (from Junction)	26.8	340	19	360	5.3%
13.1	**The Street**	Inbound (to Junction)	32.6	144	8	152	5.3%
		Outbound (from Junction)	20.1	52	3	55	5.1%
13.2	**Ninn Lane**	Inbound (to Junction)	34.1	51	3	54	4.8%
		Outbound (from Junction)	20.7	64	4	68	6.1%
13.3	**Chart Road**	Inbound (to Junction)	20.3	105	6	111	5.7%
		Outbound (from Junction)	32.4	185	10	195	5.2%
15.1	**Bucksford Lane**	Inbound (to Junction)	31.7	212	13	232	5.5%
		Outbound (from Junction)	28.4	200	12	216	5.8%
15.2	**Chart Road**	Inbound (to Junction)	28.6	162	10	171	5.7%
		Outbound (from Junction)	29.9	238	16	260	6.1%
15.3	**Mock Lane**	Inbound (to Junction)	26.7	78	8	90	8.5%
		Outbound (from Junction)	25.7	14	2	17	10.0%
16.1	**Chart Road nw/b**	Inbound (to Junction)	27.3	115	0	115	0.0%
		Outbound (from Junction)	28.6	246	16	262	5.9%
16.2	**Bartletts Lane**	Inbound (to Junction)	34.9	66	4	70	6.3%
		Outbound (from Junction)	24.9	12	0	12	0.0%
16.3	**Chart Road se/b**	Inbound (to Junction)	29.4	245	15	260	5.9%
		Outbound (from Junction)	30.0	167	4	171	2.4%
17.1	**Chart Road n/b**	Inbound (to Junction)	26.6	247	15	263	5.9%
		Outbound (from Junction)	28.5	110	5	115	4.3%
17.2	**Cuckoo Lane**	Inbound (to Junction)	35.8	324	18	342	5.3%
		Outbound (from Junction)	28.0	362	18	380	4.7%
17.3	**Chart Road s/b**	Inbound (to Junction)	25.6	340	15	355	4.3%
		Outbound (from Junction)	31.9	439	26	465	5.6%
18.1	**Knoll Lane n/b**	Inbound (to Junction)	37.2	350	19	369	5.1%
		Outbound (from Junction)	34.4	398	20	424	4.8%
18.2	**Cuckoo Lane**	Inbound (to Junction)	26.0	404	23	427	5.4%
		Outbound (from Junction)	35.3	355	19	373	5.0%
18.3	**Knoll Lane s/b**	Inbound (to Junction)	34.5	362	18	386	4.8%
		Outbound (from Junction)	31.1	363	21	384	5.5%
19.1	**B2229 Beaver Lane w/b**	Inbound (to Junction)	17.0	266	14	284	5.0%
		Outbound (from Junction)	22.5	441	18	470	3.8%
19.2	**Kingsnorth Road**	Inbound (to Junction)	16.2	561	23	593	3.9%
		Outbound (from Junction)	26.0	288	12	302	3.9%
19.3	**B2229 Beaver Lane e/b**	Inbound (to Junction)	23.7	301	10	312	3.1%
		Outbound (from Junction)	35.1	399	17	417	4.1%
20.1	**A2042 Romney Marsh Road n/b**	Inbound (to Junction)	35.0	878	27	910	2.9%
		Outbound (from Junction)	26.5	583	24	607	3.9%
20.2	**B2229 Norman Road**	Inbound (to Junction)	19.5	441	20	469	4.4%
		Outbound (from Junction)	26.9	523	22	553	4.0%
20.3	**A2042 Romney Marsh Road s/b**	Inbound (to Junction)	22.2	842	27	874	3.1%
		Outbound (from Junction)	5.3	954	25	989	2.6%
20.4	**Kimberley Way**	Inbound (to Junction)	25.7	143	5	158	2.9%
		Outbound (from Junction)	28.9	244	8	264	3.0%
21.1	**Romney Marsh Road n/b**	Inbound (to Junction)	38.9	529	22	555	3.9%
		Outbound (from Junction)	34.2	574	21	595	3.5%
21.2	**Malcolm Sargent Road**	Inbound (to Junction)	22.3	457	21	478	4.4%
		Outbound (from Junction)	34.8	410	12	422	2.9%
21.3	**A2042 Romney Marsh Road s/b**	Inbound (to Junction)	23.3	584	23	608	3.8%
		Outbound (from Junction)	44.1	809	25	838	2.9%
21.4	**A2042 Bad Munstereifel Road**	Inbound (to Junction)	38.8	999	32	1031	3.1%
		Outbound (from Junction)	38.1	776	40	816	4.9%
22.1	**Ashford Road n/b**	Inbound (to Junction)	35.6	484	22	508	4.3%
		Outbound (from Junction)	28.4	397	19	416	4.5%
22.2	**Ashford Road s/b**	Inbound (to Junction)	26.8	407	16	426	3.8%
		Outbound (from Junction)	36.4	414	20	434	4.6%
22.3	**Romney Marsh Road**	Inbound (to Junction)	30.5	573	22	595	3.6%
		Outbound (from Junction)	39.9	526	23	553	4.1%
22.4	**Forestall Meadow**	Inbound (to Junction)	34.2	387	20	406	4.8%

22.4	**Forestall Meadow**	Outbound (from Junction)	34.9	514	18	532	3.4%
23.1	**Ashford Road**	Inbound (to Junction)	33.5	414	19	433	4.4%
		Outbound (from Junction)	29.5	405	16	425	3.7%
23.2	**Britannia Lane**	Inbound (to Junction)	28.7	453	20	479	4.1%
		Outbound (from Junction)	29.1	298	13	311	4.3%
23.3	**Ashford Road**	Inbound (to Junction)	25.6	318	14	336	4.2%
		Outbound (from Junction)	34.9	482	24	513	4.7%
24.1	**Milbank Road**	Inbound (to Junction)	24.6	185	10	195	5.0%
		Outbound (from Junction)	31.0	241	11	252	4.5%
24.2	**Pound Lane**	Inbound (to Junction)	25.4	171	6	179	3.3%
		Outbound (from Junction)	31.1	251	18	269	6.7%
24.3	**Chart Road**	Inbound (to Junction)	25.7	471	28	500	5.7%
		Outbound (from Junction)	25.5	336	15	353	4.2%
25.1	**Chart Road**	Inbound (to Junction)	25.7	335	15	351	4.2%
		Outbound (from Junction)	28.1	468	29	497	5.8%
25.2	**Long Length**	Inbound (to Junction)	24.7	124	9	132	6.6%
		Outbound (from Junction)	27.6	128	6	136	4.6%
25.3	**Chart Road**	Inbound (to Junction)	27.7	468	28	497	5.7%
		Outbound (from Junction)	24.9	331	17	348	4.9%
27.1	**Pound Lane**	Inbound (to Junction)	26.1	250	18	268	6.6%
		Outbound (from Junction)	33.8	176	6	184	3.1%
27.2	**Ashford Road s/b**	Inbound (to Junction)	24.2	394	18	412	4.4%
		Outbound (from Junction)	34.8	481	22	505	4.3%
27.3	**Church Hill**	Inbound (to Junction)	29.6	285	10	296	3.5%
		Outbound (from Junction)	26.3	441	24	465	5.1%
27.4	**Ashford Road n/b**	Inbound (to Junction)	25.9	444	20	468	4.4%
		Outbound (from Junction)	28.0	275	15	290	5.3%
28.1	**Ashford Road**	Inbound (to Junction)	34.9	483	24	513	4.7%
		Outbound (from Junction)	25.6	318	14	336	4.2%
28.3	**Kingsnorth Road**	Inbound (to Junction)	24.3	318	14	336	4.2%
		Outbound (from Junction)	33.1	483	24	513	4.7%
29.2	**Malcolm Sargent Road**	Inbound (to Junction)	33.1	410	12	422	2.9%
		Outbound (from Junction)	21.2	457	20	478	4.2%
29.3	**Wotton Road (EB)**	Inbound (to Junction)	20.2	457	20	478	4.2%
		Outbound (from Junction)	31.4	410	12	422	2.9%
30.1	**B229 Norman Road (EB)**	Inbound (to Junction)	6.0	448	20	477	4.2%
		Outbound (from Junction)	29.7	431	16	452	3.6%
30.2	**Access Road**	Inbound (to Junction)	7.4	91	5	96	5.4%
		Outbound (from Junction)	27.8	190	11	202	5.4%
30.3	**B229 Norman Road (WB)**	Inbound (to Junction)	10.6	522	22	551	4.0%
		Outbound (from Junction)	29.7	441	20	470	4.2%
31.1	**Ashford Road s/b**	Inbound (to Junction)	25.2	277	16	293	5.5%
		Outbound (from Junction)	37.3	442	20	465	4.3%
31.2	**Steeds Lane**	Inbound (to Junction)	32.5	34	2	36	5.8%
		Outbound (from Junction)	28.2	53	5	58	8.7%
31.3	**Ashford Road n/b**	Inbound (to Junction)	40.7	325	13	340	3.8%
		Outbound (from Junction)	26.7	189	8	197	4.2%
31.4	**Magpie Hall Road**	Inbound (to Junction)	35.2	186	10	198	5.0%
		Outbound (from Junction)	30.0	140	8	148	5.4%
32.1	**Chilmington Green Road**	Inbound (to Junction)	26.0	205	14	226	6.3%
		Outbound (from Junction)	41.6	227	18	246	7.4%
32.2	**Magpie Hall Road**	Inbound (to Junction)	28.8	135	10	145	6.6%
		Outbound (from Junction)	33.4	184	11	201	5.5%
32.3	**Tally Ho Road**	Inbound (to Junction)	35.6	264	17	280	5.9%
		Outbound (from Junction)	27.2	193	11	205	5.5%
33.1	**Chilmington Green Road s/b**	Inbound (to Junction)	24.6	186	13	198	6.3%
		Outbound (from Junction)	41.4	209	11	220	5.2%
33.2	**Long Length**	Inbound (to Junction)	27.3	130	4	135	2.8%
		Outbound (from Junction)	26.4	127	5	133	4.0%
33.3	**Chilmington Green Road n/b**	Inbound (to Junction)	37.3	229	17	246	6.8%
		Outbound (from Junction)	26.8	209	16	226	7.2%
35.1	**Chilmington Green Road s/b**	Inbound (to Junction)	25.1	92	9	100	8.7%
		Outbound (from Junction)	42.9	109	9	118	7.4%
35.2	**Bartletts Lane**	Inbound (to Junction)	24.5	7	0	7	0.0%
		Outbound (from Junction)	45.9	58	4	62	6.8%
35.3	**Chilmington Green Road n/b**	Inbound (to Junction)	43.3	168	13	181	7.2%
		Outbound (from Junction)	24.7	99	9	108	8.1%
36.1	**Bartletts Lane n/b**	Inbound (to Junction)	46.0	58	4	62	6.8%
		Outbound (from Junction)	24.5	7	0	7	0.0%
36.2	**Unnamed Road**	Inbound (to Junction)	21.1	8	0	8	4.1%
		Outbound (from Junction)	21.4	0	0	5	0.0%
36.3	**Bartletts Lane s/b**	Inbound (to Junction)	24.8	7	0	12	0.0%
		Outbound (from Junction)	38.6	66	5	71	6.5%

37.1	**Chilmington Green Road s/b**	Inbound (to Junction)	25.8	99	9	108	8.4%
		Outbound (from Junction)	40.0	109	9	123	7.2%
37.2	**Unnamed Road**	Inbound (to Junction)	20.8	0	0	5	0.0%
		Outbound (from Junction)	22.0	7	0	8	4.1%
37.3	**Chilmington Green Road n/b**	Inbound (to Junction)	42.5	109	9	118	7.5%
		Outbound (from Junction)	25.1	91	9	100	8.7%
38.1	**Chilmington Green Road s/b**	Inbound (to Junction)	39.7	125	12	137	8.5%
		Outbound (from Junction)	38.0	73	6	81	7.7%
38.2	**Mock Lane**	Inbound (to Junction)	25.8	13	2	17	9.5%
		Outbound (from Junction)	35.5	77	7	89	8.1%
38.3	**Chilmington Green Road n/b**	Inbound (to Junction)	39.5	111	9	124	7.2%
		Outbound (from Junction)	27.9	99	9	108	8.1%
39.1	**A28 Ashford Road n/b**	Inbound (to Junction)	41.2	271	18	291	6.1%
		Outbound (from Junction)	26.5	379	23	403	5.8%
39.2	**Ashford Road**	Inbound (to Junction)	21.7	92	5	97	5.1%
		Outbound (from Junction)	42.8	46	0	46	0.0%
39.3	**A28 Ashford Road s/b**	Inbound (to Junction)	27.0	309	18	328	5.6%
		Outbound (from Junction)	39.9	247	18	267	6.6%
40.1	**A28 Ashford Road s/b**	Inbound (to Junction)	27.1	380	24	405	5.8%
		Outbound (from Junction)	41.3	269	19	291	6.6%
40.2	**Chilmington Green Road**	Inbound (to Junction)	33.6	73	6	80	7.9%
		Outbound (from Junction)	40.0	124	12	136	8.6%
40.3	**A28 Ashford Road n/b**	Inbound (to Junction)	39.5	338	29	368	7.9%
		Outbound (from Junction)	26.0	397	28	426	6.5%
41.1	**A28 Ashford Road n/b**	Inbound (to Junction)	41.9	313	27	340	7.9%
		Outbound (from Junction)	26.8	415	0	416	8.6%
41.2	**Sandy Lane**	Inbound (to Junction)	41.8	26	1	27	5.8%
		Outbound (from Junction)	30.7	9	0	9	7.9%
41.3	**A28 Ashford Road s/b**	Inbound (to Junction)	25.7	423	0	425	6.5%
		Outbound (from Junction)	40.9	339	28	368	5.6%
42.1	**A28 Ashford Road n/b**	Inbound (to Junction)	42.7	284	24	308	7.7%
		Outbound (from Junction)	28.4	352	22	374	5.9%
42.2	**Old Surrenden Manor Road**	Inbound (to Junction)	40.0	27	4	31	13.1%
		Outbound (from Junction)	31.6	38	3	41	7.0%
42.3	**A28 Ashford Road s/b**	Inbound (to Junction)	25.3	390	25	415	6.0%
		Outbound (from Junction)	41.3	311	28	339	8.2%
44.1	**A2070**	Inbound (to Junction)	28.0	1170	34	1204	2.8%
		Outbound (from Junction)	40.4	388	18	406	4.5%
44.2	**A292**	Inbound (to Junction)	11.8	308	14	329	4.3%
		Outbound (from Junction)	38.1	993	30	1023	2.9%
44.3	**Northbound on slip**	-	36.6	217	10	233	4.2%
44.4	**Southbound off slip**	-	31.7	382	18	401	4.6%
44.5	**B2164**	Inbound (to Junction)	15.9	810	41	857	4.8%
		Outbound (from Junction)	20.9	1182	35	1224	2.8%
44.6	**Hythe Road**	Inbound (to Junction)	32.9	756	19	775	2.4%
		Outbound (from Junction)	38.9	646	34	680	5.0%
45.1	**A20 Fougeres Way**	Inbound (to Junction)	28.8	1448	70	1524	4.6%
		Outbound (from Junction)	42.2	1507	73	1585	4.6%
45.2	**Northbound on slip**	-	32.9	648	34	682	5.0%
45.3	**Southbound off slip**	-	40.8	470	29	498	5.8%
45.4	**Trinity Road**	Inbound (to Junction)	31.7	1169	48	1223	3.9%
		Outbound (from Junction)	33.2	921	41	968	4.2%
45.5	**Southbound on slip**	-	37.3	621	32	653	5.0%
45.6	**Northbound off slip**	-	37.9	611	33	644	5.2%

Table 6B Directional Link Flows and Speeds							
Link	Point	Direction	Link Speed (mph)	Car & LGV	HGV	Total Vehicles	% HGV
1.1	A28 Templar Way	Inbound (to Junction)	15.9	906	17	924	1.8%
		Outbound (from Junction)	32.7	1461	33	1495	2.2%
1.2	A20 Maidstone Road	Inbound (to Junction)	17.1	684	20	706	2.8%
		Outbound (from Junction)	16.6	888	17	905	1.9%
1.3	A20 Fougeres Way	Inbound (to Junction)	19.4	1879	46	1925	2.4%
		Outbound (from Junction)	27.1	1079	21	1100	1.9%
1.4	A20 Simone Weil Avenue	Inbound (to Junction)	15.9	835	12	847	1.5%
		Outbound (from Junction)	35.7	474	10	484	2.1%
1.5	A292 Maidstone Road	Inbound (to Junction)	7.3	252	2	254	0.8%
		Outbound (from Junction)	38.8	654	16	672	2.3%
2.1	A28 Chart Road e/b	Inbound (to Junction)	26.8	953	17	971	1.8%
		Outbound (from Junction)	17.6	1693	33	1726	1.9%
2.2	Unnamed Road	Inbound (to Junction)	36.8	184	0	184	0.0%
		Outbound (from Junction)	24.4	197	8	205	3.8%
2.3	A28 Templar Way	Inbound (to Junction)	24.4	1437	37	1482	2.5%
		Outbound (from Junction)	29.2	886	15	908	1.7%
2.4	A28 Chart Road e/b	Inbound (to Junction)	10.8	458	6	464	1.3%
		Outbound (from Junction)	9.4	240	3	249	1.2%
2.5	Carlton Road	Inbound (to Junction)	12.6	0	0	12	0.0%
		Outbound (from Junction)	23.9	16	1	25	4.0%
3.1	A28 Chart Road e/b	Inbound (to Junction)	16.5	896	18	915	2.0%
		Outbound (from Junction)	16.9	1490	29	1519	1.9%
3.2	Loudon Road	Inbound (to Junction)	13.0	55	0	56	0.0%
		Outbound (from Junction)	24.6	231	0	231	0.0%
3.3	A28 Chart Road w/b	Inbound (to Junction)	14.8	1667	29	1696	1.7%
		Outbound (from Junction)	22.7	897	18	916	2.0%
4.1	A292 Forge Lane	Inbound (to Junction)	14.1	359	3	362	0.7%
		Outbound (from Junction)	19.7	334	0	335	0.1%
4.2	A292 New Street	Inbound (to Junction)	9.2	550	6	559	1.2%
		Outbound (from Junction)	29.7	453	5	458	1.0%
4.3	A292 Somerset Road	Inbound (to Junction)	7.2	300	3	303	0.9%
		Outbound (from Junction)	16.5	422	7	431	1.6%
5.1	A292 Somerset Road e/b	Inbound (to Junction)	9.6	627	7	642	1.1%
		Outbound (from Junction)	27.9	313	3	316	0.9%
5.2	A28 North Street	Inbound (to Junction)	10.0	422	5	430	1.2%
		Outbound (from Junction)	16.7	822	10	835	1.2%
5.3	A292 Somerset Road w/b	Inbound (to Junction)	7.3	704	9	715	1.2%
		Outbound (from Junction)	5.5	619	8	636	1.2%
6.1	A292 Mace Lane	Inbound (to Junction)	4.9	659	7	676	1.0%
		Outbound (from Junction)	20.4	422	8	445	1.8%
6.2	A292 Wellesley Road	Inbound (to Junction)	7.2	619	8	640	1.3%
		Outbound (from Junction)	11.3	732	7	753	0.9%
6.3	A292 Somerset Road e/b	Inbound (to Junction)	8.6	576	7	593	1.2%
		Outbound (from Junction)	23.6	701	8	711	1.1%
7.1	A2042 Beaver Road	Inbound (to Junction)	9.8	1159	10	1201	0.9%
		Outbound (from Junction)	15.8	843	1	855	0.1%
7.2	A292 Elwick Road	Inbound (to Junction)	11.0	233	1	234	0.4%
		Outbound (from Junction)	14.5	770	4	804	0.5%
7.3	A292 Station Road	Inbound (to Junction)	15.4	833	0	841	0.0%
		Outbound (from Junction)	21.0	536	6	545	1.0%
7.4	Station Road (unclassified)	Inbound (to Junction)	9.9	279	1	291	0.4%
		Outbound (from Junction)	20.1	355	2	363	0.6%
8.1	A28 Chart Road ne/b	Inbound (to Junction)	23.1	401	12	413	2.9%
		Outbound (from Junction)	27.1	847	21	868	2.4%
8.2	Chart Road	Inbound (to Junction)	35.8	168	3	171	1.5%
		Outbound (from Junction)	21.5	123	2	125	1.6%
8.3	A28 Chart Road sw/b	Inbound (to Junction)	13.4	1701	31	1732	1.8%
		Outbound (from Junction)	28.6	910	20	930	2.1%
8.4	B2229 Brookfield Road	Inbound (to Junction)	11.6	563	8	572	1.4%
		Outbound (from Junction)	19.6	953	12	964	1.2%
9.1	B2229 Brookfield Road n/b	Inbound (to Junction)	12.7	580	9	590	1.5%
		Outbound (from Junction)	18.9	551	10	574	1.7%
9.2	Knoll Lane L 20.2 B2229 Norman Road	Inbound (to Junction)	11.0	179	4	199	1.8%
		Outbound (from Junction)	31.6	549	10	566	1.8%
9.3	B2229 Brookfield Road s/b	Inbound (to Junction)	10.0	852	14	875	1.6%
		Outbound (from Junction)	32.5	511	7	524	1.4%
10.1	Knoll Lane n/b	Inbound (to Junction)	29.5	250	5	259	1.8%
		Outbound (from Junction)	30.1	478	8	487	1.7%
10.2	Tithe Barn Lane	Inbound (to Junction)	34.7	305	6	317	2.0%
		Outbound (from Junction)	33.6	446	9	462	2.0%
10.3	Knoll Lane s/b	Inbound (to Junction)	28.8	551	10	569	1.8%
		Outbound (from Junction)	39.0	183	4	196	2.2%
11.1	Tithe Barn Lane w/b	Inbound (to Junction)	36.3	308	5	319	1.4%
		Outbound (from Junction)	28.5	559	11	576	1.9%
11.2	Singleton Hill	Inbound (to Junction)	33.0	200	3	209	1.3%
		Outbound (from Junction)	28.4	442	8	458	1.8%
11.3	Tithe Barn Lane e/b	Inbound (to Junction)	26.0	787	16	804	2.0%
		Outbound (from Junction)	36.1	294	4	298	1.2%
12.1	A28 Chart Road	Inbound (to Junction)	37.5	365	12	379	3.2%
		Outbound (from Junction)	28.3	288	8	297	2.8%
12.2	A28 Ashford Road	Inbound (to Junction)	25.6	844	20	865	2.4%
		Outbound (from Junction)	27.2	427	12	440	2.7%
12.3	Tithe Barn Lane	Inbound (to Junction)	26.6	294	4	298	1.3%
		Outbound (from Junction)	31.3	788	16	805	2.0%
13.1	The Street	Inbound (to Junction)	44.7	144	2	146	1.5%
		Outbound (from Junction)	21.0	60	1	61	1.2%
13.2	Ninn Lane	Inbound (to Junction)	33.1	45	0	46	0.9%
		Outbound (from Junction)	21.6	83	1	85	1.7%
13.3	Chart Road	Inbound (to Junction)	20.5	123	2	125	1.6%
		Outbound (from Junction)	34.3	169	2	171	1.4%

15.1	**Bucksford Lane**	Inbound (to Junction)	30.0	259	3	268	1.1%
		Outbound (from Junction)	28.0	131	2	139	1.3%
15.2	**Chart Road**	Inbound (to Junction)	27.3	107	2	109	1.5%
		Outbound (from Junction)	28.2	268	3	276	1.1%
15.3	**Mock Lane**	Inbound (to Junction)	25.3	56	0	61	0.3%
		Outbound (from Junction)	27.5	23	0	23	0.0%
16.1	**Chart Road nw/b**	Inbound (to Junction)	26.1	69	0	69	0.0%
		Outbound (from Junction)	28.1	266	3	269	1.2%
16.2	**Bartletts Lane**	Inbound (to Junction)	38.5	43	1	44	2.0%
		Outbound (from Junction)	25.8	11	0	11	0.0%
16.3	**Chart Road se/b**	Inbound (to Junction)	28.1	273	3	276	1.1%
		Outbound (from Junction)	28.5	108	1	109	0.6%
17.1	**Chart Road n/b**	Inbound (to Junction)	27.2	267	3	270	1.3%
		Outbound (from Junction)	28.1	68	1	69	1.3%
17.2	**Cuckoo Lane**	Inbound (to Junction)	33.6	280	5	285	1.8%
		Outbound (from Junction)	34.6	174	4	178	2.1%
17.3	**Chart Road s/b**	Inbound (to Junction)	31.5	95	3	97	2.6%
		Outbound (from Junction)	29.5	400	7	406	1.6%
18.1	**Knoll Lane n/b**	Inbound (to Junction)	41.3	280	5	285	1.6%
		Outbound (from Junction)	34.9	408	8	431	2.0%
18.2	**Cuckoo Lane**	Inbound (to Junction)	34.1	243	5	248	2.0%
		Outbound (from Junction)	33.0	353	5	358	1.5%
18.3	**Knoll Lane s/b**	Inbound (to Junction)	28.0	483	9	507	1.8%
		Outbound (from Junction)	35.7	246	5	250	1.9%
19.1	**B2229 Beaver Lane w/b**	Inbound (to Junction)	17.9	314	4	321	1.2%
		Outbound (from Junction)	23.6	387	6	400	1.5%
19.2	**Kingsnorth Road**	Inbound (to Junction)	18.5	331	3	339	0.8%
		Outbound (from Junction)	27.0	371	4	378	1.1%
19.3	**B2229 Beaver Lane e/b**	Inbound (to Junction)	21.8	377	7	385	1.7%
		Outbound (from Junction)	36.3	263	3	267	1.1%
20.1	**A2042 Romney Marsh Road n/b**	Inbound (to Junction)	35.0	771	16	791	2.0%
		Outbound (from Junction)	27.1	1075	11	1086	1.0%
20.2	**B2229 Norman Road**	Inbound (to Junction)	29.8	637	9	653	1.3%
		Outbound (from Junction)	29.0	448	9	462	2.0%
20.3	**A2042 Romney Marsh Road s/b**	Inbound (to Junction)	19.4	966	10	979	1.0%
		Outbound (from Junction)	38.0	1056	14	1079	1.3%
20.4	**Kimberley Way**	Inbound (to Junction)	33.7	585	9	603	1.5%
		Outbound (from Junction)	26.8	380	9	398	2.3%
21.1	**Romney Marsh Road n/b**	Inbound (to Junction)	39.8	528	10	541	1.8%
		Outbound (from Junction)	31.4	945	15	960	1.6%
21.2	**Malcolm Sargent Road**	Inbound (to Junction)	23.5	520	6	526	1.1%
		Outbound (from Junction)	40.6	448	11	459	2.4%
21.3	**A2042 Romney Marsh Road s/b**	Inbound (to Junction)	23.0	1063	12	1075	1.1%
		Outbound (from Junction)	38.3	774	17	795	2.2%
21.4	**A2042 Bad Munstereifel Road**	Inbound (to Junction)	33.5	965	29	993	2.9%
		Outbound (from Junction)	32.8	908	13	921	1.4%
22.1	**Ashford Road n/b**	Inbound (to Junction)	34.7	467	13	482	2.8%
		Outbound (from Junction)	26.0	804	8	812	1.0%
22.2	**Ashford Road s/b**	Inbound (to Junction)	24.2	419	5	426	1.2%
		Outbound (from Junction)	41.4	449	10	459	2.2%
22.3	**Romney Marsh Road**	Inbound (to Junction)	25.9	944	16	961	1.7%
		Outbound (from Junction)	39.8	529	10	542	1.8%
22.4	**Forestall Meadow**	Inbound (to Junction)	28.3	568	7	575	1.3%
		Outbound (from Junction)	34.2	616	15	631	2.4%
23.1	**Ashford Road**	Inbound (to Junction)	38.9	449	10	459	2.2%
		Outbound (from Junction)	27.1	419	6	426	1.3%
23.2	**Britannia Lane**	Inbound (to Junction)	27.7	242	6	251	2.3%
		Outbound (from Junction)	28.8	317	7	324	2.2%
23.3	**Ashford Road**	Inbound (to Junction)	27.0	313	2	317	0.6%
		Outbound (from Junction)	37.2	269	5	278	1.8%
24.1	**Milbank Road**	Inbound (to Junction)	25.0	203	4	208	2.1%
		Outbound (from Junction)	28.4	137	4	141	2.7%
24.2	**Pound Lane**	Inbound (to Junction)	30.7	69	2	73	3.0%
		Outbound (from Junction)	27.6	256	4	260	1.6%
24.3	**Chart Road**	Inbound (to Junction)	24.9	391	8	399	2.0%
		Outbound (from Junction)	25.4	270	7	279	2.4%
25.1	**Chart Road**	Inbound (to Junction)	25.5	270	7	279	2.3%
		Outbound (from Junction)	26.2	393	8	401	2.0%
25.2	**Long Length**	Inbound (to Junction)	27.0	49	2	51	4.0%
		Outbound (from Junction)	24.9	178	2	183	1.4%
25.3	**Chart Road**	Inbound (to Junction)	25.8	417	6	423	1.5%
		Outbound (from Junction)	27.7	164	5	169	2.7%
27.1	**Pound Lane**	Inbound (to Junction)	23.1	269	4	273	1.4%
		Outbound (from Junction)	36.5	105	3	110	2.5%
27.2	**Ashford Road s/b**	Inbound (to Junction)	26.1	794	8	802	1.0%
		Outbound (from Junction)	34.2	469	14	484	2.8%
27.3	**Church Hill**	Inbound (to Junction)	33.4	134	3	138	2.4%
		Outbound (from Junction)	26.4	694	9	703	1.2%
27.4	**Ashford Road n/b**	Inbound (to Junction)	24.1	427	13	445	3.0%
		Outbound (from Junction)	30.0	356	3	359	0.9%
28.1	**Ashford Road**	Inbound (to Junction)	37.2	269	5	278	1.8%
		Outbound (from Junction)	27.0	313	2	317	0.6%
28.3	**Kingsnorth Road**	Inbound (to Junction)	25.7	313	2	317	0.6%
		Outbound (from Junction)	35.3	269	5	278	1.8%
29.2	**Malcolm Sargent Road**	Inbound (to Junction)	38.6	448	11	459	2.4%
		Outbound (from Junction)	22.3	520	6	526	1.2%
29.3	**Wotton Road (EB)**	Inbound (to Junction)	21.2	520	6	526	1.2%
		Outbound (from Junction)	36.6	448	11	459	2.4%
30.1	**B229 Norman Road (EB)**	Inbound (to Junction)	5.5	537	7	551	1.3%
		Outbound (from Junction)	35.6	355	7	365	2.0%
30.2	**Access Road**	Inbound (to Junction)	7.6	158	2	160	1.3%
		Outbound (from Junction)	28.7	147	3	151	1.8%
30.3	**B229 Norman Road (WB)**	Inbound (to Junction)	11.8	446	10	460	2.1%
		Outbound (from Junction)	28.9	640	9	656	1.3%

31.1	**Ashford Road s/b**	Inbound (to Junction)	27.0	355	3	358	0.9%
		Outbound (from Junction)	36.8	426	13	443	2.9%
31.2	**Steeds Lane**	Inbound (to Junction)	34.0	31	0	31	0.0%
		Outbound (from Junction)	27.9	59	0	59	0.7%
31.3	**Ashford Road n/b**	Inbound (to Junction)	31.2	255	8	265	3.0%
		Outbound (from Junction)	26.2	306	1	307	0.4%
31.4	**Magpie Hall Road**	Inbound (to Junction)	38.6	287	5	294	1.8%
		Outbound (from Junction)	32.3	138	2	140	1.6%
32.1	**Chilmington Green Road**	Inbound (to Junction)	24.6	289	4	297	1.2%
		Outbound (from Junction)	44.1	205	4	208	1.8%
32.2	**Magpie Hall Road**	Inbound (to Junction)	29.9	135	3	138	2.3%
		Outbound (from Junction)	37.0	288	5	297	1.7%
32.3	**Tally Ho Road**	Inbound (to Junction)	36.1	316	5	320	1.5%
		Outbound (from Junction)	26.2	248	3	250	1.0%
33.1	**Chilmington Green Road s/b**	Inbound (to Junction)	26.4	207	1	208	0.3%
		Outbound (from Junction)	42.1	250	1	251	0.4%
33.2	**Long Length**	Inbound (to Junction)	24.7	180	1	183	0.8%
		Outbound (from Junction)	28.4	49	1	51	2.3%
33.3	**Chilmington Green Road n/b**	Inbound (to Junction)	40.7	206	2	208	1.1%
		Outbound (from Junction)	25.5	294	2	297	0.7%
35.1	**Chilmington Green Road s/b**	Inbound (to Junction)	27.0	108	0	109	0.3%
		Outbound (from Junction)	47.2	159	0	160	0.2%
35.2	**Bartletts Lane**	Inbound (to Junction)	26.0	0	0	0	0.0%
		Outbound (from Junction)	42.3	44	1	45	2.0%
35.3	**Chilmington Green Road n/b**	Inbound (to Junction)	45.5	203	1	204	0.6%
		Outbound (from Junction)	26.8	108	0	109	0.3%
36.1	**Bartletts Lane n/b**	Inbound (to Junction)	42.5	43	1	44	2.1%
		Outbound (from Junction)	26.3	0	0	0	0.0%
36.2	**Unnamed Road**	Inbound (to Junction)	34.6	0	0	0	0.0%
		Outbound (from Junction)	20.4	5	0	11	0.0%
36.3	**Bartletts Lane s/b**	Inbound (to Junction)	26.2	5	0	11	0.0%
		Outbound (from Junction)	40.5	43	1	44	2.1%
37.1	**Chilmington Green Road s/b**	Inbound (to Junction)	27.6	104	0	104	0.3%
		Outbound (from Junction)	44.2	158	0	165	0.2%
37.2	**Unnamed Road**	Inbound (to Junction)	20.8	5	0	11	0.0%
		Outbound (from Junction)	40.9	0	0	0	0.0%
37.3	**Chilmington Green Road n/b**	Inbound (to Junction)	47.1	158	0	159	0.2%
		Outbound (from Junction)	27.1	109	0	109	0.3%
38.1	**Chilmington Green Road s/b**	Inbound (to Junction)	43.0	93	0	93	0.4%
		Outbound (from Junction)	45.2	115	0	116	0.2%
38.2	**Mock Lane**	Inbound (to Junction)	27.6	22	0	23	0.0%
		Outbound (from Junction)	36.6	55	0	61	0.3%
38.3	**Chilmington Green Road n/b**	Inbound (to Junction)	44.1	159	0	165	0.2%
		Outbound (from Junction)	30.4	104	0	105	0.4%
39.1	**A28 Ashford Road n/b**	Inbound (to Junction)	41.9	384	11	397	2.9%
		Outbound (from Junction)	27.2	308	9	317	2.7%
39.2	**Ashford Road**	Inbound (to Junction)	20.8	47	0	47	0.0%
		Outbound (from Junction)	43.6	42	0	42	1.1%
39.3	**A28 Ashford Road s/b**	Inbound (to Junction)	27.4	287	9	296	2.9%
		Outbound (from Junction)	40.7	368	11	381	2.9%
40.1	**A28 Ashford Road s/b**	Inbound (to Junction)	27.3	299	9	309	2.9%
		Outbound (from Junction)	42.0	384	12	398	3.0%
40.2	**Chilmington Green Road**	Inbound (to Junction)	42.2	115	0	116	0.2%
		Outbound (from Junction)	44.1	92	0	92	0.4%
40.3	**A28 Ashford Road n/b**	Inbound (to Junction)	42.0	468	12	481	2.5%
		Outbound (from Junction)	26.8	407	9	417	2.2%
41.1	**A28 Ashford Road n/b**	Inbound (to Junction)	43.8	427	11	439	0.2%
		Outbound (from Junction)	28.3	413	9	423	0.4%
41.2	**Sandy Lane**	Inbound (to Junction)	42.1	41	1	42	2.9%
		Outbound (from Junction)	31.0	15	0	15	2.5%
41.3	**A28 Ashford Road s/b**	Inbound (to Junction)	27.3	428	9	438	2.2%
		Outbound (from Junction)	42.9	468	12	481	2.9%
42.1	**A28 Ashford Road n/b**	Inbound (to Junction)	44.0	385	10	396	2.5%
		Outbound (from Junction)	30.8	368	8	376	2.0%
42.2	**Old Surrenden Manor Road**	Inbound (to Junction)	43.5	50	0	50	0.0%
		Outbound (from Junction)	27.8	47	1	48	1.5%
42.3	**A28 Ashford Road s/b**	Inbound (to Junction)	26.0	415	8	424	2.0%
		Outbound (from Junction)	43.1	435	10	446	2.2%
44.1	**A2070**	Inbound (to Junction)	28.1	988	23	1011	2.2%
		Outbound (from Junction)	31.4	732	13	745	1.8%
44.2	**A292**	Inbound (to Junction)	10.2	590	7	606	1.2%
		Outbound (from Junction)	41.3	569	14	583	2.4%
44.3	**Northbound on slip**	-	38.2	160	4	170	2.3%
44.4	**Southbound off slip**	-	38.9	260	9	269	3.5%
44.5	**B2164**	Inbound (to Junction)	11.7	1063	19	1087	1.7%
		Outbound (from Junction)	25.4	868	21	899	2.3%
44.6	**Hythe Road**	Inbound (to Junction)	15.1	377	11	387	2.7%
		Outbound (from Junction)	38.9	948	17	964	1.7%
45.1	**A20 Fougeres Way**	Inbound (to Junction)	27.6	1074	21	1100	1.9%
		Outbound (from Junction)	43.5	1875	48	1929	2.5%
45.2	**Northbound on slip**	-	31.4	434	10	444	2.3%
45.3	**Southbound off slip**	-	41.0	673	17	691	2.5%
45.4	**Trinity Road**	Inbound (to Junction)	30.3	1270	28	1304	2.2%
		Outbound (from Junction)	32.8	794	9	808	1.1%
45.5	**Southbound on slip**	-	35.5	625	15	641	2.4%
45.6	**Northbound off slip**	-	44.4	710	16	727	2.3%

Table 7 Turning Flows by Arm and Movement												
Node	Junction	Approach	Name	Movement	AM				PM			
					Car & LGV	HGV	BUS	Total Vehicles	Car & LGV	HGV	BUS	Total Vehicles
J1	A20 Maidstone Rd Roundabout	1.1	A28 Templar Way	*1.1-1.2*	135	7	0	142	180	2	0	182
				1.1-1.3	873	39	0	912	543	11	0	555
				1.1-1.4	205	4	0	208	124	2	0	126
				1.1-1.5	173	5	1	179	59	1	1	61
		1.2	A20 Maidstone Road	*1.2-1.1*	149	7	0	156	203	7	0	210
				1.2-1.3	176	13	0	189	202	8	0	210
				1.2-1.4	94	3	0	97	93	1	0	95
				1.2-1.5	201	6	2	209	185	4	2	191
		1.3	A20 Fougeres Way	*1.3-1.1*	594	30	0	624	927	20	0	946
				1.3-1.2	235	20	0	254	372	11	0	383
				1.3-1.4	200	5	0	205	248	6	0	254
				1.3-1.5	477	14	0	491	332	9	0	341
		1.4	A20 Simone Weil Avenue	*1.4-1.1*	106	4	0	109	331	7	0	338
				1.4-1.2	47	2	0	49	207	3	0	209
				1.4-1.3	287	16	0	302	220	1	0	221
				1.4-1.5	93	2	0	95	77	2	0	79
		1.5	A292 Maidstone Road	*1.5-1.1*	5	0	0	5	1	0	0	1
				1.5-1.2	73	2	0	75	130	1	0	131
				1.5-1.3	123	3	0	126	113	1	0	114
				1.5-1.4	7	1	0	8	8	0	0	8
J2	A28 Chart Road / A28 Templar Way	2.1	A28 Chart Road e/b	*2.1-2.2*	48	1	0	49	58	0	0	58
				2.1-2.3	1158	53	1	1212	732	15	1	748
				2.1-2.4	384	7	0	391	163	3	0	165
				2.1-2.5	0	0	0	0	0	0	0	0
		2.2	Unnamed Road	*2.2-2.1*	44	2	0	46	89	0	0	89
				2.2-2.3	93	7	0	100	48	0	0	48
				2.2-2.4	85	1	0	87	47	0	0	47
				2.2-2.5	0	0	0	0	0	0	0	0
		2.3	A28 Templar Way	*2.3-2.1*	721	34	0	755	1317	30	0	1347
				2.3-2.2	56	1	0	57	80	5	0	85
				2.3-2.4	74	2	0	76	30	0	0	31
				2.3-2.5	19	1	3	22	10	1	8	19
		2.4	A28 Chart Road e/b	*2.4-2.1*	348	14	0	362	288	3	0	290
				2.4-2.2	59	2	0	61	59	3	0	62
				2.4-2.3	98	3	0	101	105	1	0	106
				2.4-2.5	28	2	0	30	6	0	0	6
		2.5	Carlton Road	*2.5-2.1*	0	0	0	0	0	0	0	0
				2.5-2.2	0	0	0	0	0	0	0	0
				2.5-2.3	0	0	6	6	0	0	6	6
				2.5-2.4	0	0	6	6	0	0	6	6
J3	A28 Chart Road / Loudon Way	3.1	A28 Chart Road e/b	*3.1-3.2*	43	0	0	43	54	0	0	54
				3.1-3.3	1325	57	0	1383	842	18	0	860
		3.2	Loudon Road	*3.2-3.1*	0	0	0	0	0	0	0	0
				3.2-3.3	257	0	1	258	55	0	1	56
		3.3	A28 Chart Road w/b	*3.3-3.1*	743	41	0	784	1490	29	0	1519
				3.3-3.2	129	0	0	129	177	0	0	177
J4	A292 West Street / New Street / Somerset Road	4.1	A292 Forge Lane	*4.1-4.2*	265	5	1	271	249	2	0	251
				4.1-4.3	68	1	1	70	110	1	0	111
		4.2	A292 New Street	*4.2-4.1*	467	7	0	475	239	0	0	240
				4.2-4.3	609	15	3	627	311	6	2	320
		4.3	A292 Somerset Road	*4.3-4.1*	147	1	0	148	95	0	0	95
				4.3-4.2	206	7	0	213	205	3	0	207
J5	A292 Somerset Road / A28 North Street	5.1	A292 Somerset Road e/b	*5.1-5.2*	244	5	1	250	334	4	1	339
				5.1-5.3	462	11	6	479	293	3	7	303
		5.2	A28 North Street	*5.2-5.1*	92	2	0	94	96	1	0	97
				5.2-5.3	521	17	3	541	326	5	3	333
		5.3	A292 Somerset Road w/b	*5.3-5.1*	256	6	0	262	217	2	0	219
				5.3-5.2	359	10	2	371	488	7	2	496
J6	A292 Somerset Road / A292 Wellesley Road	6.1	A292 Mace Lane	*6.1-6.2*	557	13	9	579	329	3	9	341
				6.1-6.3	359	10	0	369	331	4	0	335
		6.2	A292 Wellesley Road	*6.2-6.1*	283	8	10	301	249	5	10	264
				6.2-6.3	271	7	2	280	370	4	2	376
		6.3	A292 Somerset Road e/b	*6.3-6.1*	259	8	3	270	173	4	4	181
				6.3-6.2	676	17	5	699	403	4	5	412
J7	A292 Elwick Road / A2042 Beaver Road	7.1	A2042 Beaver Road	*7.1-7.2*	452	12	21	485	570	3	23	596
				7.1-7.3	563	15	2	580	464	6	2	471
				7.1-7.4	188	6	3	197	126	1	6	133
		7.2	A292 Elwick Road	*7.2-7.1*	140	1	0	141	184	0	0	185
				7.2-7.3	1	0	0	1	3	0	0	3
				7.2-7.4	69	1	0	71	46	1	0	47
		7.3	A292 Station Road	*7.3-7.1*	454	3	6	463	486	0	6	492
				7.3-7.2	128	2	1	131	164	0	2	166
				7.3-7.4	63	0	0	63	183	0	0	183
		7.4	Station Road (unclassified)	*7.4-7.1*	109	4	10	123	173	1	5	179
				7.4-7.2	41	2	10	53	37	0	5	42
				7.4-7.3	47	0	2	49	70	0	1	71
J8	A28 Chart Road / B2229 Brookfield Road	8.1	A28 Chart Road ne/b	*8.1-8.2*	25	2	0	27	8	1	0	8
				8.1-8.3	662	34	0	695	370	12	0	382
				8.1-8.4	32	1	0	34	23	0	0	23
		8.2	Chart Road	*8.2-8.1*	14	1	0	14	30	1	0	31
				8.2-8.3	122	7	0	129	75	1	0	76
				8.2-8.4	48	2	0	50	63	0	0	63
		8.3	A28 Chart Road sw/b	*8.3-8.1*	322	19	0	341	742	18	0	760
				8.3-8.2	54	3	0	57	93	1	0	94
				8.3-8.4	480	20	0	500	867	11	0	878
		8.4	B2229 Brookfield Road	*8.4-8.1*	53	2	1	56	75	1	1	77
				8.4-8.2	27	1	0	28	23	0	0	23
				8.4-8.3	808	26	0	834	465	7	0	472
J9	B2229 Brookfield Road / Knoll Lane	9.1	B2229 Brookfield Road n/b	*9.1-9.2*	98	6	0	104	137	3	0	140
				9.1-9.3	631	23	1	655	444	6	1	450
		9.2	Knoll Lane L 20.2 B2229 Norman Road	*9.2-9.1*	134	6	11	151	111	2	12	125
				9.2-9.3	107	4	6	116	67	1	4	73
		9.3	B2229 Brookfield Road s/b	*9.3-9.1*	343	11	2	356	440	7	2	449
				9.3-9.2	216	10	5	230	412	7	7	426
J10	Knoll Lane / Tithe Barn Lane	10.1	Knoll Lane n/b	*10.1-10.2*	251	13	0	265	200	4	0	204
				10.1-10.3	137	6	4	147	51	1	4	56
		10.2	Tithe Barn Lane	*10.2-10.1*	112	7	0	120	173	3	0	176

J10	**Knoll Lane / Tithe Barn Lane**	10.2	Tithe Barn Lane	*10.2-10.3*	111	4	6	122	132	4	5	141
		10.3	Knoll Lane s/b	*10.3-10.1*	180	8	0	188	305	5	0	311
				10.3-10.2	131	6	8	146	246	5	7	258
J11	**Tithe Barn Lane / Bucksford Lane / Singleton Hill**	11.1	Tithe Barn Lane w/b	*11.1-11.2*	58	4	8	71	131	2	7	141
				11.1-11.3	259	12	0	271	176	2	0	179
		11.2	Singleton Hill	*11.2-11.1*	52	2	5	59	82	1	6	89
				11.2-11.3	461	20	0	481	118	1	0	119
		11.3	Tithe Barn Lane e/b	*11.3-11.1*	146	8	0	153	477	10	0	487
				11.3-11.2	196	11	1	208	310	6	1	317
J12	**A28 / Tithe Barn Lane Roundabout**	12.1	A28 Chart Road	*12.1-12.2*	168	13	1	182	227	10	1	237
				12.1-12.3	78	7	1	86	139	3	1	142
		12.2	A28 Ashford Road	*12.2-12.1*	130	10	1	141	194	7	1	202
				12.2-12.3	262	12	0	274	650	13	0	663
		12.3	Tithe Barn Lane	*12.3-12.1*	166	9	0	175	94	1	0	95
				12.3-12.2	555	23	0	578	200	2	0	203
J13	**Singleton Road / Ninn Lane / Chart Road**	13.1	The Street	*13.1-13.2*	1	0	0	1	19	0	0	19
				13.1-13.3	143	8	0	152	125	2	0	127
		13.2	Ninn Lane	*13.2-13.1*	10	1	0	11	2	0	0	2
				13.2-13.3	41	2	0	43	44	0	0	44
		13.3	Chart Road	*13.3-13.1*	42	2	0	44	58	1	0	59
				13.3-13.2	63	4	0	67	65	1	0	66
J15	**Bucksford Lane / Mock Lane / Chart Road**	15.1	Bucksford Lane	*15.1-15.2*	212	13	6	231	257	3	6	266
				15.1-15.3	0	0	1	1	2	0	0	2
		15.2	Chart Road	*15.2-15.1*	148	8	0	156	86	2	0	88
				15.2-15.3	14	2	0	16	21	0	0	21
		15.3	Mock Lane	*15.3-15.1*	52	4	4	61	45	0	6	51
				15.3-15.2	26	3	0	29	10	0	0	10
J16	**Chart Road / Bartletts Lane**	16.1	Chart Road nw/b	*16.1-16.2*	0	0	0	0	0	0	0	0
				16.1-16.3	115	0	0	115	69	0	0	69
		16.2	Bartletts Lane	*16.2-16.1*	13	0	0	14	4	0	0	4
				16.2-16.3	52	4	0	57	39	1	0	40
		16.3	Chart Road se/b	*16.3-16.1*	233	15	0	248	262	3	0	265
				16.3-16.2	12	0	0	12	11	0	0	11
J17	**Chart Road / Cuckoo Lane**	17.1	Chart Road n/b	*17.1-17.2*	95	6	0	101	100	2	0	102
				17.1-17.3	152	9	0	161	167	1	0	168
		17.2	Cuckoo Lane	*17.2-17.1*	37	2	0	39	47	0	0	47
				17.2-17.3	287	16	0	304	233	5	0	238
		17.3	Chart Road s/b	*17.3-17.1*	73	3	0	76	21	1	0	22
				17.3-17.2	267	12	0	279	74	2	0	76
J18	**Cuckoo Lane / Knoll Lane**	18.1	Knoll Lane n/b	*18.1-18.2*	190	9	0	200	92	1	0	93
				18.1-18.3	160	9	0	169	188	4	0	192
		18.2	Cuckoo Lane	*18.2-18.1*	201	11	0	212	186	4	0	190
				18.2-18.3	204	12	0	215	58	1	0	59
		18.3	Knoll Lane s/b	*18.3-18.1*	198	9	5	212	222	5	15	242
				18.3-18.2	164	9	0	174	261	4	0	265
J19	**B2229 Beaver Lane / Kingsnorth Road**	19.1	B2229 Beaver Lane w/b	*19.1-19.2*	123	7	3	132	207	2	2	212
				19.1-19.3	144	8	1	152	106	1	1	109
		19.2	Kingsnorth Road	*19.2-19.1*	305	13	9	328	174	1	5	181
				19.2-19.3	255	10	0	265	157	1	0	158
		19.3	B2229 Beaver Lane e/b	*19.3-19.1*	136	4	2	142	213	5	2	219
				19.3-19.2	165	5	0	170	164	2	0	166
J20	**B2229 Norman Road / A2042 Romney Marsh Road**	20.1	A2042 Romney Marsh Road n/b	*20.1-20.2*	169	9	2	180	133	4	1	138
				20.1-20.3	603	13	3	619	504	7	3	514
				20.1-20.4	106	5	0	111	134	5	0	139
		20.2	B2229 Norman Road	*20.2-20.1*	108	7	0	115	153	1	0	154
				20.2-20.3	285	11	1	298	329	4	1	334
				20.2-20.4	48	2	6	57	155	4	7	165
		20.3	A2042 Romney Marsh Road s/b	*20.3-20.1*	446	16	0	462	676	6	0	682
				20.3-20.2	306	11	0	317	199	3	0	202
				20.3-20.4	90	1	5	96	91	1	3	94
		20.4	Kimberley Way	*20.4-20.1*	29	1	0	30	246	4	0	250
				20.4-20.2	48	2	5	56	116	2	3	121
				20.4-20.3	66	1	5	72	223	3	6	232
J21	**A2042 Romney Marsh Road / A2042 Bad Munstereifel Road**	21.1	Romney Marsh Road n/b	*21.1-21.2*	0	0	0	0	0	0	0	0
				21.1-21.3	287	9	5	301	294	4	3	302
				21.1-21.4	242	12	0	255	234	6	0	239
		21.2	Malcolm Sargent Road	*21.2-21.1*	0	0	0	0	60	0	0	60
				21.2-21.3	112	3	0	116	132	2	0	134
				21.2-21.4	344	17	0	362	329	3	0	332
		21.3	A2042 Romney Marsh Road s/b	*21.3-21.1*	311	10	0	321	623	7	0	630
				21.3-21.2	84	2	0	86	94	1	0	95
				21.3-21.4	189	10	0	200	346	4	0	350
		21.4	A2042 Bad Munstereifel Road	*21.4-21.1*	263	11	0	273	263	8	0	270
				21.4-21.2	326	10	0	335	354	10	0	364
				21.4-21.3	410	12	0	422	348	11	0	359
J22	**Romney Marsh Road / Ashford Road Roundabout**	22.1	Ashford Road n/b	*22.1-22.2*	106	5	0	110	51	1	0	52
				22.1-22.3	251	12	2	264	263	7	2	272
				22.1-22.4	128	5	0	133	153	5	0	158
		22.2	Ashford Road s/b	*22.2-22.1*	102	6	0	108	127	1	0	128
				22.2-22.3	146	5	2	154	55	0	2	57
				22.2-22.4	158	6	0	164	237	4	0	241
		22.3	Romney Marsh Road	*22.3-22.1*	249	11	0	260	510	4	0	514
				22.3-22.2	96	3	0	100	208	6	0	214
				22.3-22.4	228	7	0	235	226	6	0	232
		22.4	Forestall Meadow	*22.4-22.1*	45	2	0	47	168	3	0	170
				22.4-22.2	212	12	0	224	190	3	0	193
				22.4-22.3	129	6	0	135	211	2	0	212
J23	**Ashford Road / Britannia Lane**	23.1	Ashford Road	*23.1-23.2*	183	8	0	191	260	7	0	267
				23.1-23.3	231	11	0	242	189	3	0	192
		23.2	Britannia Lane	*23.2-23.1*	202	7	0	209	161	4	0	165
				23.2-23.3	252	13	6	271	80	2	4	86
		23.3	Ashford Road	*23.3-23.1*	204	9	4	216	257	2	2	261
				23.3-23.2	114	5	0	120	56	0	0	56
J24	**Milbank Road / Chart Road**	24.1	Milbank Road	*24.1-24.2*	8	0	0	8	2	0	0	2
				24.1-24.3	177	10	0	187	201	4	0	206
		24.2	Pound Lane	*24.2-24.1*	12	1	0	13	0	0	0	0
				24.2-24.3	159	5	2	166	69	2	2	73
		24.3	Chart Road	*24.3-24.1*	229	10	0	239	137	4	0	141
				24.3-24.2	242	18	0	260	254	4	0	258
		25.1	Chart Road	*25.1-25.2*	73	3	2	78	108	2	2	112
				25.1-25.3	261	12	0	273	162	5	0	166

J25	**Chart Road / Long Length**	25.2	Long Length	*25.2-25.1*	54	4	0	58	46	2	0	48
				25.2-25.3	69	5	0	75	2	0	0	2
		25.3	Chart Road	*25.3-25.1*	414	25	0	439	347	6	0	353
				25.3-25.2	55	3	0	58	70	1	0	71
J27	**Pound Lane / Ashford Road / Church Hill**	27.1	Pound Lane	*27.1-27.2*	43	2	0	46	32	1	0	33
				27.1-27.3	156	10	0	166	190	3	0	193
				27.1-27.4	51	5	0	56	47	0	0	48
		27.2	Ashford Road s/b	*27.2-27.1*	21	1	0	21	50	1	0	51
				27.2-27.3	197	10	0	206	457	4	0	462
				27.2-27.4	177	8	0	184	286	3	0	289
		27.3	Church Hill	*27.3-27.1*	108	2	0	110	23	1	0	24
				27.3-27.2	131	5	0	136	89	2	0	91
				27.3-27.4	47	3	0	50	22	0	0	23
		27.4	Ashford Road n/b	*27.4-27.1*	48	2	2	53	32	1	2	35
				27.4-27.2	307	14	2	323	349	10	2	361
				27.4-27.3	89	4	0	93	47	2	0	49
J28	**Millbank Road/ Kingsnorth Road**	28.1	Ashford Road	*28.1-28.3*	483	24	6	513	269	5	4	278
		28.3	Kingsnorth Road	*28.3-28.1*	318	14	4	336	313	2	2	317
J29	**Malcolm Sargent Road/ Wotton Road**	29.2	Malcolm Sargent Road	*29.2-29.3*	410	12	0	422	448	11	0	459
		29.3	Wotton Road e/b	*29.3-29.2*	457	20	0	478	520	6	0	526
J30	**B229 Norman Road/ Access Road**	30.1	B229 Norman Road e/b	*30.1-30.2*	64	3	0	67	19	0	0	19
				30.1-30.3	385	17	9	410	518	7	7	532
		30.2	Access Road	*30.2-30.1*	34	2	0	36	36	0	0	36
				30.2-30.3	56	3	0	60	122	2	0	123
		30.3	B229 Norman Road w/b	*30.3-30.1*	397	15	5	416	319	7	3	329
				30.3-30.2	126	7	2	135	128	3	1	132
J31	**Steeds Lane / Magpie Hall Road / Ashford Road**	31.1	Ashford Road s/b	*31.1-31.2*	29	3	0	32	43	0	0	43
				31.1-31.3	154	7	0	162	238	1	0	239
				31.1-31.4	93	6	0	99	74	2	0	76
		31.2	Steeds Lane	*31.2-31.1*	19	1	0	21	15	0	0	15
				31.2-31.3	2	0	0	2	6	0	0	6
				31.2-31.4	13	1	0	14	10	0	0	10
		31.3	Ashford Road n/b	*31.3-31.1*	285	11	2	298	196	8	2	206
				31.3-31.2	7	0	0	7	5	0	0	5
				31.3-31.4	34	1	0	35	54	0	0	54
		31.4	Magpie Hall Road	*31.4-31.1*	137	7	2	147	215	5	2	222
				31.4-31.2	17	2	0	18	11	0	0	11
				31.4-31.3	32	1	0	33	62	0	0	62
J32	**Magpie Hall Road / Tally Ho Road**	32.1	Chilmington Green Road	*32.1-32.2*	86	6	6	99	121	2	4	127
				32.1-32.3	120	8	0	127	168	1	0	170
		32.2	Magpie Hall Road	*32.2-32.1*	62	6	0	68	55	2	0	57
				32.2-32.3	74	3	0	77	80	1	0	81
		32.3	Tally Ho Road	*32.3-32.1*	166	12	0	178	149	2	0	151
				32.3-32.2	98	5	0	103	166	3	0	169
J33	**Magpie Hall Road / Long Length**	33.1	Chilmington Green Road s/b	*33.1-33.2*	53	0	0	53	20	0	0	20
				33.1-33.3	133	13	0	145	187	1	0	187
		33.2	Long Length	*33.2-33.1*	54	0	0	54	73	0	0	73
				33.2-33.3	76	4	1	81	107	1	1	110
		33.3	Chilmington Green Road n/b	*33.3-33.1*	155	11	0	166	177	1	0	178
				33.3-33.2	74	5	0	80	29	1	0	30
J35	**Chilmington Green Road / Bartletts Lane**	35.1	Chilmington Green Road s/b	*35.1-35.2*	0	0	0	0	0	0	0	0
				35.1-35.3	92	9	0	100	108	0	0	109
		35.2	Bartletts Lane	*35.2-35.1*	0	0	0	0	0	0	0	0
				35.2-35.3	7	0	0	7	0	0	0	0
		35.3	Chilmington Green Road n/b	*35.3-35.1*	109	9	0	118	159	0	0	160
				35.3-35.2	58	4	0	62	44	1	0	45
J36	**Bartletts Lane / Unnamed Road**	36.1	Bartletts Lane n/b	*36.1-36.2*	0	0	0	0	0	0	0	0
				36.1-36.3	58	4	0	62	43	1	0	44
		36.2	Unnamed Road	*36.2-36.1*	0	0	0	0	0	0	0	0
				36.2-36.3	8	0	0	8	0	0	0	0
		36.3	Bartletts Lane s/b	*36.3-36.1*	7	0	0	7	0	0	0	0
				36.3-36.2	0	0	5	5	5	0	6	11
J37	**Chilmington Green Road / Unnamed Road**	37.1	Chilmington Green Road s/b	*37.1-37.2*	7	0	0	8	0	0	0	0
				37.1-37.3	91	9	0	100	104	0	0	104
		37.2	Unnamed Road	*37.2-37.1*	0	0	5	5	0	0	6	6
				37.2-37.3	0	0	0	0	5	0	0	5
		37.3	Chilmington Green Road n/b	*37.3-37.1*	109	9	0	118	158	0	0	159
				37.3-37.2	0	0	0	0	0	0	0	0
J38	**Chilmington Green Road / Mock Lane**	38.1	Chilmington Green Road s/b	*38.1-38.2*	26	3	0	29	11	0	0	11
				38.1-38.3	99	9	0	108	82	0	0	82
		38.2	Mock Lane	*38.2-38.1*	13	2	2	17	0	0	1	1
				38.2-38.3	0	0	0	0	22	0	0	22
		38.3	Chilmington Green Road n/b	*38.3-38.1*	59	5	0	64	115	0	0	115
				38.3-38.2	51	4	4	60	44	0	5	50
J39	**A28 / Ashford Road / Goldwell Lane**	39.1	A28 Ashford Road n/b	*39.1-39.2*	35	0	0	35	39	0	0	40
				39.1-39.3	237	18	2	256	345	11	2	358
		39.2	Ashford Road	*39.2-39.1*	82	5	0	87	24	0	0	24
				39.2-39.3	10	0	0	10	23	0	0	23
		39.3	A28 Ashford Road s/b	*39.3-39.1*	297	18	1	316	284	9	1	294
				39.3-39.2	12	0	0	12	3	0	0	3
J40	**A28 Ashford Road / Chilmington Green Road**	40.1	A28 Ashford Road s/b	*40.1-40.2*	34	2	0	36	7	0	0	8
				40.1-40.3	346	22	1	369	292	9	1	302
		40.2	Chilmington Green Road	*40.2-40.1*	22	0	1	23	1	0	1	2
				40.2-40.3	51	6	0	57	115	0	0	115
		40.3	A28 Ashford Road n/b	*40.3-40.1*	247	19	1	267	384	12	1	396
				40.3-40.2	90	10	0	100	85	0	0	85
J41	**A28 Ashford Road / Sandy Lane**	41.1	A28 Ashford Road n/b	*41.1-41.2*	0	0	0	0	0	0	0	0
				41.1-41.3	313	27	1	340	427	11	1	439
		41.2	Sandy Lane	*41.2-41.1*	0	0	0	0	0	0	0	0
				41.2-41.3	26	1	0	27	41	1	0	42
		41.3	A28 Ashford Road s/b	*41.3-41.1*	415	0	1	416	413	9	1	423
				41.3-41.2	9	0	0	9	15	0	0	15
J42	**A28 Ashford Road / Old Surrenden Manor Road**	42.1	A28 Ashford Road n/b	*42.1-42.2*	0	0	0	0	0	0	0	0
				42.1-42.3	284	24	1	308	385	10	1	396
		42.2	Old Surrenden Manor Road	*42.2-42.1*	0	0	0	0	0	0	0	0
				42.2-42.3	27	4	0	31	50	0	0	50
		42.3	A28 Ashford Road s/b	*42.3-42.1*	352	22	0	374	368	8	0	376
				42.3-42.2	38	3	0	41	47	1	0	48
		44.1	A2070	*44.1-44.2*	641	20	0	662	473	12	0	485
				44.1-44.5	423	10	0	433	416	8	0	424
				44.1-44.6	106	4	0	109	100	3	0	103

J44	**M20 Junction 10**	44.2	A292	*44.2-44.1*	44	2	0	46	159	1	0	160
				44.2-44.5	70	2	7	79	53	1	10	63
				44.2-44.6	194	10	0	204	377	6	0	383
		44.4	Southbound off slip	*44.4-44.1*	97	5	0	103	141	5	0	146
				44.4-44.2	104	4	0	108	36	1	0	36
				44.4-44.5	181	9	0	190	83	3	0	87
				44.4-44.6	0	0	0	0	0	0	0	0
		44.5	B2164	*44.5-44.1*	247	11	0	257	432	7	0	439
				44.5-44.3	217	10	6	233	160	4	6	170
				44.5-44.6	347	20	0	367	471	8	0	479
		44.6	Hythe Road	*44.6-44.1*	0	0	0	0	0	0	0	0
				44.6-44.2	248	6	0	254	61	1	0	62
				44.6-44.5	508	13	0	521	316	9	0	325
J45	**M20 Junction 9**	45.1	A20 Fougeres Way	*45.1-45.2*	482	28	0	510	285	7	0	292
				45.1-45.4	585	21	6	612	438	5	6	448
				45.1-45.5	381	21	0	402	351	9	0	360
		45.3	Southbound off slip	*45.3-45.1*	353	22	0	375	519	16	0	534
				45.3-45.4	117	7	0	123	155	1	0	156
		45.4	Trinity Road	*45.4-45.1*	763	31	5	800	847	18	6	872
				45.4-45.2	166	6	0	172	149	3	0	152
				45.4-45.5	240	11	0	251	274	6	0	280
		45.6	Northbound off slip	*45.6-45.1*	391	20	0	411	509	14	0	523
				45.6-45.4	220	13	0	233	201	3	0	204

Table 8 Overall Network Performance		
Parameter	**AM**	**PM**
Average Delay Time per Veh (sec)	225	188
Average Speed (mph)	17	18
Total Distance Travelled (km)	83830	81129
Total Travel Time (hours)	3082	2817

Corridor	Between Junctions		From	To	Description	Distance (m)	2031 DM TT (s)	
							AM	PM
A28	2	4	2	4	A28 Chart Rd, Tank Rbt to Somerset Rd	901	145	283
			4	2		815	98	236
A292	1	4	1	4	A292, Drovers Rbt to Somerset Rd	920	105	120
			4	1		968	147	215
	4	5	4	5	A292, New St to A28 North Street	293	88	80
			5	4		281	56	57
	5	6	5	6	A292, A28 North Street to Wellesley Rd	169	81	134
			6	5		166	38	34
	6	44	6	44	A292, Wellesley Rd to M20J10	2716	321	350
			44	6		2676	393	231
	4	7	4	7	A292, New St to A2042 Station Rd	494	175	250
			7	4		490	78	88
A2042	6	7	6	7	Wellesley Rd, Mace Lane to Elwick Rd	777	223	441
			7	6		798	191	189
	7	20	7	20	A2042, Elwick Rd to B2229 Norman Rd	943	102	98
			20	7		919	371	79
	20	21	20	21	A2042, B2229 Norman Rd to Malcolm Sargent Rd	944	77	80
			21	20		942	51	52
	21	44	21	44	A2042 Bad Muenstereifel Rd to M20J10	3599	359	346
			44	21		3630	299	294
B2229	8	9	8	9	B2229 Beaver Lane, A28 to Knoll Lane	466	63	79
			9	8		466	64	59
	9	19	9	19	B2229 Beaver Lane, Knoll Lane to Kingsnorth Rd	1250	128	130
			19	9		1256	129	119
	19	30	19	30	B2229 Beaver Lane, Kingsnorth Rd to superstore access	517	84	79
			30	19		506	75	60
	30	20	30	20	B2229 Norman Rd, superstore access to A2042	158	10	10
			20	30		164	15	13
Chilmington Green Road / Magpie Hall Rd	40	38	40	38	Chilmington Green Rd, A28 to Mock Lane	257	14	13
			38	40		255	17	13
	38	37	38	37	Chilmington Green Rd, Mock Lane to unnamed road	447	37	37
			37	38		446	27	24
	37	35	37	35	Chilmington Green Rd, unnamed road to Bartletts Lane	422	37	37
			35	37		422	24	21
	35	33	35	33	Chilmington Green Rd, Bartletts Lane to Long Length	940	81	82
			33	35		948	51	47
	33	31	33	31	Chilmington Green Rd, Long Length to Ashford Rd	1540	131	132
			31	33		1565	108	109
Chart Road	15	16	15	16	Chart Rd, Mock Lane to Bartletts Lane	174	13	14
			16	15		175	14	13
	16	17	16	17	Chart Rd, Bartletts Lane to Cuckoo Lane	369	29	30
			17	16		369	31	29
	17	43	17	43	Chart Rd, Cuckoo Lane to Coulter Road	97	7	8
			43	17		98	8	7
	43	25	43	25	Chart Rd, Cuckoo Lane to Long Length	887	72	76
			25	43		890	76	69
	25	24	25	24	Chart Road, Long Length to Millbank Road	152	13	14
			24	25		153	13	13
Pound Lane	24	27	24	27	Pound Lane, Millbank Road to Ashford Road	972	82	88
			27	24		980	81	80
Cuckoo Lane	17	18	17	18	Cuckoo Lane, Chart Rd to Knoll Lane	283	23	18
			18	17		281	19	20
Mock Lane / Bucksford Lane	38	15	38	15	Mock Lane, Chilmington Green Road to Chart Rd	1061	79	72
			15	38		1062	91	90
	15	11	15	11	Bucksford Lane, Chart Rd to Tithe Barn Lane	805	64	65
			11	15		806	69	69
Tithe Barn Lane	12	10	12	10	Tithe Barn Lane, A28 to Knoll Lane	708	48	53
			10	12		709	56	48
Knoll Lane	9	10	9	10	Knoll Lane, B2229 to Tithe Barn Lane	379	28	25
			10	9		382	55	61
	10	18	10	18	Knoll Lane, Tithe Barn Lane to Cuckoo Lane	783	56	59
			18	10		785	59	47
Bartletts Lane	35	16	35	16	Bartletts Lane, Chilmington Green Rd to Chart Rd	1421	77	70
			16	35		1419	118	120
Long Length	33	25	33	25	Long Lenth, Chilmington Green Rd to Chart Rd	1379	115	115
			25	33		1379	117	119
Ashford Rd	31	27	31	27	Ashford Rd, Magpie Hall Rd to Pound Lane	897	49	48
			27	31		894	75	74
	27	22	27	22	Ashford Rd, Pound Lane to Forestall Meadow	440	27	26
			22	27		446	36	43
	22	21	22	21	Ashford Rd, Forestall Meadow to A2042	461	27	26
			21	22		459	33	34
Ashford Rd / Kingsnorth Rd	22	23	22	23	Ashford Rd, Forestall Meadow to Britannia Lane	321	19	18
			23	22		298	25	25
	23	28	23	28	Ashford Rd, Britannia Lane to Kingsnorth Rd	180	28	25
			28	23		191	37	35
	28	19	28	19	Kingsnorth Rd, Ashford Rd to B2229 Beaver Lane	714	61	55
			19	28		719	56	54

Table 1: Delay by Junction (2031 DS)					
NODE	JUNCTION	AVERAGE DELAY IN SECONDS PER VEHICLE			
		AM		PM	
		Delays (s)	LOS (A-F)	Delays (s)	LOS (A-F)
J1	A20 Maidstone Rd Roundabout	73	E	48	D
J2	A28 Chart Road / A28 Templar Way	37	D	22	C
J3	A28 Chart Road / Loudon Way	18	B	17	B
J4	A292 West Street / New Street / Somerset Road	93	F	75	E
J5	A292 Somerset Road / A28 North Street	42	D	46	D
J6	A292 Somerset Road / A292 Wellesley Road	61	E	74	E
J7	A292 Elwick Road / A2042 Beaver Road	120	F	121	F
J8	A28 Chart Road / B2229 Brookfield Road	35	D	8	A
J9	B2229 Brookfield Road / Knoll Lane	68	E	41	D
J10	Knoll Lane / Tithe Barn Lane	8	A	3	A
J11	Tithe Barn Lane / Bucksford Lane / Singleton Hill	4	A	3	A
J12	A28 / Tithe Barn Lane Roundabout	18	B	12	B
J13	Singleton Road / Ninn Lane / Chart Road	0	A	0	A
J15	Bucksford Lane / Mock Lane / Chart Road	1	A	1	A
J16	Chart Road / Bartletts Lane	0	A	0	A
J17	Chart Road / Cuckoo Lane	2	A	1	A
J18	Cuckoo Lane / Knoll Lane	1	A	0	A
J19	B2229 Beaver Lane / Kingsnorth Road	24	C	20	C
J20	B2229 Norman Road / A2042 Romney Marsh Road	23	C	4	A
J21	A2042 Romney Marsh Road / A2042 Bad Munstereifel Road	8	A	9	A
J22	Romney Marsh Road / Ashford Road Roundabout	4	A	5	A
J23	Ashford Road / Britannia Lane	4	A	4	A
J24	Milbank Road / Chart Road	2	A	1	A
J25	Chart Road / Long Length	3	A	1	A
J27	Pound Lane / Ashford Road / Church Hill	5	A	6	A
J30	B229 Norman Road/ Access Road	6	A	4	A
J31	Steeds Lane / Magpie Hall Road / Ashford Road	2	A	2	A
J32	Magpie Hall Road / Tally Ho Road	1	A	1	A
J33	Magpie Hall Road / Long Length	1	A	1	A
J35	Chilmington Green Road / Bartletts Lane	1	A	0	A
J36	Bartletts Lane / Unnamed Road	0	A	0	A
J37	Chilmington Green Road / Unnamed Road	1	A	0	A
J38	Chilmington Green Road / Mock Lane	1	A	1	A
J40	A28 Ashford Road / Chilmington Green Road	1	A	1	A
J42	A28 Ashford Road / Old Surrenden Manor Road	1	A	1	A
J44	M20 Junction 10	45	D	49	D
J45	M20 Junction 9	37	D	50	D
J34	Chilmington Green Road / Criol Road	1	A	0	A
J43	Chart Road / Coulter Road	1	A	0	A

A1	**Ashford Road / Site Access**	5	A	4	A
A2	**Ashford Road / Site Access**	2	A	1	A
A3	**Ashford Road / Site Access**	2	A	2	A
A4	**Coulter Road/ Site Access**	1	A	0	A
A5	**Please Refer to Figure 4 in WSP's Brief**	1	A	0	A
A6	**Please Refer to Figure 4 in WSP's Brief**	0	A	1	A
A7	**Please Refer to Figure 4 in WSP's Brief**	0	A	0	A
A8	**Please Refer to Figure 4 in WSP's Brief**	2	A	1	A
A9	**Please Refer to Figure 4 in WSP's Brief**	1	A	0	A
A10	**Please Refer to Figure 4 in WSP's Brief**	1	A	0	A
A11	**Please Refer to Figure 4 in WSP's Brief**	3	A	1	A
A12	**Please Refer to Figure 4 in WSP's Brief**	1	A	1	A
A13	**Please Refer to Figure 4 in WSP's Brief**	1	A	0	A
A14	**Please Refer to Figure 4 in WSP's Brief**	1	A	0	A
A15	**Please Refer to Figure 4 in WSP's Brief**	0	A	0	A

Table 2: Delay by Arm (2031 DS)

NODE	JUNCTION	No	APPROACH	AVERAGE DELAY IN SECONDS PER VEHICLE			
				AM		PM	
				Delays (s)	LOS (A-F)	Delays (s)	LOS (A-F)
J1	A20 Maidstone Rd Roundabout	1.1	A28 Templar Way	49	D	38	D
		1.2	A20 Maidstone Road	179	F	79	E
		1.3	A20 Fougeres Way	52	D	39	D
		1.4	A20 Simone Weil Avenue	56	E	64	E
		1.5	A292 Maidstone Road	106	F	58	E
J2	A28 Chart Road / A28 Templar Way	2.1	A28 Chart Road e/b	40	E	4	A
		2.2	Unnamed Road	18	C	15	B
		2.3	A28 Templar Way	33	D	21	C
		2.4	A28 Chart Road e/b	39	E	57	F
		2.5	Carlton Road	27	D	24	C
J3	A28 Chart Road / Loudon Way	3.1	A28 Chart Road e/b	19	B	9	A
		3.2	Loudon Road	52	D	16	B
		3.3	A28 Chart Road w/b	3	A	20	C
J4	A292 West Street / New Street / Somerset Road	4.1	A292 Forge Lane	63	E	56	E
		4.2	A292 New Street	110	F	98	F
		4.3	A292 Somerset Road	84	F	61	E
J5	A292 Somerset Road / A28 North Street	5.1	A292 Somerset Road e/b	67	E	59	E
		5.2	A28 North Street	31	C	47	D
		5.3	A292 Somerset Road w/b	30	C	34	C
J6	A292 Somerset Road / A292 Wellesley Road	6.1	A292 Mace Lane	84	F	71	E
		6.2	A292 Wellesley Road	25	C	22	C
		6.3	A292 Somerset Road e/b	65	E	122	F
J7	A292 Elwick Road / A2042 Beaver Road	7.1	A2042 Beaver Road	102	F	44	D
		7.2	A292 Elwick Road	110	F	171	F
		7.3	A292 Station Road	147	F	116	F
		7.4	Station Road (unclassified)	151	F	333	F
J8	A28 Chart Road / B2229 Brookfield Road	8.1	A28 Chart Road ne/b	78	F	4	A
		8.2	Chart Road	8	A	6	A
		8.3	A28 Chart Road sw/b	7	A	6	A
		8.4	B2229 Brookfield Road	19	C	22	C
J9	B2229 Brookfield Road / Knoll Lane	9.1	B2229 Brookfield Road n/b	61	E	24	C
		9.2	Knoll Lane L 20.2 B2229 Norman Road	86	F	54	D
		9.3	B2229 Brookfield Road s/b	62	E	51	D
J10	Knoll Lane / Tithe Barn Lane	10.1	Knoll Lane n/b	5	A	2	A
		10.2	Tithe Barn Lane	16	C	5	A
		10.3	Knoll Lane s/b	4	A	3	A
J11	Tithe Barn Lane / Bucksford Lane / Singleton Hill	11.1	Tithe Barn Lane w/b	2	A	2	A
		11.2	Singleton Hill	11	B	10	B
		11.3	Tithe Barn Lane e/b	2	A	2	A
J12	A28 / Tithe Barn Lane Roundabout	12.1	A28 Chart Road	29	D	6	A
		12.2	A28 Ashford Road	8	A	14	B
		12.3	Tithe Barn Lane	10	A	11	B
J13	Singleton Road / Ninn Lane / Chart Road	13.1	The Street	0	A	0	A
		13.2	Ninn Lane	0	A	0	A
		13.3	Chart Road	0	A	0	A
J15	Bucksford Lane / Mock Lane / Chart Road	15.1	Bucksford Lane	1	A	1	A
		15.2	Chart Road	1	A	0	A
		15.3	Mock Lane	1	A	0	A
J16	Chart Road / Bartletts Lane	16.1	Chart Road nw/b	0	A	0	A
		16.2	Bartletts Lane	1	A	0	A
		16.3	Chart Road se/b	0	A	0	A
J17	Chart Road / Cuckoo Lane	17.1	Chart Road n/b	4	A	2	A
		17.2	Cuckoo Lane	1	A	0	A
		17.3	Chart Road s/b	1	A	1	A
J18	Cuckoo Lane / Knoll Lane	18.1	Knoll Lane n/b	0	A	0	A
		18.2	Cuckoo Lane	2	A	1	A
		18.3	Knoll Lane s/b	1	A	0	A
J19	B2229 Beaver Lane / Kingsnorth Road	19.1	B2229 Beaver Lane w/b	20	C	20	B
		19.2	Kingsnorth Road	27	C	21	C
		19.3	B2229 Beaver Lane e/b	22	C	21	C
J20	B2229 Norman Road / A2042 Romney Marsh Road	20.1	A2042 Romney Marsh Road n/b	32	D	1	A
		20.2	B2229 Norman Road	26	D	4	A
		20.3	A2042 Romney Marsh Road s/b	10	A	7	A
		20.4	Kimberley Way	21	C	3	A
J21	A2042 Romney Marsh Road / A2042 Bad Munstereifel Road	21.1	Romney Marsh Road n/b	6	A	5	A
		21.2	Malcolm Sargent Road	13	B	11	B
		21.3	A2042 Romney Marsh Road s/b	8	A	11	B
		21.4	A2042 Bad Munstereifel Road	6	A	9	A
J22	Romney Marsh Road / Ashford Road Roundabout	22.1	Ashford Road n/b	5	A	5	A
		22.2	Ashford Road s/b	4	A	5	A
		22.3	Romney Marsh Road	4	A	6	A
		22.4	Forestall Meadow	4	A	5	A
J23	Ashford Road / Britannia Lane	23.1	Ashford Road	4	A	3	A
		23.2	Britannia Lane	5	A	4	A
		23.3	Ashford Road	5	A	4	A
J24	Milbank Road / Chart Road	24.1	Milbank Road	0	A	0	A
		24.2	Pound Lane	2	A	2	A
		24.3	Chart Road	2	A	2	A
J25	Chart Road / Long Length	25.1	Chart Road	0	A	0	A
		25.2	Long Length	9	A	4	A
		25.3	Chart Road	1	A	0	A
J27	Pound Lane / Ashford Road / Church Hill	27.1	Pound Lane	6	A	4	A
		27.2	Ashford Road s/b	5	A	8	A
		27.3	Church Hill	2	A	2	A
		27.4	Ashford Road n/b	6	A	5	A
J30	B229 Norman Road/ Access Road	30.1	B229 Norman Road e/b	7	A	5	A
		30.2	Access Road	4	A	2	A
		30.3	B229 Norman Road w/b	5	A	4	A

J31	**Steeds Lane / Magpie Hall Road / Ashford Road**	31.1	Ashford Road s/b	1	A	0	A
		31.2	Steeds Lane	2	A	1	A
		31.3	Ashford Road n/b	1	A	1	A
		31.4	Magpie Hall Road	7	A	6	A
J32	**Magpie Hall Road / Tally Ho Road**	32.1	Chilmington Green Road	1	A	1	A
		32.2	Magpie Hall Road	1	A	2	A
		32.3	Tally Ho Road	1	A	1	A
J33	**Magpie Hall Road / Long Length**	33.1	Chilmington Green Road s/b	1	A	1	A
		33.2	Long Length	1	A	1	A
		33.3	Chilmington Green Road n/b	1	A	1	A
J35	**Chilmington Green Road / Bartletts Lane**	35.1	Chilmington Green Road s/b	0	A	0	A
		35.2	Bartletts Lane	0	A	0	A
		35.3	Chilmington Green Road n/b	1	A	0	A
J36	**Bartletts Lane / Unnamed Road**	36.1	Bartletts Lane n/b	0	A	0	A
		36.2	Unnamed Road	0	A	0	A
		36.3	Bartletts Lane s/b	0	A	0	A
J37	**Chilmington Green Road / Unnamed Road**	37.1	Chilmington Green Road s/b	0	A	0	A
		37.2	Unnamed Road	1	A	1	A
		37.3	Chilmington Green Road n/b	2	A	1	A
J38	**Chilmington Green Road / Mock Lane**	38.1	Chilmington Green Road s/b	2	A	1	A
		38.2	Mock Lane	0	A	0	A
		38.3	Chilmington Green Road n/b	1	A	0	A
J40	**A28 Ashford Road / Chilmington Green Road**	40.1	A28 Ashford Road s/b	0	A	0	A
		40.2	Chilmington Green Road	2	A	2	A
		40.3	A28 Ashford Road n/b	0	A	0	A
J42	**A28 Ashford Road / Old Surrenden Manor Road**	42.1	A28 Ashford Road n/b	0	A	0	A
		42.2	Old Surrenden Manor Road	1	A	1	A
		42.3	A28 Ashford Road s/b	1	A	2	A
J44	**M20 Junction 10**	44.1	A2070	32	C	39	D
		44.2	A292	76	E	67	E
		44.4	Southbound off slip	43	D	38	D
		44.5	B2164	44	D	42	D
		44.6	Hythe Road	57	E	70	E
		44.8	Northbound off slip	54	D	57	E
J45	**M20 Junction 9**	45.1	A20 Fougeres Way	24	C	50	D
		45.3	Southbound off slip	25	C	24	C
		45.4	Trinity Road	1	A	0	A
		45.6	Northbound off slip	1	A	1	A
J34	**Chilmington Green Road / Criol Road**	34.1	Chilmington Green Road n/b	0	A	1	A
		34.2	Criol Road	0	A	0	A
		34.3	Chilmington Green Road s/b	2	A	1	A
J43	**Chart Road / Coulter Road**	43.1	Chart Road s/b	1	A	0	A
		43.2	Chart Road nw/b	5	A	3	A
		43.3	Chart Road n/b	3	A	3	A
JA1	**Ashford Road / Site Access**	A1.1	A28 Ashford Road s/b	8	A	6	A
		A1.2	Site access	0	A	0	A
		A1.3	A28 Ashford Road n/b	5	A	3	A
JA2	**Ashford Road / Site Access**	A2.1	A28 Ashford Road n/b	1	A	0	A
		A2.2	Ashford Road	2	A	5	A
		A2.3	A28 Ashford Road s/b	2	A	1	A
		A2.4	Site access	1	A	1	A
JA3	**Ashford Road / Site Access**	A3.1	A28 Ashford Road n/b	3	A	3	A
		A3.2	Sandy Lane	1	A	1	A
		A3.3	A28 Ashford Road s/b	0	A	0	A
		A3.4	Site access	2	A	1	A
JA4	**Coulter Road/ Site Access**	A4.1	Coulter Road n/b	1	A	0	A
		A4.2	Site access	0	A	0	A
		A4.3	Coulter Road s/b	1	A	1	A
JA5	**Please Refer to Figure 4 in WSP's Brief**	A5.1	Please Refer to Figure 4 in WSP's Brief	1	A	0	A
		A5.2	Please Refer to Figure 4 in WSP's Brief	0	A	0	A
		A5.3	Please Refer to Figure 4 in WSP's Brief	6	A	6	A
JA6	**Please Refer to Figure 4 in WSP's Brief**	A6.1	Please Refer to Figure 4 in WSP's Brief	0	A	0	A
		A6.2	Please Refer to Figure 4 in WSP's Brief	0	A	0	A
		A6.3	Please Refer to Figure 4 in WSP's Brief	1	A	1	A
JA7	**Please Refer to Figure 4 in WSP's Brief**	A7.1	Please Refer to Figure 4 in WSP's Brief	1	A	0	A
		A7.2	Please Refer to Figure 4 in WSP's Brief	3	A	1	A
		A7.3	Please Refer to Figure 4 in WSP's Brief	4	A	2	A
		A7.4	Please Refer to Figure 4 in WSP's Brief	2	A	1	A
JA8	**Please Refer to Figure 4 in WSP's Brief**	A8.1	Please Refer to Figure 4 in WSP's Brief	2	A	1	A
		A8.2	Please Refer to Figure 4 in WSP's Brief	1	A	0	A
		A8.3	Please Refer to Figure 4 in WSP's Brief	0	A	0	A
		A8.4	Please Refer to Figure 4 in WSP's Brief	2	A	1	A
JA9	**Please Refer to Figure 4 in WSP's Brief**	A9.1	Please Refer to Figure 4 in WSP's Brief	1	A	0	A
		A9.2	Please Refer to Figure 4 in WSP's Brief	1	A	0	A
		A9.3	Please Refer to Figure 4 in WSP's Brief	0	A	0	A
JA10	**Please Refer to Figure 4 in WSP's Brief**	A10.1	Please Refer to Figure 4 in WSP's Brief	2	A	0	A
		A10.2	Please Refer to Figure 4 in WSP's Brief	0	A	0	A
		A10.3	Please Refer to Figure 4 in WSP's Brief	10	B	9	A
		A10.4	Please Refer to Figure 4 in WSP's Brief	0	A	0	A
JA11	**Please Refer to Figure 4 in WSP's Brief**	A11.1	Please Refer to Figure 4 in WSP's Brief	0	A	0	A
		A11.2	Please Refer to Figure 4 in WSP's Brief	1	A	1	A
		A11.3	Please Refer to Figure 4 in WSP's Brief	2	A	1	A
JA12	**Please Refer to Figure 4 in WSP's Brief**	A12.1	Please Refer to Figure 4 in WSP's Brief	2	A	1	A
		A12.2	Please Refer to Figure 4 in WSP's Brief	1	A	1	A
		A12.3	Please Refer to Figure 4 in WSP's Brief	0	A	0	A
JA13	**Please Refer to Figure 4 in WSP's Brief**	A13.1	Please Refer to Figure 4 in WSP's Brief	0	A	0	A
		A13.2	Please Refer to Figure 4 in WSP's Brief	0	A	0	A
		A13.3	Please Refer to Figure 4 in WSP's Brief	1	A	0	A
JA14	**Please Refer to Figure 4 in WSP's Brief**	A14.1	Please Refer to Figure 4 in WSP's Brief	1	A	0	A
		A14.2	Please Refer to Figure 4 in WSP's Brief	0	A	0	A
		A14.3	Please Refer to Figure 4 in WSP's Brief	0	A	0	A
JA15	**Please Refer to Figure 4 in WSP's Brief**	A15.1	Please Refer to Figure 4 in WSP's Brief	1	A	0	A
		A15.2	Please Refer to Figure 4 in WSP's Brief	2	A	1	A
		A15.3	Please Refer to Figure 4 in WSP's Brief	1	A	0	A

Table 3: Queue Length by Arm (2031 DS)

NODE	JUNCTION	No	APPROACH	Average Maximum Queue (m)							
				AM				PM			
				8.00-8.15	8.15-8.30	8.30-8.45	8.45-9.00	17.00-17.15	17.15-17.30	17.30-17.45	17.45-18.00
J1	A20 Maidstone Rd Roundabout	1.1	A28 Templar Way	128	128	126	116	124	135	134	124
		1.2	A20 Maidstone Road	148	149	149	149	125	124	127	129
		1.3	A20 Fougeres Way	95	100	105	109	122	122	128	122
		1.4	A20 Simone Weil Avenue	82	63	169	197	278	454	455	460
		1.5	A292 Maidstone Road	17	15	39	46	0	0	50	41
J2	A28 Chart Road / A28 Templar Way	2.1	A28 Chart Road e/b	96	139	146	122	75	70	71	36
		2.2	Unnamed Road	48	76	80	36	13	25	17	21
		2.3	A28 Templar Way	166	199	198	173	217	139	208	227
		2.4	A28 Chart Road e/b	287	382	355	375	391	391	391	386
		2.5	Carlton Road	9	9	8	22	68	62	89	197
J3	A28 Chart Road / Loudon Way	3.1	A28 Chart Road e/b	131	133	131	134	100	112	94	104
		3.2	Loudon Road	46	56	125	260	18	22	16	22
		3.3	A28 Chart Road w/b	46	35	35	26	208	282	303	304
J4	A292 West Street / New Street / Somerset Road	4.1	A292 Forge Lane	117	111	99	111	120	124	120	120
		4.2	A292 New Street	141	142	157	157	263	275	275	280
		4.3	A292 Somerset Road	64	70	117	101	38	40	111	204
J5	A292 Somerset Road / A28 North Street	5.1	A292 Somerset Road e/b	123	110	143	130	109	136	66	169
		5.2	A28 North Street	73	178	168	84	52	50	184	178
		5.3	A292 Somerset Road w/b	86	109	118	85	119	90	115	222
J6	A292 Somerset Road / A292 Wellesley Road	6.1	A292 Mace Lane	181	181	181	183	107	174	154	181
		6.2	A292 Wellesley Road	78	71	73	63	75	74	73	67
		6.3	A292 Somerset Road e/b	176	177	180	178	153	182	221	227
J7	A292 Elwick Road / A2042 Beaver Road	7.1	A2042 Beaver Road	211	210	211	209	174	193	183	208
		7.2	A292 Elwick Road	73	82	91	105	132	136	132	139
		7.3	A292 Station Road	232	239	234	235	235	242	242	242
		7.4	Station Road (unclassified)	88	91	83	99	205	257	291	218
J8	A28 Chart Road / B2229 Brookfield Road	8.1	A28 Chart Road ne/b	219	249	308	305	20	35	32	30
		8.2	Chart Road	8	11	9	39	15	16	6	5
		8.3	A28 Chart Road sw/b	48	66	50	39	162	164	169	169
		8.4	B2229 Brookfield Road	36	41	41	118	88	160	47	73
J9	B2229 Brookfield Road / Knoll Lane	9.1	B2229 Brookfield Road n/b	98	127	201	250	114	99	90	105
		9.2	Knoll Lane L 20.2 B2229 Norman Road	124	70	194	248	62	84	79	115
		9.3	B2229 Brookfield Road s/b	113	76	122	168	244	265	226	252
J10	Knoll Lane / Tithe Barn Lane	10.1	Knoll Lane n/b	0	0	16	170	0	0	0	0
		10.2	Tithe Barn Lane	44	83	108	147	96	54	67	73
		10.3	Knoll Lane s/b	30	12	16	20	19	42	48	40
J11	Tithe Barn Lane / Bucksford Lane / Singleton Hill	11.1	Tithe Barn Lane w/b	0	0	0	37	0	0	0	0
		11.2	Singleton Hill	43	52	52	48	49	48	56	43
		11.3	Tithe Barn Lane e/b	0	0	9	4	13	18	21	48
J12	A28 / Tithe Barn Lane Roundabout	12.1	A28 Chart Road	28	139	324	357	39	32	27	41
		12.2	A28 Ashford Road	44	33	32	25	505	505	504	505
		12.3	Tithe Barn Lane	13	17	27	35	25	24	42	53
J13	Singleton Road / Ninn Lane / Chart Road	13.1	The Street	0	0	0	0	0	0	0	0
		13.2	Ninn Lane	0	0	0	0	0	0	0	0
		13.3	Chart Road	0	0	0	0	0	0	0	0
J15	Bucksford Lane / Mock Lane / Chart Road	15.1	Bucksford Lane	0	0	0	0	0	0	0	0
		15.2	Chart Road	4	2	0	9	0	11	6	0
		15.3	Mock Lane	0	1	0	1	0	0	0	0
J16	Chart Road / Bartletts Lane	16.1	Chart Road nw/b	0	0	0	0	0	0	0	0
		16.2	Bartletts Lane	2	2	3	4	0	0	0	0
		16.3	Chart Road se/b	0	0	0	0	0	0	0	0
J17	Chart Road / Cuckoo Lane	17.1	Chart Road n/b	22	28	33	31	21	17	14	16
		17.2	Cuckoo Lane	22	20	24	26	13	12	5	6
		17.3	Chart Road s/b	0	0	0	0	0	0	0	0
J18	Cuckoo Lane / Knoll Lane	18.1	Knoll Lane n/b	0	0	0	0	0	0	0	0
		18.2	Cuckoo Lane	15	15	15	20	16	13	15	18
		18.3	Knoll Lane s/b	5	5	6	3	10	0	5	0
J19	B2229 Beaver Lane / Kingsnorth Road	19.1	B2229 Beaver Lane w/b	38	48	70	63	78	48	61	88
		19.2	Kingsnorth Road	154	137	89	128	67	90	50	76
		19.3	B2229 Beaver Lane e/b	55	39	51	61	72	39	73	68
J20	B2229 Norman Road / A2042 Romney Marsh Road	20.1	A2042 Romney Marsh Road n/b	0	0	20	108	0	0	0	0
		20.2	B2229 Norman Road	18	9	31	90	22	22	22	29
		20.3	A2042 Romney Marsh Road s/b	30	34	27	20	48	58	72	36
		20.4	Kimberley Way	12	9	10	13	24	21	35	22
J21	A2042 Romney Marsh Road / A2042 Bad Munstereifel Road	21.1	Romney Marsh Road n/b	35	30	28	32	40	27	21	26
		21.2	Malcolm Sargent Road	63	47	77	67	77	49	104	158
		21.3	A2042 Romney Marsh Road s/b	47	44	40	34	88	73	110	125
		21.4	A2042 Bad Munstereifel Road	51	73	78	60	91	68	72	145
J22	Romney Marsh Road / Ashford Road Roundabout	22.1	Ashford Road n/b	28	22	22	20	121	22	25	25
		22.2	Ashford Road s/b	30	25	28	25	49	44	32	38
		22.3	Romney Marsh Road	29	20	27	25	58	53	86	67
		22.4	Forestall Meadow	15	16	19	19	43	27	38	48
J23	Ashford Road / Britannia Lane	23.1	Ashford Road	14	24	20	27	34	29	31	13
		23.2	Britannia Lane	25	20	19	22	18	18	19	20
		23.3	Ashford Road	13	16	13	14	38	26	18	20
J24	Milbank Road / Chart Road	24.1	Milbank Road	0	0	0	0	0	0	0	0
		24.2	Pound Lane	17	15	16	15	12	15	27	13
		24.3	Chart Road	26	26	9	12	37	44	27	17
J25	Chart Road / Long Length	25.1	Chart Road	0	0	0	0	0	0	0	0
		25.2	Long Length	48	35	42	49	29	37	30	29
		25.3	Chart Road	5	3	0	2	17	10	22	0
J27	Pound Lane / Ashford Road / Church Hill	27.1	Pound Lane	38	19	30	19	58	32	31	30
		27.2	Ashford Road s/b	26	22	29	23	35	59	35	114
		27.3	Church Hill	11	11	15	5	22	14	17	12
		27.4	Ashford Road n/b	32	16	19	18	26	22	15	19
J30	B229 Norman Road/ Access Road	30.1	B229 Norman Road e/b	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		30.2	Access Road	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		30.3	B229 Norman Road w/b	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
J31	Steeds Lane / Magpie Hall Road / Ashford Road	31.1	Ashford Road s/b	1	1	0	0	0	0	0	0
		31.2	Steeds Lane	3	2	2	1	0	0	0	6
		31.3	Ashford Road n/b	1	0	0	0	0	0	0	0
		31.4	Magpie Hall Road	18	36	21	30	84	33	22	24
J32	Magpie Hall Road / Tally Ho Road	32.1	Chilmington Green Road	1	3	3	0	22	10	0	0
		32.2	Magpie Hall Road	0	0	0	0	0	0	0	0
		32.3	Tally Ho Road	5	3	10	11	0	17	13	11
J33	Magpie Hall Road / Long Length	33.1	Chilmington Green Road s/b	0	0	0	0	0	0	0	0
		33.2	Long Length	10	9	15	14	6	12	6	13
		33.3	Chilmington Green Road n/b	0	0	0	0	0	0	0	0
J35	Chilmington Green Road / Bartletts Lane	35.1	Chilmington Green Road s/b	0	0	0	0	0	0	0	0
		35.2	Bartletts Lane	0	0	0	0	0	0	0	0
		35.3	Chilmington Green Road n/b	0	0	0	0	0	0	0	0
J36	Bartletts Lane / Unnamed Road	36.1	Bartletts Lane n/b	0	0	0	0	0	0	0	0
		36.2	Unnamed Road	0	0	0	0	0	0	0	0
		36.3	Bartletts Lane s/b	0	0	0	0	0	0	0	0
J37	Chilmington Green Road / Unnamed Road	37.1	Chilmington Green Road s/b	0	0	0	0	0	0	0	0
		37.2	Unnamed Road	0	6	5	2	0	6	6	0
		37.3	Chilmington Green Road n/b	0	0	0	0	0	0	0	0
J38	Chilmington Green Road / Mock Lane	38.1	Chilmington Green Road s/b	47	32	47	36	57	75	73	57
		38.2	Mock Lane	0	0	0	0	0	0	0	0
		38.3	Chilmington Green Road n/b	0	0	0	0	0	0	0	0
J40	A28 Ashford Road / Chilmington Green Road	40.1	A28 Ashford Road s/b	0	0	0	0	0	0	0	0
		40.2	Chilmington Green Road	16	13	21	12	14	21	21	25
		40.3	A28 Ashford Road n/b	0	0	0	0	0	0	8	0

J42	**A28 Ashford Road / Old Surrenden Manor Road**	42.1	A28 Ashford Road n/b	0	0	0	0	0	0	0	0
		42.2	Old Surrenden Manor Road	0	0	0	0	0	11	0	0
		42.3	A28 Ashford Road s/b	8	15	10	8	14	36	14	17
J44	**M20 Junction 10**	44.1	A2070	52	63	62	57	64	71	73	66
		44.2	A292	101	201	100	112	180	272	229	285
		44.4	Southbound off slip	25	31	32	28	24	23	28	19
		44.5	B2164	60	58	71	65	138	101	81	94
		44.6	Hythe Road	43	44	47	41	34	33	32	32
J45	**M20 Junction 9**	45.1	A20 Fougeres Way	110	105	97	85	68	100	70	65
		45.3	Southbound off slip	27	27	30	28	44	35	42	49
		45.4	Trinity Road	87	84	89	131	143	142	162	162
		45.6	Northbound off slip	36	38	38	107	41	57	49	46
J34	**Chilmington Green Road / Criol Road**	34.1	Chilmington Green Road n/b	0	0	0	0	0	0	0	0
		34.2	Criol Road	2	4	5	5	6	6	19	6
		34.3	Chilmington Green Road s/b	2	1	0	0	11	8	13	5
J43	**Chart Road / Coulter Road**	43.1	Chart Road s/b	0	0	0	0	0	0	0	0
		43.2	Chart Road nw/b	0	0	0	0	0	0	0	0
		43.3	Chart Road n/b	10	20	13	12	0	0	5	0
JA1	**Ashford Road / Site Access**	A1.1	A28 Ashford Road s/b	33	40	44	24	50	42	97	29
		A1.2	Site access	15	18	15	44	17	18	40	12
		A1.3	A28 Ashford Road n/b	33	53	33	42	32	36	42	25
JA2	**Ashford Road / Site Access**	A2.1	A28 Ashford Road n/b	0	0	0	0	0	0	0	0
		A2.2	Ashford Road	11	15	13	16	12	14	12	50
		A2.3	A28 Ashford Road s/b	0	0	0	0	0	0	0	0
		A2.4	Site access	0	3	0	0	0	0	0	0
JA3	**Ashford Road / Site Access**	A3.1	A28 Ashford Road n/b	11	12	7	6	12	42	13	56
		A3.2	Sandy Lane	0	3	0	0	6	6	7	0
		A3.3	A28 Ashford Road s/b	6	14	13	7	20	37	42	24
		A3.4	Site access	7	13	9	9	13	6	12	6
JA4	**Coulter Road/ Site Access**	A4.1	Coulter Road n/b	0	0	0	0	0	0	0	0
		A4.2	Site access	15	15	15	20	16	13	15	18
		A4.3	Coulter Road s/b	5	5	6	3	10	0	5	0
JA5	**Please Refer to Figure 4 in WSP's Brief**	A5.1	Please Refer to Figure 4 in WSP's Brief	0	0	0	0	0	0	0	0
		A5.2	Please Refer to Figure 4 in WSP's Brief	0	0	0	0	0	0	0	0
		A5.3	Please Refer to Figure 4 in WSP's Brief	12	15	8	14	0	0	12	6
JA6	**Please Refer to Figure 4 in WSP's Brief**	A6.1	Please Refer to Figure 4 in WSP's Brief	0	0	5	0	0	0	0	0
		A6.2	Please Refer to Figure 4 in WSP's Brief	24	24	24	24	24	24	24	24
		A6.3	Please Refer to Figure 4 in WSP's Brief	0	0	0	0	0	0	0	0
JA7	**Please Refer to Figure 4 in WSP's Brief**	A7.1	Please Refer to Figure 4 in WSP's Brief	0	0	0	0	0	0	0	0
		A7.2	Please Refer to Figure 4 in WSP's Brief	6	2	3	2	6	13	0	7
		A7.3	Please Refer to Figure 4 in WSP's Brief	0	0	0	0	0	0	0	0
		A7.4	Please Refer to Figure 4 in WSP's Brief	28	28	28	33	28	28	28	28
JA8	**Please Refer to Figure 4 in WSP's Brief**	A8.1	Please Refer to Figure 4 in WSP's Brief	30	32	20	23	20	39	29	20
		A8.2	Please Refer to Figure 4 in WSP's Brief	4	9	8	9	19	6	0	6
		A8.3	Please Refer to Figure 4 in WSP's Brief	15	18	18	16	14	13	22	13
		A8.4	Please Refer to Figure 4 in WSP's Brief	3	0	7	0	0	0	0	0
JA9	**Please Refer to Figure 4 in WSP's Brief**	A9.1	Please Refer to Figure 4 in WSP's Brief	0	0	0	0	0	0	6	0
		A9.2	Please Refer to Figure 4 in WSP's Brief	10	10	13	9	6	13	12	6
		A9.3	Please Refer to Figure 4 in WSP's Brief	0	0	0	4	0	0	0	0
JA10	**Please Refer to Figure 4 in WSP's Brief**	A10.1	Please Refer to Figure 4 in WSP's Brief	9	6	8	6	5	12	6	19
		A10.2	Please Refer to Figure 4 in WSP's Brief	0	0	0	0	0	0	0	0
		A10.3	Please Refer to Figure 4 in WSP's Brief	12	13	18	11	14	0	28	13
		A10.4	Please Refer to Figure 4 in WSP's Brief	0	0	0	0	0	0	0	0
JA11	**Please Refer to Figure 4 in WSP's Brief**	A11.1	Please Refer to Figure 4 in WSP's Brief	19	23	26	38	33	23	19	30
		A11.2	Please Refer to Figure 4 in WSP's Brief	0	0	0	0	0	0	0	0
		A11.3	Please Refer to Figure 4 in WSP's Brief	0	0	0	0	0	0	0	0
JA12	**Please Refer to Figure 4 in WSP's Brief**	A12.1	Please Refer to Figure 4 in WSP's Brief	1	14	0	0	14	5	0	24
		A12.2	Please Refer to Figure 4 in WSP's Brief	9	9	6	9	6	5	10	0
		A12.3	Please Refer to Figure 4 in WSP's Brief	0	0	0	0	0	0	0	0
JA13	**Please Refer to Figure 4 in WSP's Brief**	A13.1	Please Refer to Figure 4 in WSP's Brief	17	12	9	10	13	14	6	29
		A13.2	Please Refer to Figure 4 in WSP's Brief	5	6	6	9	6	0	14	12
		A13.3	Please Refer to Figure 4 in WSP's Brief	0	0	0	0	0	0	0	0
JA14	**Please Refer to Figure 4 in WSP's Brief**	A14.1	Please Refer to Figure 4 in WSP's Brief	0	0	0	0	0	0	0	0
		A14.2	Please Refer to Figure 4 in WSP's Brief	17	20	21	20	7	12	6	24
		A14.3	Please Refer to Figure 4 in WSP's Brief	0	0	0	0	0	0	0	0
JA15	**Please Refer to Figure 4 in WSP's Brief**	A15.1	Please Refer to Figure 4 in WSP's Brief	3	0	3	2	0	0	0	0
		A15.2	Please Refer to Figure 4 in WSP's Brief	0	0	0	0	0	0	0	0
		A15.3	Please Refer to Figure 4 in WSP's Brief	0	4	4	1	0	0	0	6
		A15.4	Please Refer to Figure 4 in WSP's Brief	0	0	0	0	0	0	0	0

Ref	Point
0	A28/ Sandy Lane
1	A28/ Chilmington Green Road
2	A28/ Goldwell Lane
3	A28/ Tithe Barn Lane
4	A28 B2229 Brookfield Road
5	A28/ Loudon Way
6	A28/ Calton Road
7	A28/ A20/ A292
8	A20/ M20

Table 4 Journey Time (2031 DS)

Journey Times (Northbound)			Journey Times (Southbound)		
From - To	**AM**	**PM**	**From - To**	**AM**	**PM**
0-1	0 min28 sec	0 min29 sec	**8-7**	0 min56 sec	0 min57 sec
1-2	0 min31 sec	0 min30 sec	**7-6**	1 min26 sec	0 min59 sec
2-3	1 min49 sec	2 min15 sec	**6-5**	0 min37 sec	1 min12 sec
3-4	1 min33 sec	1 min13 sec	**5-4**	0 min39 sec	1 min24 sec
4-5	1 min27 sec	1 min2 sec	**4-3**	1 min23 sec	1 min20 sec
5-6	1 min44 sec	0 min36 sec	**3-2**	2 min13 sec	1 min31 sec
6-7	1 min20 sec	1 min22 sec	**2-1**	0 min40 sec	0 min39 sec
7-8	0 min53 sec	1 min6 sec	**1-0**	0 min45 sec	0 min44 sec

Table 5 Two-way Link Flows (2031 DS)									
Link	Point	AM				PM			
		Car & LGV	HGV	Total Vehicle	% HGV	Car & LGV	HGV	Total Vehicle	% HGV
1.1	A28 Templar Way	2561	74	2636	2.8%	3598	36	3635	1.0%
1.2	A20 Maidstone Road	1078	32	1110	2.9%	1510	18	1530	1.2%
1.3	A20 Fougeres Way	3188	87	3275	2.7%	3622	37	3659	1.0%
1.4	A20 Simone Weil Avenue	1133	30	1163	2.6%	1585	21	1606	1.3%
1.5	A292 Maidstone Road	1148	31	1180	2.7%	810	15	828	1.8%
2.1	A28 Chart Road e/b	4433	115	4549	2.5%	4227	33	4262	0.8%
2.2	Unnamed Road	351	13	364	3.4%	406	5	411	1.2%
2.3	A28 Templar Way	2450	69	2529	2.7%	3537	35	3584	1.0%
2.4	A28 Chart Road e/b	2119	55	2174	2.5%	1221	8	1229	0.7%
2.5	Carlton Road	426	7	442	1.5%	387	0	398	0.0%
3.1	A28 Chart Road e/b	3885	114	3999	2.9%	3976	35	4012	0.9%
3.2	Loudon Road	763	23	787	2.9%	430	3	434	0.7%
3.3	A28 Chart Road w/b	4484	133	4618	2.9%	4197	35	4235	0.8%
4.1	A292 Forge Lane	816	28	847	3.3%	712	8	721	1.1%
4.2	A292 New Street	1424	45	1470	3.0%	1073	12	1088	1.1%
4.3	A292 Somerset Road	1120	38	1159	3.3%	683	8	693	1.2%
5.1	A292 Somerset Road e/b	1189	53	1248	4.2%	817	18	839	2.2%
5.2	A28 North Street	1266	45	1318	3.4%	916	15	936	1.6%
5.3	A292 Somerset Road w/b	1642	72	1724	4.2%	1106	24	1138	2.1%
6.1	A292 Mace Lane	1486	65	1572	4.1%	997	22	1035	2.1%
6.2	A292 Wellesley Road	1720	81	1823	4.4%	1029	32	1081	3.0%
6.3	A292 Somerset Road e/b	1609	68	1687	4.0%	1060	23	1089	2.1%
7.1	A2042 Beaver Road	1582	59	1683	3.5%	1551	98	1691	5.8%
7.2	A292 Elwick Road	599	29	660	4.4%	786	49	865	5.7%
7.3	A292 Station Road	1300	36	1345	2.6%	1102	48	1161	4.1%
7.4	Station Road (unclassified)	526	17	566	3.0%	629	12	658	1.8%
8.1	A28 Chart Road ne/b	2064	65	2129	3.0%	2653	32	2687	1.2%
8.2	Chart Road	129	4	134	3.1%	113	1	114	0.7%
8.3	A28 Chart Road sw/b	3803	110	3913	2.8%	4094	41	4137	1.0%
8.4	B2229 Brookfield Road	2013	64	2078	3.1%	1780	16	1796	0.9%
9.1	B2229 Brookfield Road n/b	1166	47	1228	3.8%	1252	16	1281	1.3%
9.2	Knoll Lane L 20.2 B2229 Norman Road	809	35	872	4.1%	802	12	837	1.4%
9.3	B2229 Brookfield Road s/b	1715	57	1786	3.2%	1478	14	1505	1.0%
10.1	Knoll Lane n/b	955	37	993	3.7%	937	11	948	1.2%
10.2	Tithe Barn Lane	906	26	950	2.7%	1074	10	1097	1.0%
10.3	Knoll Lane s/b	805	35	857	4.1%	812	13	837	1.5%
11.1	Tithe Barn Lane w/b	854	26	893	2.9%	1187	12	1212	1.0%
11.2	Singleton Hill	552	17	581	3.0%	611	8	631	1.2%
11.3	Tithe Barn Lane e/b	759	22	782	2.8%	1290	11	1301	0.9%
12.1	A28 Chart Road	1501	44	1545	2.9%	1737	16	1753	0.9%
12.2	A28 Ashford Road	2042	61	2104	2.9%	2651	27	2678	1.0%
12.3	Tithe Barn Lane	752	22	775	2.8%	1288	14	1302	1.0%
13.1	The Street	90	1	91	1.1%	43	0	43	0.7%
13.2	Ninn Lane	136	3	139	2.1%	131	0	131	0.0%
13.3	Chart Road	130	4	134	2.9%	114	0	114	0.3%
15.1	Bucksford Lane	488	9	507	1.8%	372	2	391	0.6%
15.2	Chart Road	720	8	728	1.1%	350	2	353	0.6%
15.3	Mock Lane	600	1	611	0.2%	224	0	241	0.0%
16.1	Chart Road nw/b	720	16	736	2.1%	316	2	318	0.5%
16.2	Bartletts Lane	35	1	36	4.0%	34	0	34	0.0%
16.3	Chart Road se/b	715	15	730	2.1%	351	2	352	0.5%
17.1	Chart Road n/b	717	15	732	2.1%	316	2	318	0.6%
17.2	Cuckoo Lane	1398	32	1430	2.2%	768	14	782	1.8%
17.3	Chart Road s/b	1179	21	1200	1.8%	822	12	834	1.4%
18.1	Knoll Lane n/b	525	29	567	5.1%	346	3	368	0.7%
18.2	Cuckoo Lane	823	23	855	2.7%	433	1	438	0.3%
18.3	Knoll Lane s/b	632	27	664	4.0%	296	4	315	1.3%
19.1	B2229 Beaver Lane w/b	688	58	756	7.7%	636	19	662	2.9%
19.2	Kingsnorth Road	944	59	1013	5.9%	681	18	705	2.6%
19.3	B2229 Beaver Lane e/b	744	22	767	2.8%	601	8	610	1.3%
20.1	A2042 Romney Marsh Road n/b	1438	39	1480	2.7%	1741	23	1765	1.3%
20.2	B2229 Norman Road	900	41	953	4.3%	927	16	957	1.7%
20.3	A2042 Romney Marsh Road s/b	1629	64	1704	3.7%	1709	33	1757	1.9%
20.4	Kimberley Way	372	43	435	9.8%	932	31	993	3.2%
21.1	Romney Marsh Road n/b	1698	48	1750	2.8%	1451	15	1468	1.0%
21.2	Malcolm Sargent Road	1002	27	1029	2.7%	1050	10	1060	0.9%
21.3	A2042 Romney Marsh Road s/b	1416	35	1454	2.4%	1740	23	1764	1.3%
21.4	A2042 Bad Munstereifel Road	2332	61	2393	2.5%	2126	22	2147	1.0%
22.1	Ashford Road n/b	953	29	986	3.0%	1157	14	1172	1.2%
22.2	Ashford Road s/b	1358	34	1396	2.5%	1201	13	1216	1.0%
22.3	Romney Marsh Road	1702	50	1755	2.9%	1452	15	1469	1.0%
22.4	Forestall Meadow	871	22	897	2.5%	1116	13	1132	1.1%
23.1	Ashford Road	1348	35	1387	2.6%	1204	10	1216	0.9%
23.2	Britannia Lane	1285	37	1322	2.8%	909	6	915	0.6%
23.3	Ashford Road	790	22	815	2.7%	710	10	721	1.3%
24.1	Milbank Road	964	29	993	2.9%	701	6	707	0.8%
24.2	Pound Lane	505	11	516	2.2%	418	2	420	0.6%
24.3	Chart Road	1411	40	1451	2.8%	1115	8	1124	0.7%
25.1	Chart Road	1409	43	1452	3.0%	1117	7	1124	0.6%
25.2	Long Length	851	22	873	2.5%	655	3	658	0.4%
25.3	Chart Road	776	21	797	2.7%	596	4	600	0.7%
27.1	Pound Lane	521	11	532	2.2%	455	7	462	1.5%
27.2	Ashford Road s/b	962	28	993	2.8%	1159	13	1173	1.1%
27.3	Church Hill	883	25	908	2.7%	1097	12	1109	1.1%
27.4	Ashford Road n/b	706	23	731	3.1%	656	8	665	1.2%
28.1	Ashford Road	769	37	815	4.5%	706	8	721	1.1%

28.3	**Kingsnorth Road**	769	37	815	4.5%	706	8	721	1.1%
29.2	**Malcolm Sargent Road**	992	37	1029	3.6%	1041	19	1060	1.8%
29.3	**Wotton Road e/b**	992	37	1029	3.6%	1041	19	1060	1.8%
30.1	**B229 Norman Road e/b**	805	38	853	4.4%	788	13	813	1.6%
30.2	**Access Road**	303	9	312	3.0%	306	4	310	1.3%
30.3	**B229 Norman Road w/b**	903	40	953	4.2%	929	17	958	1.8%
31.1	**Ashford Road s/b**	712	22	736	3.0%	656	9	665	1.4%
31.2	**Steeds Lane**	90	3	93	2.9%	90	0	90	0.0%
31.3	**Ashford Road n/b**	531	15	548	2.8%	576	7	583	1.3%
31.4	**Magpie Hall Road**	474	17	491	3.4%	409	3	413	0.8%
32.1	**Chilmington Green Road**	649	17	666	2.6%	597	4	601	0.7%
32.2	**Magpie Hall Road**	471	14	485	2.8%	409	2	411	0.5%
32.3	**Tally Ho Road**	483	14	497	2.9%	577	6	583	1.0%
33.1	**Chilmington Green Road s/b**	935	14	949	1.4%	649	4	653	0.6%
33.2	**Long Length**	608	6	614	0.9%	488	1	489	0.2%
33.3	**Chilmington Green Road n/b**	650	19	669	2.9%	597	5	601	0.8%
35.1	**Chilmington Green Road s/b**	487	14	501	2.8%	501	4	506	0.9%
35.2	**Bartletts Lane**	87	0	87	0.0%	35	0	35	0.0%
35.3	**Chilmington Green Road n/b**	574	14	588	2.4%	537	4	541	0.8%
36.1	**Bartletts Lane n/b**	88	0	88	0.0%	36	0	36	0.0%
36.2	**Unnamed Road**	70	0	70	0.0%	47	0	47	0.0%
36.3	**Bartletts Lane s/b**	152	0	152	0.0%	83	0	83	0.0%
37.1	**Chilmington Green Road s/b**	543	12	555	2.2%	570	4	574	0.8%
37.2	**Unnamed Road**	81	0	81	0.0%	105	0	105	0.0%
37.3	**Chilmington Green Road n/b**	484	12	496	2.5%	500	4	505	0.9%
38.1	**Chilmington Green Road s/b**	492	16	508	3.1%	446	6	452	1.3%
38.2	**Mock Lane**	86	0	90	0.0%	40	0	45	0.0%
38.3	**Chilmington Green Road n/b**	560	16	580	2.7%	451	6	462	1.3%
40.1	**A28 Ashford Road s/b**	831	22	854	2.6%	867	6	874	0.7%
40.2	**Chilmington Green Road**	444	7	451	1.6%	467	1	468	0.2%
40.3	**A28 Ashford Road n/b**	673	17	691	2.4%	857	7	866	0.8%
42.1	**A28 Ashford Road n/b**	724	21	747	2.9%	834	10	845	1.1%
42.2	**Old Surrenden Manor Road**	55	2	57	3.2%	57	0	58	0.2%
42.3	**A28 Ashford Road s/b**	780	23	804	2.9%	891	10	902	1.1%
44.1	**A2070**	1862	45	1908	2.4%	1787	17	1804	0.9%
44.2	**A292**	1373	27	1409	2.0%	1165	6	1175	0.5%
44.3	**n/b on slip**	201	7	214	3.3%	164	2	172	1.2%
44.4	**Southbound off slip**	421	0	421	0.0%	218	0	218	0.0%
44.5	**B2164**	1986	40	2041	1.9%	1942	18	1970	0.9%
44.6	**Hythe Road**	1459	28	1487	1.9%	1545	11	1556	0.7%
45.1	**A20 Fougeres Way**	3257	90	3360	2.7%	3612	40	3664	1.1%
45.2	**Northbound on slip**	805	23	828	2.8%	426	5	431	1.1%
45.3	**Southbound off slip**	485	14	499	2.8%	941	7	948	0.7%
45.4	**Trinity Road**	2161	60	2233	2.7%	2407	29	2448	1.2%
45.5	**s/b on slip**	627	17	644	2.6%	618	7	625	1.1%
45.6	**Northbound off slip**	634	18	652	2.8%	773	8	781	1.0%
34.1	**Chilmington Green Road n/b**	449	11	460	2.3%	402	4	407	1.1%
34.2	**Criol Road**	251	1	263	0.6%	194	2	203	1.1%
34.3	**Chilmington Green Road s/b**	566	12	589	2.0%	530	5	541	0.9%
43.1	**Chart Road s/b**	1176	27	1203	2.3%	829	4	834	0.5%
43.2	**Chart Road nw/b**	724	15	739	2.0%	517	4	521	0.9%
43.3	**Chart Road n/b**	645	13	658	2.0%	318	0	318	0.0%
A1.1	**A28 Ashford Road s/b**	1492	55	1547	3.5%	1738	18	1756	1.0%
A1.2	**Site access**	985	45	1030	4.4%	905	12	917	1.3%
A1.3	**A28 Ashford Road n/b**	759	22	781	2.8%	1017	7	1023	0.6%
A2.1	**A28 Ashford Road n/b**	814	22	847	2.6%	861	12	876	1.4%
A2.2	**Ashford Road**	270	0	280	0.0%	288	2	292	0.7%
A2.3	**A28 Ashford Road s/b**	761	19	780	2.4%	1011	10	1021	1.0%
A2.4	**Site access**	174	3	177	1.8%	138	0	138	0.0%
A3.1	**A28 Ashford Road n/b**	786	13	806	1.6%	886	4	897	0.4%
A3.2	**Sandy Lane**	135	2	137	1.5%	96	0	97	0.2%
A3.3	**A28 Ashford Road s/b**	679	7	687	1.0%	864	3	868	0.3%
A3.4	**Site access**	506	8	520	1.5%	367	1	374	0.2%
A4.1	**Coulter Road n/b**	549	18	567	3.2%	366	3	368	0.7%
A4.2	**Site access**	831	24	855	2.8%	436	3	438	0.6%
A4.3	**Coulter Road s/b**	646	18	664	2.7%	315	0	315	0.0%
A5.1	**Please Refer to Figure 4 in WSP's Brief**	769	16	785	2.1%	333	0	333	0.0%
A5.2	**Please Refer to Figure 4 in WSP's Brief**	129	3	132	2.3%	145	1	146	1.0%
A5.3	**Please Refer to Figure 4 in WSP's Brief**	838	17	855	2.0%	439	1	440	0.3%
A6.1	**Please Refer to Figure 4 in WSP's Brief**	375	6	381	1.7%	127	0	127	0.0%
A6.2	**Please Refer to Figure 4 in WSP's Brief**	1	0	19	0.0%	0	0	18	0.0%
A6.3	**Please Refer to Figure 4 in WSP's Brief**	376	6	400	1.6%	127	0	144	0.0%
A7.1	**Please Refer to Figure 4 in WSP's Brief**	561	8	569	1.3%	392	3	395	0.8%
A7.2	**Please Refer to Figure 4 in WSP's Brief**	88	3	91	3.3%	44	1	45	1.8%
A7.3	**Please Refer to Figure 4 in WSP's Brief**	500	5	505	1.0%	383	3	386	0.7%
A7.4	**Please Refer to Figure 4 in WSP's Brief**	19	0	19	0.0%	18	0	18	0.0%
A8.1	**Please Refer to Figure 4 in WSP's Brief**	775	28	803	3.5%	423	5	428	1.2%
A8.2	**Please Refer to Figure 4 in WSP's Brief**	528	27	560	4.8%	560	5	573	0.8%
A8.3	**Please Refer to Figure 4 in WSP's Brief**	842	16	863	1.8%	537	2	539	0.3%
A8.4	**Please Refer to Figure 4 in WSP's Brief**	579	11	590	1.9%	438	1	447	0.3%
A9.1	**Please Refer to Figure 4 in WSP's Brief**	601	11	623	1.8%	318	0	331	0.0%
A9.2	**Please Refer to Figure 4 in WSP's Brief**	397	5	402	1.3%	293	2	295	0.8%
A9.3	**Please Refer to Figure 4 in WSP's Brief**	552	12	575	2.0%	309	2	324	0.7%
A10.1	**Please Refer to Figure 4 in WSP's Brief**	319	6	325	1.9%	270	3	273	1.0%
A10.2	**Please Refer to Figure 4 in WSP's Brief**	393	13	406	3.1%	412	10	421	2.3%
A10.3	**Please Refer to Figure 4 in WSP's Brief**	318	11	337	3.2%	326	9	340	2.6%
A10.4	**Please Refer to Figure 4 in WSP's Brief**	253	5	266	1.9%	199	0	204	0.0%
A11.1	**Please Refer to Figure 4 in WSP's Brief**	315	7	322	2.0%	274	0	274	0.0%
A11.2	**Please Refer to Figure 4 in WSP's Brief**	450	9	459	1.9%	400	6	406	1.5%
A11.3	**Please Refer to Figure 4 in WSP's Brief**	765	16	781	2.0%	674	6	680	0.9%
A12.1	**Please Refer to Figure 4 in WSP's Brief**	782	15	797	1.8%	603	1	603	0.1%
A12.2	**Please Refer to Figure 4 in WSP's Brief**	307	6	313	1.9%	200	2	202	0.9%
A12.3	**Please Refer to Figure 4 in WSP's Brief**	766	16	782	2.1%	676	1	677	0.2%
A13.1	**Please Refer to Figure 4 in WSP's Brief**	845	40	885	4.5%	453	7	460	1.5%
A13.2	**Please Refer to Figure 4 in WSP's Brief**	780	19	799	2.3%	425	4	429	0.9%
A13.3	**Please Refer to Figure 4 in WSP's Brief**	538	32	570	5.5%	388	7	395	1.7%
A14.1	**Please Refer to Figure 4 in WSP's Brief**	643	1	644	0.1%	258	0	258	0.0%
A14.2	**Please Refer to Figure 4 in WSP's Brief**	947	0	947	0.0%	382	3	385	0.8%
A14.3	**Please Refer to Figure 4 in WSP's Brief**	380	1	381	0.2%	124	3	127	2.3%
A15.1	**Please Refer to Figure 4 in WSP's Brief**	727	7	734	1.0%	323	0	323	0.0%

A15.2	**Please Refer to Figure 4 in WSP's Brief**	148	3	151	1.8%	84	0	84	0.0%
A15.3	**Please Refer to Figure 4 in WSP's Brief**	646	4	650	0.7%	258	0	258	0.0%
A15.4	**Please Refer to Figure 4 in WSP's Brief**	37	0	37	0.0%	34	0	34	0.0%

Table 6A Directional Link Flows and Speeds (2031 DS AM)							
Link	**Point**	**Direction**	**Link Speed (mph)**	**Car & LGV**	**HGV**	**Total Vehicles**	**% HGV**
1.1	**A28 Templar Way**	Inbound (to Junction)	10.8	1589	45	1635	2.8%
		Outbound (from Junction)	29.4	972	29	1001	2.9%
1.2	**A20 Maidstone Road**	Inbound (to Junction)	10.4	625	17	642	2.6%
		Outbound (from Junction)	20.4	452	16	468	3.3%
1.3	**A20 Fougeres Way**	Inbound (to Junction)	13.9	1508	41	1549	2.6%
		Outbound (from Junction)	27.5	1680	46	1726	2.7%
1.4	**A20 Simone Weil Avenue**	Inbound (to Junction)	17.7	489	14	503	2.9%
		Outbound (from Junction)	30.8	644	16	660	2.4%
1.5	**A292 Maidstone Road**	Inbound (to Junction)	5.5	343	10	353	2.9%
		Outbound (from Junction)	35.7	805	21	827	2.6%
2.1	**A28 Chart Road e/b**	Inbound (to Junction)	21.1	2977	75	3053	2.5%
		Outbound (from Junction)	29.1	1456	40	1496	2.7%
2.2	**Unnamed Road**	Inbound (to Junction)	33.7	192	6	198	3.2%
		Outbound (from Junction)	26.0	160	6	166	3.8%
2.3	**A28 Templar Way**	Inbound (to Junction)	12.1	879	27	910	2.9%
		Outbound (from Junction)	23.5	1570	42	1619	2.6%
2.4	**A28 Chart Road e/b**	Inbound (to Junction)	10.1	728	21	749	2.8%
		Outbound (from Junction)	22.7	1391	34	1425	2.4%
2.5	**Carlton Road**	Inbound (to Junction)	33.4	113	0	119	0.0%
		Outbound (from Junction)	28.7	313	7	323	2.1%
3.1	**A28 Chart Road e/b**	Inbound (to Junction)	9.7	2507	74	2581	2.9%
		Outbound (from Junction)	33.8	1377	41	1418	2.9%
3.2	**Loudon Road**	Inbound (to Junction)	11.8	587	18	606	3.0%
		Outbound (from Junction)	30.8	176	5	181	2.7%
3.3	**A28 Chart Road w/b**	Inbound (to Junction)	29.3	1472	43	1515	2.9%
		Outbound (from Junction)	24.7	3012	90	3103	2.9%
4.1	**A292 Forge Lane**	Inbound (to Junction)	14.5	307	13	322	4.0%
		Outbound (from Junction)	24.9	509	15	525	2.9%
4.2	**A292 New Street**	Inbound (to Junction)	8.2	835	25	861	3.0%
		Outbound (from Junction)	24.8	589	19	609	3.1%
4.3	**A292 Somerset Road**	Inbound (to Junction)	7.0	538	17	555	3.0%
		Outbound (from Junction)	14.3	582	21	604	3.5%
5.1	**A292 Somerset Road e/b**	Inbound (to Junction)	8.5	621	35	662	5.3%
		Outbound (from Junction)	25.3	568	18	586	3.0%
5.2	**A28 North Street**	Inbound (to Junction)	6.4	738	26	767	3.3%
		Outbound (from Junction)	8.7	527	20	551	3.6%
5.3	**A292 Somerset Road w/b**	Inbound (to Junction)	5.5	689	24	716	3.4%
		Outbound (from Junction)	4.1	952	48	1008	4.7%
6.1	**A292 Mace Lane**	Inbound (to Junction)	3.0	860	32	900	3.5%
		Outbound (from Junction)	20.1	626	33	672	5.0%
6.2	**A292 Wellesley Road**	Inbound (to Junction)	6.0	626	32	669	4.7%
		Outbound (from Junction)	20.9	1094	49	1154	4.2%
6.3	**A292 Somerset Road e/b**	Inbound (to Junction)	7.8	921	43	972	4.5%
		Outbound (from Junction)	13.1	688	24	715	3.4%
7.1	**A2042 Beaver Road**	Inbound (to Junction)	8.5	1090	32	1148	2.8%
		Outbound (from Junction)	12.2	492	27	535	5.0%
7.2	**A292 Elwick Road**	Inbound (to Junction)	12.8	178	12	190	6.4%
		Outbound (from Junction)	14.8	421	17	470	3.6%
7.3	**A292 Station Road**	Inbound (to Junction)	16.3	545	18	570	3.1%
		Outbound (from Junction)	21.7	755	18	775	2.3%
7.4	**Station Road (unclassified)**	Inbound (to Junction)	10.2	191	8	219	3.6%
		Outbound (from Junction)	21.2	335	9	347	2.5%
8.1	**A28 Chart Road ne/b**	Inbound (to Junction)	6.5	1365	42	1407	3.0%
		Outbound (from Junction)	25.2	699	23	722	3.2%
8.2	**Chart Road**	Inbound (to Junction)	12.5	82	3	85	3.5%
		Outbound (from Junction)	21.4	48	1	49	2.5%
8.3	**A28 Chart Road sw/b**	Inbound (to Junction)	35.4	1213	34	1247	2.7%
		Outbound (from Junction)	10.0	2590	76	2666	2.9%
8.4	**B2229 Brookfield Road**	Inbound (to Junction)	18.9	1345	43	1388	3.1%
		Outbound (from Junction)	28.5	668	21	690	3.1%
9.1	**B2229 Brookfield Road n/b**	Inbound (to Junction)	7.9	797	26	823	3.2%
		Outbound (from Junction)	20.9	369	21	405	5.2%
9.2	**Knoll Lane L 20.2 B2229 Norman Road**	Inbound (to Junction)	5.7	501	27	550	4.9%
		Outbound (from Junction)	33.4	308	8	322	2.6%
9.3	**B2229 Brookfield Road s/b**	Inbound (to Junction)	9.9	547	17	570	2.9%
		Outbound (from Junction)	11.5	1168	40	1216	3.3%
10.1	**Knoll Lane n/b**	Inbound (to Junction)	30.7	630	25	655	3.8%
		Outbound (from Junction)	32.7	324	12	338	3.6%
10.2	**Tithe Barn Lane**	Inbound (to Junction)	27.6	401	13	422	3.2%
		Outbound (from Junction)	31.9	505	13	528	2.4%
10.3	**Knoll Lane s/b**	Inbound (to Junction)	31.9	301	11	323	3.4%
		Outbound (from Junction)	26.7	504	24	534	4.5%
11.1	**Tithe Barn Lane w/b**	Inbound (to Junction)	26.5	469	12	488	2.4%
		Outbound (from Junction)	25.0	385	14	405	3.4%
11.2	**Singleton Hill**	Inbound (to Junction)	17.0	268	10	283	3.4%
		Outbound (from Junction)	26.6	283	8	298	2.6%
11.3	**Tithe Barn Lane e/b**	Inbound (to Junction)	25.8	345	11	357	3.0%
		Outbound (from Junction)	21.4	414	11	425	2.6%
12.1	**A28 Chart Road**	Inbound (to Junction)	8.2	1051	30	1081	2.7%

[illegible]	[illegible]	Outbound (from Junction)	25.1	449	15	464	3.2%
12.2	A28 Ashford Road	Inbound (to Junction)	23.4	689	22	712	3.1%
		Outbound (from Junction)	13.9	1353	39	1392	2.8%
12.3	Tithe Barn Lane	Inbound (to Junction)	27.1	407	12	419	2.9%
		Outbound (from Junction)	14.7	345	10	356	2.8%
13.1	The Street	Inbound (to Junction)	33.3	67	1	68	1.1%
		Outbound (from Junction)	21.1	23	0	23	1.1%
13.2	Ninn Lane	Inbound (to Junction)	32.3	62	2	64	2.8%
		Outbound (from Junction)	19.8	74	1	75	1.5%
13.3	Chart Road	Inbound (to Junction)	21.0	49	1	50	2.7%
		Outbound (from Junction)	33.1	81	3	84	3.0%
15.1	Bucksford Lane	Inbound (to Junction)	28.5	299	7	313	2.3%
		Outbound (from Junction)	30.3	189	2	194	1.0%
15.2	Chart Road	Inbound (to Junction)	26.0	167	2	169	1.1%
		Outbound (from Junction)	28.9	553	6	559	1.1%
15.3	Mock Lane	Inbound (to Junction)	27.6	438	0	441	0.0%
		Outbound (from Junction)	26.9	162	1	170	0.8%
16.1	Chart Road nw/b	Inbound (to Junction)	27.4	162	0	162	0.0%
		Outbound (from Junction)	28.6	558	16	574	2.7%
16.2	Bartletts Lane	Inbound (to Junction)	35.1	30	1	31	4.0%
		Outbound (from Junction)	32.9	5	0	5	4.2%
16.3	Chart Road se/b	Inbound (to Junction)	28.7	543	15	558	2.7%
		Outbound (from Junction)	27.0	172	0	172	0.1%
17.1	Chart Road n/b	Inbound (to Junction)	25.2	558	12	570	2.1%
		Outbound (from Junction)	28.7	158	4	162	2.2%
17.2	Cuckoo Lane	Inbound (to Junction)	29.9	493	11	504	2.1%
		Outbound (from Junction)	30.7	905	21	926	2.3%
17.3	Chart Road s/b	Inbound (to Junction)	34.1	595	12	607	1.9%
		Outbound (from Junction)	32.6	583	10	593	1.6%
18.1	Knoll Lane n/b	Inbound (to Junction)	30.1	333	21	362	5.8%
		Outbound (from Junction)	39.4	192	8	205	3.8%
18.2	Cuckoo Lane	Inbound (to Junction)	24.5	393	10	403	2.5%
		Outbound (from Junction)	32.7	431	13	452	2.9%
18.3	Knoll Lane s/b	Inbound (to Junction)	33.7	265	8	278	3.0%
		Outbound (from Junction)	34.5	368	18	386	4.8%
19.1	B2229 Beaver Lane w/b	Inbound (to Junction)	20.7	319	31	351	8.9%
		Outbound (from Junction)	20.1	369	27	405	6.6%
19.2	Kingsnorth Road	Inbound (to Junction)	13.7	524	27	559	4.9%
		Outbound (from Junction)	29.9	421	32	454	7.1%
19.3	B2229 Beaver Lane e/b	Inbound (to Junction)	19.7	346	11	358	3.1%
		Outbound (from Junction)	38.1	398	11	409	2.6%
20.1	A2042 Romney Marsh Road n/b	Inbound (to Junction)	39.2	950	25	977	2.5%
		Outbound (from Junction)	30.5	489	14	503	2.9%
20.2	B2229 Norman Road	Inbound (to Junction)	30.4	372	21	403	5.3%
		Outbound (from Junction)	28.2	528	20	550	3.6%
20.3	A2042 Romney Marsh Road s/b	Inbound (to Junction)	23.1	719	32	752	4.2%
		Outbound (from Junction)	16.6	910	32	952	3.4%
20.4	Kimberley Way	Inbound (to Junction)	33.3	129	16	154	10.1%
		Outbound (from Junction)	29.6	243	27	281	9.7%
21.1	Romney Marsh Road n/b	Inbound (to Junction)	31.9	919	27	949	2.8%
		Outbound (from Junction)	32.0	780	21	801	2.7%
21.2	Malcolm Sargent Road	Inbound (to Junction)	22.2	562	14	576	2.5%
		Outbound (from Junction)	39.1	440	13	453	2.9%
21.3	A2042 Romney Marsh Road s/b	Inbound (to Junction)	25.6	495	15	510	3.0%
		Outbound (from Junction)	43.6	921	20	944	2.1%
21.4	A2042 Bad Munstereifel Road	Inbound (to Junction)	31.6	1248	30	1278	2.3%
		Outbound (from Junction)	34.4	1084	31	1115	2.8%
22.1	Ashford Road n/b	Inbound (to Junction)	30.1	586	18	608	3.0%
		Outbound (from Junction)	31.3	367	11	378	2.9%
22.2	Ashford Road s/b	Inbound (to Junction)	26.3	687	18	706	2.5%
		Outbound (from Junction)	34.6	671	17	690	2.4%
22.3	Romney Marsh Road	Inbound (to Junction)	28.5	784	23	807	2.9%
		Outbound (from Junction)	34.3	918	27	948	2.8%
22.4	Forestall Meadow	Inbound (to Junction)	31.7	385	9	396	2.2%
		Outbound (from Junction)	37.7	486	14	501	2.7%
23.1	Ashford Road	Inbound (to Junction)	30.2	663	18	683	2.6%
		Outbound (from Junction)	29.8	685	18	704	2.5%
23.2	Britannia Lane	Inbound (to Junction)	28.3	755	22	777	2.8%
		Outbound (from Junction)	27.7	530	15	545	2.8%
23.3	Ashford Road	Inbound (to Junction)	33.8	293	8	302	2.6%
		Outbound (from Junction)	35.0	497	14	513	2.7%
24.1	Milbank Road	Inbound (to Junction)	25.8	422	12	434	2.7%
		Outbound (from Junction)	32.1	542	17	559	3.1%
24.2	Pound Lane	Inbound (to Junction)	26.8	215	3	218	1.2%
		Outbound (from Junction)	28.6	290	8	298	2.8%
24.3	Chart Road	Inbound (to Junction)	27.5	802	26	828	3.1%
		Outbound (from Junction)	27.0	609	14	623	2.3%
25.1	Chart Road	Inbound (to Junction)	27.3	610	14	624	2.2%
		Outbound (from Junction)	28.2	798	30	828	3.6%
25.2	Long Length	Inbound (to Junction)	23.9	454	10	464	2.1%
		Outbound (from Junction)	24.8	397	12	409	3.0%
25.3	Chart Road	Inbound (to Junction)	29.4	453	20	473	4.2%
		Outbound (from Junction)	25.0	322	2	324	0.5%

27.1	**Pound Lane**	Inbound (to Junction)	24.1	293	9	302	2.9%
		Outbound (from Junction)	30.5	227	3	230	1.2%
27.2	**Ashford Road s/b**	Inbound (to Junction)	23.6	369	10	379	2.7%
		Outbound (from Junction)	34.5	594	18	614	2.9%
27.3	**Church Hill**	Inbound (to Junction)	28.7	469	11	480	2.3%
		Outbound (from Junction)	29.1	414	14	428	3.2%
27.4	**Ashford Road n/b**	Inbound (to Junction)	27.7	405	14	421	3.3%
		Outbound (from Junction)	25.9	301	9	310	3.0%
28.1	**Ashford Road**	Inbound (to Junction)	35.0	483	24	513	4.7%
		Outbound (from Junction)	33.8	286	13	302	4.2%
28.3	**Kingsnorth Road**	Inbound (to Junction)	32.1	286	13	302	4.2%
		Outbound (from Junction)	33.3	483	24	513	4.7%
29.2	**Malcolm Sargent Road**	Inbound (to Junction)	37.2	440	13	453	2.9%
		Outbound (from Junction)	21.1	552	24	576	4.2%
29.3	**Wotton Road (EB)**	Inbound (to Junction)	20.0	552	24	576	4.2%
		Outbound (from Junction)	35.3	440	13	453	2.9%
30.1	**B229 Norman Road (EB)**	Inbound (to Junction)	5.5	380	17	404	4.1%
		Outbound (from Junction)	34.6	426	21	449	4.7%
30.2	**Access Road**	Inbound (to Junction)	7.6	99	4	103	3.5%
		Outbound (from Junction)	25.3	203	6	209	2.7%
30.3	**B229 Norman Road (WB)**	Inbound (to Junction)	12.6	527	23	552	4.2%
		Outbound (from Junction)	27.8	377	17	401	4.1%
31.1	**Ashford Road s/b**	Inbound (to Junction)	24.2	304	9	313	3.0%
		Outbound (from Junction)	35.9	408	13	423	3.0%
31.2	**Steeds Lane**	Inbound (to Junction)	36.0	31	1	32	2.5%
		Outbound (from Junction)	33.9	59	2	61	3.1%
31.3	**Ashford Road n/b**	Inbound (to Junction)	41.2	318	10	330	2.9%
		Outbound (from Junction)	27.2	212	6	218	2.7%
31.4	**Magpie Hall Road**	Inbound (to Junction)	33.6	250	9	259	3.3%
		Outbound (from Junction)	30.9	224	8	232	3.4%
32.1	**Chilmington Green Road**	Inbound (to Junction)	32.2	300	6	306	1.9%
		Outbound (from Junction)	28.2	349	11	360	3.1%
32.2	**Magpie Hall Road**	Inbound (to Junction)	28.0	220	8	228	3.5%
		Outbound (from Junction)	35.6	252	5	257	2.1%
32.3	**Tally Ho Road**	Inbound (to Junction)	32.5	281	9	290	2.9%
		Outbound (from Junction)	29.2	201	6	207	2.8%
33.1	**Chilmington Green Road s/b**	Inbound (to Junction)	30.0	537	6	543	1.1%
		Outbound (from Junction)	30.6	398	8	406	1.9%
33.2	**Long Length**	Inbound (to Junction)	25.0	211	2	213	0.9%
		Outbound (from Junction)	26.7	397	4	401	0.9%
33.3	**Chilmington Green Road n/b**	Inbound (to Junction)	29.6	349	11	360	3.1%
		Outbound (from Junction)	32.4	301	8	309	2.6%
35.1	**Chilmington Green Road s/b**	Inbound (to Junction)	33.7	147	4	151	2.8%
		Outbound (from Junction)	32.9	340	10	350	2.8%
35.2	**Bartletts Lane**	Inbound (to Junction)	24.7	11	0	11	0.0%
		Outbound (from Junction)	33.7	76	0	76	0.0%
35.3	**Chilmington Green Road n/b**	Inbound (to Junction)	23.5	416	10	426	2.3%
		Outbound (from Junction)	32.8	158	4	162	2.6%
36.1	**Bartletts Lane n/b**	Inbound (to Junction)	33.1	77	0	77	0.0%
		Outbound (from Junction)	27.0	11	0	11	0.0%
36.2	**Unnamed Road**	Inbound (to Junction)	33.0	41	0	41	0.0%
		Outbound (from Junction)	21.9	29	0	29	0.0%
36.3	**Bartletts Lane s/b**	Inbound (to Junction)	24.3	37	0	37	0.0%
		Outbound (from Junction)	32.5	115	0	115	0.0%
37.1	**Chilmington Green Road s/b**	Inbound (to Junction)	27.6	165	4	169	2.6%
		Outbound (from Junction)	27.7	378	8	386	2.1%
37.2	**Unnamed Road**	Inbound (to Junction)	35.5	52	0	52	0.0%
		Outbound (from Junction)	28.2	29	0	29	0.0%
37.3	**Chilmington Green Road n/b**	Inbound (to Junction)	31.6	337	8	345	2.4%
		Outbound (from Junction)	34.1	147	4	151	2.9%
38.1	**Chilmington Green Road s/b**	Inbound (to Junction)	24.6	154	5	159	3.2%
		Outbound (from Junction)	36.0	338	11	349	3.0%
38.2	**Mock Lane**	Inbound (to Junction)	24.9	56	0	56	0.0%
		Outbound (from Junction)	32.5	30	0	34	0.0%
38.3	**Chilmington Green Road n/b**	Inbound (to Junction)	29.4	359	11	374	2.8%
		Outbound (from Junction)	27.5	201	5	206	2.4%
40.1	**A28 Ashford Road s/b**	Inbound (to Junction)	26.3	359	15	374	4.0%
		Outbound (from Junction)	39.9	472	7	480	1.4%
40.2	**Chilmington Green Road**	Inbound (to Junction)	32.4	321	0	321	0.0%
		Outbound (from Junction)	35.7	123	7	130	5.4%
40.3	**A28 Ashford Road n/b**	Inbound (to Junction)	43.8	294	8	303	2.5%
		Outbound (from Junction)	26.2	379	9	388	2.3%
42.1	**A28 Ashford Road n/b**	Inbound (to Junction)	40.4	347	8	356	2.3%
		Outbound (from Junction)	34.6	378	13	391	3.4%
42.2	**Old Surrenden Manor Road**	Inbound (to Junction)	46.0	23	1	24	3.3%
		Outbound (from Junction)	36.5	32	1	33	3.1%
42.3	**A28 Ashford Road s/b**	Inbound (to Junction)	33.2	410	14	424	3.4%
		Outbound (from Junction)	39.7	370	9	380	2.4%
44.1	**A2070**	Inbound (to Junction)	25.8	1292	36	1328	2.7%
		Outbound (from Junction)	23.5	570	9	580	1.6%
44.2	**A292**	Inbound (to Junction)	11.4	303	0	311	0.0%
		Outbound (from Junction)	35.1	1071	27	1098	2.5%
44.3	**Northbound on slip**	-	36.9	201	7	214	3.3%
44.4	**Southbound off slip**	-	31.4	421	0	421	0.0%

44.5	**B2164**	Inbound (to Junction)	14.5	836	14	857	1.7%
		Outbound (from Junction)	20.3	1151	25	1184	2.1%
44.6	**Hythe Road**	Inbound (to Junction)	16.0	800	23	823	2.8%
		Outbound (from Junction)	37.7	660	4	664	0.7%
45.1	**A20 Fougeres Way**	Inbound (to Junction)	27.8	1672	46	1724	2.7%
		Outbound (from Junction)	38.5	1586	44	1636	2.7%
45.2	**Northbound on slip**	-	31.4	805	23	828	2.8%
45.3	**Southbound off slip**	-	41.0	485	14	499	2.8%
45.4	**Trinity Road**	Inbound (to Junction)	30.2	1194	33	1233	2.7%
		Outbound (from Junction)	30.4	967	27	1000	2.7%
45.5	**Southbound on slip**	-	36.6	627	17	644	2.6%
45.6	**Northbound off slip**	-	36.4	634	18	652	2.8%
34.1	**Chilmington Green Road n/b**	Inbound (to Junction)	30.0	297	8	305	2.5%
		Outbound (from Junction)	26.4	152	3	155	1.9%
34.2	**Criol Road**	Inbound (to Junction)	31.7	178	0	189	0.0%
		Outbound (from Junction)	30.0	73	1	74	2.0%
34.3	**Chilmington Green Road s/b**	Inbound (to Junction)	35.6	158	4	162	2.7%
		Outbound (from Junction)	31.2	409	8	427	1.8%
43.1	**Chart Road s/b**	Inbound (to Junction)	31.0	587	10	597	1.6%
		Outbound (from Junction)	33.1	588	18	606	2.9%
43.2	**Chart Road nw/b**	Inbound (to Junction)	26.4	314	5	319	1.6%
		Outbound (from Junction)	30.3	410	10	420	2.3%
43.3	**Coulter Road**	Inbound (to Junction)	33.3	371	13	384	3.3%
		Outbound (from Junction)	29.6	274	0	274	0.1%
A1.1	**A28 Ashford Road s/b**	Inbound (to Junction)	27.0	459	10	469	2.1%
		Outbound (from Junction)	25.5	1033	45	1078	4.1%
A1.2	**Site access**	Inbound (to Junction)	34.1	750	40	790	5.1%
		Outbound (from Junction)	37.4	235	5	240	2.0%
A1.3	**A28 Ashford Road n/b**	Inbound (to Junction)	25.4	410	10	420	2.5%
		Outbound (from Junction)	26.3	350	11	361	3.2%
A2.1	**A28 Ashford Road n/b**	Inbound (to Junction)	25.1	450	14	475	3.0%
		Outbound (from Junction)	25.9	364	8	372	2.1%
A2.2	**Ashford Road**	Inbound (to Junction)	19.2	184	0	184	0.0%
		Outbound (from Junction)	40.5	86	0	96	0.0%
A2.3	**A28 Ashford Road s/b**	Inbound (to Junction)	26.1	353	8	361	2.2%
		Outbound (from Junction)	25.1	408	11	419	2.7%
A2.4	**Site access**	Inbound (to Junction)	7.8	22	0	22	0.4%
		Outbound (from Junction)	30.9	152	3	155	2.0%
A3.1	**A28 Ashford Road n/b**	Inbound (to Junction)	34.7	373	5	383	1.3%
		Outbound (from Junction)	32.7	413	8	423	1.9%
A3.2	**Sandy Lane**	Inbound (to Junction)	44.2	28	1	29	1.8%
		Outbound (from Junction)	33.4	106	2	108	1.4%
A3.3	**A28 Ashford Road s/b**	Inbound (to Junction)	25.5	386	2	388	0.4%
		Outbound (from Junction)	44.9	293	6	299	1.9%
A3.4	**Site access**	Inbound (to Junction)	33.7	265	8	275	2.9%
		Outbound (from Junction)	41.9	241	0	245	0.0%
A4.1	**Coulter Road n/b**	Inbound (to Junction)	32.3	354	8	362	2.2%
		Outbound (from Junction)	38.6	195	10	205	4.9%
A4.2	**Site access**	Inbound (to Junction)	33.8	388	15	403	3.8%
		Outbound (from Junction)	29.1	443	9	452	2.0%
A4.3	**Coulter Road s/b**	Inbound (to Junction)	30.2	271	7	278	2.3%
		Outbound (from Junction)	34.7	375	11	386	2.9%
A5.1	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	31.1	420	1	421	0.2%
		Outbound (from Junction)	28.8	349	15	364	4.2%
A5.2	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	30.8	13	0	13	1.6%
		Outbound (from Junction)	30.1	116	3	119	2.3%
A5.3	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	21.7	435	17	452	3.7%
		Outbound (from Junction)	30.7	403	0	403	0.0%
A6.1	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	33.0	301	2	303	0.7%
		Outbound (from Junction)	34.3	74	4	78	5.3%
A6.2	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	27.8	0	0	12	0.0%
		Outbound (from Junction)	25.1	1	0	7	0.0%
A6.3	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	27.7	75	4	85	4.8%
		Outbound (from Junction)	24.9	301	2	315	0.7%
A7.1	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	31.0	360	2	362	0.5%
		Outbound (from Junction)	31.6	201	6	207	2.7%
A7.2	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	25.7	34	1	35	2.4%
		Outbound (from Junction)	32.5	54	2	56	3.8%
A7.3	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	29.0	183	5	188	2.6%
		Outbound (from Junction)	31.9	317	0	317	0.0%
A7.4	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	22.0	7	0	7	0.0%
		Outbound (from Junction)	30.0	12	0	12	0.0%
A8.1	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	34.8	275	6	281	2.0%
		Outbound (from Junction)	40.4	500	22	522	4.3%
A8.2	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	30.9	364	21	390	5.3%
		Outbound (from Junction)	31.9	164	6	170	3.7%
A8.3	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	38.8	496	11	507	2.1%
		Outbound (from Junction)	32.1	346	5	356	1.3%
A8.4	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	24.7	226	4	230	1.7%
		Outbound (from Junction)	27.4	353	7	360	2.0%
A9.1	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	33.9	275	0	278	0.0%
		Outbound (from Junction)	41.9	327	11	345	3.2%
A9.2	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	36.3	206	4	210	1.8%

[illegible]	[illegible]	Outbound (from Junction)	33.9	191	1	192	0.7%
A9.3	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	35.8	294	10	312	3.2%
		Outbound (from Junction)	40.1	258	2	263	0.6%
A10.1	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	29.6	144	1	145	1.0%
		Outbound (from Junction)	40.9	175	5	180	2.7%
A10.2	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	39.8	218	6	224	2.6%
		Outbound (from Junction)	31.6	175	7	182	3.8%
A10.3	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	33.6	205	10	223	4.4%
		Outbound (from Junction)	40.6	113	1	114	0.9%
A10.4	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	29.1	75	0	75	0.5%
		Outbound (from Junction)	32.3	179	5	191	2.4%
A11.1	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	37.1	177	0	177	0.0%
		Outbound (from Junction)	32.1	138	7	145	4.5%
A11.2	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	34.5	151	4	155	2.5%
		Outbound (from Junction)	33.1	299	5	304	1.7%
A11.3	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	29.5	437	12	449	2.6%
		Outbound (from Junction)	37.1	328	4	332	1.2%
A12.1	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	33.3	362	0	362	0.1%
		Outbound (from Junction)	31.0	421	14	435	3.3%
A12.2	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	31.2	248	4	252	1.7%
		Outbound (from Junction)	40.5	60	1	61	2.3%
A12.3	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	36.7	318	14	332	4.1%
		Outbound (from Junction)	29.6	447	3	450	0.6%
A13.1	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	31.2	379	22	401	5.6%
		Outbound (from Junction)	36.8	466	18	484	3.7%
A13.2	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	41.2	506	12	518	2.4%
		Outbound (from Junction)	40.0	275	6	281	2.2%
A13.3	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	40.7	197	11	208	5.1%
		Outbound (from Junction)	43.6	341	21	362	5.8%
A14.1	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	40.0	343	1	344	0.2%
		Outbound (from Junction)	35.4	300	0	300	0.0%
A14.2	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	32.6	564	0	564	0.0%
		Outbound (from Junction)	32.2	383	0	383	0.0%
A14.3	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	36.0	78	0	78	0.0%
		Outbound (from Junction)	36.4	302	1	303	0.2%
A15.1	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	30.8	358	4	362	1.2%
		Outbound (from Junction)	39.8	369	3	372	0.7%
A15.2	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	32.5	111	3	114	2.4%
		Outbound (from Junction)	33.9	37	0	37	0.0%
A15.3	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	35.1	305	0	305	0.0%
		Outbound (from Junction)	38.4	341	4	345	1.3%
A15.4	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	32.9	5	0	5	0.0%
		Outbound (from Junction)	30.1	32	0	32	0.0%

Table 6A Directional Link Flows and Speeds (2031 DS AM)							
Link	**Point**	**Direction**	**Link Speed (mph)**	**Car & LGV**	**HGV**	**Total Vehicles**	**% HGV**
1.1	**A28 Templar Way**	Inbound (to Junction)	8.9	1278	14	1293	1.1%
		Outbound (from Junction)	29.7	2320	22	2342	0.9%
1.2	**A20 Maidstone Road**	Inbound (to Junction)	13.7	698	9	709	1.3%
		Outbound (from Junction)	17.7	812	8	821	1.0%
1.3	**A20 Fougeres Way**	Inbound (to Junction)	12.4	2478	25	2503	1.0%
		Outbound (from Junction)	26.1	1144	12	1156	1.0%
1.4	**A20 Simone Weil Avenue**	Inbound (to Junction)	11.0	955	13	968	1.4%
		Outbound (from Junction)	33.2	630	8	638	1.2%
1.5	**A292 Maidstone Road**	Inbound (to Junction)	6.9	154	1	156	0.9%
		Outbound (from Junction)	34.1	656	13	672	1.9%
2.1	**A28 Chart Road e/b**	Inbound (to Junction)	23.2	1407	11	1419	0.8%
		Outbound (from Junction)	26.8	2820	23	2843	0.8%
2.2	**Unnamed Road**	Inbound (to Junction)	37.0	210	0	210	0.0%
		Outbound (from Junction)	26.4	197	5	202	2.5%
2.3	**A28 Templar Way**	Inbound (to Junction)	20.4	2241	23	2270	1.0%
		Outbound (from Junction)	24.5	1296	11	1314	0.9%
2.4	**A28 Chart Road e/b**	Inbound (to Junction)	10.5	735	7	742	0.9%
		Outbound (from Junction)	28.2	486	2	487	0.3%
2.5	**Carlton Road**	Inbound (to Junction)	23.3	296	0	302	0.0%
		Outbound (from Junction)	31.6	91	0	96	0.0%
3.1	**A28 Chart Road e/b**	Inbound (to Junction)	17.7	1357	13	1370	0.9%
		Outbound (from Junction)	25.6	2619	22	2642	0.8%
3.2	**Loudon Road**	Inbound (to Junction)	36.3	173	1	175	0.6%
		Outbound (from Junction)	33.5	258	2	260	0.8%
3.3	**A28 Chart Road w/b**	Inbound (to Junction)	24.1	2772	23	2796	0.8%
		Outbound (from Junction)	25.5	1425	12	1439	0.9%
4.1	**A292 Forge Lane**	Inbound (to Junction)	13.6	394	4	398	1.1%
		Outbound (from Junction)	14.3	318	4	323	1.2%
4.2	**A292 New Street**	Inbound (to Junction)	6.1	529	7	539	1.3%
		Outbound (from Junction)	28.4	544	5	550	0.9%
4.3	**A292 Somerset Road**	Inbound (to Junction)	6.7	311	3	314	0.9%
		Outbound (from Junction)	10.8	372	5	379	1.4%
5.1	**A292 Somerset Road e/b**	Inbound (to Junction)	9.4	477	13	495	2.7%
		Outbound (from Junction)	27.8	340	5	344	1.4%
5.2	**A28 North Street**	Inbound (to Junction)	7.2	392	7	402	1.8%
		Outbound (from Junction)	13.5	524	7	535	1.4%
5.3	**A292 Somerset Road w/b**	Inbound (to Junction)	6.6	551	7	560	1.3%
		Outbound (from Junction)	3.7	556	16	578	2.8%
6.1	**A292 Mace Lane**	Inbound (to Junction)	4.3	620	10	639	1.6%
		Outbound (from Junction)	22.1	377	12	396	3.0%
6.2	**A292 Wellesley Road**	Inbound (to Junction)	5.4	415	13	435	3.0%
		Outbound (from Junction)	9.9	614	19	647	3.0%
6.3	**A292 Somerset Road e/b**	Inbound (to Junction)	7.8	509	16	529	2.9%
		Outbound (from Junction)	14.0	551	7	560	1.3%
7.1	**A2042 Beaver Road**	Inbound (to Junction)	9.9	806	86	923	9.3%
		Outbound (from Junction)	15.5	745	12	769	1.6%
7.2	**A292 Elwick Road**	Inbound (to Junction)	10.5	223	10	234	4.4%
		Outbound (from Junction)	15.8	562	39	631	6.1%
7.3	**A292 Station Road**	Inbound (to Junction)	13.9	723	3	734	0.5%
		Outbound (from Junction)	19.1	380	44	427	10.3%
7.4	**Station Road (unclassified)**	Inbound (to Junction)	9.7	283	4	297	1.2%
		Outbound (from Junction)	19.1	347	8	361	2.2%
8.1	**A28 Chart Road ne/b**	Inbound (to Junction)	23.6	783	11	793	1.3%
		Outbound (from Junction)	18.7	1870	22	1893	1.2%
8.2	**Chart Road**	Inbound (to Junction)	37.9	52	1	53	1.6%
		Outbound (from Junction)	21.9	61	0	61	0.0%
8.3	**A28 Chart Road sw/b**	Inbound (to Junction)	24.3	2779	28	2808	1.0%
		Outbound (from Junction)	27.2	1315	13	1328	1.0%
8.4	**B2229 Brookfield Road**	Inbound (to Junction)	15.0	707	6	712	0.8%
		Outbound (from Junction)	7.7	1074	10	1084	0.9%
9.1	**B2229 Brookfield Road n/b**	Inbound (to Junction)	13.9	712	7	719	1.0%
		Outbound (from Junction)	20.1	540	9	562	1.6%
9.2	**Knoll Lane L 20.2 B2229 Norman Road**	Inbound (to Junction)	9.3	158	5	181	2.6%
		Outbound (from Junction)	34.0	643	7	656	1.1%
9.3	**B2229 Brookfield Road s/b**	Inbound (to Junction)	9.6	896	9	911	1.0%
		Outbound (from Junction)	26.9	583	5	594	0.9%
10.1	**Knoll Lane n/b**	Inbound (to Junction)	31.8	343	3	346	0.8%
		Outbound (from Junction)	29.7	594	8	602	1.3%
10.2	**Tithe Barn Lane**	Inbound (to Junction)	22.6	431	3	440	0.8%
		Outbound (from Junction)	31.6	643	7	657	1.1%
10.3	**Knoll Lane s/b**	Inbound (to Junction)	31.1	638	11	655	1.6%
		Outbound (from Junction)	32.0	174	2	182	1.1%
11.1	**Tithe Barn Lane w/b**	Inbound (to Junction)	34.0	511	5	523	0.9%
		Outbound (from Junction)	24.6	675	7	689	1.0%
11.2	**Singleton Hill**	Inbound (to Junction)	19.2	123	3	132	2.3%
		Outbound (from Junction)	27.9	488	5	499	0.9%
11.3	**Tithe Barn Lane e/b**	Inbound (to Junction)	23.8	909	8	917	0.8%

[illegible]	[illegible]	Outbound (from Junction)	32.4	381	4	384	1.0%
12.1	A28 Chart Road	Inbound (to Junction)	24.1	593	5	598	0.9%
		Outbound (from Junction)	24.5	1144	11	1155	0.9%
12.2	A28 Ashford Road	Inbound (to Junction)	22.2	1865	18	1883	1.0%
		Outbound (from Junction)	25.0	787	9	795	1.1%
12.3	Tithe Barn Lane	Inbound (to Junction)	24.1	381	5	386	1.3%
		Outbound (from Junction)	21.8	908	9	916	0.9%
13.1	The Street	Inbound (to Junction)	39.7	36	0	36	0.8%
		Outbound (from Junction)	21.0	7	0	7	0.0%
13.2	Ninn Lane	Inbound (to Junction)	35.5	46	0	46	0.0%
		Outbound (from Junction)	22.1	85	0	85	0.0%
13.3	Chart Road	Inbound (to Junction)	20.9	62	0	62	0.0%
		Outbound (from Junction)	35.2	52	0	52	0.6%
15.1	Bucksford Lane	Inbound (to Junction)	28.5	306	1	317	0.5%
		Outbound (from Junction)	31.8	66	1	74	0.9%
15.2	Chart Road	Inbound (to Junction)	25.4	96	1	96	0.7%
		Outbound (from Junction)	28.4	255	1	256	0.6%
15.3	Mock Lane	Inbound (to Junction)	26.0	71	0	79	0.0%
		Outbound (from Junction)	27.2	152	0	162	0.0%
16.1	Chart Road nw/b	Inbound (to Junction)	25.1	90	0	90	0.0%
		Outbound (from Junction)	28.3	226	2	228	0.7%
16.2	Bartletts Lane	Inbound (to Junction)	40.6	7	0	7	0.0%
		Outbound (from Junction)	25.1	27	0	27	0.0%
16.3	Chart Road se/b	Inbound (to Junction)	28.3	254	2	255	0.6%
		Outbound (from Junction)	25.0	97	0	97	0.0%
17.1	Chart Road n/b	Inbound (to Junction)	26.8	228	1	228	0.3%
		Outbound (from Junction)	26.8	88	1	90	1.4%
17.2	Cuckoo Lane	Inbound (to Junction)	29.9	544	12	556	2.1%
		Outbound (from Junction)	35.5	224	2	226	0.9%
17.3	Chart Road s/b	Inbound (to Junction)	36.9	182	1	183	0.7%
		Outbound (from Junction)	29.9	641	10	651	1.6%
18.1	Knoll Lane n/b	Inbound (to Junction)	27.7	134	1	140	0.9%
		Outbound (from Junction)	31.4	212	1	229	0.6%
18.2	Cuckoo Lane	Inbound (to Junction)	34.4	129	0	129	0.0%
		Outbound (from Junction)	31.2	303	1	309	0.5%
18.3	Knoll Lane s/b	Inbound (to Junction)	30.3	274	3	292	0.9%
		Outbound (from Junction)	38.9	22	1	23	5.7%
19.1	B2229 Beaver Lane w/b	Inbound (to Junction)	20.1	361	16	377	4.2%
		Outbound (from Junction)	18.1	275	3	286	1.1%
19.2	Kingsnorth Road	Inbound (to Junction)	16.9	246	3	256	1.3%
		Outbound (from Junction)	37.1	434	15	449	3.3%
19.3	B2229 Beaver Lane e/b	Inbound (to Junction)	20.0	352	3	356	0.9%
		Outbound (from Junction)	38.5	249	5	254	1.8%
20.1	A2042 Romney Marsh Road n/b	Inbound (to Junction)	37.2	836	10	847	1.2%
		Outbound (from Junction)	30.7	906	13	919	1.4%
20.2	B2229 Norman Road	Inbound (to Junction)	31.1	414	6	433	1.3%
		Outbound (from Junction)	30.9	513	11	524	2.1%
20.3	A2042 Romney Marsh Road s/b	Inbound (to Junction)	20.3	831	20	851	2.3%
		Outbound (from Junction)	40.4	877	13	906	1.4%
20.4	Kimberley Way	Inbound (to Junction)	30.9	574	16	605	2.7%
		Outbound (from Junction)	27.9	359	15	388	3.9%
21.1	Romney Marsh Road n/b	Inbound (to Junction)	37.0	645	6	653	0.9%
		Outbound (from Junction)	34.5	806	9	815	1.1%
21.2	Malcolm Sargent Road	Inbound (to Junction)	23.1	522	5	526	0.9%
		Outbound (from Junction)	36.1	528	5	534	1.0%
21.3	A2042 Romney Marsh Road s/b	Inbound (to Junction)	23.2	902	11	913	1.2%
		Outbound (from Junction)	41.0	838	12	851	1.4%
21.4	A2042 Bad Munstereifel Road	Inbound (to Junction)	29.8	1115	13	1128	1.1%
		Outbound (from Junction)	35.7	1011	9	1020	0.9%
22.1	Ashford Road n/b	Inbound (to Junction)	32.2	401	5	407	1.2%
		Outbound (from Junction)	27.9	756	9	765	1.2%
22.2	Ashford Road s/b	Inbound (to Junction)	25.2	679	7	685	1.0%
		Outbound (from Junction)	38.3	523	6	530	1.1%
22.3	Romney Marsh Road	Inbound (to Junction)	28.1	809	8	817	1.0%
		Outbound (from Junction)	38.0	643	7	651	1.0%
22.4	Forestall Meadow	Inbound (to Junction)	26.1	574	7	584	1.3%
		Outbound (from Junction)	35.3	542	5	547	0.9%
23.1	Ashford Road	Inbound (to Junction)	34.0	526	5	533	1.0%
		Outbound (from Junction)	28.4	678	5	684	0.8%
23.2	Britannia Lane	Inbound (to Junction)	27.1	450	2	453	0.5%
		Outbound (from Junction)	27.4	459	3	462	0.7%
23.3	Ashford Road	Inbound (to Junction)	29.3	435	5	441	1.2%
		Outbound (from Junction)	38.0	275	4	281	1.5%
24.1	Milbank Road	Inbound (to Junction)	24.8	352	3	355	0.9%
		Outbound (from Junction)	29.2	350	3	352	0.8%
24.2	Pound Lane	Inbound (to Junction)	26.3	136	0	136	0.0%
		Outbound (from Junction)	28.3	282	2	284	0.9%
24.3	Chart Road	Inbound (to Junction)	26.9	629	5	634	0.8%
		Outbound (from Junction)	24.6	486	3	489	0.7%
25.1	Chart Road	Inbound (to Junction)	25.3	487	2	489	0.4%
		Outbound (from Junction)	26.3	630	5	635	0.8%
25.2	Long Length	Inbound (to Junction)	24.6	328	2	330	0.5%
		Outbound (from Junction)	24.8	327	1	328	0.3%

25.3	**Chart Road**	Inbound (to Junction)	26.9	369	3	372	0.9%
		Outbound (from Junction)	25.6	228	1	229	0.5%
27.1	**Pound Lane**	Inbound (to Junction)	21.1	287	5	292	1.8%
		Outbound (from Junction)	30.7	168	2	170	0.9%
27.2	**Ashford Road s/b**	Inbound (to Junction)	21.5	757	9	766	1.2%
		Outbound (from Junction)	34.4	403	4	407	1.0%
27.3	**Church Hill**	Inbound (to Junction)	30.3	342	1	343	0.3%
		Outbound (from Junction)	26.6	755	11	766	1.5%
27.4	**Ashford Road n/b**	Inbound (to Junction)	28.6	298	5	303	1.5%
		Outbound (from Junction)	26.6	358	3	362	0.9%
28.1	**Ashford Road**	Inbound (to Junction)	**38.0**	271	5	281	1.8%
		Outbound (from Junction)	**29.3**	435	3	441	0.6%
28.3	**Kingsnorth Road**	Inbound (to Junction)	**27.8**	435	3	441	0.6%
		Outbound (from Junction)	**36.1**	271	5	281	1.8%
29.2	**Malcolm Sargent Road**	Inbound (to Junction)	**34.3**	521	13	534	2.4%
		Outbound (from Junction)	**21.9**	520	6	526	1.2%
29.3	**Wotton Road (EB)**	Inbound (to Junction)	**20.8**	520	6	526	1.2%
		Outbound (from Junction)	**32.6**	521	13	534	2.4%
30.1	**B229 Norman Road (EB)**	Inbound (to Junction)	6.5	344	4	360	1.2%
		Outbound (from Junction)	38.4	444	9	453	2.0%
30.2	**Access Road**	Inbound (to Junction)	8.1	155	1	156	0.7%
		Outbound (from Junction)	26.4	151	3	154	1.9%
30.3	**B229 Norman Road (WB)**	Inbound (to Junction)	12.6	512	12	524	2.3%
		Outbound (from Junction)	25.9	416	5	434	1.2%
31.1	**Ashford Road s/b**	Inbound (to Junction)	24.5	358	5	363	1.3%
		Outbound (from Junction)	39.7	298	5	303	1.5%
31.2	**Steeds Lane**	Inbound (to Junction)	36.3	34	0	34	0.0%
		Outbound (from Junction)	30.0	56	0	56	0.0%
31.3	**Ashford Road n/b**	Inbound (to Junction)	32.1	276	4	280	1.4%
		Outbound (from Junction)	26.6	300	3	303	1.1%
31.4	**Magpie Hall Road**	Inbound (to Junction)	35.1	197	1	199	0.7%
		Outbound (from Junction)	32.8	212	2	214	1.0%
32.1	**Chilmington Green Road**	Inbound (to Junction)	32.0	249	2	251	0.7%
		Outbound (from Junction)	29.8	348	2	350	0.6%
32.2	**Magpie Hall Road**	Inbound (to Junction)	28.5	214	1	214	0.3%
		Outbound (from Junction)	36.5	195	1	197	0.7%
32.3	**Tally Ho Road**	Inbound (to Junction)	33.1	329	4	332	1.1%
		Outbound (from Junction)	29.8	248	2	251	1.0%
33.1	**Chilmington Green Road s/b**	Inbound (to Junction)	31.8	251	1	252	0.6%
		Outbound (from Junction)	34.1	398	2	401	0.6%
33.2	**Long Length**	Inbound (to Junction)	24.6	268	1	269	0.4%
		Outbound (from Junction)	27.2	219	0	219	0.0%
33.3	**Chilmington Green Road n/b**	Inbound (to Junction)	32.1	348	2	350	0.6%
		Outbound (from Junction)	33.4	249	2	251	0.9%
35.1	**Chilmington Green Road s/b**	Inbound (to Junction)	32.6	263	3	266	1.0%
		Outbound (from Junction)	38.2	238	2	239	0.7%
35.2	**Bartletts Lane**	Inbound (to Junction)	24.9	27	0	27	0.0%
		Outbound (from Junction)	35.2	8	0	8	0.0%
35.3	**Chilmington Green Road n/b**	Inbound (to Junction)	23.7	246	2	248	0.7%
		Outbound (from Junction)	31.9	291	3	293	0.9%
36.1	**Bartletts Lane n/b**	Inbound (to Junction)	33.5	9	0	9	0.0%
		Outbound (from Junction)	25.0	27	0	27	0.0%
36.2	**Unnamed Road**	Inbound (to Junction)	24.5	28	0	28	0.0%
		Outbound (from Junction)	24.7	20	0	20	0.0%
36.3	**Bartletts Lane s/b**	Inbound (to Junction)	24.8	47	0	47	0.0%
		Outbound (from Junction)	29.0	36	0	36	0.0%
37.1	**Chilmington Green Road s/b**	Inbound (to Junction)	24.9	337	3	339	0.8%
		Outbound (from Junction)	31.9	233	2	235	0.7%
37.2	**Unnamed Road**	Inbound (to Junction)	23.9	15	0	15	0.0%
		Outbound (from Junction)	28.0	91	0	91	0.0%
37.3	**Chilmington Green Road n/b**	Inbound (to Junction)	29.6	236	2	238	0.7%
		Outbound (from Junction)	32.9	264	3	267	1.0%
38.1	**Chilmington Green Road s/b**	Inbound (to Junction)	25.2	311	4	316	1.4%
		Outbound (from Junction)	41.0	135	2	137	1.2%
38.2	**Mock Lane**	Inbound (to Junction)	28.6	7	0	7	0.0%
		Outbound (from Junction)	30.7	33	0	38	0.0%
38.3	**Chilmington Green Road n/b**	Inbound (to Junction)	37.2	150	2	157	1.0%
		Outbound (from Junction)	28.0	300	4	305	1.4%
40.1	**A28 Ashford Road s/b**	Inbound (to Junction)	26.3	464	3	467	0.6%
		Outbound (from Junction)	39.5	403	3	407	0.8%
40.2	**Chilmington Green Road**	Inbound (to Junction)	33.4	222	0	222	0.0%
		Outbound (from Junction)	33.4	245	1	246	0.4%
40.3	**A28 Ashford Road n/b**	Inbound (to Junction)	44.6	409	4	415	1.0%
		Outbound (from Junction)	26.1	448	3	451	0.7%
42.1	**A28 Ashford Road n/b**	Inbound (to Junction)	41.6	462	4	467	0.9%
		Outbound (from Junction)	34.6	372	5	378	1.4%
42.2	**Old Surrenden Manor Road**	Inbound (to Junction)	42.4	39	0	39	0.0%
		Outbound (from Junction)	31.8	18	0	18	0.7%
42.3	**A28 Ashford Road s/b**	Inbound (to Junction)	32.0	390	6	396	1.4%
		Outbound (from Junction)	41.1	500	4	506	0.8%
44.1	**A2070**	Inbound (to Junction)	26.3	1104	13	1117	1.2%
		Outbound (from Junction)	34.9	683	4	687	0.6%
44.2	**A292**	Inbound (to Junction)	10.6	635	0	639	0.0%
		Outbound (from Junction)	38.4	531	6	536	1.0%

44.3	**Northbound on slip**	-	37.0	164	2	172	1.2%
44.4	**Southbound off slip**	-	39.8	218	0	218	0.0%
44.5	**B2164**	Inbound (to Junction)	12.3	1060	11	1077	1.0%
		Outbound (from Junction)	26.4	882	7	893	0.8%
44.6	**Hythe Road**	Inbound (to Junction)	16.1	394	3	397	0.7%
		Outbound (from Junction)	36.6	1151	8	1160	0.7%
45.1	**A20 Fougeres Way**	Inbound (to Junction)	26.4	1134	13	1153	1.1%
		Outbound (from Junction)	40.0	2478	27	2511	1.1%
45.2	**Northbound on slip**	-	32.7	426	5	431	1.1%
45.3	**Southbound off slip**	-	40.4	941	7	948	0.7%
45.4	**Trinity Road**	Inbound (to Junction)	27.1	1540	20	1567	1.3%
		Outbound (from Junction)	30.4	866	9	882	1.0%
45.5	**Southbound on slip**	-	36.2	618	7	625	1.1%
45.6	**Northbound off slip**	-	12.1	773	8	781	1.0%
34.1	**Chilmington Green Road n/b**	Inbound (to Junction)	33.5	214	2	216	0.9%
		Outbound (from Junction)	24.1	188	2	191	1.3%
34.2	**Criol Road**	Inbound (to Junction)	32.2	59	1	67	1.5%
		Outbound (from Junction)	27.8	135	1	137	1.0%
34.3	**Chilmington Green Road s/b**	Inbound (to Junction)	34.3	290	3	293	1.0%
		Outbound (from Junction)	36.3	240	2	248	0.8%
43.1	**Chart Road s/b**	Inbound (to Junction)	29.0	648	3	651	0.4%
		Outbound (from Junction)	35.5	181	2	183	0.9%
43.2	**Chart Road nw/b**	Inbound (to Junction)	29.2	161	2	163	1.1%
		Outbound (from Junction)	27.9	356	3	359	0.7%
43.3	**Coulter Road**	Inbound (to Junction)	36.3	23	0	23	0.0%
		Outbound (from Junction)	26.7	295	0	295	0.0%
A1.1	**A28 Ashford Road s/b**	Inbound (to Junction)	23.9	1139	15	1154	1.3%
		Outbound (from Junction)	25.0	599	3	602	0.5%
A1.2	**Site access**	Inbound (to Junction)	34.1	236	0	236	0.0%
		Outbound (from Junction)	32.6	669	12	681	1.7%
A1.3	**A28 Ashford Road n/b**	Inbound (to Junction)	24.7	455	3	458	0.7%
		Outbound (from Junction)	25.6	562	4	566	0.6%
A2.1	**A28 Ashford Road n/b**	Inbound (to Junction)	24.7	401	7	410	1.8%
		Outbound (from Junction)	25.3	461	5	466	1.1%
A2.2	**Ashford Road**	Inbound (to Junction)	19.0	185	0	185	0.0%
		Outbound (from Junction)	36.7	102	2	107	2.0%
A2.3	**A28 Ashford Road s/b**	Inbound (to Junction)	25.5	561	5	565	0.9%
		Outbound (from Junction)	24.8	451	5	456	1.2%
A2.4	**Site access**	Inbound (to Junction)	5.9	3	0	3	1.3%
		Outbound (from Junction)	33.5	135	0	135	0.0%
A3.1	**A28 Ashford Road n/b**	Inbound (to Junction)	36.1	496	3	505	0.5%
		Outbound (from Junction)	32.1	390	1	392	0.2%
A3.2	**Sandy Lane**	Inbound (to Junction)	46.1	41	0	41	0.0%
		Outbound (from Junction)	32.2	55	0	55	0.3%
A3.3	**A28 Ashford Road s/b**	Inbound (to Junction)	25.6	452	0	452	0.0%
		Outbound (from Junction)	45.3	412	3	416	0.7%
A3.4	**Site access**	Inbound (to Junction)	33.2	117	1	119	0.8%
		Outbound (from Junction)	37.2	250	0	255	0.0%
A4.1	**Coulter Road n/b**	Inbound (to Junction)	41.9	137	3	140	1.8%
		Outbound (from Junction)	29.5	229	0	229	0.0%
A4.2	**Site access**	Inbound (to Junction)	37.9	129	0	129	0.0%
		Outbound (from Junction)	27.3	306	3	309	0.8%
A4.3	**Coulter Road s/b**	Inbound (to Junction)	27.2	292	0	292	0.0%
		Outbound (from Junction)	37.8	23	0	23	0.1%
A5.1	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	31.1	137	0	137	0.0%
		Outbound (from Junction)	28.9	195	0	195	0.0%
A5.2	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	32.4	11	0	11	0.1%
		Outbound (from Junction)	28.7	133	1	135	1.1%
A5.3	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	24.6	309	1	311	0.5%
		Outbound (from Junction)	31.6	129	0	129	0.0%
A6.1	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	29.5	24	0	24	0.0%
		Outbound (from Junction)	24.9	103	0	103	0.0%
A6.2	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	27.9	0	0	12	0.0%
		Outbound (from Junction)	26.3	0	0	6	0.0%
A6.3	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	26.6	103	0	109	0.0%
		Outbound (from Junction)	29.1	24	0	36	0.0%
A7.1	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	30.7	51	0	51	0.0%
		Outbound (from Junction)	31.8	341	3	344	0.9%
A7.2	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	26.0	37	0	38	1.3%
		Outbound (from Junction)	32.3	7	0	7	4.9%
A7.3	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	29.5	325	3	327	0.9%
		Outbound (from Junction)	32.7	58	0	58	0.0%
A7.4	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	21.6	6	0	6	0.0%
		Outbound (from Junction)	30.7	12	0	12	0.0%
A8.1	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	36.6	324	2	326	0.6%
		Outbound (from Junction)	41.6	99	3	102	3.2%
A8.2	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	28.3	222	5	235	1.9%
		Outbound (from Junction)	27.8	338	0	338	0.0%
A8.3	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	40.6	147	0	147	0.0%
		Outbound (from Junction)	34.3	390	2	392	0.5%
A8.4	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	24.7	285	0	285	0.0%
		Outbound (from Junction)	31.6	153	1	162	0.8%
A9.1	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	36.9	218	0	220	0.0%

[illegible]	[illegible]	Outbound (from Junction)	41.1	100	0	111	0.0%
A9.2	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	39.6	77	2	79	2.0%
		Outbound (from Junction)	34.6	216	1	217	0.3%
A9.3	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	36.8	165	1	176	0.4%
		Outbound (from Junction)	40.6	144	2	147	1.0%
A10.1	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	33.3	178	1	179	0.4%
		Outbound (from Junction)	43.1	92	2	94	2.0%
A10.2	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	38.5	68	1	69	1.4%
		Outbound (from Junction)	32.0	344	9	352	2.5%
A10.3	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	33.7	220	9	234	3.8%
		Outbound (from Junction)	37.1	106	0	106	0.0%
A10.4	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	27.7	137	0	137	0.0%
		Outbound (from Junction)	26.6	62	0	67	0.0%
A11.1	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	40.3	94	0	94	0.0%
		Outbound (from Junction)	35.3	180	0	180	0.0%
A11.2	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	31.4	186	4	190	2.2%
		Outbound (from Junction)	32.4	214	2	216	0.9%
A11.3	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	33.3	394	2	396	0.5%
		Outbound (from Junction)	33.6	280	4	284	1.5%
A12.1	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	31.8	386	0	386	0.1%
		Outbound (from Junction)	34.9	217	0	217	0.2%
A12.2	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	33.8	71	2	73	2.2%
		Outbound (from Junction)	41.3	130	0	130	0.2%
A12.3	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	33.4	283	0	283	0.0%
		Outbound (from Junction)	33.4	393	1	395	0.3%
A13.1	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	34.8	193	3	196	1.5%
		Outbound (from Junction)	34.1	260	4	264	1.5%
A13.2	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	42.0	101	2	102	1.6%
		Outbound (from Junction)	39.8	324	2	327	0.7%
A13.3	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	40.2	339	4	344	1.3%
		Outbound (from Junction)	46.6	48	2	51	4.8%
A14.1	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	40.5	139	0	139	0.0%
		Outbound (from Junction)	35.6	119	0	119	0.0%
A14.2	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	34.7	143	0	143	0.0%
		Outbound (from Junction)	35.7	240	3	243	1.2%
A14.3	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	36.0	100	3	103	2.9%
		Outbound (from Junction)	40.9	24	0	24	0.0%
A15.1	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	30.1	167	0	167	0.0%
		Outbound (from Junction)	40.0	156	0	156	0.0%
A15.2	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	24.2	37	0	37	0.0%
		Outbound (from Junction)	24.9	47	0	47	0.0%
A15.3	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	35.5	119	0	119	0.0%
		Outbound (from Junction)	38.7	139	0	139	0.0%
A15.4	**Please Refer to Figure 4 in WSP's Brief**	Inbound (to Junction)	29.7	27	0	27	0.0%
		Outbound (from Junction)	30.1	7	0	7	0.0%

Table 7 Turning Flows by Arm and Movement (2031 DS)												
Node	Junction	Approach	Name	Movement	AM				PM			
					Car & LGV	HGV	BUS	Total Vehicles	Car & LGV	HGV	BUS	Total Vehicles
J1	A20 Maidstone Rd Roundabout	1.1	A28 Templar Way	1.1-1.2	128	5	0	133	229	2	0	231
				1.1-1.3	1029	29	0	1058	707	8	0	715
				1.1-1.4	300	7	0	307	270	3	0	273
				1.1-1.5	132	4	1	137	72	0	1	73
		1.2	A20 Maidstone Road	1.2-1.1	185	5	0	190	209	1	0	210
				1.2-1.3	174	5	0	179	199	2	0	201
				1.2-1.4	120	2	0	122	113	1	0	114
				1.2-1.5	146	5	0	151	177	5	2	185
		1.3	A20 Fougeres Way	1.3-1.1	643	18	0	661	1546	13	0	1558
				1.3-1.2	224	7	0	231	353	3	0	355
				1.3-1.4	186	5	0	191	244	3	0	248
				1.3-1.5	456	10	0	466	335	6	0	341
		1.4	A20 Simone Weil Avenue	1.4-1.1	144	4	0	148	557	8	0	565
				1.4-1.2	39	2	0	41	168	2	0	170
				1.4-1.3	234	7	0	241	159	1	0	160
				1.4-1.5	71	2	0	73	72	2	0	73
		1.5	A292 Maidstone Road	1.5-1.1	0	2	0	2	9	0	0	9
				1.5-1.2	61	2	0	63	63	1	0	64
				1.5-1.3	243	5	0	248	79	1	0	80
				1.5-1.4	39	1	0	40	3	0	0	3
J2	A28 Chart Road / A28 Templar Way	2.1	A28 Chart Road e/b	2.1-2.2	64	4	0	68	54	0	0	54
				2.1-2.3	1329	38	1	1368	997	10	1	1008
				2.1-2.4	1198	33	0	1231	241	1	0	242
				2.1-2.5	107	0	0	107	18	0	0	18
		2.2	Unnamed Road	2.2-2.1	38	6	0	44	95	0	0	95
				2.2-2.3	80	0	0	80	59	0	0	59
				2.2-2.4	74	0	0	74	43	0	0	43
				2.2-2.5	0	0	0	0	12	0	0	12
		2.3	A28 Templar Way	2.3-2.1	734	22	0	756	2101	18	0	2119
				2.3-2.2	40	2	0	42	75	5	0	80
				2.3-2.4	34	1	0	35	24	0	0	24
				2.3-2.5	71	2	4	77	41	0	5	46
		2.4	A28 Chart Road e/b	2.4-2.1	404	12	0	416	498	5	0	503
				2.4-2.2	56	0	0	56	63	0	0	63
				2.4-2.3	134	4	0	138	155	2	0	157
				2.4-2.5	134	5	0	139	19	0	0	19
		2.5	Carlton Road	2.5-2.1	1	0	0	1	28	0	1	28
				2.5-2.2	0	0	0	0	5	0	0	5
				2.5-2.3	27	0	6	33	85	0	6	91
				2.5-2.4	85	0	0	85	177	0	0	177
J3	A28 Chart Road / Loudon Way	3.1	A28 Chart Road e/b	3.1-3.2	82	2	0	84	104	1	0	106
				3.1-3.3	2426	71	0	2497	1253	11	0	1264
		3.2	Loudon Road	3.2-3.1	0	0	0	0	0	0	0	0
				3.2-3.3	587	18	1	606	173	1	1	175
		3.3	A28 Chart Road w/b	3.3-3.1	1377	41	0	1418	2619	22	1	2642
				3.3-3.2	94	3	0	97	153	1	0	154
J4	A292 West Street / New Street / Somerset Road	4.1	A292 Forge Lane	4.1-4.2	222	8	1	231	317	4	0	321
				4.1-4.3	85	5	1	91	77	1	0	78
		4.2	A292 New Street	4.2-4.1	338	9	1	348	234	3	1	238
				4.2-4.3	497	16	0	513	295	5	2	301
		4.3	A292 Somerset Road	4.3-4.1	171	6	0	177	84	1	0	85
				4.3-4.2	367	11	0	378	227	2	0	229
J5	A292 Somerset Road / A28 North Street	5.1	A292 Somerset Road e/b	5.1-5.2	225	7	1	233	198	2	1	201
				5.1-5.3	396	28	4	429	280	12	4	295
		5.2	A28 North Street	5.2-5.1	182	6	0	188	116	2	0	118
				5.2-5.3	556	19	3	579	276	5	2	283
		5.3	A292 Somerset Road w/b	5.3-5.1	386	12	0	398	224	2	0	226
				5.3-5.2	303	13	3	318	327	5	2	334
J6	A292 Somerset Road / A292 Wellesley Road	6.1	A292 Mace Lane	6.1-6.2	515	22	8	545	276	7	9	293
				6.1-6.3	345	10	0	355	343	3	0	346
		6.2	A292 Wellesley Road	6.2-6.1	283	17	9	309	207	9	5	221
				6.2-6.3	343	14	3	360	208	4	2	214
		6.3	A292 Somerset Road e/b	6.3-6.1	343	16	4	363	170	4	1	175
				6.3-6.2	579	27	3	609	338	12	4	354
J7	A292 Elwick Road / A2042 Beaver Road	7.1	A2042 Beaver Road	7.1-7.2	178	10	21	209	342	35	23	400
				7.1-7.3	700	15	2	717	335	43	2	380
				7.1-7.4	212	7	3	222	129	8	6	143
		7.2	A292 Elwick Road	7.2-7.1	111	10	0	121	177	10	0	186
				7.2-7.3	4	0	0	4	2	0	0	2
				7.2-7.4	63	2	0	65	45	1	0	45
		7.3	A292 Station Road	7.3-7.1	282	13	6	301	361	0	6	367
				7.3-7.2	203	5	1	209	189	3	2	195
				7.3-7.4	60	0	0	60	173	0	0	173
		7.4	Station Road (unclassified)	7.4-7.1	100	3	10	113	208	3	5	215
				7.4-7.2	40	2	10	52	31	0	5	37
				7.4-7.3	51	3	0	54	44	1	1	45
J8	A28 Chart Road / B2229 Brookfield Road	8.1	A28 Chart Road ne/b	8.1-8.2	8	0	0	8	5	0	0	5
				8.1-8.3	1283	37	0	1320	708	9	0	717
				8.1-8.4	75	4	0	79	70	1	0	71
		8.2	Chart Road	8.2-8.1	4	0	0	4	15	0	0	15
				8.2-8.3	65	2	0	67	28	0	0	29
				8.2-8.4	13	0	0	14	8	0	0	9
		8.3	A28 Chart Road sw/b	8.3-8.1	600	17	0	617	1735	20	1	1755
				8.3-8.2	32	1	0	33	49	0	0	49
				8.3-8.4	580	17	0	597	996	8	0	1004
		8.4	B2229 Brookfield Road	8.4-8.1	95	6	0	101	121	2	0	123
				8.4-8.2	8	0	0	8	7	0	0	7
				8.4-8.3	1242	37	0	1279	579	4	0	583

J9	B2229 Brookfield Road / Knoll Lane	9.1	B2229 Brookfield Road n/b	9.1-9.2	61	1	0	62	222	3	0	225
				9.1-9.3	736	25	0	761	490	4	0	494
		9.2	Knoll Lane L 20.2 B2229 Norman Road	9.2-9.1	69	12	14	95	66	4	12	81
				9.2-9.3	432	15	8	455	93	1	6	100
		9.3	B2229 Brookfield Road s/b	9.3-9.1	300	9	1	310	474	5	1	481
				9.3-9.2	247	8	5	260	422	4	5	431
J10	Knoll Lane / Tithe Barn Lane	10.1	Knoll Lane n/b	10.1-10.2	360	9	0	369	295	2	0	298
				10.1-10.3	270	16	0	286	48	1	0	48
		10.2	Tithe Barn Lane	10.2-10.1	168	5	2	174	304	2	0	306
				10.2-10.3	233	9	6	248	126	1	6	134
		10.3	Knoll Lane s/b	10.3-10.1	156	8	0	164	290	6	0	296
				10.3-10.2	145	3	10	159	348	5	7	359
J11	Tithe Barn Lane / Bucksford Lane / Singleton Hill	11.1	Tithe Barn Lane w/b	11.1-11.2	78	1	7	86	139	1	7	147
				11.1-11.3	391	11	0	402	373	4	0	376
		11.2	Singleton Hill	11.2-11.1	246	9	5	260	115	3	6	124
				11.2-11.3	22	1	0	23	8	0	0	8
		11.3	Tithe Barn Lane e/b	11.3-11.1	139	5	1	145	560	4	0	564
				11.3-11.2	206	6	0	212	349	3	0	352
J12	A28 / Tithe Barn Lane Roundabout	12.1	A28 Chart Road	12.1-12.2	1018	30	0	1048	535	5	0	540
				12.1-12.3	33	0	0	33	59	0	0	59
		12.2	A28 Ashford Road	12.2-12.1	377	12	0	389	1015	9	0	1025
				12.2-12.3	312	10	1	323	849	9	0	858
		12.3	Tithe Barn Lane	12.3-12.1	72	3	0	75	128	2	0	130
				12.3-12.2	335	9	0	344	252	3	0	256
J13	Singleton Road / Ninn Lane / Chart Road	13.1	The Street	13.1-13.2	35	0	0	35	23	0	0	23
				13.1-13.3	32	1	0	33	13	0	0	13
		13.2	Ninn Lane	13.2-13.1	13	0	0	13	7	0	0	7
				13.2-13.3	49	2	0	51	39	0	0	39
		13.3	Chart Road	13.3-13.1	10	0	0	10	0	0	0	0
				13.3-13.2	39	1	0	40	62	0	0	62
J15	Bucksford Lane / Mock Lane / Chart Road	15.1	Bucksford Lane	15.1-15.2	235	6	0	241	205	1	0	207
				15.1-15.3	64	1	7	72	100	0	9	110
		15.2	Chart Road	15.2-15.1	69	2	0	71	44	1	0	44
				15.2-15.3	98	0	0	98	52	0	0	52
		15.3	Mock Lane	15.3-15.1	120	0	3	123	22	0	8	30
				15.3-15.2	318	0	0	318	49	0	0	49
J16	Chart Road / Bartletts Lane	16.1	Chart Road nw/b	16.1-16.2	0	0	0	0	0	0	0	0
				16.1-16.3	162	0	0	162	90	0	0	90
		16.2	Bartletts Lane	16.2-16.1	20	1	0	21	0	0	0	0
				16.2-16.3	10	0	0	10	7	0	0	7
		16.3	Chart Road se/b	16.3-16.1	538	15	0	553	226	2	0	228
				16.3-16.2	5	0	0	5	27	0	0	27
J17	Chart Road / Cuckoo Lane	17.1	Chart Road n/b	17.1-17.2	361	12	0	373	83	1	0	84
				17.1-17.3	197	0	0	197	144	0	0	144
		17.2	Cuckoo Lane	17.2-17.1	107	1	0	108	48	1	0	49
				17.2-17.3	386	10	0	396	496	10	0	507
		17.3	Chart Road s/b	17.3-17.1	52	2	0	54	41	0	0	41
				17.3-17.2	544	9	0	553	141	1	0	142
J18	Cuckoo Lane / Knoll Lane	18.1	Knoll Lane n/b	18.1-18.2	205	8	8	221	114	0	4	119
				18.1-18.3	128	13	0	141	20	1	0	21
		18.2	Cuckoo Lane	18.2-18.1	153	5	0	158	127	0	0	127
				18.2-18.3	239	6	0	245	2	0	0	2
		18.3	Knoll Lane s/b	18.3-18.1	39	3	5	47	85	1	15	101
				18.3-18.2	226	5	0	231	189	1	0	190
J19	B2229 Beaver Lane / Kingsnorth Road	19.1	B2229 Beaver Lane w/b	19.1-19.2	221	28	1	250	233	12	0	245
				19.1-19.3	97	4	0	101	128	3	0	132
		19.2	Kingsnorth Road	19.2-19.1	223	20	8	251	125	2	6	134
				19.2-19.3	301	7	0	308	121	1	0	122
		19.3	B2229 Beaver Lane e/b	19.3-19.1	147	6	1	154	150	1	1	152
				19.3-19.2	199	5	0	204	202	2	0	204
J20	B2229 Norman Road / A2042 Romney Marsh Road	20.1	A2042 Romney Marsh Road n/b	20.1-20.2	220	6	1	227	202	2	0	204
				20.1-20.3	598	16	0	614	490	6	0	496
				20.1-20.4	132	3	1	136	143	2	1	146
		20.2	B2229 Norman Road	20.2-20.1	73	2	0	75	79	1	0	79
				20.2-20.3	259	8	1	268	205	2	1	208
				20.2-20.4	40	11	9	60	131	3	13	146
		20.3	A2042 Romney Marsh Road s/b	20.3-20.1	378	11	0	389	559	6	0	565
				20.3-20.2	271	7	0	278	187	4	0	191
				20.3-20.4	71	13	1	85	85	10	0	95
		20.4	Kimberley Way	20.4-20.1	38	1	0	39	268	6	0	274
				20.4-20.2	38	7	1	45	123	5	0	129
				20.4-20.3	53	8	9	70	182	4	15	202
J21	A2042 Romney Marsh Road / A2042 Bad Munstereifel Road	21.1	Romney Marsh Road n/b	21.1-21.2	0	0	0	0	45	0	0	45
				21.1-21.3	434	11	3	448	290	5	2	296
				21.1-21.4	485	16	0	501	310	1	0	311
		21.2	Malcolm Sargent Road	21.2-21.1	21	0	0	21	0	0	0	0
				21.2-21.3	96	2	0	98	128	1	0	130
				21.2-21.4	445	12	0	457	393	3	0	397
		21.3	A2042 Romney Marsh Road s/b	21.3-21.1	280	9	0	289	498	6	0	504
				21.3-21.2	61	3	0	64	96	1	0	97
				21.3-21.4	154	3	0	157	307	5	0	312
		21.4	A2042 Bad Munstereifel Road	21.4-21.1	479	12	0	491	308	3	0	311
				21.4-21.2	379	10	0	389	387	4	0	391
				21.4-21.3	391	7	0	398	420	5	0	426
J22	Romney Marsh Road / Ashford Road Roundabout	22.1	Ashford Road n/b	22.1-22.2	112	3	1	116	84	1	1	85
				22.1-22.3	388	13	2	404	221	3	0	224
				22.1-22.4	86	2	0	88	97	1	0	98
		22.2	Ashford Road s/b	22.2-22.1	102	3	0	105	207	3	0	210
				22.2-22.3	401	10	0	411	195	1	0	197
				22.2-22.4	184	5	1	190	277	2	0	279
		22.3	Romney Marsh Road	22.3-22.1	223	7	0	230	372	4	0	377
				22.3-22.2	344	10	0	354	268	2	0	270
				22.3-22.4	217	6	0	223	169	2	0	170

		22.4	Forestall Meadow	*22.4-22.1*	42	1	0	43	177	2	0	179
				22.4-22.2	215	4	1	220	171	3	1	175
				22.4-22.3	128	4	1	133	227	2	2	231
J23	Ashford Road / Britannia Lane	23.1	Ashford Road	*23.1-23.2*	430	13	0	443	335	2	0	337
				23.1-23.3	233	5	2	240	191	3	2	195
		23.2	Britannia Lane	*23.2-23.1*	491	13	0	504	366	1	0	368
				23.2-23.3	264	9	0	273	84	1	0	85
		23.3	Ashford Road	*23.3-23.1*	194	5	1	200	312	4	0	316
				23.3-23.2	99	3	0	102	123	1	0	125
J24	Milbank Road / Chart Road	24.1	Milbank Road	*24.1-24.2*	29	0	0	29	2	0	0	2
				24.1-24.3	393	12	0	405	350	3	0	353
		24.2	Pound Lane	*24.2-24.1*	0	0	0	0	0	0	0	0
				24.2-24.3	215	3	0	218	136	0	0	136
		24.3	Chart Road	*24.3-24.1*	542	17	0	559	349	3	0	352
				24.3-24.2	261	8	0	269	280	2	0	282
J25	Chart Road / Long Length	25.1	Chart Road	*25.1-25.2*	369	12	0	381	286	1	0	288
				25.1-25.3	241	2	0	243	201	1	0	202
		25.2	Long Length	*25.2-25.1*	373	10	0	383	302	2	0	303
				25.2-25.3	81	0	0	81	27	0	0	27
		25.3	Chart Road	*25.3-25.1*	425	20	0	445	328	3	0	332
				25.3-25.2	28	0	0	28	40	0	0	40
J27	Pound Lane / Ashford Road / Church Hill	27.1	Pound Lane	*27.1-27.2*	90	3	0	93	14	0	0	14
				27.1-27.3	170	5	0	175	248	5	0	253
				27.1-27.4	33	1	0	34	26	0	0	26
		27.2	Ashford Road s/b	*27.2-27.1*	25	1	0	26	49	0	0	49
				27.2-27.3	166	4	0	170	436	6	0	442
				27.2-27.4	178	5	0	183	272	3	0	275
		27.3	Church Hill	*27.3-27.1*	182	2	0	184	98	0	0	98
				27.3-27.2	197	6	0	203	183	1	0	184
				27.3-27.4	90	3	0	93	61	0	0	61
		27.4	Ashford Road n/b	*27.4-27.1*	20	0	0	20	21	2	0	22
				27.4-27.2	306	9	2	318	206	3	1	209
				27.4-27.3	78	5	0	83	72	0	0	72
J28	Millbank Road/ Kingsnorth Road	28.1	Ashford Road	*28.1-28.3*	483	24	6	513	271	5	4	281
		28.3	Kingsnorth Road	*28.3-28.1*	286	13	4	302	435	3	3	441
J29	Malcolm Sargent Road/ Wotton Road	29.2	Malcolm Sargent Road	*29.2-29.3*	440	13	0	453	521	13	0	534
		29.3	Wotton Road e/b	*29.3-29.2*	552	24	0	576	520	6	0	526
J30	B229 Norman Road/ Access Road	30.1	B229 Norman Road e/b	*30.1-30.2*	65	1	0	66	19	0	0	19
				30.1-30.3	315	16	8	338	325	4	12	341
		30.2	Access Road	*30.2-30.1*	37	3	0	40	63	0	0	63
				30.2-30.3	62	1	0	63	92	1	0	93
		30.3	B229 Norman Road w/b	*30.3-30.1*	388	19	2	409	380	9	0	389
				30.3-30.2	138	5	0	143	132	3	0	135
J31	Steeds Lane / Magpie Hall Road / Ashford Road	31.1	Ashford Road s/b	*31.1-31.2*	6	0	0	6	24	0	0	24
				31.1-31.3	160	4	0	164	234	3	0	238
				31.1-31.4	138	5	0	143	100	1	0	101
		31.2	Steeds Lane	*31.2-31.1*	8	0	0	8	7	0	0	7
				31.2-31.3	2	0	0	2	6	0	0	6
				31.2-31.4	21	1	0	22	20	0	0	20
		31.3	Ashford Road n/b	*31.3-31.1*	247	7	2	256	179	3	0	182
				31.3-31.2	7	0	0	7	5	0	0	5
				31.3-31.4	65	2	0	67	92	1	0	93
		31.4	Magpie Hall Road	*31.4-31.1*	153	5	1	159	111	1	0	113
				31.4-31.2	46	2	0	48	27	0	0	27
				31.4-31.3	51	1	0	52	59	0	0	59
J32	Magpie Hall Road / Tally Ho Road	32.1	Chilmington Green Road	*32.1-32.2*	157	2	0	159	73	0	0	73
				32.1-32.3	143	4	0	147	176	2	0	178
		32.2	Magpie Hall Road	*32.2-32.1*	162	6	0	168	141	0	0	141
				32.2-32.3	58	2	0	60	73	1	0	73
		32.3	Tally Ho Road	*32.3-32.1*	187	5	0	192	207	2	0	209
				32.3-32.2	94	4	0	98	122	1	0	124
J33	Magpie Hall Road / Long Length	33.1	Chilmington Green Road s/b	*33.1-33.2*	306	0	0	306	121	0	0	121
				33.1-33.3	231	6	0	237	130	1	0	131
		33.2	Long Length	*33.2-33.1*	141	0	0	141	149	0	0	149
				33.2-33.3	70	2	0	72	119	1	0	120
		33.3	Chilmington Green Road n/b	*33.3-33.1*	257	8	0	265	249	2	0	251
				33.3-33.2	91	4	0	95	99	0	0	99
J35	Chilmington Green Road / Bartletts Lane	35.1	Chilmington Green Road s/b	*35.1-35.2*	0	0	0	0	0	0	0	0
				35.1-35.3	147	4	0	151	263	3	0	266
		35.2	Bartletts Lane	*35.2-35.1*	0	0	0	0	0	0	0	0
				35.2-35.3	11	0	0	11	27	0	0	27
		35.3	Chilmington Green Road n/b	*35.3-35.1*	340	10	0	350	238	2	0	239
				35.3-35.2	76	0	0	76	8	0	0	8
J36	Bartletts Lane / Unnamed Road	36.1	Bartletts Lane n/b	*36.1-36.2*	1	0	0	1	0	0	0	0
				36.1-36.3	76	0	0	76	9	0	0	9
		36.2	Unnamed Road	*36.2-36.1*	2	0	0	2	0	0	0	0
				36.2-36.3	39	0	0	39	28	0	0	28
		36.3	Bartletts Lane s/b	*36.3-36.1*	9	0	0	9	27	0	0	27
				36.3-36.2	28	0	0	28	20	0	0	20
J37	Chilmington Green Road / Unnamed Road	37.1	Chilmington Green Road s/b	*37.1-37.2*	23	0	0	23	79	0	0	79
				37.1-37.3	142	4	0	146	258	3	0	260
		37.2	Unnamed Road	*37.2-37.1*	47	0	0	47	9	0	0	9
				37.2-37.3	5	0	0	5	6	0	0	6
		37.3	Chilmington Green Road n/b	*37.3-37.1*	331	8	0	339	225	2	0	226
				37.3-37.2	6	0	0	6	12	0	0	12
J38	Chilmington Green Road / Mock Lane	38.1	Chilmington Green Road s/b	*38.1-38.2*	7	0	0	7	18	0	0	18
				38.1-38.3	147	5	0	152	294	4	0	298
		38.2	Mock Lane	*38.2-38.1*	2	0	0	2	0	0	0	0
				38.2-38.3	54	0	0	54	7	0	0	7
		38.3	Chilmington Green Road n/b	*38.3-38.1*	336	11	0	347	135	2	0	136
				38.3-38.2	23	0	4	27	15	0	5	20
		40.1	A28 Ashford Road s/b	*40.1-40.2*	77	6	0	83	147	0	0	147
				40.1-40.3	282	9	0	291	317	3	0	320

J40	A28 Ashford Road / Chilmington Green Road	40.2	Chilmington Green Road	40.2-40.1	224	0	0	224	92	0	0	92
				40.2-40.3	97	0	0	97	131	0	0	131
		40.3	A28 Ashford Road n/b	40.3-40.1	248	7	1	256	312	3	1	316
				40.3-40.2	46	1	0	47	98	1	0	99
J42	A28 Ashford Road / Old Surrenden Manor Road	42.1	A28 Ashford Road n/b	42.1-42.2	0	0	0	0	0	0	0	0
				42.1-42.3	347	8	1	356	461	4	1	467
		42.2	Old Surrenden Manor Road	42.2-42.1	0	0	0	0	0	0	0	0
				42.2-42.3	23	1	0	24	39	0	0	39
		42.3	A28 Ashford Road s/b	42.3-42.1	378	13	0	391	372	5	0	378
				42.3-42.2	32	1	0	33	18	0	0	18
J44	M20 Junction 10	44.1	A2070	44.1-44.2	741	20	0	761	436	6	0	442
				44.1-44.5	408	11	0	419	408	4	0	413
				44.1-44.6	144	4	0	148	260	3	0	263
		44.2	A292	44.2-44.1	93	0	0	93	193	0	0	193
				44.2-44.5	62	0	8	70	55	0	4	59
				44.2-44.6	148	0	0	148	386	0	0	386
		44.4	Southbound off slip	44.4-44.1	147	0	0	147	99	0	0	99
				44.4-44.2	93	0	0	93	32	0	0	32
				44.4-44.5	181	0	0	181	87	0	0	87
				44.4-44.6	0	0	0	0	0	0	0	0
		44.5	B2164	44.5-44.1	267	7	1	275	391	4	0	395
				44.5-44.3	201	7	6	214	164	2	6	172
				44.5-44.6	368	0	0	368	505	5	0	510
		44.6	Hythe Road	44.6-44.1	63	2	0	65	0	0	0	0
				44.6-44.2	237	7	0	244	63	0	0	63
				44.6-44.5	500	14	0	514	331	3	0	334
J45	M20 Junction 9	45.1	A20 Fougeres Way	45.1-45.2	643	18	0	661	277	4	0	281
				45.1-45.4	631	18	6	655	513	5	7	525
				45.1-45.5	398	10	0	408	343	4	0	347
		45.3	Southbound off slip	45.3-45.1	372	11	0	383	789	5	0	794
				45.3-45.4	113	3	0	116	152	2	0	154
		45.4	Trinity Road	45.4-45.1	803	21	6	830	1117	16	6	1139
				45.4-45.2	162	5	0	167	148	1	0	149
				45.4-45.5	229	7	0	236	275	3	0	278
		45.6	Northbound off slip	45.6-45.1	411	12	0	423	572	6	0	578
				45.6-45.4	223	6	0	229	201	2	0	203
J34	Chilmington Green Road/ Criol Road	34.1	Chilmington Green Road n/b	34.1-34.2	29	0	0	29	0	0	0	0
				34.1-34.3	268	8	0	276	214	2	0	216
		34.2	Criol Road	34.2-34.1	38	0	0	38	33	1	0	34
				34.2-34.3	140	0	11	151	26	0	7	32
		34.3	Chilmington Green Road s/b	34.3-34.1	114	3	0	117	155	2	0	156
				34.3-34.2	44	1	0	45	135	1	0	137
J43	Chart Road/ Coulter Road	43.1	Chart Road s/b	43.1-43.2	323	10	0	333	356	3	0	359
				43.1-43.3	264	0	0	264	292	0	0	292
		43.2	Chart Road nw/b	43.2-43.1	304	5	0	309	158	2	0	160
				43.2-43.3	10	0	0	10	3	0	0	3
		43.3	Coulter Road	43.3-43.1	284	13	0	297	23	0	0	23
				43.3-43.2	87	0	0	87	0	0	0	0
JA1	Ashford Road/ Site Access	A1.1	A28 Ashford Road s/b	A1.1-A1.2	230	5	0	235	661	12	0	673
				A1.1-A1.3	229	5	0	234	477	4	0	481
		A1.2	Site access	A1.2-A1.1	629	34	0	663	152	0	0	152
				A1.2-A1.3	121	6	0	127	85	0	0	85
		A1.3	A28 Ashford Road n/b	A1.3-A1.1	405	10	0	415	447	3	0	450
				A1.3-A1.2	5	0	0	5	8	0	0	8
JA2	Ashford Road/ Site Access	A2.1	A28 Ashford Road n/b	A2.1-A2.2	21	0	10	31	40	2	2	44
				A2.1-A2.3	358	11	0	369	351	5	0	356
				A2.1-A2.4	72	3	0	75	10	0	0	10
		A2.2	Ashford Road	A2.2-A2.1	89	0	0	89	33	0	0	33
				A2.2-A2.3	43	0	0	43	100	0	0	100
				A2.2-A2.4	52	0	0	52	52	0	0	52
		A2.3	A28 Ashford Road s/b	A2.3-A2.1	274	8	0	282	426	5	0	431
				A2.3-A2.2	51	0	0	51	61	0	0	61
				A2.3-A2.4	28	0	0	28	73	0	0	73
		A2.4	Site access	A2.4-A2.1	1	0	0	1	1	0	0	1
				A2.4-A2.2	14	0	0	14	1	0	0	1
				A2.4-A2.3	7	0	0	7	0	0	0	0
JA3	Ashford Road/ Sandy Lane	A3.1	A28 Ashford Road n/b	A3.1-A3.2	0	0	0	0	0	0	0	0
				A3.1-A3.3	195	5	1	201	364	3	1	367
				A3.1-A3.4	178	0	4	182	133	0	5	138
		A3.2	Sandy Lane	A3.2-A3.1	0	0	0	0	0	0	0	0
				A3.2-A3.3	14	1	0	15	29	0	0	29
				A3.2-A3.4	14	0	0	14	12	0	0	12
		A3.3	A28 Ashford Road s/b	A3.3-A3.1	284	0	0	284	325	0	0	325
				A3.3-A3.2	53	2	0	55	22	0	0	23
				A3.3-A3.4	49	0	0	49	105	0	0	105
		A3.4	Site access	A3.4-A3.1	129	8	2	139	65	1	1	67
				A3.4-A3.2	53	0	0	53	33	0	0	33
				A3.4-A3.3	83	0	0	83	19	0	0	19
JA4	Coulter Road/ Site Access	A4.1	Coulter Road n/b	A4.1-A4.2	217	4	0	221	116	3	0	119
				A4.1-A4.3	137	4	0	141	21	0	0	21
		A4.2	Site access	A4.2-A4.1	150	8	0	158	127	0	0	127
				A4.2-A4.3	238	7	0	245	2	0	0	2
		A4.3	Coulter Road s/b	A4.3-A4.1	45	2	0	47	101	0	0	101
				A4.3-A4.2	226	5	0	231	190	0	0	190
JA5	Please Refer to Figure 4 in WSP's Brief	A5.1	Please Refer to Figure 4 in WSP's Brief	A5.1-A5.2	19	1	0	20	8	0	0	8
				A5.1-A5.3	401	0	0	401	129	0	0	129
		A5.2	Please Refer to Figure 4 in WSP's Brief	A5.2-A5.1	11	0	0	11	11	0	0	11
				A5.2-A5.3	2	0	0	2	0	0	0	0
		A5.3	Please Refer to Figure 4 in WSP's Brief	A5.3-A5.1	338	15	0	353	184	0	0	184
				A5.3-A5.2	97	2	0	99	125	1	0	126
JA6	Please Refer to Figure 4 in WSP's Brief	A6.1	Please Refer to Figure 4 in WSP's Brief	A6.1-A6.2	0	0	0	0	0	0	0	0
				A6.1-A6.3	301	2	0	303	24	0	0	24
		A6.2	Please Refer to Figure 4 in WSP's Brief	A6.2-A6.1	0	0	0	0	0	0	0	0
				A6.2-A6.3	0	0	12	12	0	0	12	12

		A6.3	Please Refer to Figure 4 in WSP's Brief	A6.3-A6.1	74	4	0	78	103	0	0	103
				A6.3-A6.2	1	0	6	7	0	0	6	6
JA7	Please Refer to Figure 4 in WSP's Brief	A7.1	Please Refer to Figure 4 in WSP's Brief	A7.1-A7.2	52	2	0	54	2	0	0	2
				A7.1-A7.3	308	0	0	308	49	0	0	49
				A7.1-A7.4	0	0	0	0	0	0	0	0
		A7.2	Please Refer to Figure 4 in WSP's Brief	A7.2-A7.1	32	1	0	33	34	0	0	34
				A7.2-A7.3	2	0	0	2	3	0	0	3
				A7.2-A7.4	0	0	0	0	0	0	0	0
		A7.3	Please Refer to Figure 4 in WSP's Brief	A7.3-A7.1	169	5	0	174	307	3	0	310
				A7.3-A7.2	2	0	0	2	5	0	0	5
				A7.3-A7.4	12	0	0	12	12	0	0	12
		A7.4	Please Refer to Figure 4 in WSP's Brief	A7.4-A7.1	0	0	0	0	0	0	0	0
				A7.4-A7.2	0	0	0	0	0	0	0	0
				A7.4-A7.3	7	0	0	7	6	0	0	6
JA8	Please Refer to Figure 4 in WSP's Brief	A8.1	Please Refer to Figure 4 in WSP's Brief	A8.1-A8.2	54	2	0	56	119	0	0	119
				A8.1-A8.3	194	3	0	197	188	2	0	189
				A8.1-A8.4	28	0	0	28	17	0	0	17
		A8.2	Please Refer to Figure 4 in WSP's Brief	A8.2-A8.1	119	12	0	131	41	3	0	44
				A8.2-A8.3	53	2	5	60	74	0	0	74
				A8.2-A8.4	192	7	0	199	107	1	8	116
		A8.3	Please Refer to Figure 4 in WSP's Brief	A8.3-A8.1	331	11	0	342	55	0	0	55
				A8.3-A8.2	32	0	0	32	64	0	0	64
				A8.3-A8.4	133	0	0	133	28	0	0	28
		A8.4	Please Refer to Figure 4 in WSP's Brief	A8.4-A8.1	49	0	0	49	2	0	0	2
				A8.4-A8.2	78	4	0	82	155	0	0	155
				A8.4-A8.3	99	0	0	99	128	0	0	128
JA9	Please Refer to Figure 4 in WSP's Brief	A9.1	Please Refer to Figure 4 in WSP's Brief	A9.1-A9.2	89	0	0	89	135	0	0	135
				A9.1-A9.3	186	0	3	189	83	0	2	85
		A9.2	Please Refer to Figure 4 in WSP's Brief	A9.2-A9.1	134	2	0	136	16	0	0	16
				A9.2-A9.3	72	2	0	74	61	2	0	62
		A9.3	Please Refer to Figure 4 in WSP's Brief	A9.3-A9.1	193	9	8	209	84	0	11	95
				A9.3-A9.2	102	1	0	103	81	1	0	82
JA10	Please Refer to Figure 4 in WSP's Brief	A10.1	Please Refer to Figure 4 in WSP's Brief	A10.1-A10.2	59	1	0	60	78	1	0	78
				A10.1-A10.3	85	0	0	85	101	0	0	101
				A10.1-A10.4	0	0	0	0	0	0	0	0
		A10.2	Please Refer to Figure 4 in WSP's Brief	A10.2-A10.1	66	2	0	68	31	1	0	32
				A10.2-A10.3	14	1	0	15	5	0	0	5
				A10.2-A10.4	138	3	0	141	32	0	0	32
		A10.3	Please Refer to Figure 4 in WSP's Brief	A10.3-A10.1	109	3	0	112	61	1	0	62
				A10.3-A10.2	55	6	0	61	129	8	0	137
				A10.3-A10.4	41	1	8	50	29	0	5	35
		A10.4	Please Refer to Figure 4 in WSP's Brief	A10.4-A10.1	0	0	0	0	0	0	0	0
				A10.4-A10.2	61	0	0	61	137	0	0	137
				A10.4-A10.3	14	0	0	14	0	0	0	0
JA11	Please Refer to Figure 4 in WSP's Brief	A11.1	Please Refer to Figure 4 in WSP's Brief	A11.1-A11.2	0	0	0	0	0	0	0	0
				A11.1-A11.3	177	0	0	177	94	0	0	94
		A11.2	Please Refer to Figure 4 in WSP's Brief	A11.2-A11.1	0	0	0	0	0	0	0	0
				A11.2-A11.3	151	4	0	155	186	4	0	190
		A11.3	Please Refer to Figure 4 in WSP's Brief	A11.3-A11.1	138	7	0	145	180	0	0	180
				A11.3-A11.2	299	5	0	304	214	2	0	216
JA12	Please Refer to Figure 4 in WSP's Brief	A12.1	Please Refer to Figure 4 in WSP's Brief	A12.1-A12.2	15	0	0	15	37	0	0	37
				A12.1-A12.3	347	0	0	347	349	0	0	349
		A12.2	Please Refer to Figure 4 in WSP's Brief	A12.2-A12.1	147	2	0	149	27	0	0	27
				A12.2-A12.3	100	3	0	103	44	1	0	45
		A12.3	Please Refer to Figure 4 in WSP's Brief	A12.3-A12.1	273	13	0	286	190	0	0	190
				A12.3-A12.2	45	1	0	46	93	0	0	93
JA13	Please Refer to Figure 4 in WSP's Brief	A13.1	Please Refer to Figure 4 in WSP's Brief	A13.1-A13.2	207	5	0	212	166	1	0	167
				A13.1-A13.3	172	17	0	189	27	2	0	29
		A13.2	Please Refer to Figure 4 in WSP's Brief	A13.2-A13.1	336	9	0	345	79	1	0	80
				A13.2-A13.3	169	4	0	173	22	1	0	22
		A13.3	Please Refer to Figure 4 in WSP's Brief	A13.3-A13.1	130	9	0	139	181	3	0	184
				A13.3-A13.2	68	1	0	69	158	1	0	159
JA14	Please Refer to Figure 4 in WSP's Brief	A14.1	Please Refer to Figure 4 in WSP's Brief	A14.1-A14.2	327	0	0	327	139	0	0	139
				A14.1-A14.3	16	1	0	17	0	0	0	0
		A14.2	Please Refer to Figure 4 in WSP's Brief	A14.2-A14.1	278	0	0	278	119	0	0	119
				A14.2-A14.3	286	0	0	286	24	0	0	24
		A14.3	Please Refer to Figure 4 in WSP's Brief	A14.3-A14.1	22	0	0	22	0	0	0	0
				A14.3-A14.2	56	0	0	56	100	3	0	103
JA15	Please Refer to Figure 4 in WSP's Brief	A15.1	Please Refer to Figure 4 in WSP's Brief	A15.1-A15.2	33	0	0	33	28	0	0	28
				A15.1-A15.3	315	4	0	319	139	0	0	139
				A15.1-A15.4	10	0	0	10	0	0	0	0
		A15.2	Please Refer to Figure 4 in WSP's Brief	A15.2-A15.1	81	3	0	84	29	0	0	29
				A15.2-A15.3	26	0	0	26	0	0	0	0
				A15.2-A15.4	4	0	0	4	7	0	0	7
		A15.3	Please Refer to Figure 4 in WSP's Brief	A15.3-A15.1	287	0	0	287	119	0	0	119
				A15.3-A15.2	0	0	0	0	0	0	0	0
				A15.3-A15.4	18	0	0	18	0	0	0	0
		A15.4	Please Refer to Figure 4 in WSP's Brief	A15.4-A15.1	1	0	0	1	8	0	0	8
				A15.4-A15.2	4	0	0	4	19	0	0	19
				A15.4-A15.3	0	0	0	0	0	0	0	0

Table 8 Overall Network Performance (2031 DS)		
Parameter	**AM**	**PM**
Average Delay Time per Veh (sec)	255	194
Average Speed (mph)	16.3	18.8
Total Distance Travelled (km)	96551	92003
Total Travel Time (hours)	3714	3067

Corridor	Between Junctions		From	To	Description	Distance (m)	2031 Scenario 2 TT (s)	
							AM	PM
A28	2	4	2	4	A28 Chart Rd, Tank Rbt to Somerset Rd	901	231	142
			4	2		815	104	259
A292	1	4	1	4	A292, Drovers Rbt to Somerset Rd	920	237	151
			4	1		968	163	182
	4	5	4	5	A292, New St to A28 North Street	293	171	164
			5	4		281	78	58
	5	6	5	6	A292, A28 North Street to Wellesley Rd	169	79	81
			6	5		166	25	25
	6	44	6	44	A292, Wellesley Rd to M20J10	2716	317	338
			44	6		2676	484	225
	4	7	4	7	A292, New St to A2042 Station Rd	494	403	442
			7	4		490	167	195
A2042	6	7	6	7	Wellesley Rd, Mace Lane to Elwick Rd	777	249	435
			7	6		798	198	168
	7	20	7	20	A2042, Elwick Rd to B2229 Norman Rd	943	101	97
			20	7		919	162	75
	20	21	20	21	A2042, B2229 Norman Rd to Malcolm Sargent Rd	944	72	73
			21	20		942	56	53
	21	44	21	44	A2042 Bad Muenstereifel Rd to M20J10	3599	347	346
			44	21		3630	302	294
B2229	8	9	8	9	B2229 Beaver Lane, A28 to Knoll Lane	466	83	140
			9	8		466	86	62
	9	19	9	19	B2229 Beaver Lane, Knoll Lane to Kingsnorth Rd	1250	131	128
			19	9		1256	161	117
	19	30	19	30	B2229 Beaver Lane, Kingsnorth Rd to superstore access	517	79	87
			30	19		506	55	61
	30	20	30	20	B2229 Norman Rd, superstore access to A2042	158	10	10
			20	30		164	12	14
Chilmington Green Road / Magpie Hall Rd	40	38	40	38	Chilmington Green Rd, A28 to Mock Lane	257	28	25
			38	40		255	29	26
	38	37	38	37	Chilmington Green Rd, Mock Lane to unnamed road	447	54	55
			37	38		446	47	47
	37	35	37	35	Chilmington Green Rd, unnamed road to Bartletts Lane	422	54	55
			35	37		422	46	47
	35	33	35	33	Chilmington Green Rd, Bartletts Lane to Long Length	940	75	80
			33	35		948	86	86
	33	31	33	31	Chilmington Green Rd, Long Length to Ashford Rd	1540	130	112
			31	33		1565	115	113
Chart Road	15	16	15	16	Chart Rd, Mock Lane to Bartletts Lane	174	16	20
			16	15		175	17	20
	16	17	16	17	Chart Rd, Bartletts Lane to Cuckoo Lane	369	32	32
			17	16		369	31	31
	17	43	17	43	Chart Rd, Cuckoo Lane to Coulter Road	97	13	12
			43	17		98	11	11
	43	25	43	25	Chart Rd, Cuckoo Lane to Long Length	887	75	75
			25	43		890	71	68
	25	24	25	24	Chart Road, Long Length to Millbank Road	152	14	13
			24	25		153	13	13
Pound Lane	24	27	24	27	Pound Lane, Millbank Road to Ashford Road	972	79	81
			27	24		980	82	83
Cuckoo Lane	17	18	17	18	Cuckoo Lane, Chart Rd to Knoll Lane	283	27	25
			18	17		281	25	26
Mock Lane / Bucksford Lane	38	15	38	15	Mock Lane, Chilmington Green Road to Chart Rd	1061	99	100
			15	38		1062	98	96
	15	11	15	11	Bucksford Lane, Chart Rd to Tithe Barn Lane	805	99	102
			11	15		806	95	66
Tithe Barn Lane	12	10	12	10	Tithe Barn Lane, A28 to Knoll Lane	708	78	92
			10	12		709	67	67
Knoll Lane	9	10	9	10	Knoll Lane, B2229 to Tithe Barn Lane	379	62	45
			10	9		382	61	57
	10	18	10	18	Knoll Lane, Tithe Barn Lane to Cuckoo Lane	783	49	50
			18	10		785	65	72
Bartletts Lane	35	16	35	16	Bartletts Lane, Chilmington Green Rd to Chart Rd	1421	133	126
			16	35		1419	129	128
Long Length	33	25	33	25	Long Lenth, Chilmington Green Rd to Chart Rd	1379	123	118
			25	33		1379	129	120
Ashford Rd	31	27	31	27	Ashford Rd, Magpie Hall Rd to Pound Lane	897	88	74
			27	31		894	119	119
	27	22	27	22	Ashford Rd, Pound Lane to Forestall Meadow	440	53	53
			22	27		446	77	75
	22	21	22	21	Ashford Rd, Forestall Meadow to A2042	461	33	34
			21	22		459	35	38
Ashford Rd / Kingsnorth Rd	22	23	22	23	Ashford Rd, Forestall Meadow to Britannia Lane	321	32	28
			23	22		298	30	31
	23	28	23	28	Ashford Rd, Britannia Lane to Kingsnorth Rd	180	21	21
			28	23		191	25	24
	28	19	28	19	Kingsnorth Rd, Ashford Rd to B2229 Beaver Lane	714	112	92
			19	28		719	63	69

Appendix G WSP Internalisation Technical Note

Chilmington Green, Ashford

Technical Note – Internalisation of Trips

Job Title	Chilmington Green, Ashford
Client	Barratt Strategic, Pentland Homes, Jarvis Homes & Hodson Developments
Project Number	11012761
Date	August 2011
Version	Version 1
Author	Ben Taylor, Graduate Transport Planner, WSP Property & Development
Authorised	Andrew Blacker, Technical Director, WSP Property & Development

1.1 INTRODUCTION

1.1.1 This technical note provides detail on the derivation of internalisation percentages for trips generated at the proposed Chilmington Green development at Ashford.

1.2 PROPOSED DEVELOPMENT

1.2.1 The proposals at Chilmington Green are for a mixed use development which will comprise the following development quantum and which can be seen on John Thompson & Partners Master Plan Drawing SK28 770707 open space and land use plan (rev Q1) which accompanies this technical note:

Residential

- Up to 7,000 dwellings.

Education

- Up to 4 x Two Form (2FE) entry Primary Schools; and
- 1 x Six Form entry (6FE) Secondary School. C. 1,200 pupil capacity

Employment

- 1,000 jobs created across the development (primarily B1 office but including community, health, retail and education).

Chilmington High Street District Centre

- Circa 8,000m^2 A2 - A5 retail; and
- Circa 3,700m^2 A1 food retail foodstore.

Orchard Village Neighbourhood Centre

- Convenience and comparison retail.

Chilmington Brook Neighbourhood Centre

- Convenience and comparison retail.

1.3 KENT COUNTY COUNCIL TRAFFIC MODEL

1.3.1 Kent County Council (KCC) commissioned Jacobs to develop a VISSIM model of the Ashford area for a variety of projects relating to Ashford as a growth area. Jacobs have produced a series of 'VISSIM Model Development (Draft)' reports since March 2011 providing an analysis of initial development and infrastructure scenarios. These reports consider the development impact on key links and junctions for forecast development years up to 2031.

1.3.2 In conjunction with the emerging development Master Plan, the 'Chilmington Green Master Planning VISSIM Model Option Testing' is expected to refine the development scale and *likely* transport infrastructure and service improvement options necessary to accommodate development at Chilmington Green site.

1.4 VISSIM MODEL TRIP GENERATION

1.4.1 The travel demands associated with emerging Chilmington Green development master plan has been determined using the traffic generation rates reported in Table 1.1, which have previously been agreed between Kent Highway Services, Ashford's Future and the Highways Agency.

Table 1.1: Ashford VISSIM Model Trip Rates

Type	Trip Rate			
	AM (08:00 – 09:00)		PM (17:00 – 18:00)	
	Arrival	Departure	Arrival	Departure
Dwellings (vehicles per dwelling)	0.15	0.29	0.27	0.16
Employment (vehicles per job)	0.16	0.06	0.06	0.17
Retail (vehicles per 100m² GFA)	0.82	0.88	0.81	0.89
Education / Community (vehicles per 100m² GFA)	1.46	0.92	0	0.14

Source: Trip rates for dwellings, employment and retail are from agreed trip generation rates with Kent Highway Services, Ashford's Future Company and the Highways Agency. Trip rates for education/ community have been established by Jacobs on behalf of KCC and ABC and have used TRICS 2011(a) v6.7.1 to derive them.

1.4.2 Against the latest TRICS database, the above trip rates are broadly consistent with:

- Mixed private residential developments;
- Mixed B1 employment sites with good accessibility; and
- Modest retail centres, with good accessibility typically with restricted parking duration and assuming around 30-40% of pass-by or diverted trips.

1.4.3 Based on the trip rates shown in Table 1.1, and the land use mix reported in Section 1.2, the forecast traffic generation for the opening year (2031) is detailed in Table 1.2.

Table 1.2: Chilmington Green Trip Generation

Type	Trip Rate			
	AM (08:00 – 09:00)		PM (17:00 – 18:00)	
	Arrival	Departure	Arrival	Departure
Dwellings (vehicles per dwelling)	1050	2030	1890	1120
Employment (vehicles per job)	160	60	60	170
Retail (vehicles per 100m² GFA)	82	88	81	89
Education / Community (vehicles per 100m² GFA)	73	46	0	7
TOTAL	1365	2224	2031	1386

Source: Consultant Calculated

1.4.4 In the Model Option Testing Scenario 1 draft report, Jacobs state that the following allowances have been made in the trip rates.

"*It should be noticed that the trip rates used for employment includes all jobs in offices, retail stores, etc. and employee trips for retail were not double counted. The agreed trip rates do not provide information for the school and community developments. The trip rates provided by TRICS are used in this model. The school/community trip rates do not exclude employment trips to school/community due to the lack of supporting data. However, considering the small amount of the school employment trips, the impact to the whole network is assumed to be very marginal.*"

1.5 VEHICULAR TRAFFIC INTERNALISATION

1.5.1 A key element of the Chilmington Green master plan is to deliver a largely self-sufficient community thereby exploiting the potential for walking, cycling and public transport. Building on research[1], it is reasonable to retain a significant proportion of trips within the settlement to reduce the need to travel onto the wider transport network.

1.5.2 A reasoned estimation of the internalisation for different journey purposes at Chilmington Green has been identified based on local data. This reflects trips that start and/or end at the residential dwellings within the expanded community. In many cases, a 'trip' will begin from a different origin and could therefore form part of a trip chain, visiting more than one land use before returning home.

1.5.3 Other than residential use (which will determine the total number of trips which have Chilmington Green as an origin or destination) there are three other land uses which require internalisation to be applied. These are Employment, Education/Community and Retail.

[1] Less Traffic Where People Live: How local transport schemes can help cut traffic, Transport 2000, 2003

JOURNEY PURPOSE - WORK

1.5.4 Journey to Work census data from 2001 for the three wards of Ashford which contain and neighbour the proposed development site has been analysed to provide an indication of the level of internalisation of employment trips currently experienced within those wards. The wards studied are:

- Great Chart with Singleton North;
- Singleton South; and
- Washford.

1.5.5 The locations of the above wards are shown on Figure 1 which accompanies this technical note.

1.5.6 Based on local data it is evident that around 17% of employment trips remain internal to these wards. However, as the proposed development will generate a greater demand for jobs that will be accommodated within the commercial and community land uses provided within the master plan, it is assumed that future residents will take 10% of jobs within Chilmington Green master plan area. Therefore a 10% internalisation for employment has been included.

1.5.7 The 90% of external trips will also include teachers and staff at the schools of Chilmington Green as the methodology which has been used to internalise education trips accounts for only pupils rather than staff.

JOURNEY PURPOSE – EDUCATION/COMMUNITY

1.5.8 The requirement to provide community infrastructure within the Chilmington Green development, will include the provision of primary and secondary schools appropriate to the needs generated by the proposed development. In meeting this obligation, in accordance with Circular 05/05 these schools will primarily serve the future community. For a short transitional period the scale of pupil 'leakage' into or out-of Chilmington Green schools may be greater but in the longer-term the potential for special needs education, faith schools, public schools or parental preference is likely to remain very small[2].

1.5.9 Those education trips that require travel beyond Chilmington Green are likely to be undertaken using public transport services or form part of a linked trip, in the case of part-time education.

1.5.10 As there is no specific 2001 Census Data which can be suitably interpreted to determine education internalisation, an alternative methodology has been employed.

Primary School Internalisation

1.5.11 The primary schools at Chilmington Green will be designed in order to accommodate only the pupils that the new development will generate. To meet efforts to integrate special needs education at primary school level, the proportion of pupil leakage at primary schools is expected to be minimal.

1.5.12 As the spatial strategy within the Chilmington Green master plan ensures that the vast majority of dwellings are within 2km of a primary school, more pupils can be expected to walk and cycle. Where motorised travel is employed the majority of these trips can be expected to be linked trips within Chilmington Green.

Secondary School Internalisation

1.5.13 The secondary school proposed for Chilmington Green is anticipated to accommodate 1,200 pupils and to have an approximate Gross Floor Area (GFA) of 10,000m².

[2] Hansard Report - http://www.parliament.the-stationery-office.co.uk/pa/cm200607/cmhansrd/cm070703/text/70703w0007.htm

1.5.14 The Ashford Borough Local Plan (2000) cites research used to determine ratios for the number of pupils which a new dwelling will generate in the borough. The ratio for secondary school pupils per dwelling is stated as 0.15. When applied to 7,000 dwellings, the residential quantum at Chilmington Green, this gives an anticipated number of pupils who live within Chilmington Green of 1,050.

1.5.15 Whilst the proposed secondary school at Chilmington Green is designed primarily to accommodate pupils within the adjacent community, the school will attract some demand from surrounding areas. Similarly, there is some potential for pupils within the future community to attend the John Wallis Church of England Academy (Stanhope) or other schools in Ashford. Based on these circumstances, a robust assumption has been made that 70% of secondary education trips by pupils in Chilmington Green are made to the new school.

1.5.16 As the total number of secondary pupils generated by the development is known (1,050), it is possible to determine how many of these will travel to the new secondary school.

i) 1,050 x 70% = 735 pupils

1.5.17 Subtracting this number from the total number of pupils at the new school will therefore determine the number of pupils who will attend the secondary school from outside of Chilmington Green.

ii) 1,200 – 735 = 465 pupils

1.5.18 These 465 external pupils represent 39% of the total number of trip generating pupils at the school. If this percentage is transposed on to the GFA of the building, this means that 3,900m² of the building will generate external vehicular trips. Conversely this means that 61% of the total trips to the school are from pupils living in Chilmington Green.

1.5.19 External trips made by teachers and other staff to the secondary school have not been accounted for in these calculations. As discussed earlier in this note, employment trips generated by the school have already been included in the employment trips, to which an external factor of 90% is applied. Therefore to avoid further double counting, only pupils have been considered.

Community Use

1.5.20 Considered in conjunction with the educational facilities at Chilmington Green are the community uses. These are expected to be approximately 1,000m² GFA and will be a trip generator for residents from outside of Chilmington Green as the internal trips have been accounted for.

JOURNEY PURPOSE - RETAIL

1.5.21 Chilmington Green will include a district centre and two neighbourhood centres with a range of retail facilities that will cater for everyday convenience shopping with an element of comparison retail. Based on experience of similar settlements and retail research[3] it can be assumed that a significant proportion of primary convenience (food) retail trips will be contained within the settlement.

1.5.22 It is accepted that the majority of comparison (non-food) trips will occur beyond the settlement, with the majority of trips being made to Ashford town centre or designer outlet. The vast majority of comparison retail trips occur outside of the peak period and at weekends therefore the effects of such trips have not been examined in detail. This Technical Note examines the AM and PM peak periods only, during which the vast majority of retail trips form part of a trip chain, typically with a convenience purpose.

1.5.23 Cambourne is a new settlement to the west of Cambridge and as of 2007 just over 50% of the projected total of 4,200 dwellings had been completed. The research found that 74% of food shopping trips were made to the superstore located within the development. Accounting for the distance and brand loyalty

[3] Lessons from Cambourne, Inspire East & Cambridge Architectural Research Ltd., 2007

to other food stores in Ashford, it is assumed that approximately 75% of food-store trips will be contained within the Chilmington Green development area.

1.5.24 Retail trips to the district / neighbourhood centre in Chilmington Green during peak periods would primarily be convenience retail trips type, with an element of comparison retail purposes. It is likely that many would be part of a trip chain, associated with employment and education journeys in particular. As a result of this, 90% of these trips have been assumed to be contained within Chilmington Green.

INTERNALISATION SUMMARY

1.5.25 Table 1.3 below summarises the internalisation percentages which have been deemed appropriate to apply to development at Chilmington Green which is being included in modelling.

Table 1.3: Internalisation Percentages at Chilmington Green

Land Use	Internal Trip Percentage	External Trip Percentage
Employment	10%	90%
Food Superstore	75%	25%
District & Neighbourhood Centre Retail	90%	10%

1.6 CUMULATIVE INTERNALISATION

1.6.1 Table 1.3 shows the level of internalisation applicable to each of the land uses included in the Ashford VISSIM model. Each of these uses will make up a different proportion of the total trip generation of Chilmington Green during each period. Consequently it was necessary to calculate the cumulative internalisation of the above land uses during the AM and PM peaks.

1.6.2 In order to achieve this, the Department for Transport's (DfT) TEMPRO v 6.2 database was interrogated to obtain vehicular trip production and attraction data for Ashford using a base year of 2011. The resulting data from TEMPRO was a list of journey purposes and the number of trips produced and attracted by Ashford for those purposes in the AM and PM peaks respectively.

1.6.3 Of the trips included in the data, only those which were Home Based were further analysed, those defined as Non-Home Based were excluded. For each of the remaining trip purposes, the number of trips produced and attracted were added together in order to obtain a total number of trips for that purpose. Following this, the proportion of total vehicle trips which any purpose constitutes can then be calculated.

1.6.4 To illustrate this process, employment is used as an example.

i) Total Number of Vehicle Trips in AM Peak (T) = 37,151

ii) Total Number of Employment Vehicle Trips in AM Peak (E) = 25,365

iii) Employment Trips as a Percentage of Total = (E/T) x 100 = 68.28%

1.6.5 As detailed previously, 10% of employment has been assumed to be internal to Chilmington Green. Therefore the employment trips as a percentage of the total are multiplied by 10%. The resultant figure (6.83%) is the percentage of total car trips which are being made internal to Chilmington Green for employment purposes in the AM peak.

1.6.6 In terms of calculating retail internalisation, the data obtained from TEMPRO has one trip purpose for shopping which covers all sub categories. As different internalisation factors have been applied for the supermarket and District/ Neighbourhood centre uses these individual uses would need to be calculated as well.

1.6.7 Like education trips, the proportion of car based 'shopping' trip purposes is calculated for the peak periods. Then the proportional quantum of convenience and comparison (4000m² and 6000m² respectively) retail trips is derived relative to the local and district centres uses, and finally the relative internalisation factor is applied in order to obtain the percentage of the total vehicle trips contained within Chilmington Green. Convenience retail trips are used in the example below.

i) AM Vehicle Shopping Trips as a Percentage of Total (S) = 5.50%

ii) Supermarket as a Percentage of Total Retail Space (R) = 40.00%

iii) Percentage of AM Vehicle Trips to Supermarket (T) = S x R = 2.20%

iv) 75% Internalisation of Supermarket Trips (I) = T x 75%

v) I = 1.65% = Internal Supermarket Vehicle Trips as a Percentage of Total

1.6.8 Adopting this methodology, Table 1.4 below shows the proportion of the total vehicle trips generated by Chilmington Green in the AM and PM peak periods which will remain internal to the development.

Table 1.4: Internal Trips as a Percentage of Total Vehicle Trips Made – AM and PM Peak

Land Use	AM Peak	PM Peak
Employment	6.83%	2.10%
Food Superstore	1.65%	7.69%
District & Neighbourhood Centre Retail	2.97%	13.84%
TOTAL INTERNALISATION	**11.45%**	**23.63%**

Source: Consultant calculated based on data from TEMPRO v6.2

1.7 SUMMARY

1.7.1 This technical note has explained the methodology used to verify the internalisation determined by the Ashford VISSIM model. In the modelling undertaken by Jacobs and which is discussed in the 'Model Option Testing' draft reports, it is reported that the level of internalisation which has been included is 12% in the AM and PM peak hours.

1.7.2 Based on local data for Ashford from the DfT's TEMPRO database, combined with the internalisation factors reported in this technical note, the level of vehicle trip internalisation at Chilmington Green as it is modelled is likely to be 11.45% and 23.63% in the AM and PM peak periods respectively. The AM peak internalisation is comparable with, and the PM peak significantly higher than the internalisation used in the model scenario tests. It is therefore reasonable to suggest that the modelled network traffic flows will incorporate a robust forecast of future development traffic.

1.7.3 Whilst there will be some corresponding reductions in travel demand at the commercial and community land uses in Chilmington Green, these are assumed to be broadly consistent with the home based trip reductions calculated and also determined as robust.

Appendix H Umbrella Travel Plan

UNITED BY OUR DIFFERENCE

WSP

Chilmington Green, Ashford

Umbrella Travel Plan

Hodson Developments, Malcolm Jarvis Homes, Pentland Homes & Ward Homes

April 2012

QM

Issue/revision	Issue 1	Revision 1	Revision 2	Revision 3
Remarks	DRAFT	ISSUE		
Date	March 2012	April 2012		
Prepared by	Emily Butler	Emily Butler		
Signature				
Checked by	Sarah Thorneycroft	Sarah Thorneycroft		
Signature				
Authorised by	Andrew Blacker	Andrew Blacker		
Signature				
Project number	11012761	11012761		
File reference				

WSP UK
Mountbatten House
Basing View
Basingstoke
Hampshire
RG21 4HJ

Tel: +44 (0)1256 318800
Fax: +44 (0)1256 318700
http://www.wspgroup.com

WSP UK Limited | Registered Address WSP House, 70 Chancery Lane, London, WC2A 1AF, UK | Reg No. 01383511 England | WSP Group plc | Offices worldwide

Contents

1 Introduction

1.1.1 WSP UK (WSP) has been commissioned by Hodson Developments, Malcolm Jarvis Homes, Pentland Homes and Ward Homes (The Consortium) to prepare an Umbrella Travel Plan in support of the development proposals for up to 5,750 dwellings, provision of new school facilities, employment and various community facilities on land at Chilmington Green, Ashford.

1.1.2 Also provided over the course of the four phases will be public open space, associated access and junction improvements and other associated works. These are identified in the accompanying Transport Assessment (TA).

1.2 APPROACH TO TRAVEL PLANNING

1.2.1 This Umbrella Travel Plan provides an overarching summary of the aims, measures, approach to management and implementation, and targets for Travel Planning for this development proposal.

1.2.2 As this is a large, mixed-use development, each land use has had its own respective Travel Plan prepared to provide greater detail on the approach to delivering Travel Planning measures. These individual Travel Plans are appended to this Umbrella Travel Plan document, and a short summary of each is provided below.

1.2.3 The management and delivery of these Travel Plans will be overseen by the appointment of a site-wide Travel Plan Coordinator (TPC), who will undertake these duties through to the completion of the development and monitoring period beyond. Chapter 5 provides further details of the Travel Plan Coordinator and their responsibilities. An Umbrella Travel Plan Steering Group will be set up by the TPC to help co-ordinate a joined-up approach to site-wide travel planning across the mix of land uses. Key local stakeholders, including TPC's from other local developments will be encouraged to join.

1.2.4 The figures referred to in each of the Travel Plans are contained solely within this Umbrella Travel Plan and are as follows:

- Figure TP 1.1 Site Location Plan
- Figure TP 4.1 Local Highway Network
- Figure TP 4.2 Pedestrian and Cycle Network
- Figure TP 4.3 Public Transport Network
- Figure TP 4.4 Existing Pedestrian Accessibility
- Figure TP 4.5 Existing Cycle Accessibility
- Figure TP 4.6 Existing Public Transport Accessibility
- Figure TP 4.7Residential Development Density
- Figure TP 5.1 Proposed Development Pedestrian and Cycle Routes
- Figure TP 5.2 Chilmington Green Development Pedestrian Accessibility
- Figure TP 5.3 Chilmington Green Development Cycle Accessibility
- Figure TP 5.4 High Frequency Bus Service Route
- Figure TP 5.5 Chilmington Green Development Local PT Accessibility
- Figure TP 5.6 Chilmington Green Development PT Accessibility to Kent

- Figure TP 9.1 Proposed Permanent ATC Locations

APPENDIX A – RESIDENTIAL TRAVEL PLAN

1.2.5 A Residential Travel Plan (RTP) has been prepared to complement the proposals set out within the accompanying Transport Assessment Report and Public Transport Strategy in the interests of promoting sustainable development and reducing the reliance on private car-based forms of transport.

1.2.6 This detailed Travel Plan is included as 'Appendix A' to this Umbrella Travel Plan document.

1.2.7 This plan focuses primarily on how residents of the development can be encouraged to use sustainable means of transport to and from the site for all journey purposes.

APPENDIX B – WORKPLACE TRAVEL PLAN

1.2.8 A Workplace Travel Plan (WTP) has been prepared to complement the proposals set out within the accompanying Transport Assessment Report and Public Transport Strategy in the interests of reducing private car-based forms of transport for commuting and business travel at the non-residential components of the development.

1.2.9 This detailed Travel Plan is included as 'Appendix B' to this Umbrella Travel Plan document.

1.2.10 This plan focuses primarily on how employees who will be based at the development can be encouraged to use sustainable means of transport to and from the site.

APPENDIX C – SCHOOL TRAVEL PLAN FRAMEWORK

1.2.11 A School Travel Plan Framework (STP) has also been prepared.

1.2.12 This framework provides guidance which is to be used to assist each of the schools within the development to develop their own School Travel Plan. The school's individual plans will focus primarily on how pupils and staff based at the development can be encouraged to use sustainable means of transport to travel safely to and from the area's schools.

1.2.13 It is proposed that four new primary schools and a secondary school will be constructed as part of the development. It is anticipated in the accompanying Transport Assessment Report that these education facilities will absorb virtually all the education trips generated by the development, giving a high level of internalisation. This framework will guide schools in creating appropriate School Travel Plans in preparation for their opening.

1.2.14 The framework will guide and inform five School Travel Plans:

- The TP for the four new primary schools; and
- The TP for the new secondary school.

1.2.15 The School Travel Plan Framework is included as 'Appendix C' to this Umbrella Travel Plan document.

1.3 BENEFITS OF SITE-WIDE APPROACH

1.3.1 The site wide Chilmington Green Travel Plan brings together different land uses in a joined up approach the benefit of this are:

- Ensuring each land use is working towards a common goal;
  - Site-Wide aim
  - Objectives
  - End of phase targets.
- Coordination of measures between land uses;
- Coordinated approach to monitoring;
- Coordinated approach to consultation with KCC/ ABC and other key stakeholders.

2 Policy and Guidance Review

2.1 INTRODUCTION

2.1.1 The sustainability of new development has become of paramount importance and a significant amount of guidance has been produced on promoting lower carbon transport options such as walking, cycling and public transport, whilst advocating a reduction of the use of the private car. This section outlines the national and local policy context and best practice guidance under which this Umbrella Travel Plan has been prepared.

2.2 NATIONAL POLICY GUIDANCE

CREATING GROWTH, CUTTING CARBON: MAKING SUSTAINABLE LOCAL TRANSPORT HAPPEN (DFT WHITE PAPER, 2011)

2.2.1 The Government's Transport White Paper entitled 'Creating growth, cutting carbon: Making sustainable local transport happen' sets out the Government's vision for a sustainable local transport system that supports the economy and reduces carbon emissions.

2.2.2 The Transport White Paper states that action taken locally is best placed to support economic growth and deliver near term reduction in transport-related carbon emissions. This can be achieved by providing people with options to choose sustainable modes for everyday local transport choices to, for example, help boost economic growth by facilitating access to local jobs.

2.2.3 Travel Plans are noted as being a key means for promoting travel choices to a wide audience and encouraging a change in travel behaviour towards greater use of sustainable modes of travel.

DELIVERING A SUSTAINABLE TRANSPORT SYSTEM (DFT, 2008)

2.2.4 This publication outlines Government's five goals for transport, focusing on the challenge of delivering strong economic growth while at the same time reducing greenhouse gas emissions.

2.2.5 These five overarching goals are:

- To support national economic competitiveness and growth, by delivering reliable and efficient transport networks
- To reduce transport's emissions of carbon dioxide and other greenhouse gases, with the desired outcome of tackling climate change.
- To contribute to better safety security and health and longer life-expectancy by reducing the risk of death, injury or illness arising from transport and by promoting travel modes that are beneficial to health
- To promote greater equality of opportunity for all citizens, with the desired outcome of achieving a fairer society;
- To improve quality of life for transport users and non-transport users, and to promote a healthy natural environment.

2.2.6 Travel Plans provide an opportunity to support these goals by highlighting and promoting the availability of low carbon transport options to residents and visitors, thereby reducing carbon emissions associated with low journeys.

NATIONAL PLANNING POLICY FRAMEWORK, DCLG, (2012)

2.2.7 Adopted on 27 March 2012, the National Planning Policy Framework (NPPF) seeks to reduce the complexity and improve the accessibility of the planning system, whilst protecting the environment and encouraging growth in a sustainable manner.

2.2.8 This Travel Plan shows how the proposed development accords with Paragraph 29 of the NPPF which details transport as having:

"… an important role to play in facilitating sustainable development but also in contributing to wider sustainability and health objectives."

2.2.9 Travel Plans are noted in Paragraph 36 of NPPF as an important mechanism to facilitate measures to increase sustainability.

2.2.10 As encouraged in the NPPF, the proposed development at Chilmington Green has been planned in such a way that gives people a *"real choice"* regarding their mode of travel. Its density and proximity to local facilities ensures that sustainable modes can be considered a favourable option for local trips.

2.2.11 Pedestrian and cycle movements are afforded priority on the internal network of the proposed development, which also limits the opportunity for conflict between non-motorised users and vehicles, ensuring safety and accessibility is afforded in line with the NPPF.

2.2.12 Paragraph 29 of the NPPF notes that more efficient use of technology can contribute to a reduction in the requirement to travel. As suggested in paragraph 42 of the NPPF, communications and broadband technologies can enhance the provision for communities. This Travel Plan suggests measures which utilise technology to encourage smarter travel choices.

GOOD PRACTICE GUIDELINES: DELIVERING TRAVEL PLANS THROUGH THE PLANNING SYSTEM – DEPARTMENT FOR TRANSPORT (2009)

2.2.13 This document defines a travel plan as:

- A long-term management strategy for an occupier or site that seeks to deliver sustainable transport objectives through positive action and is articulated in a document that is regularly reviewed

2.2.14 The purpose of reviewing the document is to ensure that it remains relevant and effective.

2.2.15 Travel Plans are important for new developments in order to:

- Promote sustainable travel and help to reduce single occupancy car use;
- Encourage effective use of current transport networks;
- Support increased choice of travel modes;
- Promote and achieve access by sustainable modes;
- Respond to growing concern about the environment, congestion, pollution and poverty of access; and
- Promote a partnership between the authority and the developer in creating and shaping 'place'.

MAKING SMARTER CHOICES WORK – DEPARTMENT FOR TRANSPORT (2005)

2.2.16 Published subsequent to the Transport White Paper, the Department for Transport (DfT) report 'Making Smarter Choices Work' signals continued government support for a range of measures aimed at raising awareness of alternative modes of travel to private car use, and actively encouraging the use of a wider range of travel modes amongst individuals.

2.2.17 These measures include Travel Plans, travel awareness campaigns, car sharing initiatives, and individualised travel marketing. Contemporary transport policy now recognises the impact that such measures can have in encouraging a shift in modal choice, particularly when accompanied by demand management restraints on single-occupancy car use.

2.3 A SAFER JOURNEY TO SCHOOL: A GUIDE TO SCHOOL TRAVEL PLANS

2.3.1 The Safer Journey To School is the recommended guidance by the Department for Education, and is available free of charge from Prolog.

2.3.2 Links to the policy and best practice information approved by DfT in regards to School Travel Plans is now located on the Department for Education website.

2.3.3 The Safer Journey to School guide suggests that a good School Travel Plan should include the following:

- A brief description of the location, size and type of school;
- A brief description of the transport/travel problems faced by the school/cluster of schools, and should include all the pupils travel needs:
  - -Journeys to and from School at normal start/finish times;
  - -Journeys to attend pre and after school events; and
  - -Journeys made during the school day to attend activities at other locations.
- The results of a survey to identify:
  - How children currently travel to/from school; and
  - How they would like to travel to/from school.
- Clearly defined the aims of the Travel Plan, set out targets and objectives;
- Details of proposed measures;
- A detailed timetable for implementation;
- Local partners who can help the school take the plan forward with clearly defined responsibilities;
- Evidence that all interested parties have been consulted; and
- The funding plans – what the costs are and possible sources of funds
- Proposals for monitoring and review.

2.3.4 During the creation of the Travel Plans for the three new schools, the site-wide TPC will discuss these areas with each school for inclusion within each school's plan.

2.4 KEY LOCAL GUIDANCE

LOCAL TRANSPORT PLAN FOR KENT 2011 – 2016 LTP3

2.4.1 Through Kent's third Local Transport Plan (LTP3), KCC actively promotes alternatives to car based travel as part of its work to improve the safety, sustainability and efficiency of the highway network. In particular, this includes working with the county's school, businesses and developers to develop travel plans.

2.4.2 The implementation plan for A Safer and Healthier County specifically looks to the delivery of school travel plans in helping to deliver its Sustainable Travel to School Strategy. KCC is working with health colleagues to ensure that all schools are engaged in the Governments Healthy Schools campaign.

2.4.3 Also of relevance to development at Chilmington Green is the implementation plan for Tackling a Changing Climate. In particular, the following themes;

- New Development – to ensure that associated transport infrastructure embraces sustainability. Locating development near existing transport hubs and providing facilities for walking, cycling and public transport.
- Smarter Travel – KCC is exploring ways of encouraging journeys by more efficient modes of transport and reducing the distance travelled. Through the promotion of car sharing and encouraging the use of public transport, walking and cycling, capacity can be released on the transport network which will allow more people to reach their destination on time.
- Walking – increasing the number of people choosing to walk instead of drive, is one of the key outcomes needed if the UK is to achieve the carbon reduction target required by the Climate Change Act 2008. Walking networks must be inclusive, considering the quality of the walking environment, its suitability for all types of pedestrians, personal safety and security, signage and information, and the directness of the route. It is important to ensure that the principles of inclusive design are enshrined in the planning and delivery of all new developments, which should be fully accessible to all.
- Cycling – cycle routes should be continuous and direct. Therefore, priority will be given to providing a comprehensive network that enables people to cycle continuously to schools, work places, shops and leisure opportunities.
- Buses – continued partnership working to deliver modal shift from car to bus and reducing overall emissions.
- WTP & Smarter Choices – KCC will continue to provide support to developers in fulfilling their obligations. In particular, This includes implementing the iTRACE Travel Plan survey tool and facilitating links with service providers, including public transport operators and car club/car share networks.

GUIDANCE ON TRANSPORT ASSESSMENTS AND TRAVEL PLANS, KENT COUNTY COUNCIL (OCTOBER 2008)

2.4.4 The purpose of this document is to assist both Officers and intending Developers by clarifying when a transport assessment and or travel plan will need to be submitted alongside a Planning Application in Kent and how this will be evaluated, monitored and enforced.

2.4.5 The Travel Plan will take the form of a package of sustainable transport and demand management measures tailored to the needs of an individual site. The Travel Plan is aimed at promoting sustainable transport options to the site and reducing car dependence and single car occupancy. A Travel Plan will grow and develop in time in accordance with changing circumstances.

2.4.6 A Travel Plan will need to include:

- A clear statement of targets and objectives;
- An assessment of existing transport infrastructure and facilities at the site;
- An assessment of the travel needs that are – or will be – generated by the site;
- A programme of appropriate measures which will improve accessibility and promote sustainable travel options;
- A programme for implementation of the plan, giving details of the dates by which the various measures will be put in place, of who will be responsible for the various actions and of how funding will be provided;
- A firm commitment to implement the measures identified in the Travel Plan, to monitor its success and to modify or develop the Plan in the future if this is necessary to achieve its targets; and
- A commitment to support the Planning Authority in seeking further district wide improvements in sustainability in the future.

2.4.7 The Travel Plan measures proposed in the document may include:

- Provision of on-site infrastructure and facilities (for example, convenient cycle parking, bus stops and a carshare scheme);
- Commitment to sustainable policies and working patterns (such as parking restraint, local recruitment, public transport - friendly shift patterns and sustainable fleet management); and
- Assistance with or contributions to off-site infrastructure and services (such as pedestrian crossing points, cycle routes, supported bus services).

2.4.8 They must always include:

- The appointment of an individual to act as Travel Plan Co-ordinator, who must have the full support of management and will be responsible for the implementation of the Travel Plan;
- A firm commitment to achieving the targets of the Travel Plan; and
- Clear proposals for monitoring and reviewing the Travel Plan over time.

NEW WAYS 2 WORK - BEST PRACTICE GUIDE FOR PREPARING TRAVEL PLANS IN KENT, KENT COUNTY COUNCIL

2.4.9 This document is the second edition of News Way 2 Work, initially published in 2003. This current version acknowledges the greater importance of Travel Plans as a tool to tackle congestion and climate change. The guide has been designed to provide practical advice and support to help raise awareness and to assist organisations make their own decisions on how best to take forward their travel plan activities. This guide will be closely followed in the preparation of travel plans for Chilmington Green.

2.4.10 Furthermore, the guide details how KCC has recently introduced iTRACE. iTRACE is an innovative Travel Plan software package which includes site audit questionnaires and staff travel surveys designed to monitor and report on the performance of workplace travel plans. All new travel plans in Kent are required to use iTRACE.

KENT'S SUSTAINABLE TRAVEL TO SCHOOL STRATEGY (SEPTEMBER 2010)

2.4.11 This Sustainable Travel To School Strategy forms the strategy for assessing schools and colleges in Kent. The strategy identifies school travel and transport trends in addition to travel issues affecting young people. Included within the strategy is School Travel Plan (STP) suggested measures.

2.5 SUMMARY

2.5.1 The purpose of this chapter has been to present the key elements of a national and local policy framework that will be supported by the introduction of Residential, Workplace and School Travel Plans at the development at Chilmington Green.

2.5.2 National, regional and local policies emphasise the need to reduce the amount of trips undertaken by private car for all journey purposes. They encourage developments to provide the opportunity for residents, employees and school children to travel on foot, by bicycle or by public transport for everyday trips.

2.5.3 Travel Planning at this development will directly contribute to both national and local planning and transport policy objectives for promoting a full range of transport options at new developments. This will actively contribute towards delivering sustainable communities and improving people's accessibility to local services and amenities by non-car forms of transport.

3 Travel Plan Aims and Objectives

3.1 INTRODUCTION

3.1.1 As has been shown in the policy review in Chapter 2, delivering sustainable development and travel patterns is an important objective of both national and local planning and transport policy. This can be achieved by introducing positive measures to encouraging residents, employees, school children and teachers to use more low carbon, healthy travel options, such as walking, cycling, local bus services and car sharing.

3.2 UMBRELLA TRAVEL PLAN AIM

3.2.1 The overarching aim of this Umbrella Travel Plan is to provide a tool for the provision of appropriate measures to encourage residents, employees, those attending educational establishments, and visitors of the development to use healthier, lower carbon transport options.

3.2.2 This will contribute to a greener, more sustainable development, providing added benefits to the wider community.

3.3 TRAVEL PLAN OBJECTIVES

3.3.1 The objectives of this Umbrella Travel Plan are;

1. To support the development of land at Chilmington Green as a sustainable community;
2. To facilitate and encourage the use of lower carbon transport options in preference to the use of the private car, particularly for local journeys;
3. To promote awareness of the Travel Plan aim;
4. To promote a lifestyle to residents, employees, school children and visitors which includes healthy, low carbon living;
5. To encourage a greater use of sustainable transport initiatives amongst all site users and encourage sustainable travel behaviour, including walking and cycling; and
6. Continually develop, implement, monitor, evaluate and review the progress of the Travel Plan towards achieving the targets.

3.3.2 The above objectives will be achieved by introducing a package of measures that focus on promoting access to the site by sustainable modes of transport as an alternative to the private car. This will encourage users of the development to consider healthier, lower carbon travel alternatives in everyday trips as opposed to single occupancy car travel.

3.3.3 The Travel Plans for individual land uses will feed into the aim presented in this chapter, but also include objectives specific to the land use.

4 Accessibility and Development Proposals

4.1 EXISTING SITUATION

4.1.1 The current access to facilities from Chilmington Green via sustainable modes ranges from poor to acceptable. This is primarily because the area currently has minimal development and therefore does not create a substantial demand for facilities. Therefore the facilities that will be used by existing residents have been established in order to serve other communities such as those in Singleton and Stanhope to the south of Ashford.

4.1.2 Ashford currently has a very well developed provision of pedestrian and cycle routes, and the proposed development will integrate seamlessly with these, ensuring that the new community is able to access existing facilities with ease.

4.1.3 The proposed development will provide a wide range of facilities for retail, education, employment and medical requirements. In the majority of cases, accessing a facility within Chilmington Green will be the most attractive option for residents.

4.2 DEVELOPMENT PROPOSALS

4.2.1 The proposals at Chilmington Green are for a mixed use development. Residential properties will comprise the focus of the development, however there will be significant supporting infrastructure which will sustain Chilmington Green itself and also complement Ashford's position as a regional growth point.

4.2.2 The outline application is for a comprehensive Mixed Use Development comprising:

- Up to 5,750 residential units, in a mix of sizes, types and tenures;
- Up to 10,000m² gross floorspace of Class B1 use;
- Up to 9,000m² gross floorspace of Class A1 to A5 uses:
- Education (including a secondary school of up to 8ha, and up to four primary schools of up to 2.1ha each);
- Community uses (class D1) up to 5,000m² gross floorspace;
- Leisure uses (class D2) up to 5,000m² gross floorspace;
- Provision of local recycling facilities;
- Provision of areas of formal and informal open space;
- Installation of appropriate utilities infrastructure as requires to serve the development, including flood attenuation works, SUDS, water supply and wastewater infrastructure, gas supply, electricity supply (including substations), telecommunications infrastructure and renewable energy infrastructure;
- Transport infrastructure, including provision of three accesses on to the A28, an access on to Coulter Road, other connection on to the local road network, a Park and Ride with a maximum of 600 parking spaces and a network of internal roads, footpaths and cycle routes;
- New planting and landscaping, both within the Proposed Development and on its boundaries, and ecological enhancement works; and

- Associated groundworks.

4.2.3 Appearance, landscaping, layout and scale are reserved for future approval. Access is also reserved for future approval with the exception of the three accesses on to the A28 and the access on to Coulter Road.

4.2.4 The proposals at Chilmington Green afford future residents, employees and visitors the opportunity to access all the facilities that Chilmington Green has to offer using sustainable modes. Travel to and from the development and to places outside of Ashford is significantly enhanced by the proposed high frequency bus service.

4.2.5 Each of the Travel Plans will help to promote and enhance opportunities for sustainable travel to Residents, employees, staff and pupils of the Chilmington Green development.

5 Promoting Sustainable Travel

5.1 INTRODUCTION

5.1.1 Having outlined the aim and objectives of the Umbrella Travel Plan there are potentially a wide range of different measures that can be implemented to meet them.

5.1.2 Individual Travel Plans for the residential, workplace, and school elements of the development have been prepared and these are included within the appendices to this report. These individual Travel Plans provide more detail about the specific measures, and the reasons for their introduction at this development.

5.1.3 Therefore, this chapter outlines in summary a range of measures that will be implemented through each of the individual Travel Plans. The measures presented are anticipated to be relevant to the scale of development and have the greatest potential for encouraging the use of sustainable transport modes amongst residents, employees and those attending one of the schools to be located on the development.

5.1.4 This chapter provides a summary of the main measures to be implemented at the development for the promotion of sustainable travel patterns. Further details are provided within each individual Travel Plan in the appendices. These measures are summarised under the following headings:

- Providing travel information and raising awareness
- Promoting the use of public transport
- Promoting walking and cycling
- Promoting more efficient car travel
- Adopting smarter working practices

5.2 PROVIDING TRAVEL INFORMATION AND RAISING AWARENESS

Residential Sales Staff Training

5.2.1 Training will be provided to all sales staff that will be responsible for meeting with prospective residents at the new development. The training will focus on ensuring all staff are familiar with the objectives of the RTP and are able to communicate to a prospective buyer the sustainable travel opportunities available. Staff training will be repeated by the Travel Plan Coordinator to reflect staff turnover or to keep staff up to date with any changes to the Travel Plan.

5.2.2 This will help to promote the sustainable characteristics of the site to prospective buyers and help to ensure that all new residents of the development are aware that sustainable travel information will be available to them, including prior to occupation.

5.2.3 Sales and marketing literature aimed at prospective buyers of homes will highlight the sustainable nature of the development in terms of its location and connectivity to the surrounding local area.

Sustainable Travel Information Packs

5.2.4 Upon occupation of the development, residents and employees will receive a 'Sustainable Travel Information Pack'. Through the information provided in the welcome pack, residents and employees of the development will be in a better position to make informed choices about how they choose to travel to and from the development.

Personalised Journey Planning

5.2.5 Personalised Journey Planning will be offered to all residents of Chilmington Green, initially through an advisory leaflet and followed by face to face 'home visits' at periodic phases as the development builds out.

5.2.6 Initially an advisory leaflet will be provided in the Travel Information Pack to explain to new residents the available sustainable transport options advocated in the Chilmington Green Travel Plan and that if they wish, they may fill in the response slip enclosed with the leaflet which will be returned to the Travel Plan Coordinator directly to identify the residents specific travel needs. The Travel Plan Coordinator will then use this information to prepare a 'Personal Journey Plan' for that resident free of charge. Additionally the Sustainable Travel Website (detailed in section 6.6) for the development will provide an electronic version of the return slip which will be submitted directly to the TPC, residents will be advised of this alternative means of submitting a journey planning request through the Travel Information Pack.

5.2.7 Secondly face to face 'home visits' will be organised by the Travel Plan Coordinator on a yearly basis to discuss with each homeowner their travel requirements and provide suitable solutions. The TPC will then use this information to prepare a 'Personal Journey Plan' for that resident free of charge. The TPC will then carry out a second home visit to talk to each resident briefly about their pack, and to answer any immediate questions or concerns raised by the resident.

Sustainable Travel Information Website

5.2.8 A dedicated sustainable travel website for the development will be created that will focus on providing appropriate, up-to-date information on sustainable travel options for accessing the development site. This will include detail relating to the employment and educational components of the site.

5.2.9 The website will serve as a 'one-stop-shop' for the dissemination of site-wide sustainable travel information to residents, employees, school pupils and staff, as well as acting as a source of information for visitors. When and if an Ashford-wide sustainable travel website is developed, it would be beneficial for the TPC to work with the developers to share information and ensure a link is provided to the Chilmington Green travel website. This will ensure that visitors to the development from elsewhere in the wider locality can easily gain an understanding of the sustainable travel options available to them for accessing the site.

5.2.10 The website will also provide links to other websites such as kentjourneyshare, Traveline and Transport Direct so as to encourage residents to plan their journeys using sustainable transport.

5.2.11 The Consortium will ensure that the site is provided with high-speed broadband access. This will enable all homes to gain access to high quality broadband to assist with sustainable initiatives such as working from home, home shopping, finding travel information and car-sharing information.

Green Travel Initiatives

5.2.12 National green travel initiatives such as 'Walk to School' week will be promoted by employers and schools at the development. Participating in these initiatives will illustrate the effect and therefore very real benefits that can be achieved from swapping the car for an alternative mode of travel, if only for one day per week.

Community Consultation with Relevant Parties and Umbrella Travel Plan Steering Group

5.2.13 The continued engagement of employers, parents, the local community, the Police and Kent County Council will be essential in ensuring the progress and momentum of each school's Travel Plan. Furthermore, it will be possible to gauge changes in attitudes towards the Travel Plan and sustainable travel which will assist in determining the effectiveness of the Travel Plan.

5.2.14 The site wide Travel Plan Coordinator (see Chapter 5) will be responsible for maintaining an excellent level of communication on travel planning matters with these stakeholders.

5.2.15 To further support the progress and success of site-wide travel planning at Chilmington Green, the TPC will set up and coordinate an Umbrella Travel Plan Steering Group. The key stakeholders, mentioned above plus representatives for all on-site travel planning (resident representatives, Workplace TPCs and School TPCs) will be invited to join the Steering Group. TPCs from other developments in the area will also be invited to join. This will provide an excellent Forum for information sharing, providing feedback and for ensuring a site-wide and area-wide joined up approach to delivering the Chilmington Green Travel Plan.

5.2.16 The TPC will manage and administer the Steering Group, which could meet quarterly and whose remit will be:

- To provide comment and feedback to the TPC on travel planning across the land uses at Chilmington Green – both positive and negative;
- To review monitoring reports and provide feedback; and
- For area-wide stakeholders – to provide updates on area-wide travel planning initiatives.

5.3 PROMOTING THE USE OF PUBLIC TRANSPORT

Enhanced Public Transport Services

5.3.1 A high quality, frequent and direct bus service to Ashford Town Centre is to be provided. It is proposed that the bus service is bespoke to Chilmington Green rather than an extension of an existing bus service. The service will operate every 10 minutes and provide a direct and attractive link between Chilmington Green, Ashford Town Centre and Ashford International Rail Station (for high speed rail services to London).

5.3.2 High Quality Bus Shelters are also planned around the Chilmington Green site. It is proposed that these shelters would include Real Time Passenger Information (RTPI) screens which show passengers when the next bus is due.

Bus/Rail Service Information

5.3.3 Details of public transport services serving the development area will be publicised to all residents, employees, and schools. This will include route, fares and timetable information. This information will be disseminated directly to via a range of media including posters, sustainable travel information packs and via the travel information website for the development.

Branded Marketing Campaign

5.3.4 The buses used for the new bus route will be branded and specific to the new route, allowing residents to easily identify the buses that travel through the site to Ashford Centre. To highlight this further to residents, branded leaflets and timetables will be included in welcome packs to all new residents. Additionally any changes to the new bus service such as frequency or changes to routing of service will be advertised to residents with a leaflet drop and through the development website.

Trial Travel Vouchers for Residents

5.3.5 Residents of the development will be offered an Ashford Megarider ticket which allows for one month's free travel on local bus services operating via Chilmington Green, with the cost of £40 being met by the developers. To be eligible for this, residents will be required to complete and return a form provided by the site management company. These forms will be included within the travel information pack, with a letter explaining the scheme and detailing which tickets they can claim.

5.3.6 When carrying out the Personal Journey Planning exercise the TPC will offer one day tickets (£3.20) to residents that have a journey planned for them that will make use of the ticket, to further encourage them to try the planned journey.

5.4 PROMOTING WALKING AND CYCLING

Developing Local Walking and Cycling Network

5.4.1 The design of the site will adopt a Manual for Streets approach where pedestrians are considered first at the top of a user hierarchy to ensure that their needs are met early on in the design process. Walkable neighbourhoods will ensure that a range of facilities can be reached easily and safely on foot, and by bicycle, to help reduce the reliance on the private car for shorter trips.

Site Specific Walking and Cycling Maps

5.4.2 To demonstrate to residents and employees how local facilities and services can be reached on foot, or by bicycle, site-specific walking and cycling maps will be produced by the Travel Plan Coordinator and distributed along with the travel information packs to all residents and employers.

5.4.3 These maps will be produced with the development as the central points of focus, with all key local facilities and services clearly illustrated within time bands showing average walking and cycling journey times. This will demonstrate how accessible these destinations are within a given travel time, and will therefore support the uptake of walking and cycling for short journeys from the development.

5.4.4 The maps will also include the location of public cycle parking within the development and at key local destinations. Cycle parking will be provided on-site for all land uses by the developer, in accordance with ABC's cycle parking guidelines.

Secure Cycle Parking

5.4.5 All employment facilities, schools, shops and community facilities at the development will be provided with high quality secure cycle parking facilities close to the main access to the building.

5.4.6 This will ensure that individual companies will be able to benefit from secure and covered cycle parking for their employees to use.

5.4.7 Cycle parking for all land uses at Chilmington Green will be provided in accordance with KCC cycle parking guidelines, as detailed within the adjoining Transport Assessment.

Bicycle User Group (BUG)

5.4.8 A Bicycle User Group (BUG) will be established for the development. This group will comprise of employees and local residents who are interested in taking forward initiatives to promote and facilitate cycling in and around the development. The BUG will provide a forum for sharing information on cycle routes, cycling best practice, and to address any issues of concern regarding cycling or cycle safety.

5.4.9 The BUG will also enable less experienced cyclists to interact with established cyclists and obtain information, guidance and potentially a 'cycling buddy' to accompany them on their journey to or from the development. Through the BUG, a 'Bike Doctor' can be organised on a regular basis to service resident's and employee's bicycles and provide advice on cycle maintenance.

Cycle Discounts

5.4.10 Details of local cycle shops will be publicised on the travel information website and discussions will be held with these shops to endeavour to secure discounts for residents and employees on cycle purchase and repair. It is anticipated that such a discount may be secured given the sizable number of residents and employees and the BUG will provide an ideal platform for taking this forward. Regardless of this discount being secured, which would come direct from the retailer, each household will be provided with a £50 cycle voucher to redeem against cycle purchase or repair. One voucher will be offered per household and this can be requested via the information provided within the Welcome Pack.

School Cycle Proficiency Training

5.4.11 Provision of cycling and road safety training under the Bikeability scheme would provide school pupils with the knowledge and skills necessary to ride with confidence, both on the road and on dedicated cycleways. A number of trainers certified to provide Bikeability training are located in Bedfordshire.

Snap Bands for Pupils

5.4.12 The provision of a reflective snap band to all school staff and pupils upon occupation of the schools is designed to encourage them to think about walking or cycling more often. In the case of pupils, their parents may be more inclined to let their children walk or cycle if they are reassured about their visibility.

Walking Buses

5.4.13 Walking buses are increasingly being used as a safe and healthy way for children to get to school. A walking bus follows the same route to school each day, picking children up on the way. Specially trained parents or assistants stand at the front and back of the 'bus' to ensure the safety of all children, with both adults and children wearing reflective tabards to ensure high visibility.

5.4.14 Walking Buses are highlighted within Kent's County Council's Sustainable Modes of Transport Strategy as a good success within Kent and Medway due to the unique partnership with KM walk to School Team. The charity works with the school and volunteers to arrange for publicity and a launch of the walking bus. KCC are responsible for risk assessments of the route and providing basic road safety advice to volunteers. The risk assessment and monitoring process is ongoing by KCC to ensure that the schemes operate correctly. KCC, as the Education Authority are responsible for ensuring the adequate public liability insurance and that personal (CRB) checks are undertaken for all volunteers.

5.4.15 Walking bus schemes rely heavily on volunteers, they are not always sustainable in the long term. It is recommended that the individual schools make the decision when choosing appropriate schemes, having regard to the resources available to them. The site-wide TPC will provide support to the schools in this decision making process.

5.4.16 If a Walking Bus is not something that would be appropriate to implement, the schools, with support from the site-wide TPC, will be encouraged to consider alternative measures such as:

- Walking Incentive Schemes (The Walking Bug- an initiative to link walking to school and the curriculum, or Walk on Wednesday); and
- Pedestrian Training

School Crossing Patrol

5.4.17 Whilst the site infrastructure will be designed with pedestrians safety and ease of movement considered first, the use of School Crossing Patrollers to help children cross roads will be helpful in reassuring parents of younger children of the safety of the child walking to school as they will be supervised at crossings.

5.4.18 The site-wide TPC will help the individual schools to identify if this measure is appropriate to them. It may be that feedback from parents shows that they would be happier to let their child walk to school if such a measure was in place.

.

5.5 PROMOTING MORE EFFICIENT CAR USE

Promoting Car Sharing

5.5.1 To ensure the most efficient use of cars that do travel to and from the site, residents will be encouraged to car share wherever possible. This will help to reduce the overall number of car journeys being made in the first instance, whilst encouraging a pattern of more efficient car use amongst residents.

5.5.2 Car sharing schemes encourage individuals to share private vehicles for particular journeys. Car sharing can be both formal and informal. Informal car sharing operates between individuals and neighbours and formal car sharing is defined by a more elaborate approach to trip matching, often focussed on the commuting journey.

5.5.3 Information about existing local car sharing groups will be disseminated to residents through letter drops, sustainable travel information packs and notice boards. There are two such groups that incorporate the Ashford area; kentjourneyshare.com and Kentcarshare. As detailed in Chapter 4, these organisations can be joined for free, or for a small fee, and help users match journeys with like minded people, and subsequently help to reduce the costs of travelling alone by car.

5.5.4 In addition to this a car sharing database will be set up for Chilmington Green which residents will be encouraged to sign up to. This is expected to become more popular as the development builds out and more residents join. A promotional event will be held at Chilmington Green organised by the Travel Plan Coordinator to boost the uptake of car sharing within the community.

Car Clubs

5.5.5 The Travel Plan Coordinator will undertake a feasibility study prior to first occupation of the site to determine the suitability for a dedicated car club. A car club offers members the use of a car, for a yearly membership fee, so that members have access to the use of a car without any of the cost and hassle of owning it themselves. An existing car club operator, such as City Car Club, will be approached to manage the scheme. If it is deemed that this site provides the right characteristics to support a car club, the developer will provide the first year's membership to the club free of charge (one membership per dwelling). The Travel Plan Coordinator will also undertake an assessment to determine the viability of this scheme on an area wide basis i.e. to incorporate other residential developments nearby as developments progress.

Electric Vehicle Charging Points

5.5.6 The technology behind electric vehicles is at a point where they now provide a much better range and level of performance than early incarnations. From being produced by specialist companies they have now moved to mass production by the world's major manufacturers, with fully electric cars having been released by Nissan, Peugeot, and Renault in 2011 and other companies are expected to following in the next few years.

5.5.7 By providing a number of secure charging points located at various points around the development, those who feel that they need a vehicle may be encouraged to choose an electric car. This offers a social benefit of zero harmful emissions from the vehicle. There are personal benefits for the owner of the vehicle as it will be exempt from road tax and the London Congestion Charge. From January 2011, the government has been offering a grant of 25 per cent of the cost of the car, up to a maximum of £5,000. This level has been agreed until 2015, when the level of the grant will be reviewed. A new grant of up to £8,000 towards the purchase of electric vans was released in January 2012.

5.5.8 With the installation of charging points at community and retail centres, Chilmington Green would be at the forefront of the promotion of zero emission vehicle use, particularly as there aren't currently any charging points in the Ashford area.

5.5.9 Prior to development completion and occupation, the Consortium will review the benefits and viability of introducing some electric charging points for vehicles at key points within the development, such as at community and retail centres. This will serve as an added incentive for local residents to consider electric vehicles, thereby reducing vehicle emissions, as they will have opportunity to charge the vehicles at their end destination.

5.5.10 Electric Vehicle charging points can be retrofitted so additional bays can be introduced if monitoring and feedback shows an increasing level or demand.

Car Parking Management

5.5.11 The Travel Plan Coordinator will work with residents and individual occupiers to help manage the demand for car parking across the development and ensure no inappropriate overspill car parking occurs.

5.6 SUMMARY

5.6.1 This chapter has summarised some of the key measures that will collectively be delivered through the Residential, Workplace and School Travel Plans at the Chilmington Green development.

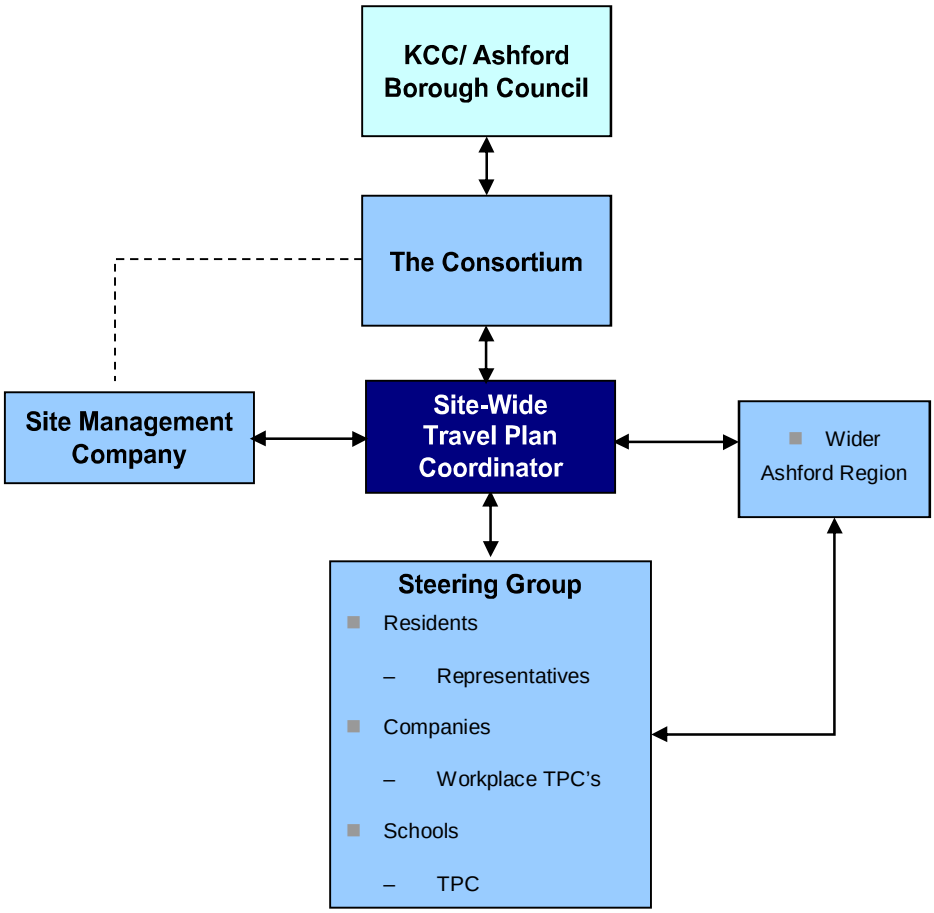
5.6.2 They will collectively support the delivery of a sustainable community by targeting the promotion of sustainable travel options to all users of the development.

6 Management and Implementation

6.1 UMBRELLA TRAVEL PLAN MANAGEMENT STRUCTURE

6.1.1 The Consortium will retain overall responsibility for ensuring the implementation of the Residential, Workplace, and School Travel Plans, and will ensure that they are reviewed and amended as necessary. The intended management structure for this process is shown below in **Figure 6.1**.

Figure 6.1 Umbrella Travel Plan Management Structure



6.1.2 A Travel Plan Coordinator will be appointed to ensure the overall implementation of the Travel Plans. The TPC will either be directly appointed by The Consortium or Site Management Company. Regardless of the method, the TPC will oversee the day to day running of the Travel Plan activities and administration of the Plan.

6.1.3 The TPC will be appointed prior to recruitment of site sales staff. This will ensure that the TPC has sufficient time to plan training, prepare materials for welcome packs and liaise with local stakeholders. Prior to occupation, the Travel Plan Coordinator will be responsible for training sales staff to promote the Travel Plan from the outset, establishing contacts within the local community i.e. bus operators and cycle shop owners, and ensuring the timely implementation of identified measures.

6.1.4 The Travel Plan Coordinator is primarily responsible for the implementation of the RTP, but their remit will extend site-wide to provide guidance, support and advice to the employment and educational components of the site.

6.1.5 The role of this coordinator will include:

- Acting as a point of contact for queries for residents, employers and school representatives;
- Ensuring that all travel information and data disseminated is accurate and up to date;
- The ongoing monitoring of the Travel Plan;
- Assist in the decision making process with the site management on which measures will be best to implement – and in association with Kent County Council;
- Management and administration of the Umbrella Travel Plan Steering Group;
- Updating the Travel Plan documents as necessary and liaising with KCC; and
- Details of the nominated Travel Plan Coordinator will be established prior to occupation of the site and provided to KCC.

6.1.6 The TPC will be funded by the Consortium through development build out to five years beyond completion.

7 Targets and Monitoring

7.1 TRAVEL PLAN TARGETS

7.1.1 To help guide the progress of the Travel Plans, each contains specific targets that will be reviewed by the appointed Travel Plan Coordinator on an annual basis. These targets are divided amongst those relating to delivering outputs and those related to achieving outcomes.

- **Output targets** – These targets relate to the implementation of the measures to be introduced as part of the Travel Plan. They will help to ensure that The Consortium remains on course with the delivery of the different measures contained within this Travel Plan.
- **Outcome targets** – These targets relate to the effect of implementing the Travel Planning measures, and will include, for example, reducing the overall proportion of journeys (all journeys) being undertaken from the development by car.

7.1.2 The individual Travel Plans should be viewed for specific information on targets. Once baseline travel surveys have been undertaken the TPC, in consultation with KCC, will finalise the single-occupancy car journey reduction targets to be achieved by the end of Phases 1, 2, and 3 in seeking towards achieving the agreed Phase 4 site wide mode share targets (detailed in Table 7.1 below) by development completion (to be achieved by completion of all residential units). The percentage annual reduction will be derived using empirical evidence from the travel survey and an understanding of the site design and Sustainability Strategy. The final targets will be agreed with KCC / ABC, but are unlikely to be largely dissimilar to the proposed targets detailed within the individual travel plans.

7.1.3 The site-wide end of Phase 4 mode share targets (to be achieved by completion of all residential units) that each of the land uses will work towards is detailed in Table 7.1 below:

Table 7.1 End of phase mode share targets

Mode	Site wide target
Car (car driver and passenger)	53%
Bus	20%
Train	10%
Walk	11%
Cycle	5%
Other (motorcycle, taxis etc)	1%
TOTAL	100%

7.1.4 Establishing targets following the baseline travel surveys will ensure that SMART (site specific, measurable, achievable, realistic and timed), targets are set that accurately reflect of-the-moment travel and transport characteristics.

7.2 TRAVEL PLAN MONITORING

7.2.1 Development at Chilmington Green is expected to commence in 2014 and the baseline surveys will be undertaken 1 year following this (2015). The first bi-annual surveys will be undertaken in the following year (2016) and every other year following this and to coincide with the end of each development Phase. The proposed development build out and target years for the end of each Phase is likely to change between the submission of the this travel plan and building commencing on site. This Umbrella Travel Plan and each subsequent land use specific plan will be updated to reflect any changes.

7.2.2 Bi-annual monitoring in the form of travel surveys, manual classified and automatic traffic counts (ATC) are intended to be undertaken to incorporate each of the land uses within the development until five years after development completion. Details relating to residential, employment and school travel surveys are provided in the respective appendices. The intention is to have permanent pedestrian/ cycle loops (location yet to be determined) and permanent ATCs. However, given that some of the roads in Chilmington Green will be 'through routes' permanent ATCs may not provide a robust indication of development site traffic, therefore further consideration on the location of and best method to monitor the Travel Plan will be undertaken prior to implementation of the Travel Plan.

7.2.3 The objective of the monitoring process is to measure the progress of the Travel Plan against the respective targets. If progress against the target is not being demonstrated, the introduction of additional recovery measures will be undertaken to help meet the target

7.2.4 The individual Travel Plans should be viewed for specific information on targets.

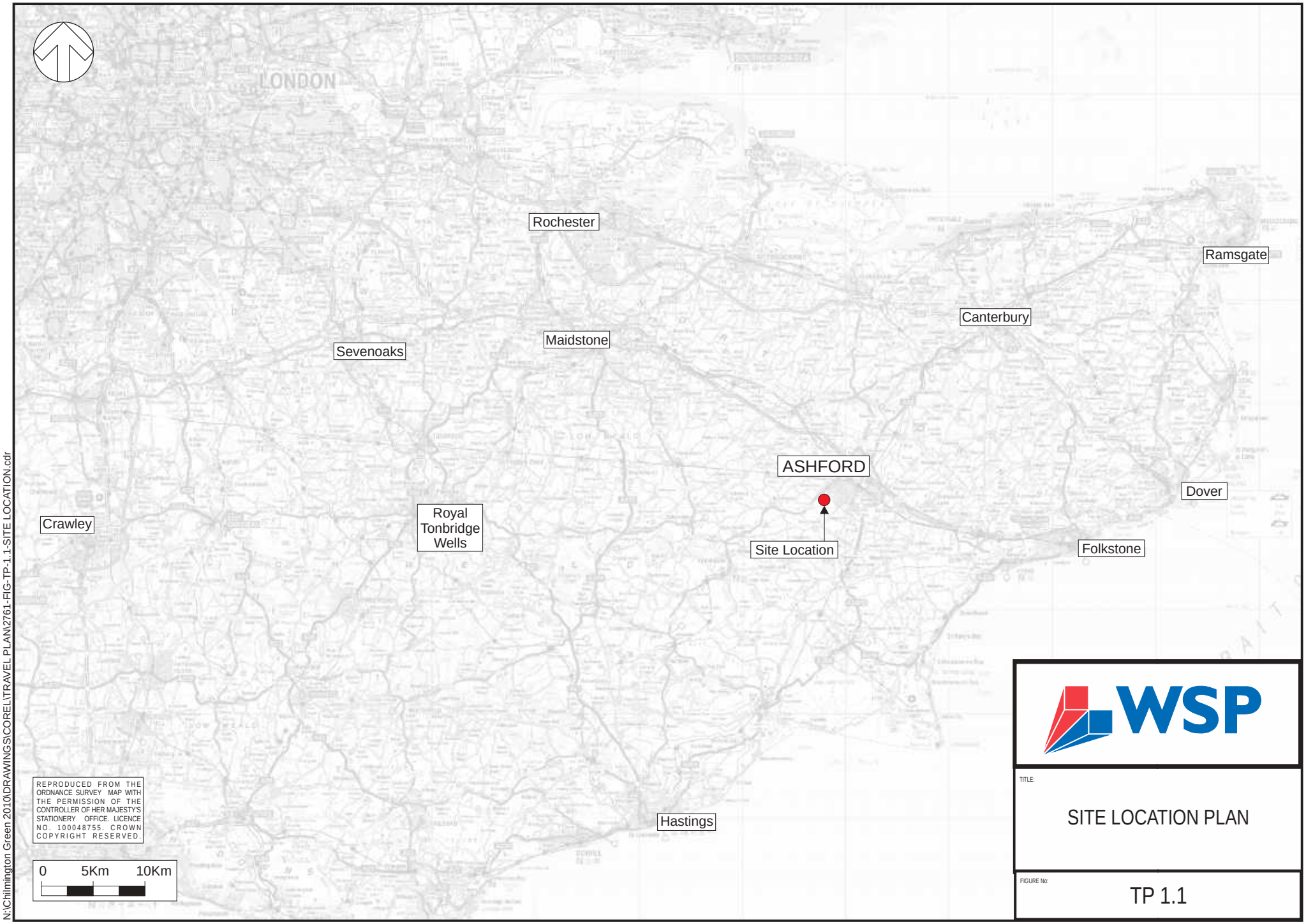
7.3 TRAVEL PLAN FUNDING

7.3.1 The management and delivery of the travel plans will be secured through the Section 106 agreement between The Consortium and Kent County Council.

7.3.2 The Consortium is responsible for the implementation and management and funding of the residential travel plan, which includes the provision of a site-wide Travel Plan Co-ordinator to assist employers and schools on the site to produce and implement their own travel plans. Furthermore, The Consortium is responsible for the funding of associated site-wide infrastructure including footpaths, cycle ways and cycle parking at key destinations.

7.3.3 Land-use specific measures will be funded by the relevant occupiers and Appendices A, B and C describe these funding responsibilities in full.

Appendices, Figures & Tables



WSP

TITLE:

SITE LOCATION PLAN

FIGURE No:

TP 1.1

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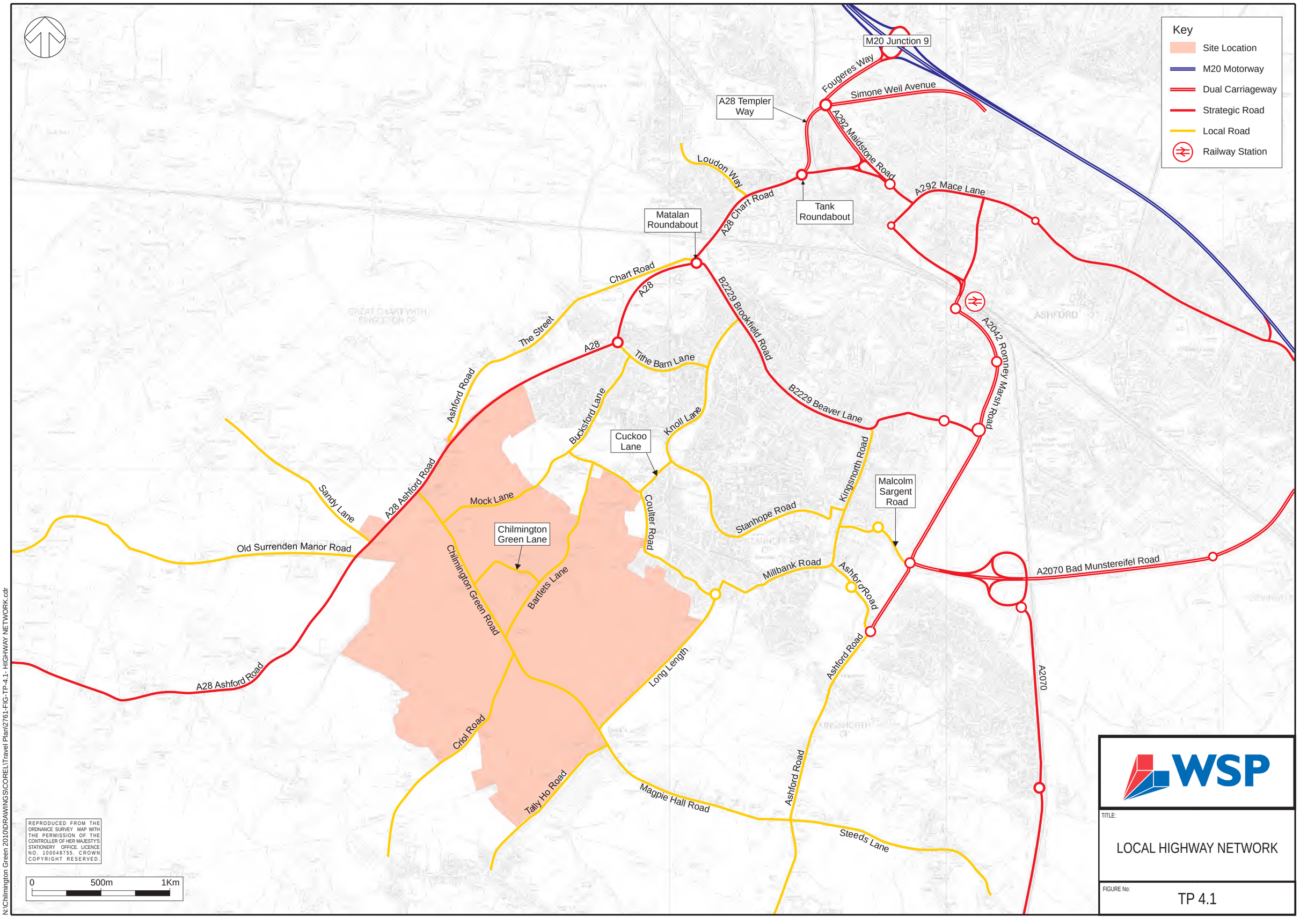
Key
Site Location
M20 Motorway
Dual Carriageway
Strategic Road
Local Road
Railway Station
M20 Junction 9
Fougeres Way
Simone Weil Avenue
A28 Templer Way
A292 Maidstone Road
Loudon Way
A28 Chart Road
Tank Roundabout
A292 Mace Lane
Matalan Roundabout
Chart Road
A28
B2229 Brookfield Road
A2042 Romney Marsh Road
The Street
A28
Tithe Barn Lane
Ashford Road
Bucksford Lane
Knoll Lane
B2229 Beaver Lane
Cuckoo Lane
Kingsnorth Road
Malcolm Sargent Road
Sandy Lane
A28 Ashford Road
Mock Lane
Chilmington Green Lane
Coulter Road
Stanhope Road
Old Surrenden Manor Road
Chilmington Green Road
Bartlets Lane
Millbank Road
Ashford Road
A2070 Bad Munstereifel Road
A28 Ashford Road
Long Length
Ashford Road
A2070
Criol Road
Tally Ho Road
Magpie Hall Road
Ashford Road
Steeds Lane
GREAT CHART WITH SINGLETON CP
ASHFORD
STANHOPE CP
KINGSNORTH CP
SEVINGTON
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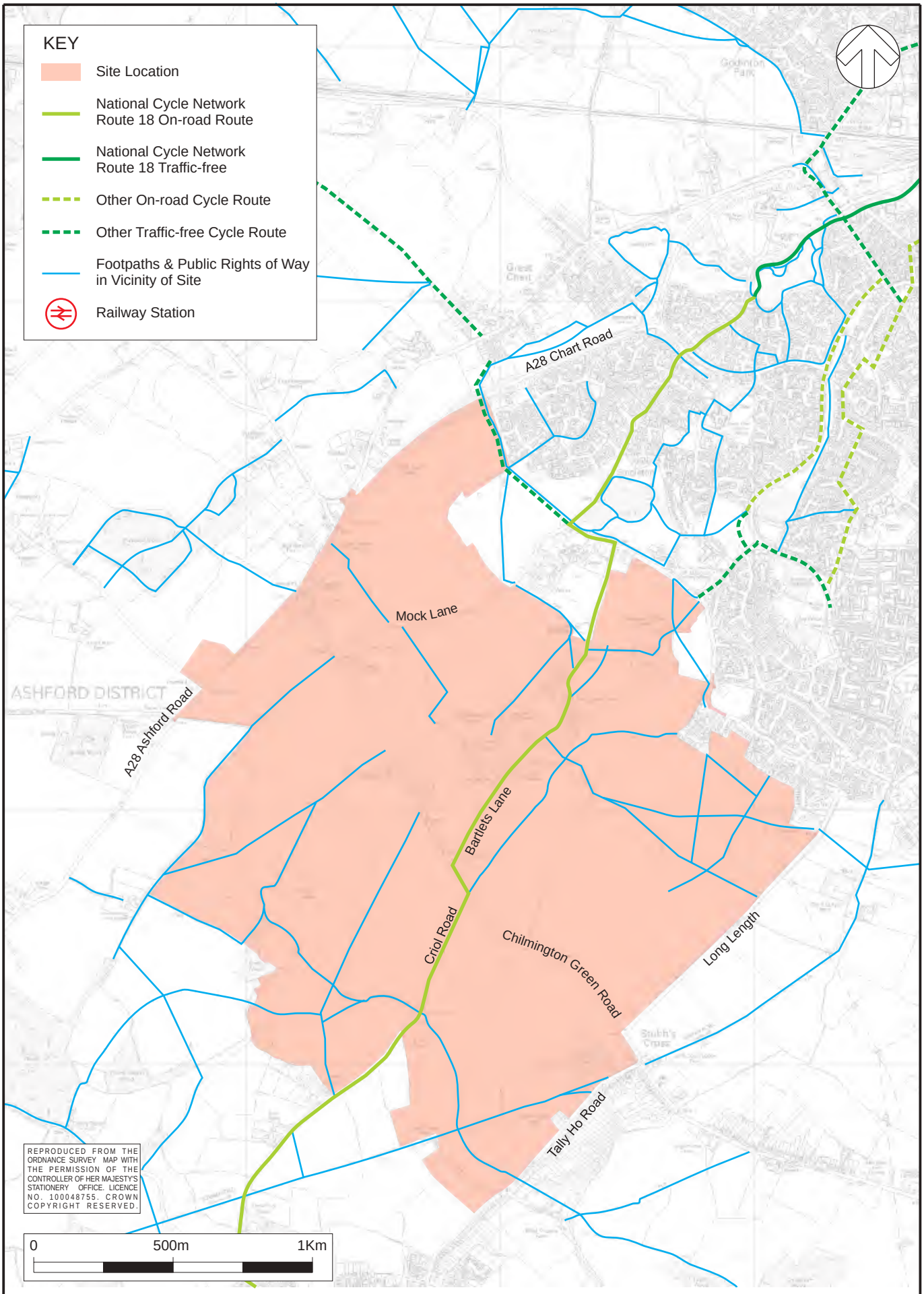
0
500m
1Km
N:\Chilmington Green 2010\DRAWINGS\CORELT\Travel Plan\2761-FIG-TP-4.1- HIGHWAY NETWORK.cdr
WSP
TITLE:
LOCAL HIGHWAY NETWORK
FIGURE No:
TP 4.1



WSP

TITLE:

PEDESTRIAN & CYCLE NETWORK

FIGURE No:

TP 4.2

N:\Chilmington Green 2010\DRAWINGS\CORELI\Travel Plan\2761-FIG-TP-4.2-CYCLE ROUTES.cdr

KEY

- Site Location
- Bus Route
- Railway Station

11/295/400

A/11/ 295/400

A/B/11/13/ 295/400

A28 Chart Road

Mock Lane

A28 Ashford Road

Chilmington Green Road

Bartletts Lane

Criol Road

Long Length

Tally Ho Road

Magpie Hall Road

GREAT CHART WITH SINGLETON CP

ASHFORD

ASHFORD DISTRICT

ST JANHOPE CP

KINGSNORTH CP

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0 500m 1Km

N:\Chilmington Green 2010\DRAWINGS\CORELT\Travel Plan\2761-FIG-TP-4.3-PUBLIC TRANSPORT.cdr

WSP

TITLE:

PUBLIC TRANSPORT NETWORK

FIGURE No:

TP 4.3

Key

Proposed Development Centres

- District Centre
- Local Centre

PEDESTRIAN ACCESSIBILITY

(Walk Speed: 4.8kmph*)

- 0 to 5 minutes
- 6 to 10 minutes
- 11 to 15 minutes
- 16 to 20 minutes
- 21 to 25 minutes**
- 26 to 30 minutes

*Speed of 3.6kmph used on links where gradient deemed to be steep
** 2km (25 mins) = PPG13 Standard Isochrones generated using Network Analyst 10.0.0 ©1999-2010. ESRI Inc. All Rights Reserved

Facilities

Educational Establishments

- Nursery
- Primary
- Independent
- Convenience Stores

Healthcare Facilities

- GP Surgery
- Leisure & Fitness
- Pharmacy

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0 0.25 0.5 0.75 1 Kilometres

Goldwell
Etchden Place
Keepers Lodge
Etchden Farm
Park Cottage
Daniel's Water
Little Singleton Farm
Fleeden
Pig And Whistle Farm House
Manor Farmhouse
Bayley Wood Farm
Bevenden Farmhouse
Burntoak Farm
Possingham Farm House
Gable Hook Farm
Pear Tree Farm
Cherry Garden Farm
Criol Farmhouse
Snailswood Farm
Stubb's Cross
High Oak Farm
Harlakenden Farm
Frightsbridge Farm
Shadoxhurst
Chilmington Green
Great Chart
Singleton
South Ashford
Beaver
Stanhope
Court Lodge Farm
Kingsnorth
Wix's Farm Lodge
A28
B2229
A2042
Edu
Prm
Nur

WSP

TITLE:

EXISTING PEDESTRIAN ACCESSIBILITY

FIGURE No:

TP 4.4

N:\Chilmington Green 2010\DRAWINGS\CORELT\Travel Plan\2761-FIG-TP-4.4-EXISTING PED ACCESSIBILITY.pdf

Key

Proposed Development Centres

- District Centre
- Local Centre

CYCLE ACCESSIBILITY

(Cycle Speed: 16kmph*)

- 0 to 5 minutes
- 6 to 10 minutes
- 11 to 15 minutes
- 16 to 20 minutes
- 21 to 25 minutes
- 26 to 30 minutes

*Speed of 12kmph used on links where gradient deemed to be steep
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Wye
Great Stour
A28
Potters Corner
9
A20
Great Stour
M20
ASHFORD
South Ashford
10
Brabourne Lees
Mersham
A2042
Bethersden
Kingsnorth
Shadoxhurst
High Halden
A2070
Bromley Green
Aldington Frith
Aldington
Woodchurch
TENTERDEN
Hamstreet

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0 1 2 3 4 Kilometres

WSP

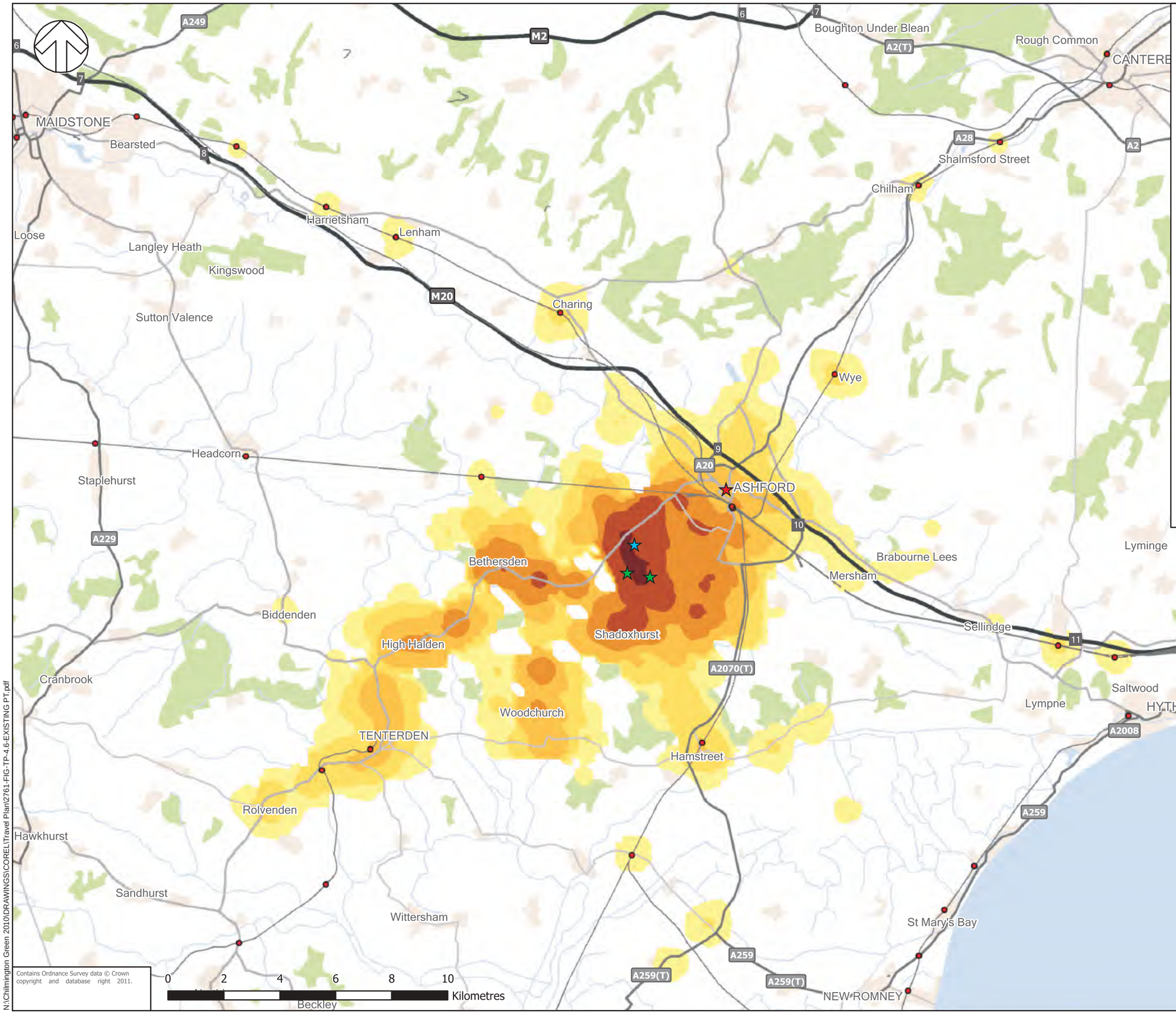
TITLE:

EXISTING CYCLE ACCESSIBILITY

FIGURE No:

TP 4.5

N:\Chilmington Green 2010\DRAWINGS\CORELL\Travel Plan\2761-FIG-TP-4.5-EXISTING CYCLE ACCESSIBILITY.pdf



Key

Site Centres

- District Centre
- Local Centre

Ashford Town Centre

PUBLIC TRANSPORT ACCESSIBILITY

Travel Time

- 0 to 10 minutes
- 11 to 20 minutes
- 21 to 30 minutes
- 31 to 40 minutes
- 41 to 50 minutes
- 51 to 60 minutes
- Railway Station

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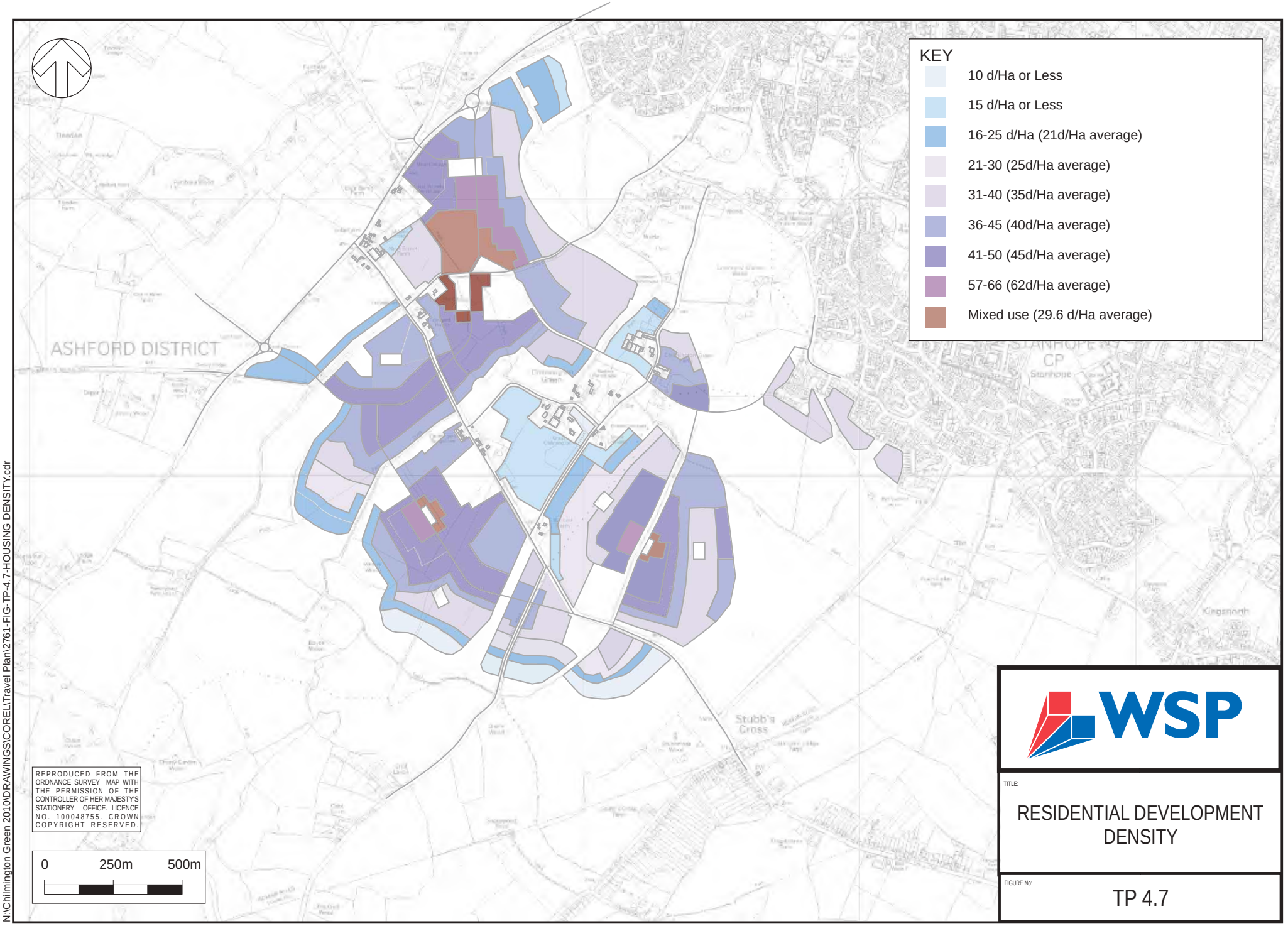
TITLE:

EXISTING PUBLIC TRANSPORT ACCESSIBILITY

FIGURE No:

TP 4.6



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WSP

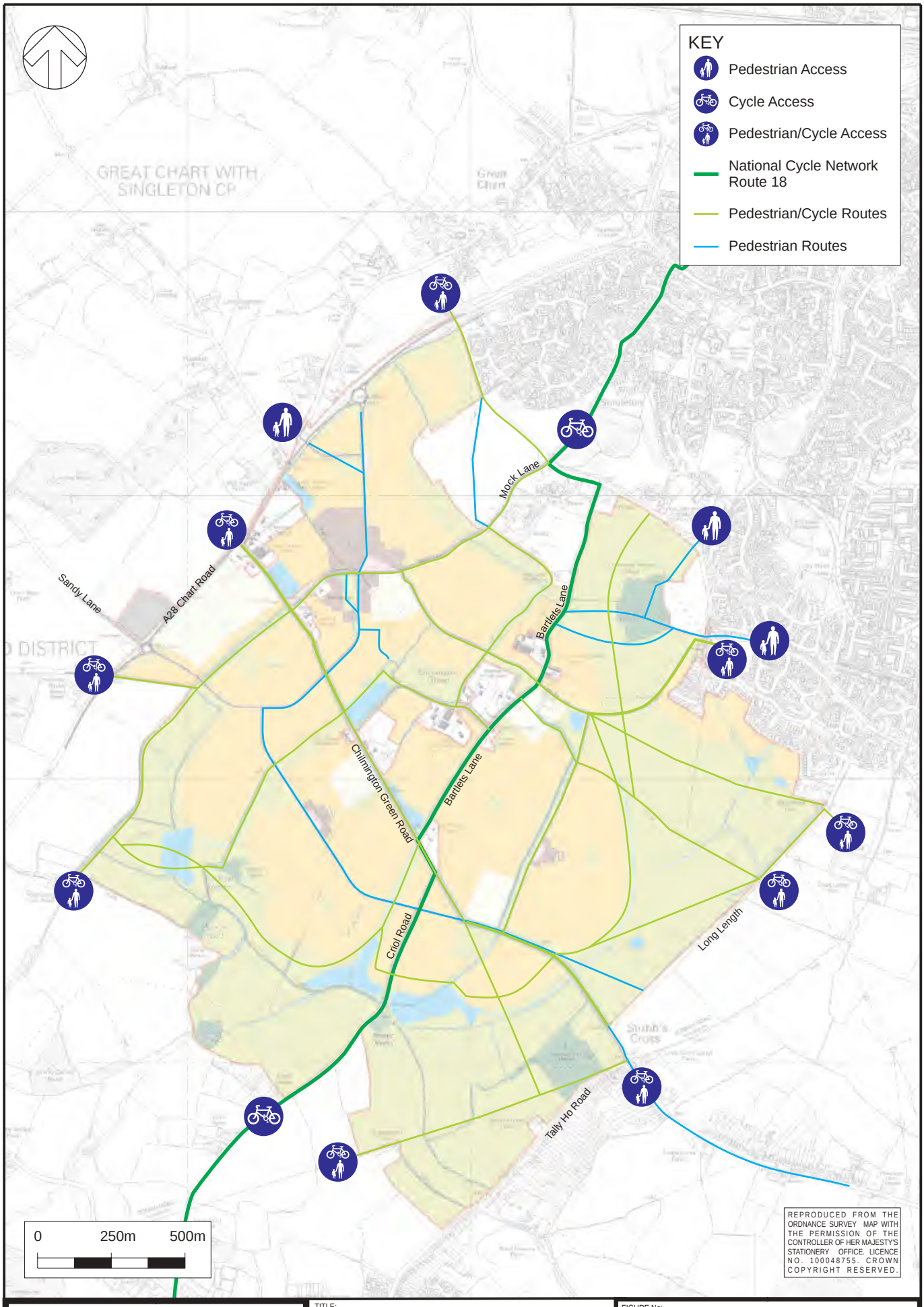
TITLE:

RESIDENTIAL DEVELOPMENT DENSITY

FIGURE No:

TP 4.7

N:\Chilmington Green 2010\DRAWINGS\CORE\LTravel Plan\2761-FIG-TP-4.7-HOUSING DENSITY.cdr



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TITLE:

PROPOSED DEVELOPMENT PEDESTRIAN & CYCLE ROUTES

FIGURE No:

TP 5.1

N:\Chilmington Green 2010\DRAWINGS\CORELTravel Plan\2761-FIG-5.1-FUTURE PED - CYCLE.cdr

Key

Proposed Development Centres

- District Centre
- Local Centre

PEDESTRIAN ACCESSIBILITY

(Walk Speed: 4.8kmph*)

- 0 to 5 minutes
- 6 to 10 minutes
- 11 to 15 minutes
- 16 to 20 minutes
- 21 to 25 minutes**
- 26 to 30 minutes

*Speed of 3.6kmph used on links where gradient deemed to be steep
** 2km (25 mins) = PPG13 Standard
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Facilities

Educational Establishments

- Nursery
- Primary
- Independent
- Convenience Stores

Healthcare Facilities

- GP Surgery
- Leisure & Fitness
- Pharmacy

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0 0.25 0.5 0.75 1 Kilometres

N:\Chilmington Green 2010\DRAWINGS\CORELL\Travel Plan\2761-FIG-TP-4.6-EXISTING PT.pdf

WSP

TITLE:

CHILMINGTON GREEN PEDESTRIAN ACCESSIBILITY

FIGURE No:

TP 5.2

Key

Proposed Development Centres

- District Centre
- Local Centre

CYCLE ACCESSIBILITY

(Cycle Speed: 16kmph*)

- 0 to 5 minutes
- 6 to 10 minutes
- 11 to 15 minutes
- 16 to 20 minutes
- 21 to 25 minutes
- 26 to 30 minutes

*Speed of 12kmph used on links where gradient deemed to be steep
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Wye
Great Stour
A28
Potters Corner
9
A20
Great Stour
M20
ASHFORD
South Ashford
10
Brabourne Lees
Bethersden
A2042
Mersham
Kingsnorth
Shadoxhurst
High Halden
A2070
Bromley Green
Aldington Frith
Aldington
Woodchurch
TENTERDEN
Hamstreet

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0 1 2 3 4 Kilometres

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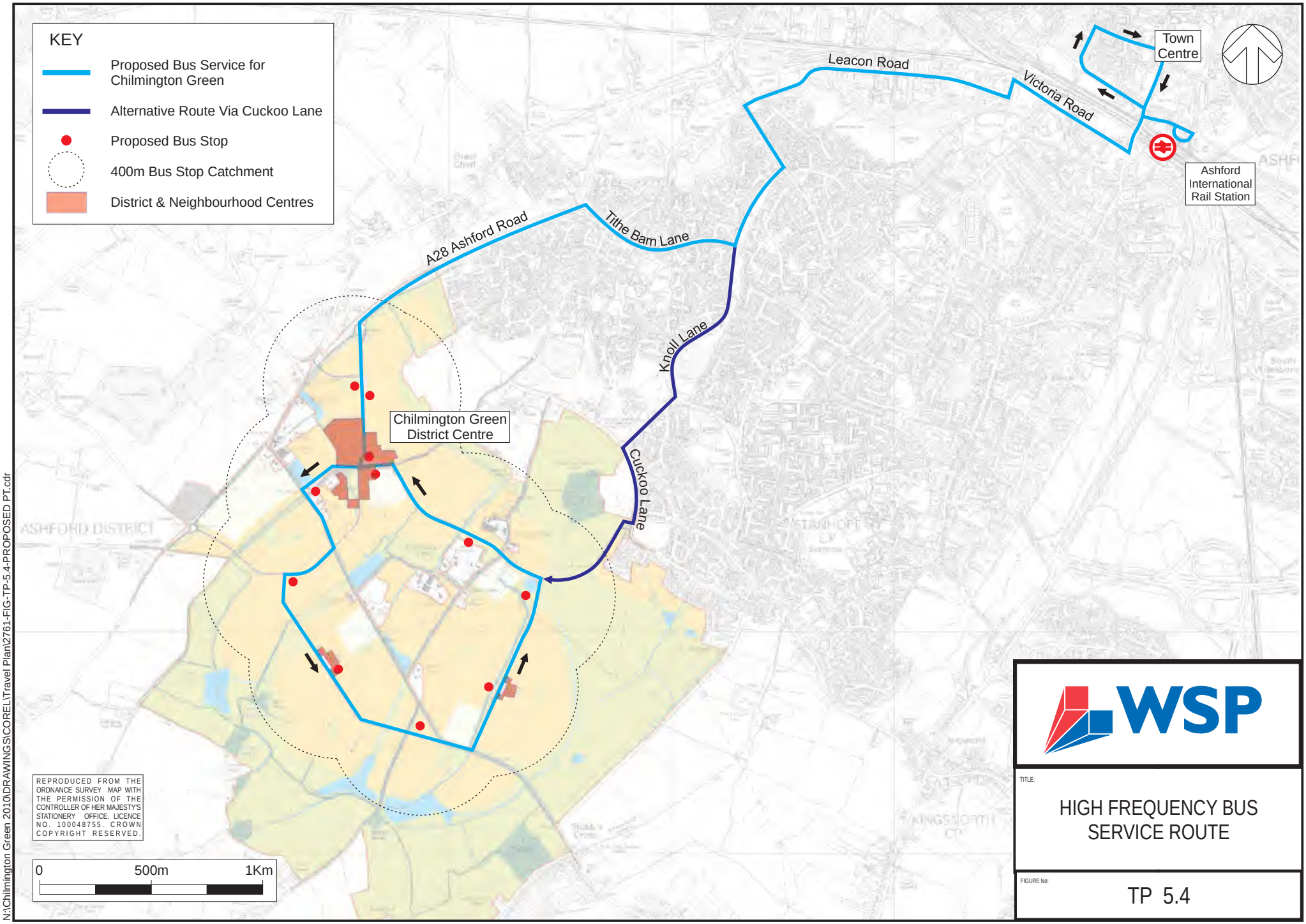
TITLE:

CHILMINGTON GREEN
CYCLE ACCESSIBILITY

FIGURE No:

TP 5.3


KEY
Proposed Bus Service for Chilmington Green
Alternative Route Via Cuckoo Lane
Proposed Bus Stop
400m Bus Stop Catchment
District & Neighbourhood Centres
Leacon Road
Victoria Road
Town Centre
Ashford International Rail Station
A28 Ashford Road
Tithe Barn Lane
Knoll Lane
Cuckoo Lane
Chilmington Green District Centre
ASHFORD DISTRICT
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0
500m
1Km
N:\Chilmington Green 2010\DRAWINGS\CORELI\Travel Plan\2761-FIG-TP-5.4-PROPOSED PT.cdr
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HIGH FREQUENCY BUS SERVICE ROUTE
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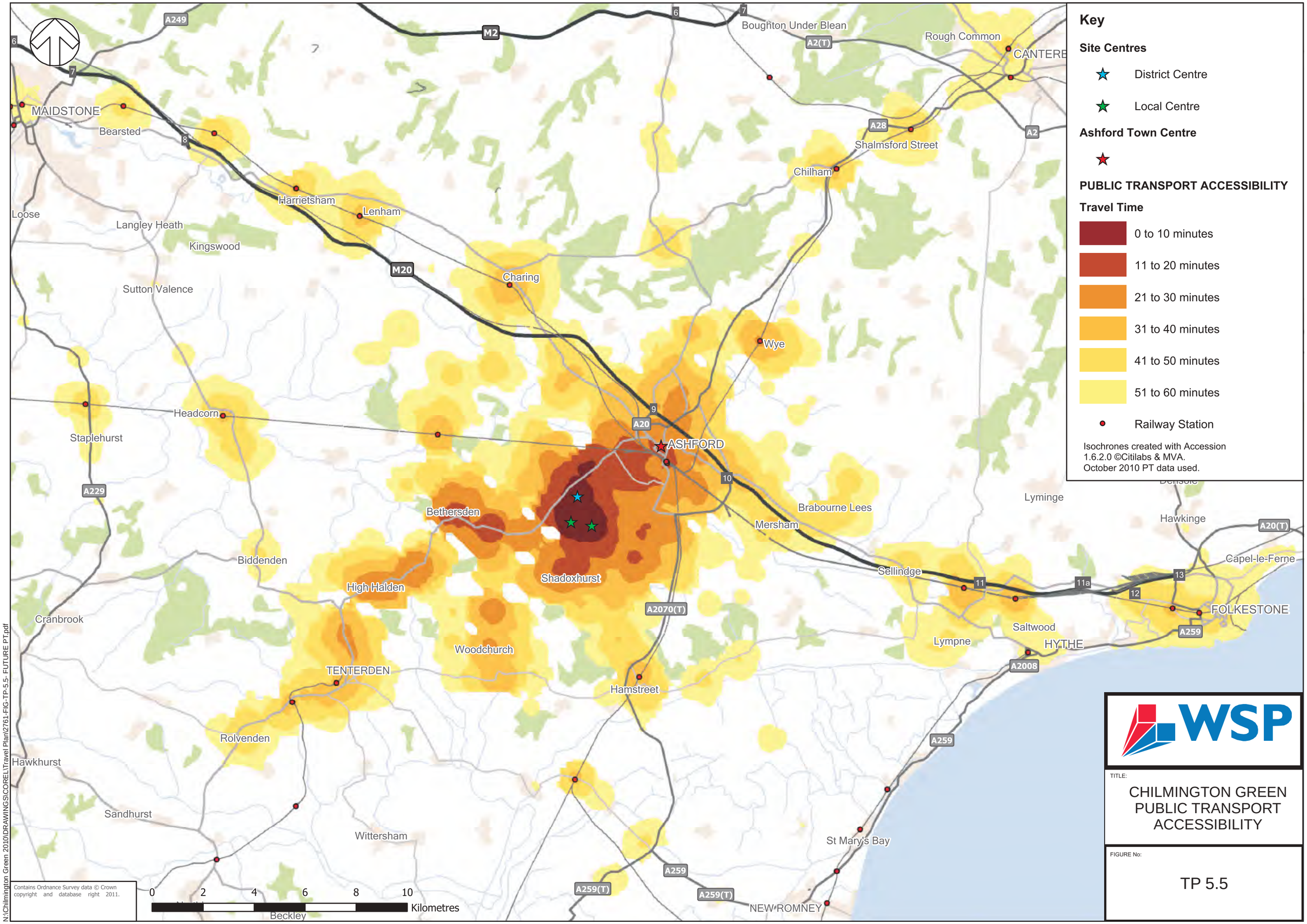
TP 5.4


A249
M2
6
7
Boughton Under Blean
A2(T)
Rough Common
CANTERE
MAIDSTONE
Bearsted
8
A28
Shalmsford Street
A2
Chilham
Harrietsham
Lenham
Loose
Langley Heath
Kingswood
M20
Charing
Sutton Valence
Wye
Headcorn
9
A20
ASHFORD
Staplehurst
10
A229
Bethersden
Brabourne Lees
Mersham
Lyminge
Hawkinge
A20(T)
Biddenden
Shadoxhurst
Sellindge
Capel-le-Ferne
High Halden
11
11a
12
13
FOLKESTONE
Cranbrook
A2070(T)
Saltwood
Lympne
HYTHE
A259
Woodchurch
TENTERDEN
A2008
Hamstreet
Rolvenden
Hawkhurst
A259
Sandhurst
Wittersham
St Mary's Bay
A259
A259(T)
A259(T)
NEW ROMNEY
Beckley
0
2
4
6
8
10
Kilometres
Key
Site Centres
District Centre
Local Centre
Ashford Town Centre
PUBLIC TRANSPORT ACCESSIBILITY
Travel Time
0 to 10 minutes
11 to 20 minutes
21 to 30 minutes
31 to 40 minutes
41 to 50 minutes
51 to 60 minutes
Railway Station
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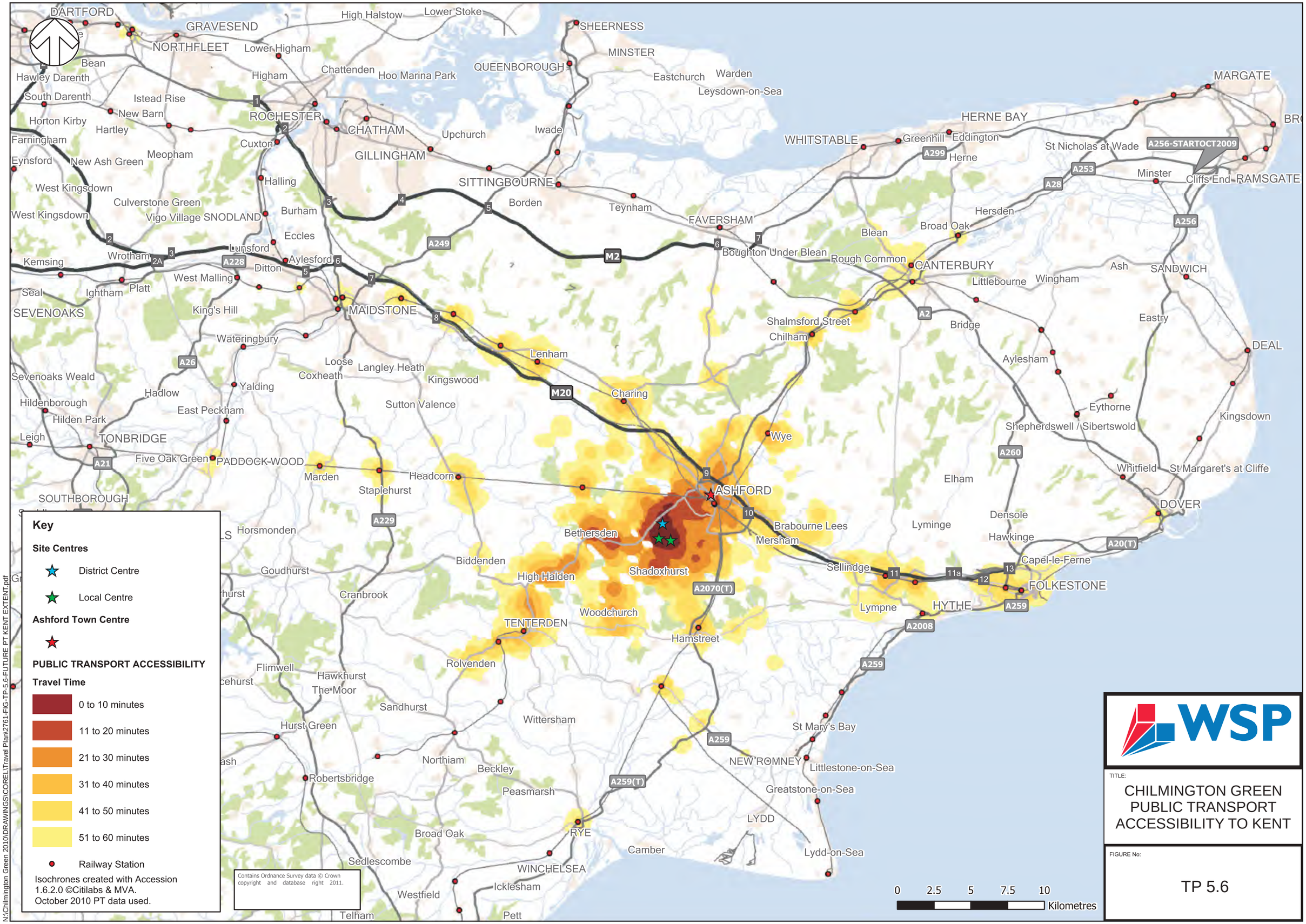
WSP
TITLE:
CHILMINGTON GREEN PUBLIC TRANSPORT ACCESSIBILITY
FIGURE No:
TP 5.5
N:\Chilmington Green 2010\DRAWINGS\CORELTravel Plan\2761-FIG-TP-5.5- FUTURE PT.pdf



Key

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- 51 to 60 minutes
- Railway Station

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WSP

TITLE:

CHILMINGTON GREEN PUBLIC TRANSPORT ACCESSIBILITY TO KENT

FIGURE No:

TP 5.6

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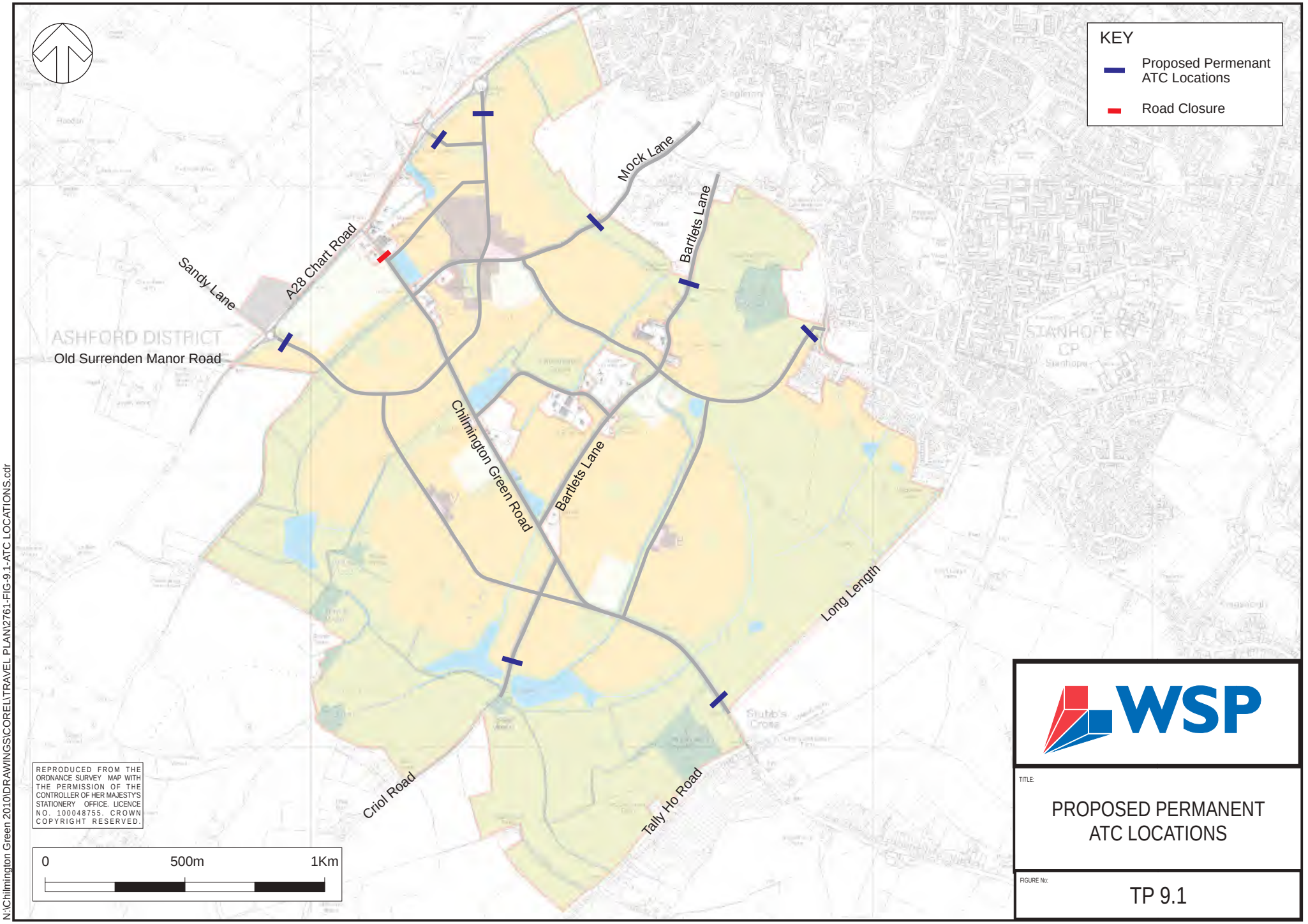

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Appendix A Residential Travel Plan

UNITED BY OUR DIFFERENCE

WSP

Chilmington Green, Ashford

Residential Travel Plan

Hodson Developments, Malcolm Jarvis Homes, Pentland Homes & Ward Homes

April 2012

WSP

QM

Issue/revision	Issue 1	Revision 1	Revision 2	Revision 3
Remarks	DRAFT	ISSUE		
Date	March 2012	April 2012		
Prepared by	Emily Butler	Emily Butler		
Signature				
Checked by	Sarah Thorneycroft	Sarah Thorneycroft		
Signature				
Authorised by	Andrew Blacker	Andrew Blacker		
Signature				
Project number	11012761	11012761		
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WSP UK
Mountbatten House
Basing View
Basingstoke
Hampshire
RG21 4HJ

Tel: +44 (0)1256 318800
Fax: +44 (0)1256 318700
http://www.wspgroup.com

WSP UK Limited | Registered Address WSP House, 70 Chancery Lane, London, WC2A 1AF, UK | Reg No. 01383511 England | WSP Group plc | Offices worldwide

Contents

For figures refer to the Umbrella Travel Plan

Executive Summary

Hodson Developments, Malcolm Jarvis Homes, Pentland Homes & Ward Homes (The Consortium) are committed to delivering a sustainable community at Chilmington Green and this Residential Travel Plan will support this objective by promoting a wide range of low carbon travel and transport options to residents and their visitors.

This plan will help deliver travel benefits for all residents, the local area and also the environment.

This Travel Plan will be actively promoted to all new residents at Chilmington Green. Within the plan The Consortium has demonstrated commitment to the management and delivery of a wide range of measures to inform residents of travel opportunities, and to actively promote their use as an alternative to single-occupancy car travel.

A site wide Travel Plan Coordinator will be appointed to oversee and manage the implementation of and on-going delivery of these measures in an effective and efficient way and to make progress towards reducing car-based journeys at Chilmington Green.

1 Introduction

1.1 BACKGROUND

1.1.1 WSP UK (WSP) has been commissioned by Hodson Developments, Malcolm Jarvis Homes, Pentland Homes & Ward Homes (The Consortium) to produce a Transport Assessment (TA) and associated Travel Plans to support an application for the development of up to 5,750 dwellings, four primary schools, one secondary school and retail and employment land uses at the Chilmington Green site to the south-west of Ashford in Kent.

1.1.2 In preparing this Travel Plan, WSP has consulted with Kent County Council (KCC) to ensure that the approach accords with best practice and local guidance.

1.1.3 This Residential Travel Plan (RTP) has been prepared to complement the proposals set out within the accompanying Transport Assessment report in the interests of promoting sustainable development and reducing the reliance on private car-based forms of transport for residents and their visitors.

1.1.4 The employment and educational uses at Chilmington Green are covered by separate Travel Plans to be submitted to KCC. Whilst separate travel plan documents have been produced for each of the land uses, each of the travel plans seeks towards a common objective for the site as a whole; to reduce single occupancy car travel and to increase travel by sustainable modes. Review and monitoring events will be coordinated by an overarching site-wide Travel Plan Coordinator to ensure that data is collated in a timely and comparable manner which will be invaluable to establishing the successes of the travel plans.

1.1.5 The figures referred to in this Travel Plan are contained within the Umbrella Travel Plan document.

1.2 THE SITE

1.2.1 The Chilmington Green development site is located to the south west of Ashford as shown on **Figure TP 1.1**. The site has been identified by Ashford Borough Council (ABC) as a proposed Growth Area, offering the potential for an urban extension of 5,000-7,000 dwellings, supporting land uses and community infrastructure.

1.2.2 The site is bounded to the west by the A28, providing access to Ashford, Canterbury and the M20 to the north of the site, Tenterden and Hastings to the south, and Royal Tunbridge Wells to the west. The development area can also be accessed from the north via two local roads from Chart Road.

1.3 THE BENEFIT OF RESIDENTIAL TRAVEL PLANS

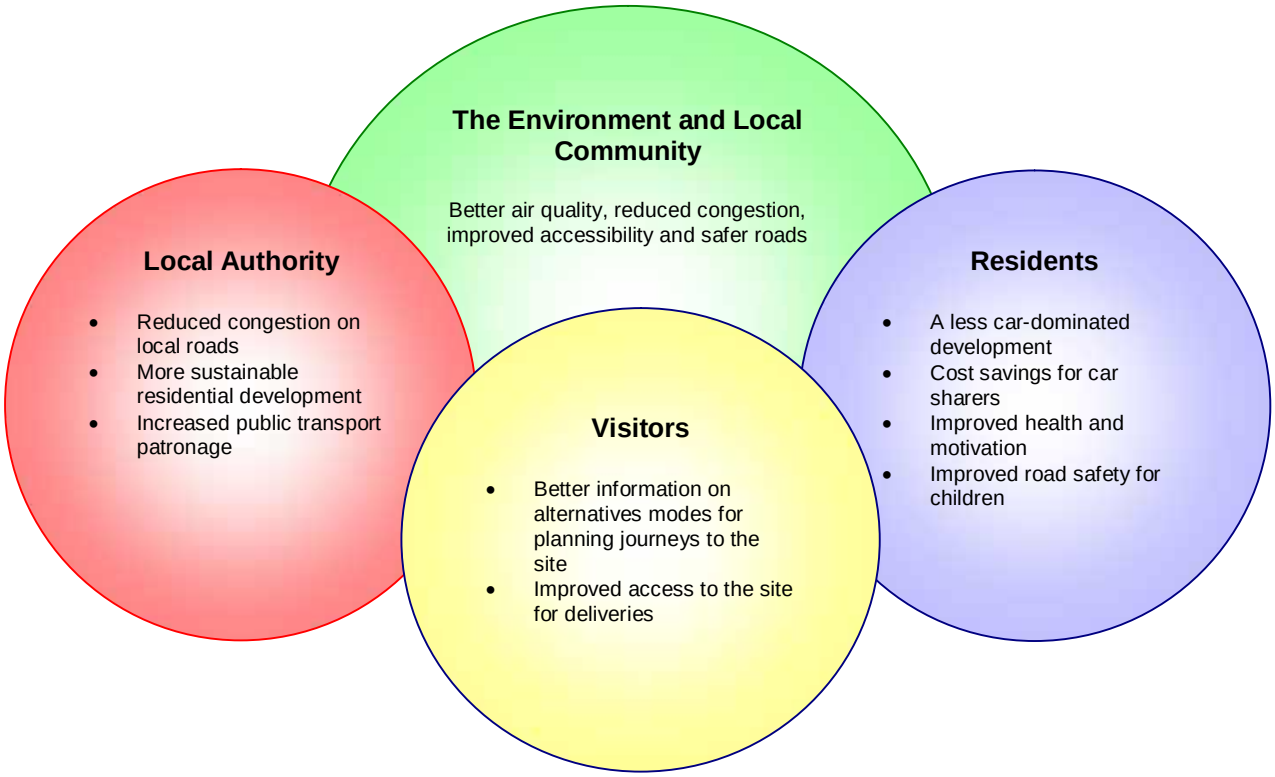
1.3.1 A Travel Plan can provide a number of key benefits which can be extended to residents and visitors of a new community development, as well as to the wider local community. Some of the benefits that can be achieved will be key drivers of this RTP and are set out below:

- **Improved quality of life for residents** - through adopting healthier lifestyles e.g. replacing shorter car journeys with walking and cycling and avoiding the stresses of trying to find parking spaces at their end destination;
- **Improved local air quality** - through reduced traffic congestion in the local community, as a result of the use of alternative modes to the private car for many local journeys;

- **Less vehicle congestion on local roads** - as a result of fewer cars attempting to depart and access the development; and
- **Cost savings for car sharers** - by sharing journeys with neighbours or friends, residents can benefit from sharing the financial and time cost of making these journeys.

1.3.2 Through identifying an appropriate package of measures and ensuring a joined up approach to the delivery of the RTP it is possible that all of these benefits can be achieved as part of the development of the site. A summary of these benefits is shown in Diagram 1.1.

Diagram 1.1 Benefits of Residential Travel Plans



1.4 SITE-WIDE TRAVEL PLAN OPPORTUNITIES

1.4.1 This RTP has also been developed to incorporate a site-wide approach to promoting sustainable travel patterns.

1.4.2 In addition to this RTP, a Workplace Travel Plan has also been prepared to promote sustainable and low carbon travel patterns to employees based at various proposed workplaces at Chilmington Green, and who are also covered by umbrella initiatives. Additionally, a framework School Travel Plan has been prepared containing initiatives to be considered for inclusion in the individual school travel plans proposed for the site.

1.4.3 This presents the opportunity to ensure a joined up approach to travel planning at the new community, to work towards common goals, and so that each of the different land uses can benefit from a management structure that encompasses all aspects of the site. There will also be site wide measures that will be implemented which will be of benefit in supporting and promoting sustainable travel for each of the land uses. For

example, a network of connected, convenient and well signposted walking and cycling routes. Chapter 6 describes such measures in greater detail.

1.4.4 This Travel Plan recognises the potential benefits from a mixed use development in being able to support a reduction in the overall need to travel outside of Chilmington Green to access employment opportunities and local services. The Travel Plan measures outlined in each of the Travel Plans acknowledges this opportunity.

1.5 REPORT STRUCTURE

The remainder of this document is set out in further chapters as follows:

- Policy and Guidance Review;
- Travel Plan Aim and Objectives;
- Existing Site Assessment;
- Development Proposals;
- Travel Plan Promotion and Measures;
- Travel Plan Management;
- Implementation Action Plan;
- Targets and Monitoring; and
- Summary.

2 Policy and Guidance Review

2.1 INTRODUCTION

2.1.1 The sustainability of new development has become of paramount importance and a significant amount of guidance has been produced on promoting lower carbon transport options such as walking, cycling and public transport, whilst advocating a reduction of the use of the private car. This section outlines the national and local policy context and best practice guidance under which this RTP has been prepared.

2.2 NATIONAL POLICY GUIDANCE

CREATING GROWTH, CUTTING CARBON: MAKING SUSTAINABLE LOCAL TRANSPORT HAPPEN (DFT WHITE PAPER, 2011)

2.2.1 The Government's Transport White Paper entitled 'Creating growth, cutting carbon: Making sustainable local transport happen' sets out the Government's vision for a sustainable local transport system that supports the economy and reduces carbon emissions.

2.2.2 The Transport White Paper states that action taken locally is best placed to support economic growth and deliver near term reduction in transport-related carbon emissions. This can be achieved by providing people with options to choose sustainable modes for everyday local transport choices to, for example, help boost economic growth by facilitating access to local jobs.

2.2.3 Travel Plans are noted as being a key means for promoting travel choices to a wide audience and encouraging a change in travel behaviour towards greater use of sustainable modes of travel.

DELIVERING A SUSTAINABLE TRANSPORT SYSTEM (DFT, 2008)

2.2.4 This publication outlines Government's five goals for transport, focusing on the challenge of delivering strong economic growth while at the same time reducing greenhouse gas emissions.

These five overarching goals are:

- To support national economic competitiveness and growth, by delivering reliable and efficient transport networks
- To reduce transport's emissions of carbon dioxide and other greenhouse gases, with the desired outcome of tackling climate change.
- To contribute to better safety security and health and longer life-expectancy by reducing the risk of death, injury or illness arising from transport and by promoting travel modes that are beneficial to health
- To promote greater equality of opportunity for all citizens, with the desired outcome of achieving a fairer society;
- To improve quality of life for transport users and non-transport users, and to promote a healthy natural environment.

RTPs provide an opportunity to support these goals by highlighting and promoting the availability of low carbon transport options to residents and visitors, thereby reducing carbon emissions associated with low journeys.

NATIONAL PLANNING POLICY FRAMEWORK, DCLG, (2012)

2.2.5 Adopted on 27 March 2012, the National Planning Policy Framework (NPPF) seeks to reduce the complexity and improve the accessibility of the planning system, whilst protecting the environment and encouraging growth in a sustainable manner.

2.2.6 This Travel Plan shows how the proposed development accords with Paragraph 29 of the NPPF which details transport as having:

"… an important role to play in facilitating sustainable development but also in contributing to wider sustainability and health objectives."

2.2.7 Travel Plans are noted in Paragraph 36 of NPPF as an important mechanism to facilitate measures to increase sustainability.

2.2.8 As encouraged in the NPPF, the proposed development at Chilmington Green has been planned in such a way that gives people a *"real choice"* regarding their mode of travel. Its density and proximity to local facilities ensures that sustainable modes can be considered a favourable option for local trips.

2.2.9 Pedestrian and cycle movements are afforded priority on the internal network of the proposed development, which also limits the opportunity for conflict between non-motorised users and vehicles, ensuring safety and accessibility is afforded in line with the NPPF.

2.2.10 Paragraph 29 of the NPPF notes that more efficient use of technology can contribute to a reduction in the requirement to travel. As suggested in paragraph 42 of the NPPF, communications and broadband technologies can enhance the provision for communities. This Travel Plan suggests measures which utilise technology to encourage smarter travel choices.

GOOD PRACTICE GUIDELINES: DELIVERING TRAVEL PLANS THROUGH THE PLANNING SYSTEM – DEPARTMENT FOR TRANSPORT (2009)

2.2.11 This document defines a travel plan as:

- *A long-term management strategy for an occupier or site that seeks to deliver sustainable transport objectives through positive action and is articulated in a document that is regularly reviewed*

2.2.12 The purpose of reviewing the document is to ensure that it remains relevant and effective.

2.2.13 Travel Plans are important for new developments in order to:

- Promote sustainable travel and help to reduce single occupancy car use;
- Encourage effective use of current transport networks;
- Support increased choice of travel modes;
- Promote and achieve access by sustainable modes;
- Respond to growing concern about the environment, congestion, pollution and poverty of access; and
- Promote a partnership between the authority and the developer in creating and shaping 'place'.

MAKING SMARTER CHOICES WORK – DEPARTMENT FOR TRANSPORT (2005)

2.2.14 Published subsequent to the Transport White Paper, the Department for Transport (DfT) report 'Making Smarter Choices Work' signals continued government support for a range of measures aimed at raising awareness of alternative modes of travel to private car use, and actively encouraging the use of a wider range of travel modes amongst individuals.

2.2.15 These measures include Travel Plans, travel awareness campaigns, car sharing initiatives, and individualised travel marketing. Contemporary transport policy now recognises the impact that such measures can have in encouraging a shift in modal choice, particularly when accompanied by demand management restraints on single-occupancy car use.

2.3 KEY LOCAL GUIDANCE

LOCAL TRANSPORT PLAN FOR KENT 2011 – 2016 LTP3

2.3.1 Through Kent's third Local Transport Plan (LTP3), KCC actively promotes alternatives to car based travel as part of its work to improve the safety, sustainability and efficiency of the highway network. In particular, this includes working with the county's school, businesses and developers to develop travel plans.

2.3.2 The implementation plan for A Safer and Healthier County specifically looks to the delivery of school travel plans in helping to deliver its Sustainable Travel to School Strategy. KCC is working with health colleagues to ensure that all schools are engaged in the Governments Healthy Schools campaign.

2.3.3 Also of relevance to development at Chilmington Green is the implementation plan for Tackling a Changing Climate. In particular, the following themes;

- **New Development** – to ensure that associated transport infrastructure embraces sustainability. Locating development near existing transport hubs and providing facilities for walking, cycling and public transport.
- **Smarter Travel** – KCC is exploring ways of encouraging journeys by more efficient modes of transport and reducing the distance travelled. Through the promotion of car sharing and encouraging the use of public transport, walking and cycling, capacity can be released on the transport network which will allow more people to reach their destination on time.
- **Walking** – increasing the number of people choosing to walk instead of drive, is one of the key outcomes needed if the UK is to achieve the carbon reduction target required by the Climate Change Act 2008. Walking networks must be inclusive, considering the quality of the walking environment, its suitability for all types of pedestrians, personal safety and security, signage and information, and the directness of the route. It is important to ensure that the principles of inclusive design are enshrined in the planning and delivery of all new developments, which should be fully accessible to all.
- **Cycling** – cycle routes should be continuous and direct. Therefore, priority will be given to providing a comprehensive network that enables people to cycle continuously to schools, work places, shops and leisure opportunities.

- **Buses** – continued partnership working to deliver modal shift from car to bus and reducing overall emissions.
- **WTP & Smarter Choices** – KCC will continue to provide support to developers in fulfilling their obligations. In particular, This includes implementing the iTRACE Travel Plan survey tool and facilitating links with service providers, including public transport operators and car club/car share networks.

GUIDANCE ON TRANSPORT ASSESSMENTS AND TRAVEL PLANS, KENT COUNTY COUNCIL (OCTOBER 2008)

2.3.4 The purpose of this document is to assist both Officers and intending Developers by clarifying when a transport assessment and or travel plan will need to be submitted alongside a Planning Application in Kent and how this will be evaluated, monitored and enforced.

2.3.5 The Travel Plan will take the form of a package of sustainable transport and demand management measures tailored to the needs of an individual site. The Travel Plan is aimed at promoting sustainable transport options to the site and reducing car dependence and single car occupancy. A Travel Plan will grow and develop in time in accordance with changing circumstances.

A Travel Plan will need to include:

- A clear statement of targets and objectives;
- An assessment of existing transport infrastructure and facilities at the site;
- An assessment of the travel needs that are – or will be – generated by the site;
- A programme of appropriate measures which will improve accessibility and promote sustainable travel options;
- A programme for implementation of the plan, giving details of the dates by which the various measures will be put in place, of who will be responsible for the various actions and of how funding will be provided;
- A firm commitment to implement the measures identified in the Travel Plan, to monitor its success and to modify or develop the Plan in the future if this is necessary to achieve its targets; and
- A commitment to support the Planning Authority in seeking further district wide improvements in sustainability in the future.

The Travel Plan measures proposed in the document may include:

- Provision of on-site infrastructure and facilities (for example, convenient cycle parking, bus stops and a carshare scheme);
- Commitment to sustainable policies and working patterns (such as parking restraint, local recruitment, public transport - friendly shift patterns and sustainable fleet management); and
- Assistance with or contributions to off-site infrastructure and services (such as pedestrian crossing points, cycle routes, supported bus services).

They must always include:

- The appointment of an individual to act as Travel Plan Co-ordinator, who must have the full support of management and will be responsible for the implementation of the Travel Plan;
- A firm commitment to achieving the targets of the Travel Plan; and
- Clear proposals for monitoring and reviewing the Travel Plan over time.

NEW WAYS 2 WORK - BEST PRACTICE GUIDE FOR PREPARING TRAVEL PLANS IN KENT, KENT COUNTY COUNCIL 2003

2.3.6 This document is the second edition of News Way 2 Work, initially published in 2003. This current version acknowledges the greater importance of Travel Plans as a tool to tackle congestion and climate change. The guide has been designed to provide practical advice and support to help raise awareness and to assist organisations make their own decisions on how best to take forward their travel plan activities. This guide will be closely followed in the preparation of travel plans for Chilmington Green.

2.3.7 Furthermore, the guide details how KCC has recently introduced iTRACE. iTRACE is an innovative Travel Plan software package which includes site audit questionnaires and staff travel surveys designed to monitor and report on the performance of workplace travel plans. All new travel plans in Kent are required to use iTRACE.

2.4 SUMMARY

2.4.1 This chapter has presented the key elements of a national and local policy framework that will be supported by the introduction of a RTP at Chilmington Green.

2.4.2 National, regional and local policies emphasise the need to reduce the amount of trips undertaken by private car. These policies encourage developments to provide the opportunity for residents to travel by public transport, cycle or walk for everyday trips. Residents living in an area with these alternative travel options will have less need to own and use a private car.

2.4.3 The RTP for Chilmington Green will directly contribute to both national and local planning and transport policy objectives for promoting a full range of transport options at new developments. This will actively contribute towards delivering sustainable communities and improving people's accessibility to local services and amenities by non-car forms of transport.

3 Travel Plan Aim and Objectives

3.1 INTRODUCTION

3.1.1 As has been shown in the policy review in Chapter 2, delivering sustainable development and travel patterns is an important objective of both national and local planning and transport policy. This can be achieved by introducing positive measures to encourage modal shift from cars to more low carbon travel options, such as walking, cycling, local bus services and car sharing.

3.2 SITE-WIDE AIM

3.2.1 The aim for the site as a whole; is to reduce single occupancy car travel and to increase travel by sustainable modes.

3.3 RESIDENTIAL TRAVEL PLAN AIM

3.3.1 The aim of this Travel Plan is to provide a tool for the provision of appropriate measures to encourage residents and visitors of the Chilmington Green development to switch to lower carbon transport options. This will contribute to a greener, more sustainable development, providing added benefits to the wider community.

3.4 RESIDENTIAL TRAVEL PLAN OBJECTIVES

3.4.1 The objectives of this RTP are:

1. To support the development of Chilmington Green as a sustainable community;
2. To facilitate and encourage the use of lower carbon transport options in preference to the use of the private car, particularly for local journeys and for journeys to work;
3. To promote awareness of the site-wide Travel Plan aim;
4. To promote a lifestyle to residents, which includes healthy, sustainable living;
5. To encourage a greater use of sustainable transport initiatives and encourage sustainable travel behaviour, including walking and cycling; and
6. Continually develop, implement, monitor, evaluate and review the progress of the Travel Plan towards achieving the targets.

3.4.2 The above objectives will be achieved by introducing a package of measures that focus on promoting travel to and from the site by sustainable transport as an alternative to the private car. This will encourage residents and visitors to consider lower carbon travel alternatives in everyday trips.

3.4.3 The following chapters describe the existing opportunities for encouraging sustainable travel. The package of measures, in addition to the existing opportunities, is detailed in chapter 5.

4 Existing Site Assessment

4.1.1 The proposed Chilmington Green site is located to the south west of Ashford as shown in **Figure TP 1.1**. It is bounded by the A28 to the north-west and existing residential areas of Ashford to the north east. To the south are the settlements of Stubbs Cross and Shadoxhurst while the rest of the site is surrounded by farmland.

4.2 HIGHWAY NETWORK

4.2.1 Ashford is connected to other major towns and cities via the motorway and trunk-road network beyond which a network of local primary 'A' and 'B' class roads accommodate the bulk of local traffic.

4.2.2 A network of 'C' and 'unclassified' rural roads dissect the site as shown in **Figure TP 4.1**. These roads provide access to farms, hamlets and individual dwellings together with access from the rural villages into Ashford.

4.2.3 Key highway links potentially serving the development area are described further in section 3.2 of the Transport Assessment.

4.3 WILLINGNESS TO WALK

4.3.1 Guidance given by the Institute of Highways and Transportation (IHT) in their publication 'Guidelines for Providing for Journeys on Foot, 2000' suggests that in terms of commuting, walking to school and recreational journeys, walk distances of up to 2,000 metres can be considered, with the desirable and acceptable distances being 500 metres and 1,000 metres respectively.

4.3.2 For non-commuter journeys, the guidance suggests that walk distances of up to 1,200 metres can be considered, with the desirable and acceptable distances being 400 metres and 800 metres respectively.

4.3.3 Assuming a 'typical' walking speed of 400m in 5 minutes, Table 4.1 summarises the broad walk journey times that can be 'considered'; are 'acceptable'; and those that are 'desirable':

Table 4.1: Walk Journey Times

IHT 'Standard'	Distance		Walk Time	
	Commuting, Walking to School and Recreational	Other 'non-commuter' Journeys	Commuting, Walking to School and Recreational	Other 'non-commuter' Journeys
'Desirable'	500m	400m	6¼ mins	5 mins
'Acceptable'	1,000m	800m	12½ mins	10 mins
'Considered'	2,000m	1,200m	25 mins	15 mins

Source: IHT 'Guidelines for Providing for Journeys on Foot, 2000'

4.3.4 It is important to remember that people's willingness to walk also includes a number of factors associated with the footway forming part of the highway and the environment within which it passes. In different environments the following factors will positively increase a willingness to walk:

- Provision of shelter during inclement weather;
- Active streets with good surveillance during hours of darkness;

- Increased separation from fast or heavy traffic;
- Increased footway width in places with high pedestrian activity; and
- High quality streets which provide strong design features that assist navigation in unfamiliar environments.

4.3.5 A person's willingness to walk can also be influenced by changes in level, as walking up or in some cases down long or steep gradients or steps exerts more effort. Generally, gradient of less than 1:20 have a negligible impact on people's willingness to walk.

4.4 PUBLIC RIGHTS OF WAY

4.4.1 The development area is located on the outskirts on Ashford. Being rural, there are few formal pedestrian facilities although the Public Rights of Way (PROW) provides a network of routes for pedestrian, cycle and equestrian movements. Several PROWs connect to the southern residential areas of Ashford, providing direct access to the proposed development area and can be seen on **Figure TP 4.2** which displays the pedestrian and cycle facilities subsequently discussed in this TA.

4.4.2 National Cycle Route 18 (Canterbury to Royal Tunbridge Wells and onward to link with route 21) runs through the site. Its route is broadly north to south. There are numerous traffic free cycle routes and other on-road recommended cycle routes throughout Ashford.

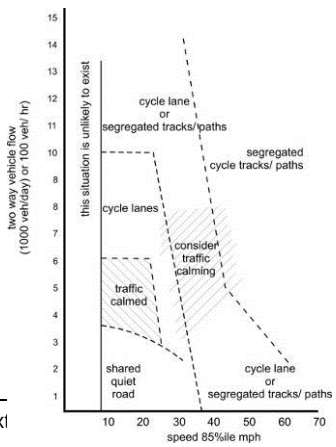
4.5 CYCLE NETWORK

4.5.1 There are a number of designated walking and cycling routes in the vicinity of the development site as shown on **Figure TP 4.2**, many of which have been constructed in recent years and represent a marked improvement in infrastructure.

4.5.2 It is generally accepted that cycling has the potential to substitute for short car trips of 5km or less. It can also form part of a longer multi-modal journey involving public transport. The willingness to cycle reduces as distances increase where a series of factors affect mode choice. Assuming a typical cycling distance of 1,200m every five minutes the accessibility of facilities 5km from the site can be considered to be a 20 minute cycle ride.

WILLINGNESS TO CYCLE

4.5.3 Many people will cycle considerable distances depending on, inter alia, weather, time of day, level of fitness and real or perceived safety/convenience. National Travel Survey research indicates that the average cycle trip in the UK increased by approximately 27% between 2002 and 2010 to 2.8 miles. This figure is slightly below the distance between the centre of the site and Ashford town centre via National Cycle Route 18, this being 3 miles.



4.5.4 The most common response for unwillingness to cycle reflects varying levels of road safety concerns. For example, most parents are anxious of road safety risks thus young cyclists are less confident cycling on carriageway. This position is normally influential in the nature of constructed cycle infrastructure, unless the vast majority of cyclists on a route are more mature. The IHT's *'Guidelines*

for Cycle Audit and Cycle Review' present potential cycle infrastructure options based on the relationship between vehicle speed and flow. It is considerations such as these which will be incorporated into the design of cycle facilities at Chilmington Green.

4.5.5 Like car ownership, the capital cost of owning a vehicle contributes to use. Around 80% of children and nearly half of all adults own a bicycle and therefore adequate space for cycle parking is influential in design of new homes. Facilities at destinations are also significant factors in willingness to cycle, notably shower, changing facilities, lockers and safe secure parking.

4.5.6 Cycle parking both at home and at travel destinations is a key part to complementing the willingness to cycle. Table 4.2 shows that the nature of a journey purpose will influence willingness to park further from the end destination, although other factors such as security will influence choice.

Table 4.2: Cycle Parking – Distance and Location

Cycle Parking		Cycle Parking – location preference	
Journey Purpose	**Median Distance (m)**	**Influencing factor**	**%**
Commuting	40	Close to destination	86%
Business	50	Security	16%
Education	38	Only place available	9%
Shopping	125	Space available	7%
Leisure	20	Location conspicuous/busy	6%

Source: TRL 276: 'Cycle Parking and Demand'

4.5.7 Factors such as those highlighted in Table 4.2 have been considered in the location of cycle parking at Chilmington Green. The amount of parking, and its accessibility and security are recognised as important contributors to the amount of cycle trips which will be made by people at the development in future.

LOCAL CYCLE INFRASTRUCTURE

4.5.8 National Cycle Route 18 runs south west from Canterbury, via Ashford and Tenterden, to join up with Route 21 just west of Tunbridge Wells. The existing route runs through the development site to the east of Chilmington Green hamlet. Beyond Singleton, to the north of the site, the cycle route becomes traffic free, providing a direct connection to Ashford International station and Ashford town centre, including the Stour Centre for leisure facilities. This route can be seen on **Figure TP 4.2**.

4.5.9 Greensand Way Leisure route also provides access through the development. This route links Kingsnorth to the south and Great Chart to the north of the A28. While this link does not provide access into Ashford directly, use of this route alongside National Cycle Route 18 would enable access to destinations surrounding the site.

4.5.10 While the above two routes provide the important linkages between Ashford and the local areas and the new development, there are a number of minor routes that pass through the site. There are routes that provide access from the National Cycle

Route through the ancient woodland to the southern section of Stanhope from which access into the town via residential streets can be made.

4.5.11 Ashford has a comprehensive network of cycle routes including many miles of traffic free cycle paths, which when combined with the signalised crossing facilities present in many strategic locations in the town, ensure that many journeys can be made by cycle without the need for direct interaction with vehicular traffic.

4.6 BUS NETWORK

4.6.1 Bus services in the southern part of Ashford are provided through a combination of:

- Regular services along the main arteries from the south and south west of Ashford from nearby local towns; and
- More frequent local shuttles from existing residential areas north of the proposed development area to the town centre.

4.6.2 The existing bus services that operate in close proximity to the Chilmington Green development site are shown on **Figure TP 4.3** and are detailed within Table 4.3.

Table 4.3: Current Bus Services near the Chilmington Green Site

Service Number	Location of nearest stop to Chilmington Green	Route	Frequency (number)	
			Weekdays	
			AM Peak	PM Peak
13	Ploughman's Way	Ashford - Stanhope - Ashford (circular)	0	1
A	Langney Drive	Singleton - Arlington - Ashford Town Centre (inc. International Station) – Stanhope	6	3
400	New Street Farm	Rolvenden - Tenterden - High Halden - Bethersden - Ashford	1	1
295/297	Stubbs Cross Post Office	Tenterden – Woodchurch – Shadoxhurst – Kingsnorth – Ashford Town Centre	0	0
11/11A/11B	Smithfields Crossroads	Lydd – New Romney – Ashford – Willesborough	2	0
B1/B2	Forestall Meadow	Ashford – (Kingsnorth Road B1 / Romney Marsh Road B2) – Park Farm	2	3

Source: Operator Timetables

4.6.3 The operators of these services are as shown in Table 4.4.

Table 4.4: Bus Service Operators in the Vicinity of Chilmington Green

Service Number	Operator
13	Kent Coach Tours
A	Stagecoach in East Kent
400	Stagecoach in East Kent
295/297	Nu-Venture and Arriva Kent & Sussex
11/11A/11B	Stagecoach in East Kent
B1/B2	Stagecoach in East Kent

4.6.4 The closest bus route to the site, service 400 operates along the A28 to the west of Chilmington Green. This route, as shown on **Figure TP 4.3,** begins near Somerset Road in Ashford town centre and then proceeds south along Station Road to Ashford International Station. The route then heads further south via Romney Marsh Road calling at the Asda store near the Ashford Designer Outlet centre.

4.6.5 From here, the route heads immediately west into the Norman Road / Beaver Lane / Brookfield Road corridor. This corridor is followed until it reaches the Matalan roundabout. At this point the route goes south-west on to Chart Road and through the village of Great Chart.

4.6.6 After passing through Great Chart, the 400 service route continues south-west along Ashford Road and then joins the A28. With the exception of a small deviation in Bethersden, the A28 forms the basis of the remainder of the southbound route. After Bethersden, the service continues through High Halden, Tenterden and terminates in Rolvenden.

4.6.7 Currently, the journey time on the 400 service from the closest stop to the site is 16 minutes to Ashford International station and 21 minutes to the town centre.

4.6.8 Collectively, Service 13 and Service A provide up to six services per hour during the day, Monday to Friday between the residential areas of Singleton and Stanhope, to the north of the site, and Ashford town centre. Of these two services, only Service A provides a direct connection with Ashford International Station.

4.6.9 Service B1/B2 provides a frequent service between Park Farm and the town centre while also providing access to the rail station. Service 400 operates along the A28 to the west of the development site. This is a less frequent service that operates hourly between Rolvenden and Ashford town centre, including Ashford International Station.

4.7 RAIL NETWORK

RAILWAY STATIONS & SERVICES

4.7.1 Ashford International Station is approximately 4km north of the site and offers a range of frequent rail services to local and strategic destinations, including Europe via Eurostar services.

4.7.2 The station is staffed 24 hours per day, seven days per week. In addition to sheltered cycle storage, the station has parking provision for 619 cars. These parking spaces include allowance for disabled users. Ashford International provides full wheelchair access in addition to ticket machine which are wheelchair accessible.

4.7.3 The range of services available from Ashford International provides onward travel for employment and leisure purposes. Table 4.5 sets out a summary of the destinations that are served.

Table 4.5: Rail Services from Ashford International

Destination	Approx Journey Time (minutes)
Tonbridge	36m
Maidstone East	23m
London Waterloo East (via Tonbridge)	75m
London Victoria (via Maidstone East)	61m
London Kings Cross / St. Pancras	35m
Hastings	41m
Folkestone Central	18m
Dover Priory	28m
Canterbury West	16m
Ramsgate	35m

Source: National Rail Enquiries

4.7.4 Ashford International is served direct by three main London stations. These are Waterloo East, Victoria and Kings Cross / St. Pancras. The journey times to these stations are 75 minutes, 61 minutes and 35 minutes respectively.

4.7.5 The centre of the Chilmington Green site is approximately 5.5 km from the international rail station via road. National Cycle route 18 runs through the site and provides a route to Ashford International Station. Currently Bus Service A provides access to Ashford International Station and routes within close proximity of the proposed site.

4.7.6 The Network Rail *London and South East Route Utilisation Strategy* (2011) identifies that with only committed rail improvement schemes included, by 2031 the High Speed 1 route could be up to 500 seats short of demand in the morning peak hour. Recommendations for avoiding this situation include additional rolling stock and an increase in platform capacity at Ashford International.

4.7.7 Table 4.6 highlights that passenger numbers at Ashford International Railway Station have grown by 20.5% in the last five years, although demand has remained stable in recent years due to economic conditions.

Table 4.6: Annual Passenger Numbers at Ashford International

Year	Passenger Numbers (entry / exit, millions)
2004/05	2.29
2005/06	2.41
2006/07	2.61
2007/08	2.82
2008/09	2.76
2009/10	2.76
Growth (2004/05 – 2009/10)	**20.5%**

Source: Office of Rail Regulator – www.rail-reg.gov.uk

RAIL PASSENGER TRENDS

4.7.8 The Channel Tunnel Rail Link (CTRL) had a dramatic impact on passenger numbers in the area, but local demand has been more steady.

4.7.9 Current forecasts[1] suggest rail passenger growth will continue around 2% per annum to 2016, thereafter falling to around 0.8% per annum. The Route Plans for the Kent area highlight that much of this growth is expected to occur due to station improvements in London, enhancing the potential for 10-12 car trains on the regional corridors.

4.8 CAR SHARING

4.8.1 Car sharing can reduce congestion and halve the fuel and running costs to the car traveller. KCC's 'New Ways 2 Work' guidance states that successful travel plans in Kent have largely centred on car sharing as their key initiative as employees who car share retain most of the flexibilities associated with the car.

4.8.2 KCC, in association with Liftshare, has developed 'kentjourneyshare.com'. This is a free internet based car sharing service available to everyone in Kent, which provides a large pool of potential trip matches to help reduce single occupancy car trips.

[1] Southern Regional Planning Assessment for the Railway, DfT, 2007

4.9 EXISTING ACCESSIBILITY TO EDUCATION, EMPLOYMENT, RETAIL AND LEISURE FACILITIES

4.9.1 The mixed use nature of the proposed development will provide many of the facilities which the residents of Chilmington Green will require on a daily basis. This convenience and locality of facilities will ensure that many journeys can be made via sustainable modes and thus remain within the development boundary.

4.9.2 This section will review the current accessibility of the site to facilities in Ashford and beyond via sustainable modes, and when read in conjunction with Section 5 offers a comparison of the 'before' and 'after' impact of the Chilmington Green site.

4.9.3 It is generally understood that walking and cycling are of high importance at the local trip level, offering the greatest potential to replace short car trips where they are under 2 kilometres for walking and 5 kilometres for cycling. Section 4 of the NPPF, emphasises the need for land use and transport planning to be integrated in a manner which promotes sustainable development with good access to local facilities.

4.10 METHODOLOGY

4.10.1 In order to provide the most accurate assessment of current pedestrian accessibility, a GIS based methodology has been utilised. To facilitate comparison with the proposed development, three centroids have been taken, which are the locations of the future district centre and the two local centres.

4.10.2 Close to the northern boundary of the site, there is a perceivable gradient change. This has been incorporated into the assessment, constraining the distance which can be travelled on foot or by cycle from Chilmington Green in any period.

4.11 PEDESTRIAN ACCESSIBILITY

4.11.1 As shown on **Figure TP 4.4**, there is currently limited accessibility to existing facilities in Ashford from the site. Some of the facilities located in the south of Ashford, a short distance from the northern border of the development, are reachable within 30 minutes.

4.11.2 A small pocket of facilities is accessible in less than 25 minutes, located in Singleton. These include schools, convenience retail, a GP and a pharmacy. Other than these, the only other facilities within reasonable walking distance are a nursery on the northern fringe of Shadoxhurst and Ashford Friars Prep School, located in Great Chart. Both of these facilities can be reached in less than 20 minutes. The Post Office in Stubbs Cross can be reached in less than 20 minutes' walk.

4.11.3 It can therefore be surmised that a journey on foot is generally not currently a means of accessing anything more than the most basic facilities. The current road network is not conducive to making certain of these journeys though. For instance it is not realistically conceivable that a parent with a small child would walk along Chilmington Green Road in order to reach the nursery in Shadoxhurst.

4.11.4 The Chilmington Green site contains a number of public rights of way (as noted in Section 4.4); these have been incorporated into the assessment of existing conditions. A number of these will form primary routes for non-motorised users at the proposed development.

4.11.5 The current levels of pedestrian activity suggest that walking for leisure would be a more common use of existing pedestrian routes, rather than as a means of accessing facilities.

4.12 CYCLE ACCESSIBILITY

4.12.1 As is to be expected, accessibility to Ashford and the wider area via cycle is significantly expanded in comparison to being on foot. This is displayed on **Figure TP 4.5**. Ashford town centre is accessible in less than 20 minutes, with all except the northernmost and easternmost areas of the town falling within the 30 minute accessibility window.

4.12.2 The travel time by cycle to the pocket of facilities in Singleton referred to in the pedestrian assessment is under 10 minutes. The range of leisure and retail facilities accessible by cycle covers most of those in Ashford, although certain types of journey purpose will not necessarily be conducive to cycling, such as making large purchases.

4.12.3 Travelling to work by cycle is also a realistic option for workers whose place of employment is outside of Ashford Town centre. The cycling time from the site to local employment centres is shown in Table 4.7.

Table 4.7: Accessibility to Employment by Cycle

Employment Location	Travel Time by Cycle (minutes)
Ashford town centre	16 – 20
Cobbs Wood Industrial Estate	11 – 15
Brookfield Industrial Estate	11 – 15
Kingsnorth Industrial Estate	16 – 20
Eastmead Trading Estate	16 – 20
Kingfisher Business Park	21 – 25
Grove Business Park	21 – 25
Henwood Industrial Estate	21 – 25

Source: Consultant prepared GIS assessment

4.12.4 In terms of cycling comprising a stage in a multi-modal journey, Ashford International station can be reached from the site in less than 20 minutes. To the south east, Ham Street station is within 30 minutes cycle. Both of these stations offer cycle storage.

4.13 PUBLIC TRANSPORT ACCESSIBILITY

4.13.1 The GIS based software ACCESSION has been used in order to determine the accessibility of destinations from the site using currently timetabled public transport services. This assessment indicates that the site has some degree of accessibility to other parts of Ashford and nearby settlements in Kent. This is illustrated in **Figure TP 4.6**.

4.13.2 It is discernible when comparing the cycle accessibility in **Figure TP 4.5** that there are some areas of Ashford which are faster to reach by cycle than they are using the current Public Transport services. This is likely to be due to the fact that a cyclist can

take a direct route to these destinations. If using a bus service, it is possible a change of service may have to be taken, most likely in the town centre, in order to make an onward journey to the same destination.

4.13.3 In many cases, where a rail travel element is a component in a journey, a significant amount of onward travel from the rail destination is not possible within the cumulative one hour period used for assessment. Table 4.8 presents some of the destinations accessible from the site in a one hour window via public transport.

Table 4.8: Accessibility from Site to Destinations via Public Transport

Destination	Travel Time by Public Transport (minutes)
Ashford International Station	21 – 30
Ashford town centre	31 – 40
Tenterden	31 – 40
Wye	41 – 50
Canterbury	51 – 60
Folkestone	51 – 60
Headcorn	51 – 60

Source: Consultant prepared ACCESSION assessment

4.14 SUMMARY

4.14.1 The current access to facilities from Chilmington Green via sustainable modes ranges from poor to acceptable. This is primarily because the area currently has minimal development and therefore does not create a substantial demand for facilities. Therefore the facilities that will be used by existing residents have been established in order to serve other communities such as those in Singleton and Stanhope to the south of Ashford.

4.14.2 Ashford currently has a very well developed provision of pedestrian and cycle routes, and the proposed development will integrate seamlessly with these, ensuring that the new community is able to access existing facilities with ease.

4.14.3 The proposed development will provide a wide range of facilities for retail, education, employment and medical requirements. In the majority of cases, accessing a facility within Chilmington Green will be the most attractive option for residents.

5 Development Proposals

5.1 DEVELOPMENT PROPOSAL

5.1.1 The proposals at Chilmington Green are for a mixed use development. Residential properties will comprise the focus of the development, however there will be significant supporting infrastructure which will sustain Chilmington Green itself and also complement Ashford's position as a regional growth point.

5.1.2 The outline application is for a comprehensive Mixed Use Development comprising:

- Up to 5,750 residential units, in a mix of sizes, types and tenures;
- Up to 10,000m² gross floorspace of Class B1 use;
- Up to 9,000m² gross floorspace of Class A1 to A5 uses:
- Education (including a secondary school of up to 8ha, and up to four primary schools of up to 2.1ha each);
- Community uses (class D1) up to 5,000m² gross floorspace;
- Leisure uses (class D2) up to 5,000m² gross floorspace;
- Provision of local recycling facilities;
- Provision of areas of formal and informal open space;
- Installation of appropriate utilities infrastructure as requires to serve the development, including flood attenuation works, SUDS, water supply and wastewater infrastructure, gas supply, electricity supply (including substations), telecommunications infrastructure and renewable energy infrastructure;
- Transport infrastructure, including provision of three accesses on to the A28, an access on to Coulter Road, other connection on to the local road network, a Park and Ride with a maximum of 600 parking spaces and a network of internal roads, footpaths and cycle routes;
- New planting and landscaping, both within the Proposed Development and on its boundaries, and ecological enhancement works; and
- Associated groundworks.

5.1.3 Appearance, landscaping, layout and scale are reserved for future approval. Access is also reserved for future approval with the exception of the three accesses on to the A28 and the access on to Coulter Road.

5.2 PUBLIC TRANSPORT IMPROVEMENTS

5.2.1 A new high frequency bus service will be introduced at the proposed development and will be available from the first phase, with its coverage expanding as Chilmington Green is built out.

5.2.2 Following an internal loop of Chilmington Green, the service will head on to the A28, then Tithe Barn Lane, Knoll Lane, Brookfield Road and Leacon Road before using Victoria Way to reach the town centre. Ashford International station will also form one of the destinations for the service. The anticipated travel time from Chilmington Green's district centre to Ashford International is approximately 15 minutes.

5.2.3 Further details of Chilmington Green's public transport offering are contained in Section 11 of the Transport Assessment.

5.3 SUSTAINABLE TRANSPORT MEASURES

5.3.1 A number of development proposals, including design features, will aid sustainable travel to and from the site. These are outlined below:

- Permeable pedestrian and cycle network;
- Green Lanes with limited vehicle movements, encouraging use by pedestrians, cyclists and equestrians;
- Master Plan design integrating facilities within communities, reducing travel distance;
- Car parking in accordance with local policy;
- Convenient cycle parking; and
- Speed limits throughout the development of 30mph or less, to be detailed in reserved matters.

5.4 CAR AND CYCLE PARKING

5.4.1 Car and cycle parking at Chilmington Green will be provided in line with the standards detailed in Section 2.4 of the Transport Assessment. This parking will be 'designed in' to the scheme and located close to dwellings and distributed efficiently over the site to cater for residential visitors.

5.4.2 Many of the new dwellings will be served with on-plot parking generally located to the side, rear or front of the dwelling. Parking spaces and garages will be sited so that there is sufficient room for users to enter and exit the vehicle. The distance from the car parking space to the home will be kept to a minimum and will be level or gently sloping where practically possible. Disabled parking and cycling parking numbers will be provided in accordance with the appropriate standards at the time of reserved matters submission. Where appropriate, on-street parking will be provisioned, forming traffic calming and creating spaces away from built form for street trees and other landscaping. By designing the on-street parking locations from the outset, the impact of car parking on the street scene is minimised.

5.4.3 Courtyard parking within the development blocks will be evident, but where this approach will be utilised, parking courts will serve a limited number of dwellings, include landscaping and create private, well defined areas with good surveillance from dwellings, giving the court its own sense of place. Pedestrian connections from the fronts of houses to rear courts should be regular and direct.

5.4.4 Further detail regarding parking at Chilmington Green is included in the Parking Review note at **Appendix B** of the Transport Assessment.

5.5 PEDESTRIAN AND CYCLE ROUTES

5.5.1 Ashford is well served by pedestrian and cycle routes and infrastructure, and this provision is complemented by the Chilmington Green Master Plan. Existing Public Rights of Way within the site would be complemented by new routes and infrastructure, giving traffic free movement for cyclists to many areas of Chilmington Green.

5.5.2 National Cycle Route 18 will continue to form a key route for non-motorised users, whether to gain access to Chilmington Green or for leisure purposes, and Greensand Way will also form a key corridor for pedestrian and cycle movement.

5.5.3 As a result of the construction of roads to support vehicle movement around Chilmington Green, several existing roads will become 'Green Lanes', rural routes which retain their existing character. These routes will have minimal vehicular traffic and will present a pleasant environment for non-motorised users for trips of all purposes.

5.5.4 These 'Green Lanes' will primarily consist of:

- Chilmington Green Road;
- Chilmington Green Lane; and
- Bartlets Lane.

5.5.5 Chilmington Green's proposed primary pedestrian and cycle routes are shown on **Figure TP 5.1**.

5.6 ORCHARD WAY

5.6.1 Orchard Way will be the main vehicular link through Chilmington Green, handling traffic heading to and from the A28 in addition to local traffic circulating in the proposed development. Orchard Way will have a 6.0m carriageway width, with footway and cycleway providing ease of access around Chilmington Green for non-motorised users.

5.6.2 The southern section of Orchard Way will form part of the bus route for the proposed high frequency bus service.

5.7 PHASING

5.7.1 Construction of Chilmington Green will take place in four phases, with each phase consisting of dwellings, plus non-residential land uses which directly support either that phase or Chilmington Green as a whole. These include facilities such as the education facilities, which will be required at regular intervals, and retail facilities.

5.7.2 A detailed breakdown of the anticipated phasing of Chilmington Green is presented in the phasing report which accompanies the outline planning application.

5.8 PROPOSED ACCESSIBILITY TO EDUCATION, EMPLOYMENT, RETAIL AND LEISURE FACILITIES

5.8.1 In order to demonstrate the effectiveness of the sustainable infrastructure which will accompany the proposed development, the GIS assessments undertaken in Section 4 have been repeated.

5.8.2 The same methodology has again been employed, with the district centre and two local centres acting as centroids for the assessment. The effect of gradient to the north of the site has been applied to the pedestrian and cycle accessibility assessments again.

5.9 PEDESTRIAN ACCESSIBILITY

5.9.1 The primary pedestrian routes introduced by the proposed development have been included in the GIS assessment, which shows the effect of these links on

pedestrian accessibility inside and outside of the development. **Figure TP 5.2** shows the pedestrian accessibility at full build-out of Chilmington Green.

5.9.2 A comparison between the future pedestrian accessibility and the existing accessibility shown in **Figure TP 4.4** shows that there is an increase in the distance which can be travelled on foot within a 30 minute period, but it does not offer significantly improve access to any existing facilities.

5.9.3 What **Figure TP 5.2** does show is the excellent accessibility within the site to facilities. In addition to displaying the locations of the district and local centres as centroids, the education facilities have been shown, as has the supermarket located at the district centre.

5.9.4 From any point within the development, the walking time to one of the centres is less than 15 minutes, and in the majority of the residential areas it is under 10 minutes. The locations of the centres around the development ensure that this travel time is kept low. The employment, convenience retail and commercial facilities at each of the centres will be within easy reach on foot of all residents, visitors and employees.

5.9.5 A comparison with the development density in **Figure TP 4.7** shows that the district and local centres are surrounded by high density development, with the density gradually decreasing at further distances. This means that a greater number of people are located within a shorter walking distance to the centres than are located further away.

5.9.6 Three of Chilmington Green's primary schools are within five minutes' walk of one of the centres, with the fourth primary school and the secondary school situated less than 10 minutes' walk from a centre. Resultantly, it can be said that all residential development will be within 15 minutes' walk of a primary school and a good proportion within 5 minutes' walk. Chilmington Green's secondary school will be within the 2km guideline for walking offered by the Chartered Institution of Highways and Transportation in the publication "Guidelines for Providing for Journeys on Foot", 2000.

5.10 CYCLE ACCESSIBILITY

5.10.1 The proposed cycle infrastructure at Chilmington Green offers some degree of improvement in accessing the wider Ashford area as a result of the provision of the proposed development's internal cycle routes. **Figure TP 5.3** shows the level of cycle accessibility from Chilmington Green's district and local centres.

5.10.2 In particular, a greater proportion of Ashford north of the M20 and areas in the far east of the town become accessible in less than 30 minutes cycle time. Access time to Ashford town centre remains under 20 minutes by cycle.

5.10.3 Based on the results of this assessment, Chilmington Green can be deemed as a 'cycle neighbourhood'. The proposed infrastructure provides an environment where any of the three centres within the proposed development can be reached conveniently by cycle. The majority of the development is able to reach either the district centre or one of the local centres in under 5 minutes, with only those at the very fringes of the site needing up to 10 minutes to get to a centre.

5.10.4 With Chilmington Green's schools located in close proximity to the centres, these will all be accessible in a short time by cycle too, with the secondary school within an excellent distance by cycle.

5.11 PUBLIC TRANSPORT ACCESSIBILITY

5.11.1 As with the assessment of existing conditions, the public transport assessment for the future scenario has been carried out using ACCESSION. This incorporates the proposed high frequency bus service from Chilmington Green. The assumptions associated with the service (detailed in Section 11 of the Transport Assessment) are:

- 10 minute frequency;
- Real-time smart bus stops located as shown in **Figure TP 5.4**; and
- A journey time of approximately 15 minutes to Ashford International Station from the district centre.

5.11.2 The assessment includes the time taken to walk from the centroid (in this case either the district or local centre) to the nearest bus stop, there is also an assumed wait time. Where there is a change of mode from bus to rail, another small delay is introduced replicating the wait for a train for example. Where there are no further onward connections, the distance that can be reached in a 60 minute period is shown. The future public transport accessibility from Chilmington Green is shown in **Figure TP 5.5**. A wider view of public transport accessibility from Chilmington Green to the rest of Kent can be seen on **Figure TP 5.6**.

5.11.3 In comparison to the existing accessibility by public transport as displayed on **Figure TP 4.6**, there is a noticeable difference in the destinations which can be reached, and the time in which they can be accessed.

5.11.4 Table 12.1 shows a list of local destinations and offers a comparison in the time calculated to reach them from Chilmington Green currently, and with the proposed bus service.

Table 5.1: Accessibility from Chilmington Green to Destinations via Public Transport

Destination	Travel Time by Public Transport (minutes)	
	Current	With Proposed High Frequency Bus Service
Ashford International Station	21 – 30	11 – 20
Ashford town centre	31 – 40	11 – 20
Tenterden	31 – 40	31 – 40
Wye	41 – 50	21 – 30
Canterbury	51 – 60	41 – 50
Folkestone	51 – 60	31 – 40
Headcorn	51 – 60	31 – 40
Maidstone	60+	41 – 50
Rye	60+	41 – 50
Dover	60+	51 – 60
Ebbsfleet International Station	60+	51 – 60

Source: Consultant prepared ACCESSION assessment

5.11.5 As Table 5.1 shows, Chilmington Green's proposed bus service facilitates access to a wide area, giving excellent links to Ashford International station and to the town centre.

5.11.6 Destinations that cannot currently be reached in less than an hour by public transport are shown by the assessment as being reachable in that time in the future year assessment. For example from commencing a journey at one of the centres at Chilmington Green the assessment anticipates it will be possible to get to central Maidstone in under 50 minutes and to Ebbsfleet International Station in under 60 minutes.

5.11.7 The future level of accessibility increases the potential for residents to commute from Chilmington Green to other destinations in Kent. And with London St Pancras station a further 18 minutes journey from Ebbsfleet International, central London is feasibly accessible from Chilmington Green in a little over one hour.

5.11.8 The reverse journey can also be made conveniently, with commuters able to access the proposed development using public transport to reach Chilmington Green.

5.11.9 It should be noted that ACCESSION assumes a certain time to reach a public transport stop and for the service to arrive. This can result in journeys involving public transport services with a low frequency providing better results than they may do in reality.

5.12 SUMMARY

5.12.1 This section has demonstrated that the proposals at Chilmington Green afford future residents, employees and visitors the opportunity to access all the facilities that Chilmington Green has to offer using sustainable modes. Travel to and from the development and to places outside of Ashford is significantly enhanced by the proposed high frequency bus service.

6 Travel Plan Promotion and Measures

6.1 INTRODUCTION

6.1.1 Having outlined the aim and objectives of the RTP, and examined the opportunities presented by the development site, there are potentially a wide range of different measures that can be implemented to meet them.

6.1.2 This section outlines a range of measures that will be implemented as part of this plan. The measures presented are anticipated to be relevant to the scale of development and have the greatest potential for encouraging the use of sustainable transport modes amongst residents.

6.1.3 Some of the measures described in this chapter will provide an overarching benefit to the entire site and will thus help to support the employment and education travel plans.

SITE WIDE MEASURES

6.1.4 This section outlines the specific site-wide development measures to be introduced as part of the RTP.

6.2 SITE-WIDE TRAVEL PLAN COORDINATOR

6.2.1 The Travel Plan Coordinator will lead the day-to-day delivery of the Residential Travel Plan and oversee the implementation of the Workplace and School Travel Plans.

6.3 RESIDENTIAL SALES STAFF TRAINING

6.3.1 Training will be provided to all sales staff that will be responsible for meeting with prospective residents at the new development. The training will focus on ensuring all staff are familiar with the objectives of the RTP and are able to communicate to a prospective buyer the sustainable travel opportunities available. Staff training will be repeated by the Travel Plan Coordinator to reflect staff turnover or to keep staff up to date with any changes to the Travel Plan.

6.3.2 This will help to promote the sustainable characteristics of the site to prospective buyers and help to ensure that all new residents of the development are aware that sustainable travel information will be available to them, including prior to occupation.

6.3.3 Sales and marketing literature aimed at prospective buyers of homes will highlight the sustainable nature of the development in terms of its location and connectivity to the surrounding local area.

6.4 RESIDENTS SUSTAINABLE TRAVEL INFORMATION PACK

6.4.1 Upon occupation of the development, residents will receive a ‘Sustainable Travel Information Pack’. Through the information provided in the pack, residents of the development will be in a better position to make informed choices about how they choose to travel to and from the development. The pack will include;

- An overview of the objectives and structure of the Chilmington Green Travel Plan, why the scheme is in place, and what advice is available on sustainable travel options;
- The benefits that having a travel plan brings, to individuals, the community and to the environment;
- What incentives are being offered to residents to encourage sustainable travel;

- Contact details of the Travel Plan Coordinator, should they have any transport or travel problems, or ideas they wish to discuss;
- Up to date public bus and rail timetables. If necessary these will be simplified and produced as pocket guides to make them easier to use and to carry in everyday travel;
- How to access and register with the countywide and site-wide car share database;
- Pedestrian and cycle route maps for travelling within the development, as well as to and from the surrounding area, including access to the nearest local facilities (such as schools, doctors and dentist surgeries, the post office etc.), the bus and rail stations;
- Details of local taxi companies;
- Details of local retail outlets that provide home delivery services;
- Details on how to get involved in the Travel Plan Forum;
- Bus and bike discount vouchers application form;
- A personal journey planning advisory leaflet and reply slip;
- Brief summary note about the status of local School Travel Plans, including any noteworthy initiatives that have been implemented. In the event the school is not open prior to occupation of residential properties, the note to residents will include local schools that children can attend for the interim period and details of when the school is expected to open and how to go about registering children for the school.
- Information on which broadband providers are available from the exchange serving the site and their residential unit.

6.4.2 Information packs will be provided to the first two occupiers of each dwelling. This will be achieved by liaison with residents and local estate agents. The appointed Travel Plan Coordinator is responsible for the compilation and maintenance of the information provided within the information packs.

6.5 ONGOING PROMOTION AND MARKETING

6.5.1 A Travel Plan information board will be located within the sales office and later within central areas of the occupied development including main bus shelters, supermarkets, and schools. This will help to raise awareness of residents and visitors of alternative transport choices and highlight further the benefits of sustainable travel associated with the development location. Plans of local pedestrian and cycle routes and the nearest bus stops will also be posted on this board.

6.5.2 A Travel Plan Coordinator (TPC) will be appointed by The Consortium prior to employment of sales staff through to development completion and the end of the monitoring process (five years after the final phase is complete).

6.5.3 The TPC will coordinate an online forum to allow for both positive and negative feedback with regard to the Travel Plan. The group will be web based and open to all occupants of the site, including residents, employers and school representatives. The Travel Plan Coordinator will then monitor the progress of this group and assess what is and is not working for this development. Any resulting Travel Plan initiatives will then be communicated and promoted to the forum.

6.5.4 The Travel Plan Coordinator will also undertake to set up a wider RTP web based forum for Ashford in association with other developers and their appointed coordinators to share information and ideas. Residents will also be able to provide feedback through an on-line discussion forum developed specifically through the dedicated Chilmington Green website, discussed further below on Section 6.7.

6.6 PERSONALISED JOURNEY PLANNING

6.6.1 Personalised Journey Planning will be offered to all residents of Chilmington Green, initially through an advisory leaflet and followed by face to face 'home visits' at periodic phases as the development builds out.

6.6.2 Initially an advisory leaflet will be provided in the Travel Information Pack to explain to new residents the available sustainable transport options advocated in the Chilmington Green Travel Plan and that if they wish, they may fill in the response slip enclosed with the leaflet which will be returned to the Travel Plan Coordinator directly to identify the residents specific travel needs. The Travel Plan Coordinator will then use this information to prepare a 'Personal Journey Plan' for that resident free of charge. Additionally the Sustainable Travel Website (detailed in section 6.7) for the development will provide an electronic version of the return slip which will be submitted directly to the TPC, residents will be advised of this alternative means of submitting a journey planning request through the Travel Information Pack.

6.6.3 Secondly face to face 'home visits' will be organised by the Travel Plan Coordinator on a yearly basis to discuss with each homeowner their travel requirements and provide suitable solutions. The TPC will then use this information to prepare a 'Personal Journey Plan' for that resident free of charge. The TPC will then carry out a second home visit to talk to each resident briefly about their pack, and to answer any immediate questions or concerns raised by the resident.

6.6.4 Each Personal Journey Plan will be based on individual lifestyles and in light of the available transport options for stated everyday journeys. This process will allow residents to consider how they currently travel and promote alternative methods for their journeys to work, school and when accessing other local amenities. Personalised journey planning will also make residents who might not otherwise use public transport realise there are local services available that can suit their needs.

6.6.5 The Travel Plan Coordinator is responsible for promoting the availability of this measure through the advisory leaflet and organising face to face 'home visits'. Residents will be encouraged to contact the Travel Plan Coordinator if they have any specific sustainable travel related queries. The 'home visit' Personal Journey Planning will be marketed annually in a phased approach to all new occupations.

6.6.6 Additionally, the site developers will secure a broadband provider to ensure that the development site has access to high speed broadband (as part of the general utilities infrastructure provision). Upon occupation, residents will then be able to subscribe to high speed broadband services, which will help facilitate working from home, internet shopping and assist in identifying car share companions.

6.7 SUSTAINABLE TRAVEL WEBSITE

6.7.1 The Consortium will be responsible for the creation of a dedicated sustainable travel website for Chilmington Green which will focus on providing appropriate, up-to-date information on sustainable travel options for accessing the development site. This will include detail relating to the employment and educational components of the site.

6.7.2 The website will serve as a 'one-stop-shop' for the dissemination of site-wide sustainable travel information to residents, as well as acting as a source of information for visitors. Information on the website will include details of local public transport routes, local amenities and facilities, walking and cycle maps, a link to online car sharing opportunities, and an online forum to provide feedback on the travel plan (as detailed in section 6.5). The website will contain a personal journey planning reply which will allow residents to fill in their details and request a personal journey plan directly from the TPC.

6.7.3 The website will also provide links to other websites such as kentjourneyshare, Traveline and Transport Direct so as to encourage residents to plan their journeys using sustainable transport.

6.8 ELECTRIC VEHICLE CHARGING POINTS

6.8.1 The technology behind electric vehicles is at a point where they now provide a much better range and level of performance than early incarnations. From being produced by specialist companies they have now moved to mass production by the world's major manufacturers, with fully electric cars having been released by Nissan, Peugeot, and Renault in 2011 and other companies are expected to following in the next few years.

6.8.2 By providing a number of secure charging points located at various points around the development, those who feel that they need a vehicle may be encouraged to choose an electric car. This offers a social benefit of zero harmful emissions from the vehicle. There are personal benefits for the owner of the vehicle as it will be exempt from road tax and the London Congestion Charge. From January 2011, the government has been offering a grant of 25 per cent of the cost of the car, up to a maximum of £5,000. This level has been agreed until 2015, when the level of the grant will be reviewed. A new grant of up to £8,000 towards the purchase of electric vans was released in January 2012.

6.8.3 With the installation of charging points at community and retail centres, Chilmington Green would be at the forefront of the promotion of zero emission vehicle use, particularly as there aren't currently any charging points in the Ashford area.

6.8.4 Prior to development completion and occupation, the Consortium will review the benefits and viability of introducing some electric charging points for vehicles at key points within the development, such as at community and retail centres. This will serve as an added incentive for local residents to consider electric vehicles, thereby reducing vehicle emissions, as they will have opportunity to charge the vehicles at their end destination.

6.8.5 Electric Vehicle charging points can be retrofitted so additional bays can be introduced if monitoring and feedback shows an increasing level or demand.

6.9 MEASURES TO PROMOTE PUBLIC TRANSPORT USE

Enhanced Public Transport Services

6.9.1 A Public Transport Strategy has been developed to ensure a mode share for development trips.

6.9.2 To achieve this mode share a high quality, frequent and direct bus service to Ashford Town Centre is required. It is proposed that the bus service is bespoke to Chilmington Green rather than an extension of an existing bus service. The service will

operate every 10 minutes and provide a direct and attractive link between Chilmington Green, Ashford Town Centre and Ashford International Rail Station (for high speed rail services to London).

6.9.3 High Quality Smart Bus Shelters are also planned around the Chilmington Green site. It is proposed that these shelters would include Real Time Passenger Information (RTPI) screens which show passengers when the next bus is due.

Bus/Rail Service Information

6.9.4 Details of public transport services serving the development area will be publicised to all residents, including route, fares and timetable information. This information will be disseminated directly to residents via a range of media including newsletters, noticeboards, Sustainable Travel Information Packs and via the Chilmington Green website.

Branded Marketing Campaign

6.9.5 The buses used for the new bus route will be branded and specific to the new route, allowing residents to easily identify the buses that travel through the site to Ashford Centre. To highlight this further to residents, branded leaflets and timetables will be included in welcome packs to all new residents. Additionally any changes to the new bus service such as frequency or changes to routing of service will be advertised to residents with a leaflet drop and through the development website.

Trial Travel Vouchers

6.9.6 Many people have adverse perceptions of public transport which aren't actually based on personal experience or that are based on an experience that occurred some years ago before significant enhancements to public transport services occurred.

6.9.7 Travel vouchers are an excellent way of encouraging people to use different forms of public transport that they wouldn't ordinarily try. Trial travel vouchers may alter people's perceptions of public transport for the better, leading them to continue using public transport beyond the end of the trial period.

6.9.8 Therefore, each household will be offered an Ashford Megarider ticket which allows for one month's free travel on local bus services operating via Chilmington Green, with the cost of £40 being met by the developers. To be eligible for this, residents will be required to complete and return a form provided by the TPC. These forms will be included with the Travel Information Pack, with a letter explaining the scheme and detailing which tickets they can claim. Detailed discussions will be held with Ashford Borough Council and the local bus operator prior to occupation to determine the exact method by which residents can then enjoy free travel on local bus services.

6.9.9 Those households that do not take up the offer of a trial travel ticket by the time of the Personal Journey Planning exercise will be reminded of the offer and encouraged to take up the offer.

6.9.10 When carrying out the Personal Journey Planning exercise the TPC will offer one day tickets (£3.20) to residents that have a journey planned for them that will make use of the ticket, to further encourage them to try the planned journey.

6.10 PROMOTING CYCLING AND WALKING

6.10.1 The design of the site will adopt a Manual for Streets approach where pedestrians are considered first at the top of a user hierarchy to ensure that their needs are met early on in the design process. Walkable neighbourhoods will ensure that a range of facilities can be reached easily and safely on foot, and by bicycle, to help reduce the reliance on the private car for shorter trips. Section 5 discusses the proposals in greater detail.

Site Specific Waking and Cycling Maps

6.10.2 To demonstrate to residents how local facilities and services can be reached on foot, or by bicycle, site-specific walking and cycling maps will be produced by the Travel Plan Coordinator and distributed along with the travel information packs to all residents.

6.10.3 These maps will be produced with the development as the central points of focus, with all key local facilities and services clearly illustrated within time bands showing average walking and cycling journey times. This will demonstrate how accessible these destinations are within a given travel time, and will therefore support the uptake of walking and cycling for short journeys from the development.

6.10.4 The maps will also include the location of public cycle parking within the development and at key local destinations. Cycle parking will be provided on-site for all land uses by the developer, in accordance with ABC's cycle parking guidelines.

Bicycle User Group (BUG)

6.10.5 A Bicycle User Group (BUG) will be established for the development. This group will comprise of employees and local residents who are interested in taking forward initiatives to promote and facilitate cycling in and around the development. The BUG will provide an online forum for sharing information on cycle routes, cycling best practice, and to address any issues of concern regarding cycling or cycle safety.

6.10.6 The BUG will also enable less experienced cyclists to interact with established cyclists and obtain information, guidance and potentially a 'cycling buddy' to accompany them on their journey to or from the development. Through the BUG, a 'Bike Doctor' can be organised on a regular basis to service resident's and employee's bicycles and provide advice on cycle maintenance.

Cycle Discounts

6.10.7 Details of local cycle shops will be publicised on the travel information website and discussions will be held with these shops to endeavour to secure discounts for residents on cycle purchase and repair. It is anticipated that such a discount may be secured given the sizable number of residents and the BUG will provide an ideal platform for taking this forward. Regardless of this discount being secured, which would come direct from the retailer, each household will be provided with a £50 cycle voucher to redeem against cycle purchase or repair this will be in addition to the local cycle store discount. One voucher will be offered per household and this can be requested via the information provided within the Welcome Pack.

Promotional Events

6.10.8 The RTP will actively encourage walking and cycling amongst residents at Chilmington Green. The Travel Plan Coordinator with assistance from the BUG will encourage residents to participate in an annual 'Bike Week' event for both commuting and leisure journeys. By involving local residents from the BUG in coordinating the event will encourage local residents to attend and prevent it being a corporate event.

6.10.9 This will promote cycling as an alternative form of transport for some local journeys and help boost the overall number of residents that could cycle for some journeys.

6.10.10 As part of the bike week event the Travel Plan Coordinator will also look into the potential to secure the services of a 'bike doctor' to arrange a surgery-style session at Chilmington Green for residents who require their bicycles to be fixed or serviced. Other promotions linked to the 'Bike Week' event will include making residents aware of the voucher scheme (described above) to offer discounts on the purchase of a new bicycle or bicycle accessories from a local retailer. The Travel Plan Coordinator will look into the potential for this as part of the event.

6.10.11 The cycle buddying website 'BikeBUDi' will also be promoted. This service is offered as part of the national Liftshare database. It's a free to use website which matches individuals with others cycling the same way so they can ride together. The idea is also to encourage individuals who may be apprehensive about cycling to give it a go.

6.10.12 The Travel Plan Coordinator will also organise a walking club amongst residents at Chilmington Green. This will include arranging occasional leisure walks to destinations surrounding the site so that residents become familiar with walking to and from the site and to support healthy and active lifestyles.

6.11 PROMOTING CAR SHARING

6.11.1 To ensure the most efficient use of cars that do travel to and from the site, residents will be encouraged to car share wherever possible. This will help to reduce the overall number of car journeys being made in the first instance, whilst encouraging a pattern of more efficient car use amongst residents.

6.11.2 Car sharing schemes encourage individuals to share private vehicles for particular journeys. Car sharing can be both formal and informal. Informal car sharing operates between individuals and neighbours and formal car sharing is defined by a more elaborate approach to trip matching, often focussed on the commuting journey.

6.11.3 Information about existing local car sharing groups will be disseminated to residents through letter drops, sustainable travel information packs and notice boards. There are two such groups that incorporate the Ashford area; kentjourneyshare.com and Kentcarshare. As detailed in Chapter 4, these organisations can be joined for free, or for a small fee, and help users match journeys with like minded people, and subsequently help to reduce the costs of travelling alone by car.

6.11.4 In addition to this a car sharing database will be set up for Chilmington Green which residents will be encouraged to sign up to. This is expected to become more popular as the development builds out and more residents join. A promotional event will be held at Chilmington Green organised by the Travel Plan Coordinator to boost the uptake of car sharing within the community.

6.12 CAR CLUBS

6.12.1 The Travel Plan Coordinator will undertake a feasibility study prior to first occupation of the site to determine the suitability for a dedicated car club. A car club offers members the use of a car, for a yearly membership fee, so that members have access to the use of a car without any of the cost and hassle of owning it themselves. An existing car club operator, such as City Car Club, will be approached to manage the scheme. If it is deemed that this site provides the right characteristics to support a car club, the developer will provide the first year's membership to the club free of charge (one membership per dwelling). The Travel Plan Coordinator will also undertake an assessment to determine the viability of this scheme on an area wide basis i.e. to incorporate other residential developments nearby as developments progress.

6.13 SAFE ROUTES TO SCHOOL

6.13.1 The Chilmington Green development includes the provision of four primary schools and a secondary school which will be brought into operation with each phase of development. Each school will have a School Travel Plan that will be developed specifically for that school and include measures that the Head and School Travel Plan Coordinator (separate to the site wide TPC) identify as most appropriate.

6.13.2 The Travel Plan Coordinator will, in conjunction with the School Travel Plan Champions for each School Travel Plan, Ashford Borough Council and Kent County Council, investigate the possibility of introducing a local 'Safe Routes to School programme'. This programme can contain a number of elements.

6.13.3 Education will play a significant part, with children given safety and awareness training and also taught about the benefits of exercise and using an 'active' mode to get to and from school.

6.13.4 Practical measures will also be used, for example a 'Walking Bus'. This follows the same route to school each day, picking children up on the way. Specially trained parents or assistants stand at the front and back of the 'bus' to ensure the safety of all children, with both adults and children wearing reflective tabards to ensure high visibility.

6.13.5 Cycling proficiency classes will be offered at schools, being run by a trained course leader. These courses will cover cycling on the road, road safety and basic cycle maintenance.

6.13.6 These measures will be included in the separate School Travel Plan framework document.

6.13.7 The opening of each primary school is unlikely to come forward until a number of households are already occupied, for this interim period residents will be advised of the closest local primary schools with places within Ashford and the options available for those travelling to them. This information will be contained within the Travel Information Pack, prepared by the Travel Plan Coordinator. Prior to the school opening residents will be informed through the development website and leaflet drop of the opening date and how to register their child at the school, this will be organised by the School Travel Plan Coordinator for the school in coordination with the site wide Travel Plan Coordinator.

6.14 TRAVEL PLAN STEERING GROUP

6.14.1 The Travel Plan Coordinator will seek to set up a Chilmington Green Travel Plan Steering Group. This will be made up of resident representatives and the appointed Workplace Travel Champions and School Travel Plan Coordinators (more details of these roles are provided within the individual travel plan documents). Other key stakeholders from the wider community, such as Travel Plan Coordinators from other developments plus KCC and ABC will also be invited to attend.

6.14.2 The purpose of this Steering Group is to help with securing buy-in from all aspects of the new community. This will help the Travel Plan Coordinator to successfully implement new measures and undertake monitoring phases. The Group will also be useful for information sharing and feedback.

6.15 SUMMARY

6.15.1 A summary of the aforementioned measures that will be delivered by The Consortium through the RTP are summarised in Table 6.1. The Consortium will appoint a Travel Plan Coordinator prior to employment of sales staff, to take overall responsibility for the Travel Plan and ensure direct implementation of the proposed measures. Further detaisl on the TPC are provided in chapter 7.

6.15.2 Table 6.1 also shows how the measures will help to work towards achieving the objectives defined in Section 3.4. For ease of reference, the objectives are repeated below:

1) To support the development of Chilmington Green as a sustainable community;
2) To facilitate and encourage the use of lower carbon transport options in preference to the use of the private car, particularly for local journeys and for journeys to work;
3) To promote and improve awareness of the Travel Plan process;
4) To promote a lifestyle to residents, which includes healthy, sustainable living;
5) To encourage a greater use of sustainable transport initiatives and encourage sustainable travel behaviour, including walking and cycling;
6) To promote a sustainable lifestyle to residents; and
7) Continually develop, implement, monitor, evaluate and review the progress of the Travel Plan towards achieving the targets.

8)

Table 6.1 Residential Travel Plan Measures for Chilmington Green

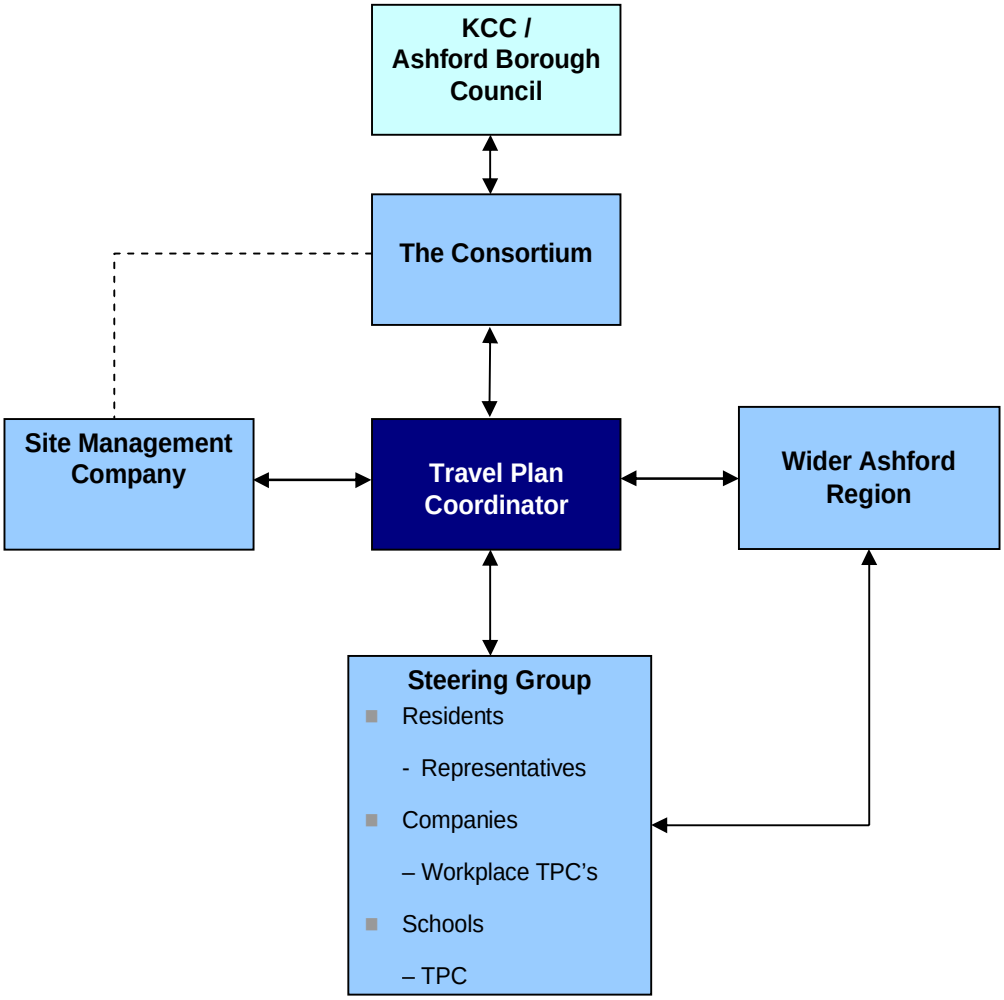
Action/Initiative	Helps to Meet Objective
Site-Wide TPC	1, 2, 3, 4, 5, 6, 7
Residential Sales Staff Training	5, 6
Residents Travel Information Pack	1, 2, 5, 6
Ongoing Promotion + Marketing	4, 5, 6
Personalised Journey Planning	2, 5
Sustainable Travel Website	1, 2, 3, 4, 5, 6
Electric Vehicle Charging Points	2
Enhanced Public Transport Services	2, 5
Bus/Rail Service Information	2, 5
Public Transport Trial Vouchers	2, 5
Cycling Discount Vouchers	2, 5
Site-specific Walking & Cycling Maps	1, 2, 4, 5, 6
Cycling Promotion Event (Bike Week)	1, 2, 4, 5, 6
Visits from 'Bike Doctor'	2, 5
Walking Club	2, 4, 5, 6
Car Share	1, 2
Car Club	1, 2
Safe Routes to School	1, 2, 4, 5, 6
Travel Plan Steering Group	1, 2, 3, 4, 5, 6, 7

7 Travel Plan Management

7.1 TRAVEL PLAN MANAGEMENT STRUCTURE

7.1.1 The Consortium will retain overall responsibility for ensuring the implementation of the Chilmington Green Travel Plan and will ensure that it is reviewed and amended as necessary. The intended management structure for the Chilmington Green Travel Plan is shown below in **Figure 7.1**.

Figure 7.1 Chilmington Green Travel Plan Management Structure



TRAVEL PLAN COORDINATOR

7.1.2 A Travel Plan Coordinator will be appointed by the site management company while the site is being developed and prior to opening of the sales and marketing suite to ensure the effective preparation of materials and implementation of the Travel Plan. This will allow for sufficient time to determine Electric Vehicle charging locations and supplier and car club feasibility and potential operation.

7.1.3 They will oversee the day to day running of the Travel Plan activities and administration of the Plan. Prior to occupation the Travel Plan Coordinator will be responsible for training sales staff to promote the Travel Plan from the outset, establishing contacts within the local community i.e. bus operators and cycle shop owners, and ensuring the timely implementation of identified measures.

7.1.4 The Travel Plan Coordinator is primarily responsible for the implementation of the RTP, but their remit will extend site-wide to provide guidance, support and advice to the employment and educational components of the site.

The role of this coordinator will include:

- Acting as a point of contact for queries for residents, employers and school representatives;
- Setting up, managing and facilitating the Travel Plan Steering Group;
- Ensuring that all travel information and data disseminated is accurate and up to date;
- The ongoing monitoring of the Travel Plan;
- Assist in the decision making process with the site management company on which measures will be best to implement – and in association with KCC/ABC; and
- Updating the Travel Plan document as necessary, and liaising with KCC/ABC.

7.1.5 Details of the nominated Travel Plan Coordinator will be established prior to occupation of the site and provided to Kent County Council and Ashford Borough Council.

8 Implementation Action Plan

8.1 IMPLEMENTATION ACTION PLAN

8.1.1 The Travel Plan Coordinator will be appointed prior to first occupation of Chilmington Green. This will ensure that preparation for measures to be introduced either prior to, or on first occupation of the site, can be progressed in the meantime to ensure lower carbon travel patterns are actively encouraged amongst residents and visitors from the outset.

8.1.2 To ensure delivery and ownership of specific measures it is necessary to set out an 'Action Plan' for implementation and review. Table 8.1 provides an initial action plan for the implementation of measures at Chilmington Green. This includes the site-wide measures to be implemented on-site and associated timescales or trigger points.

Table 8.1 Chilmington Green RTP Implementation Action Plan

Trigger/Date	Task/Measure	Delivery Responsibility
Prior to first residential occupation	Appoint site management company	The Consortium
	Appoint a site-wide Travel Plan Coordinator for the RTP (also covering WTP and support for STPs)	Site Management Company
	Train residential sales/marketing staff	TPC
	Prepare 'sustainable travel information packs' to be provided to each household on first occupation	TPC
	Prepare site-specific walking and cycling maps	TPC
	Sustainable travel information website	The Consortium / Site Management Company / TPC
	Contact Car Club companies to assess whether it is feasible to implement one at Chilmington to Green.	TPC
	Contact local cycle shops to organise cycle vouchers and discount for residents.	TPC
	Contact local bus operators to organise Ashford Megariders and potential for daily tickets to facilitate the personal journey planning service.	TPC
	Electric vehicle charging points (community centres)	The Consortium / Developers
	Investigate the most effective and efficient method of monitoring pedestrian and cyclists.	TPC
Following	Begin to establish Travel Plan Steering	TPC

Trigger/Date	Task/Measure	Delivery Responsibility
first residential occupation	Group – setting out policies and inviting members	
	Set up a BUG involving residents	TPC
	Promote the online forum to allow residents to provide feedback on the Travel Plan.	TPC
	Undertake residential travel surveys one year following first occupation, or with 35% occupations of the first phase, after initial travel patterns have stabilised	TPC
	Analyse residential travel surveys; agreement of appropriate measures; update RTP as necessary; submit to KCC / ABC for approval	TPC
	On-going promotion and marketing	Site Management Company / TPC
	Trial Public Transport vouchers	The Consortium / TPC
	Introduce enhanced bus services through branded marketing campaign	The Consortium / Developers
	Distribute residents travel information pack	TPC
	Car sharing promotional event	TPC
	Organise and hold a Bike Week event	TPC
	Establish a walking club and 'Safe Routes to School' programme	TPC
	Promote personal journey planning service to residents	TPC
Two years following first residential occupation	Following the initial baseline surveys but prior to the repeat travel surveys the 'home visit' journey planning exercise will be organised.	TPC
	Repeat travel surveys two years after baseline survey, review effectiveness of initiatives, results and progress towards targets and submit to KCC / ABC. If it is considered likely that the end of phase targets will not be met, TPC is to discuss with KCC/ABC an action plan for recovery.	TPC

Trigger/Date	Task/Measure	Delivery Responsibility
Thereafter and on-going until five years after final phase completion.	Organise and carryout yearly 'home visit' personal journey planning for those new households or those that have not previously taken part.	TPC
	Carry out residential travel surveys on active phases bi-annually (every two years), review progress against targets and agree continued way forward. The findings of the travel surveys are to be reported to KCC/ ABC.	TPC
5 years post completion	At this point, the way forward for the Travel Plan and continued monitoring process will be agreed discussed and agreed with KCC / ABC.	TPC

8.2 FUNDING

8.2.1 The initial infrastructure related to the planning application proposals, such as on-site and off-site pedestrian and cycle facilities and delivery of the public transport strategy, will be secured through appropriate mechanisms within the planning process. This will provide the delivery of facilities and the vehicle for the funding of such measures.

8.2.2 The site developers will collectively provide funding to the site management company to appoint a Travel Plan Coordinator who will take forward the site-wide Action Plan of sustainable travel initiatives and measures.

8.2.3 The Consortium and the site developers will fund the delivery of initiatives including the establishment of the Chilmington Green website, monitoring requirements, and site-wide marketing/promotional activity related to sustainable travel. Table 8.2 indicates the responsibility for delivery of each measure outlined within this RTP.

Table 8.2 Funding Responsibility

Measure	Funding Responsibility
Overall Management	
Travel Plan Coordinator	The Consortium
Annual monitoring and reporting	
Improvement of Onsite Infrastructure	
Footpaths and cycle ways	The Consortium
Enhanced bus services	
Secure cycle parking	
Electric vehicle charging points	
Travel Plan marketing and Promotional Measures	
Training of residential sales and marketing staff	The Consortium
Create sustainable travel website	Created by The Consortium & maintained by Management Company
Provision of 'sustainable travel information packs' to each household on first occupation	The Consortium
Free trial travel on public transport	The Consortium
Car sharing promotional event	Management Company
Bike Week event	Management Company
Walking club	Management Company

9 Targets and Monitoring

9.1 TRAVEL PLAN TARGETS

9.1.1 To help guide the progress of the RTP a number of targets have been adopted that will be reviewed by the appointed Travel Plan Coordinator on a bi-annual basis. These targets are divided amongst those relating to delivering outputs and those related to achieving outcomes.

- **Output targets** – These targets relate to the implementation of the measures to be introduced as part of the Travel Plan. They will help to ensure that The Consortium remains on course with the delivery of the different measures contained within this Travel Plan.
- **Outcome targets** – These targets relate to the effect of implementing the Travel Planning measures, and will include for example reducing the overall proportion of journeys (all journeys) being undertaken from the development by car.

OUTPUT TARGETS

Table 9.1 details the output targets that will be adopted for the RTP.

Table 9.1 Output Targets for Residential Travel Plan

Output Target	Responsibility	Timescale
Appoint and fund a site-wide Travel Plan Coordinator	The Consortium / Site Management Company	Following appointment of the Site Management Company and prior to appointment of sales staff
Training of sales staff so that they can discuss with potential occupants	The Consortium / Travel Plan Coordinator	Prior to first occupation
Prepare residents sustainable Travel Information Pack ready for distribution	Travel Plan Coordinator	Prior to first occupation
Distribute Information pack to residents	Travel Plan Coordinator	On occupation
Ensure all travel information is maintained and up to date	Travel Plan Coordinator	On-going
Set up Travel Plan Steering Group	Travel Plan Coordinator	On occupation
Manage and facilitate Steering Group	Travel Plan Coordinator	On-going
Promote car sharing opportunities to all residents	Travel Plan Coordinator	On occupation
Hold Bike Week event	Site Management Company / Travel Plan Coordinator	On occupation

Output Target	Responsibility	Timescale
Establish Walking Club	Site Management Company / Travel Plan Coordinator	On occupation
Personal Journey Planning	Travel Plan Coordinator	On going

OUTCOME TARGETS

9.1.2 A baseline travel survey will be undertaken 1 year from first occupation of the development to gather base year modal split data for journeys to and from Chilmington Green. This base year information will then be used to establish appropriate fixed end of phase targets for Chilmington Green (draft end Phase 1, 2, and 3 targets are provided in Table 9.3 below). The formulation of the end of Phase 4 targets (fixed site-wide modal split target) is detailed in Section 10 of the Transport Assessment.

9.1.3 Until such a travel survey can be undertaken, interim baseline modal split targets for Phases 1, 2 and 3 have been established based on information within the 2001 Census.

9.1.4 The 2001 Census provides information on the current 'journey to work' modal split for the nearby Great Chart and Singleton North Ward, which has been analysed in Section 3.8 of the Transport Assessment, and shown in Table 9.2 below. Data from the 2011 Census is not currently available to use for this purpose. Information for this ward is being used, in agreement with KCC, as the majority of the site falls within this ward. It should be noted that the table excludes people that indicated they work from home.

Table 9.2 Great Chart and Singleton North Ward model split (Journeys to work)

Mode	Percentage
Car Driver	72.10%
Car Passenger	6.44%
Train	6.06
Underground	0.00%
Bus	3.28%
Taxi	0.38%
Motorcycle	0.76%
Cycle	4.29%
Walk	6.69%
Other	0.00%
TOTAL	100%

Source: 2001 Census

RESIDENTIAL USE – OUTCOME TARGET

9.1.5 The census data indicates that 72.10% of the resident population in this ward travel to work as single-occupant car drivers. Therefore, an interim target for this RTP will be to not exceed 72% of all journeys being undertaken by residents of the development as car drivers until such a time as a more accurate baseline level can be established from a survey.

Table 9.3 End of phase mode share targets

Mode	Phase 1	Phase 2	Phase 3	Phase 4	Site wide target
Car (car driver and passenger)	62%	60%	57%	54%	53%
Bus	20%	20%	20%	20%	20%
Train	6.5%	8%	9%	10%	11%
Walk	7%	7%	8%	10%	10%
Cycle	4%	4%	5%	5%	5%
Other (motorcycle, taxis etc)	1%	1%	1%	1%	1%
TOTAL	100%	100%	100%	100%	100%
Baseline survey	End of year 1	N/A	N/A	N/A	N/A
Monitoring (years of phase)	2, 4, 6	2, 4, 6	2, 4, 6	2, 4, 6	Bi-annual up to 5 years following completion

9.2 TRAVEL PLAN MONITORING

9.2.1 The Travel Plan Coordinator will undertake monitoring of travel patterns associated with the development of Chilmington Green. This is to understand the level of modal shift and use of sustainable modes that is taking place at the development. By monitoring travel patterns it allows for the introduction of remedial measures should the implemented measures not achieve the required modal shift. The Coordinator will be responsible for monitoring the Residential Travel Plan, but will also provide support and assistance to the appointed coordinators of the employment and school travel plans.

9.2.2 Bi-annual (every two years) monitoring in the form of residents travel surveys and multi-modal traffic surveys will commence one year after first occupation of the first phase of development, or following 35% occupation of the first phase. The first two monitoring phases (identified in Table 9.3) will be used to determine the progress towards achieving end of phase targets.

9.2.3 Monitoring will take place until five years after the final phase is complete, with monitoring reports submitted to KCC / ABC on a bi-annual basis for this period. No further monitoring or reporting will be undertaken after this time unless the targets outlined in Table 9.3 have not been met.

9.2.4 The monitoring will be undertaken using a combination of household travel surveys and multi-modal travel surveys. A copy of the draft residential travel survey is provided as **Appendix A**. Any necessary revisions to this survey will be agreed between the Travel Plan Coordinator and the relevant Kent County Council Travel Plan Auditing Officer prior to the survey being issued. The multimodal travel surveys will be undertaken using permanent vehicular monitoring loops located on each vehicular site access point. The potential locations for these loops are shown in **Figure TP 9.1**. In addition, it is intended that permanent pedestrian/ cycle loops will be used to monitor trip numbers by these modes, although the exact type and location of these is yet to be determined. Given that the site will have many access points, many of which will be through routes, the best method used to survey vehicle, pedestrian and cycle trips will be investigated by the Travel Plan Coordinator, whether this is through the installation of permanent or temporary loops/ counters, to establish which is the most effective and robust method.

9.2.5 In addition to these surveys it will be important to gather data relating to bus usage to ensure that the target of 20% is achieved and maintained. This data will be provided annually by the bus operator.

9.2.6 The survey will seek to ascertain information about all users of the site, including (primarily) residents, workers and visitors to Chilmington Green. The survey will gather information on the following main points:

- **Travel behaviour** – to establish the overall travel patterns associated with the site and to allow the Travel Plan Coordinator to understand the 'modal split' for journeys to and from Chilmington Green for ongoing comparison.
- **Attitudes towards travel** – to establish site user attitudes towards using different transport options available to access Chilmington Green. This will help identify any issues, or barriers (perceived and actual) that may reduce the desirability of low carbon transport options.

9.2.7 All costs associated with distributing, collecting, analysing and reporting of the survey will be met by the site management company, and all aspects of undertaking the survey will be administered by the Travel Plan Coordinator.

9.2.8 The monitoring which takes place for the RTP will link in with that done for the Workplace Travel Plan. Results and information gathered from each survey may provide an insight which results in positive changes to a Travel Plan which may not have occurred otherwise.

9.2.9 iTRACE is an innovative Travel Plan software package which includes site audit questionnaires and staff travel surveys designed to monitor and report on the performance of workplace travel plans. All new travel plans in Kent are required to use iTRACE and as such, this methodology will be utilised for Chilmington Green, and survey results provided to KCC for inclusion in iTRACE.

9.2.10 The objective of the monitoring process is to measure the progress of the RTP against the respective modal split target. If progress against the target is not being demonstrated, the introduction of additional recovery measures will be undertaken to help meet the target (see Section 9.4).

9.3 FUNDING AND REPORTING RESPONSIBILITY

9.3.1 The monitoring and review process will be managed by the TPC and funded by the site management company.

9.3.2 A summary report of Travel Plan progress and findings of the monitoring will be submitted at each bi-annual review to KCC / ABC. This will ensure that a focus and momentum is maintained and provides opportunities for a review of the RTP in light of any travel and transport issues that may have arisen.

9.3.3 The Travel Plan support provided by KCC, including the inclusion of survey data in iTRACE will be included in the pre-application fee, to be paid for by the Consortium.

9.4 RECOVERY MEASURES – ACTION PLAN

9.4.1 Table 9.4 presents the draft end of phase mode split targets for each phase of development.

9.4.2 As previously outlined, it is anticipated that the draft end of phase targets (phase 1, 2 and 3) will be subject to change following the baseline residents travel survey to be undertaken following occupation of Chilmington Green. This will ensure that they remain realistic in striving to meet the site-wise targets. Since the site is very large and that it will be constructed over a number of years (up to 20 years) the baseline survey undertaken in year 1 will not be representative of the whole site.

9.4.3 Initial monitoring during each phase prior to the end of phase monitoring, will help to ensure that the end phase modal split targets (for phases 1, 2, and 3) set in year 1 are realistic in working towards meeting the site-wide model split target.

9.4.4 However, despite potential changes to the target itself, it is important to illustrate a course of remedial action should progress towards the targets not be achieved. Table 9.4 summarises a step-by-step approach to introducing a series of recovery measures designed to bring the RTP back on course should the initial Implementation Action Plan fail to achieve the associated targets.

9.4.5 The recovery measures would commence with notification to KCC / ABC of any failure to reach the target mode share. The recovery measures process would be funded by the site management company.

Table 9.4 Recovery Measures Action Plan (interim)

Order of Actions	Action
1	Notification of failure to meet mode share target
2	Meeting of TPC and KCC / ABD to discuss way forward
3	Meeting between TPC, KCC / ABC to agree additional mutually convenient and voluntary measures
4	Review 'Personal Journey Planning' service to all residents at Chilmington Green, providing individually tailored sustainable travel information specific to their own journey to work, including further incentives to try these modes such as step-up marketing, actively involve user groups, events in schools etc.
5	TPC to meet KCC / ABC to discuss further potential measures and a possible revision to future RTP target

9.4.6 As shown by Table 9.4, the recovery measures action plan details an approach to introducing a range of measures that could be called upon to boost sustainable travel patterns at Chilmington Green.

9.4.7 Appropriate funding will be made available to ensure implementation of an appropriate recovery plan. At this stage however, it is difficult to determine exactly what measures would be required and therefore to put a cost to this.

10 Summary

10.1 SUMMARY

10.1.1 This RTP has been prepared in support of development proposals at Chilmington Green, Ashford. This plan focuses primarily on how residents and visitors to the site can be encouraged to use sustainable means of transport to and from the site.

10.1.2 The measures proposed within this document will not only bring associated benefits to residents, but will also help to mitigate any transport impacts of the development on the wider local community.

10.1.3 To deliver this effectively, The Consortium will appoint a site management company who will in turn appoint a Travel Plan Coordinator to lead the day-to-day delivery of the plan. Their duties will include preparing travel information materials for dissemination to residents on their immediate occupation of Chilmington Green, providing additional travel advice and incentives where necessary, and actively monitoring progress.

10.1.4 This RTP has also detailed a clearly defined end of phase targets (to align with the phased build-out of the site) relating to the modal split for journeys arising from Chilmington Green, which can be revised more accurately following a baseline travel survey. A fixed end of Phase 4 target, overall site-wide target has been determined and this would not be subject to change. To monitor progress against the target, a detailed resident travel survey will be conducted on an bi-annual basis by the Residential Travel Plan Coordinator, with the results submitted to KCC / ABC.

10.1.5 Information gathered from these surveys will also support the ongoing review of this RTP.

Appendices, Figures & Tables

Appendix A Residential Travel Survey

***The following provides an example Residential Travel Survey that may be used at Chilmington Green*.**

Example Residential Travel Survey

Example Introduction

"As part of the monitoring process for the Residential Travel Plan, we are currently conducting a Travel Survey. We would be grateful if one member of your household could complete this brief survey to help us better understand your travel patterns, needs and how we may be able to assist with your travel requirements.

It will take about 5 minutes to complete and all responses will be treated confidentially."

Explanation of the Travel Plan: *(TPC to complete)*

Who should participate? *(TPC to complete)*

Who to return completed form to? *(TPC to complete)*

If you have any queries about the survey, or for guidance on how to complete it, please do not hesitate to contact me at the details provided below:

(TPC to complete details)

Travel Plan Coordinator:

Telephone:

E-mail:

SECTION A: ABOUT YOU AND YOUR HOME

1. Are you:

Male	☐
Female	☐

2. Which age range do you fall into?

16 – 25	☐
26 – 35	☐
36 – 45	☐
46 – 55	☐
56 – 65	☐
65+	☐

3. What is your postcode?

_____

4. How long have you lived at your current address?

0 – 6 months	☐
6 months – 1year	☐
1 – 2 years	☐
2 – 3 years	☐
3 – 4 years	☐
4 – 5 years	☐
Longer than 5 years	☐

5. Do you or any member of your household own a car?

Yes	☐
No	☐

If yes, how many cars in total? _____

SECTION B – ABOUT YOUR TRAVEL TO AND FROM YOUR HOME

6. How do you most frequently travel to and from your home for the following activities? (Choose the mode of travel that you use most often)

Reasons for travel	Walk	Cycle	Bus	Train	Tram	Car share (as driver or passenger)	Car (alone)	Motorcycle or scooter	Other (please specify)
Work									
Shopping									
Education (if applicable)									

7. How often do you use the following modes of travel for journeys from your home? (Tick all modes that you ever use, for all or part of a journey, choosing the frequency with which you use them)

TRAVEL MODE	Very often (7 or more in every 10 trips	Quite Often (between 3 and 6 out of every 10 trips	Occasionally (less than 2 out of every 10 trips)	Never
Walk				
Cycle				
Bus				
Train				
Tram				
Car share (as driver or passenger)				
Car (alone)				
Motorcycle or Scooter				

8. Have you changed your most common mode of transport since relocating to this development?

Yes	
No	

If yes, what was the main reason for this change?

……..

SECTION C – ABOUT YOUR FUTURE JOURNEYS

9. Which of the following changes would most encourage you to cycle for journeys in the local area? (If you already cycle, which would you most like to see?)

Safer, better lit cycle paths	
Improve cycle paths on the journey to town centre/rail station	
Improve cycle parking at this development	
Arrangements to buy a bicycle at discount	
Improved crossing facilities	
Improved cycle parking at local facilities – where?	
None of the above	
Other (please specify)	

10. Which of the following changes would most encourage you to use public transport for your journeys in the local area? (If you already travel to by public transport, which would you most like to see)

More direct bus routes	
More frequent bus services	
More frequent train services	
More frequent train services	
Better lighting at bus shelters and on footpaths	
More convenient bus drop-off points	
Better bus links to work from station	
Public transport information	
None of the above	
Other (please specify)	

11. Which of the following changes would most encourage you to walk for journeys in the local area? (If you already walk, which would you most like to see?)

Cleaner, better maintained footpaths	
Better lighting on workplace footpaths	
More improved pedestrian crossing points	
Higher presence of security around the site	
Slower speed limits	
Better street lighting in the local area	
None	
Other (please specify)	

12. Which of the following changes would most encourage you to car share? (If you already car share, which would you most like to see?)

More help finding car share partners who have similar work patterns	
Free taxi home if let down by car	
More information regarding car sharing i.e. benefits and cost savings	
None	
Other (please specify)	

13. Did you know this development operated a Travel Plan?

Yes	
No	

14. If yes, how did you find out about the Travel Plan?

During the sales process	
Word of mouth	
Development publication/newsletter/notice board/website	
Personalised travel planning process	
Other (please specify)	

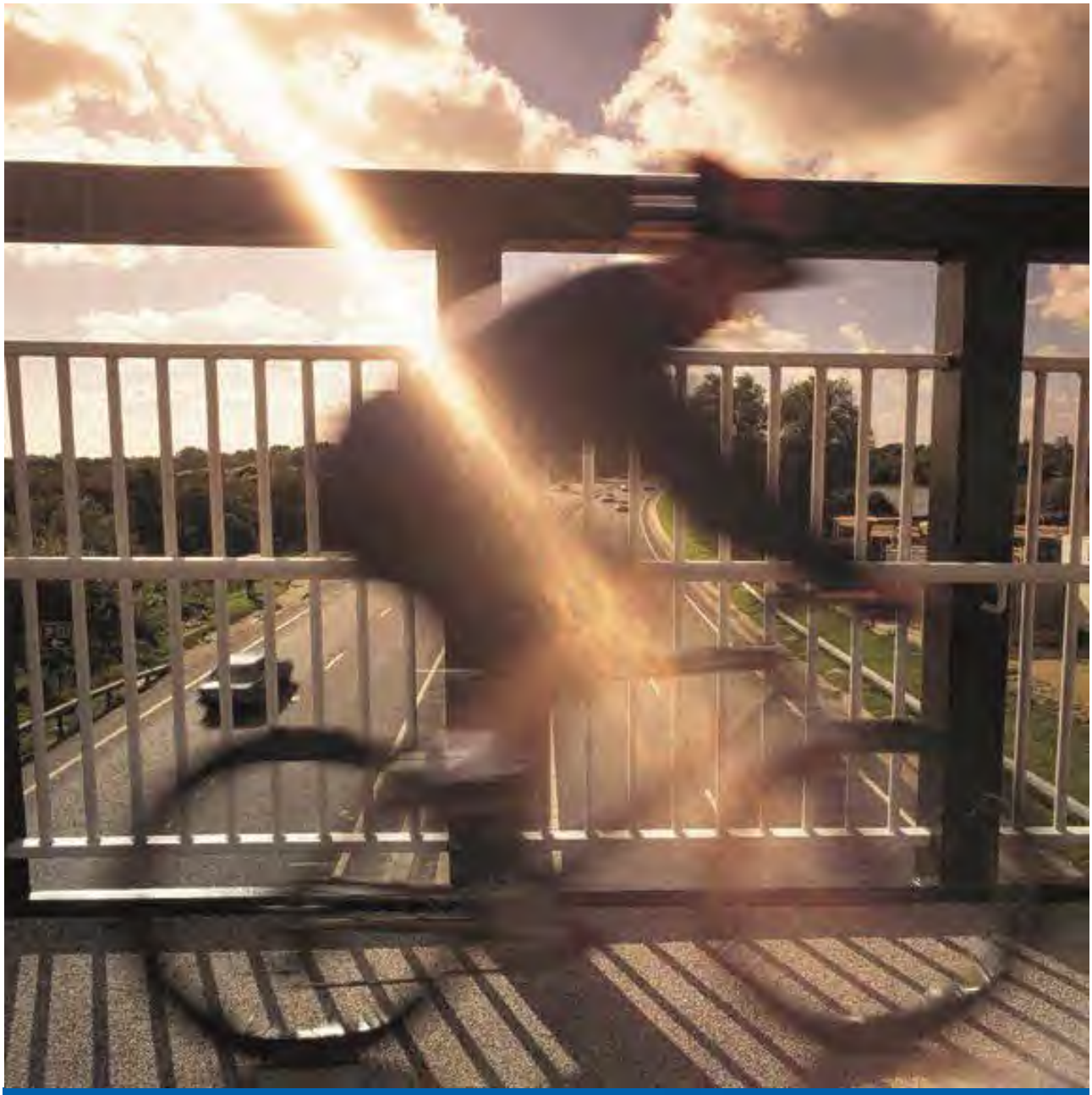
15. Would you like to receive more information regarding the Travel Plan?

Yes	
No	

Thank you for taking part in this survey. Please use the following box to provide any comments you wish to make in relation to travel in the local area.

Thank you for your time.

Appendix B Workplace Travel Plan



UNITED BY OUR DIFFERENCE

WSP

Chilmington Green, Ashford

Workplace Travel Plan

Hodson Developments, Malcolm Jarvis Homes, Pentland Homes & Ward Homes

April 2012

WSP

QM

Issue/revision	Issue 1	Revision 1	Revision 2	Revision 3
Remarks	DRAFT	ISSUE		
Date	March 2012	April 2012		
Prepared by	Emily Butler	Emily Butler		
Signature				
Checked by	Sarah Thorneycroft	Sarah Thorneycroft		
Signature				
Authorised by	Andrew Blacker	Andrew Blacker		
Signature				
Project number	11012761	11012761		
File reference		N:\Chilmington Green 2010\TEXT\REPORTS\Transport\Travel Plan\WTP\120423 CG Workplace Travel Plan.Doc		

WSP UK
Mountbatten House
Basing View
Basingstoke
Hampshire
RG21 4HJ

Tel: +44 (0)1256 318800
Fax: +44 (0)1256 318700
http://www.wspgroup.com

WSP UK Limited | Registered Address WSP House, 70 Chancery Lane, London, WC2A 1AF, UK | Reg No. 01383511 England | WSP Group plc | Offices worldwide

Contents

For figures refer to the Umbrella Travel Plan

Executive Summary

With up to 1,000 jobs being created across the development (primarily B1 office and retail, but also including community, leisure and education), Hodson Developments, Malcolm Jarvis Homes, Pentland Homes & Ward Homes (The Consortium) are committed to delivering a comprehensive Workplace Travel Plan that promotes the full range of travel and transport options for companies and employees based at the development at Chilmington Green.

The Consortium believe the plans outlined in this document will deliver a travel strategy that benefits all employees, the local area and also the environment, by promoting sustainable and low carbon transport options that encourage local economic growth.

This Travel Plan will be an integral part of The Consortium's engagement process with companies that occupy Chilmington Green. Within the plan, The Consortium has demonstrated commitment to managing the delivery of a wide range of initiatives to support the plan's objectives.

A site wide Travel Plan Coordinator (TPC) will be appointed as part of the Residential Travel Plan to provide guidance, support and advice to employer occupiers and to oversee the ongoing delivery of these initiatives in an effective and efficient way and to make progress towards reducing car-based journeys to and from Chilmington Green.

Whilst the site-wide TPC will provide this level of support, the individual occupiers are ultimately responsible for funding, implementing and monitoring their Workplace Travel Plans.

1 Introduction

1.1 BACKGROUND

1.1.1 WSP UK (WSP) has been commissioned by Hodson Developments, Malcolm Jarvis Homes, Pentland Homes & Ward Homes (The Consortium) to prepare a Workplace Travel Plan (WTP) in support of development proposals at Chilmington Green, Ashford. The location of the site is shown in **Figure TP 1.1** (please refer to Umbrella Travel Plan). For all figures referred to in this document please see Umbrella Travel Plan.

1.1.2 This WTP has been prepared to complement the proposals set out within the accompanying Transport Assessment and Public Transport Strategy in the interests of promoting sustainable development and reducing the reliance on private car-based forms of transport.

1.1.3 The development proposals include provision for up to 1,000 jobs, primarily through B1 offices, but also to support community, health, retail and education uses.

1.1.4 This WTP therefore provide an overarching document and site-wide strategy for workplace travel planning, which individual occupiers will accord with.

1.1.5 This plan focuses primarily on how employees who will be based at Chilmington Green can be encouraged to use sustainable means of transport to travel to and from the site. The residential and educational elements of the development proposals at Chilmington Green are covered by separate travel plans, although a single site-wide Travel Plan Coordinator will be appointed to ensure the joined up approach to site-wide travel planning.

1.2 TRAVEL PLAN PROCESS – STAGES OF DEVELOPMENT

1.2.1 This WTP has been prepared as an umbrella WTP for all future occupiers of employment units on the Chilmington Green development site. This will allow the WTP to ensure the delivery of robust measures on a site-wide basis, but also to retain flexibility in the measures that are employed by individual site occupiers. This will also ensure that only those measures that are most relevant to their business operations are pursued to encourage sustainable travel behaviour amongst employees.

1.2.2 This WTP is therefore intended to be updated following the phased occupation of Chilmington Green when occupier-specific details become more apparent, notably in terms of employee travel patterns.

1.3 THE BENEFIT OF WORKPLACE TRAVEL PLANS

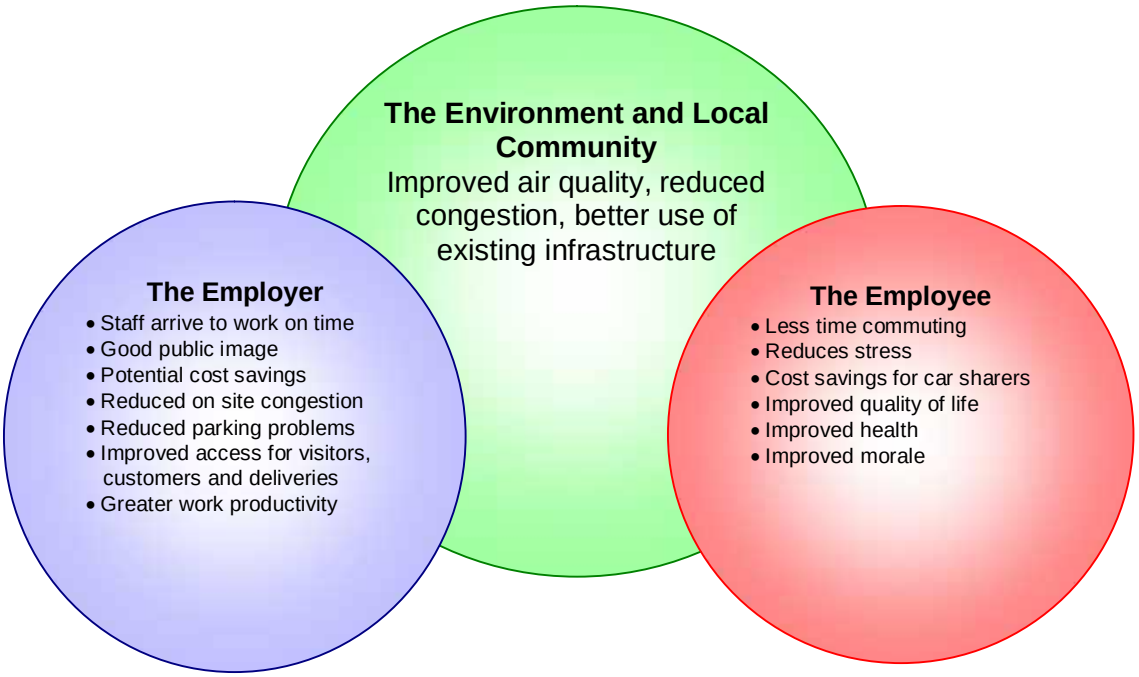
1.3.1 WTPs are important management tools and when implemented as part of a comprehensive transport strategy they make it possible to achieve modal shift away from private car-based transport toward more environmentally sustainable forms of travel. Where private car-based transport remains, WTPs are able to encourage more efficient and sustainable usage of this mode of travel.

1.3.2 A primary objective of both national and local transport policy is to reduce reliance on the car for travel. However, without positive measures to actively encourage drivers away from their cars – little change will take place. Therefore, information, marketing and incentives can be applied to encourage change. This can be collectively achieved through the adoption and delivery of a WTP.

1.3.3 A number of additional benefits can arise from the introduction of a successful WTP, with benefits arising for employers, employees and visitors to the site, and the

wider local community. A summary of some of these benefits is illustrated in Diagram 1.1.

Diagram 1.1 Benefits of a Workplace Travel Plan



1.4 SCOPE OF WORKPLACE TRAVEL PLAN

1.4.1 The scope of this WTP is two-fold. Firstly it will set out an overarching strategy for the whole site, outlining how specific site-wide measures will be implemented, managed and monitored both at the outset and as the phased development of Chilmington Green progresses.

1.4.2 Secondly it will provide a clear framework for subsequent individual companies to sign up to as they occupy Chilmington Green, providing a single overarching set of objectives and site-wide measures for their mutual benefit, whilst providing assistance with the delivery of their own occupier-specific measures.

1.4.3 As well as maximising coordination between the various site occupiers, this plan will identify preliminary baseline targets for the site. These targets will relate to modal splits for employee journeys made to and from Chilmington Green.

1.4.4 As Chilmington Green will have multiple employment occupiers, each is likely to exhibit different travel characteristics amongst their employees as a result of their operations. However, all employees based at Chilmington Green will benefit from WTP measures immediately upon their arrival to the site, as this umbrella WTP will cover all employment locations.

2 Policy and Guidance Review

2.1 INTRODUCTION

2.1.1 The sustainability of new development has become of paramount importance and a significant amount of guidance has been produced on promoting sustainable transport options such as walking, cycling and public transport, whilst advocating a reduction of the use of the private car. This section outlines the national and local policy context and best practice guidance under which this WTP has been prepared.

2.2 NATIONAL POLICY GUIDANCE

CREATING GROWTH, CUTTING CARBON: MAKING SUSTAINABLE LOCAL TRANSPORT HAPPEN (DFT WHITE PAPER, 2011)

2.2.1 The Government's Transport White Paper entitled 'Creating growth, cutting carbon: Making sustainable local transport happen' sets out the Government's vision for a sustainable local transport system that supports the economy and reduces carbon emissions.

2.2.2 The Transport White Paper states that action taken locally is best placed to support economic growth and deliver near term reduction in transport-related carbon emissions. This can be achieved by providing people with options to choose sustainable modes for everyday local transport choices to, for example, help boost economic growth by facilitating access to local jobs.

2.2.3 Travel Plans are noted as being a key means for promoting travel choices to a wide audience and encouraging a change in travel behaviour towards greater use of sustainable modes of travel.

DELIVERING A SUSTAINABLE TRANSPORT SYSTEM (DFT, 2008)

2.2.4 This publication outlines Government's five goals for transport, focusing on the challenge of delivering strong economic growth while at the same time reducing Greenhouse gas emissions.

2.2.5 These five overarching goals are:

- To support national economic competitiveness and growth, by delivering reliable and efficient transport networks
- To reduce transport's emissions of carbon dioxide and other Greenhouse gases, with the desired outcome of tackling climate change.
- To contribute to better safety security and health and longer life-expectancy by reducing the risk of death, injury or illness arising from transport and by promoting travel modes that are beneficial to health
- To promote greater equality of opportunity for all citizens, with the desired outcome of achieving a fairer society;
- To improve quality of life for transport users and non-transport users, and to promote a healthy natural environment.

2.2.6 WTPs provide an opportunity to support these goals by highlighting and promoting the availability of low carbon transport options to employees and visitors, thereby reducing carbon emissions associated with commuting and business journeys.

NATIONAL PLANNING POLICY FRAMEWORK, DCLG, (2012)

2.2.7 Adopted on 27 March 2012, the National Planning Policy Framework (NPPF) seeks to reduce the complexity and improve the accessibility of the planning system, whilst protecting the environment and encouraging growth in a sustainable manner.

2.2.8 This Travel Plan shows how the proposed development accords with Paragraph 29 of the NPPF which details transport as having:

2.2.9 *"… an important role to play in facilitating sustainable development but also in contributing to wider sustainability and health objectives."*

2.2.10 Travel Plans are noted in Paragraph 36 of NPPF as an important mechanism to facilitate measures to increase sustainability.

2.2.11 As encouraged in the NPPF, the proposed development at Chilmington Green has been planned in such a way that gives people a *"real choice"* regarding their mode of travel. Its density and proximity to local facilities ensures that sustainable modes can be considered a favourable option for local trips.

2.2.12 Pedestrian and cycle movements are afforded priority on the internal network of the proposed development, which also limits the opportunity for conflict between non-motorised users and vehicles, ensuring safety and accessibility is afforded in line with the NPPF.

2.2.13 Paragraph 29 of the NPPF notes that more efficient use of technology can contribute to a reduction in the requirement to travel. As suggested in paragraph 42 of the NPPF, communications and broadband technologies can enhance the provision for communities. This Travel Plan suggests measures which utilise technology to encourage smarter travel choices.

MAKING SMARTER CHOICES WORK – DEPARTMENT FOR TRANSPORT (2005)

2.2.14 Published subsequent to the Transport White Paper, the Department for Transport (DfT) report 'Making Smarter Choices Work' signals continued government support for a range of measures aimed at raising awareness of alternative modes of travel to private car use, and actively encouraging the use of a wider range of travel modes amongst individuals.

2.2.15 These measures include WTPs, travel awareness campaigns, car sharing initiatives, and individualised travel marketing. Contemporary transport policy now recognises the impact that such measures can have in encouraging a shift in modal choice, particularly when accompanied by demand management restraints on single-occupancy car use.

2.3 KEY LOCAL GUIDANCE

LOCAL TRANSPORT PLAN FOR KENT 2011 – 2016 LTP3

2.3.1 Through Kent's third Local Transport Plan (LTP3), KCC actively promotes alternatives to car based travel as part of its work to improve the safety, sustainability and efficiency of the highway network. In particular, this includes working with the county's school, businesses and developers to develop travel plans.

2.3.2 The implementation plan for A Safer and Healthier County specifically looks to the delivery of school travel plans in helping to deliver its Sustainable Travel to School Strategy. KCC is working with health colleagues to ensure that all schools are engaged in the Governments Healthy Schools campaign.

2.3.3 Also of relevance to development at Chilmington Green is the implementation plan for Tackling a Changing Climate. In particular, the following themes;

- New Development – to ensure that associated transport infrastructure embraces sustainability. Locating development near existing transport hubs and providing facilities for walking, cycling and public transport.
- Smarter Travel – KCC is exploring ways of encouraging journeys by more efficient modes of transport and reducing the distance travelled. Through the promotion of car sharing and encouraging the use of public transport, walking and cycling, capacity can be released on the transport network which will allow more people to reach their destination on time.
- Walking – increasing the number of people choosing to walk instead of drive, is one of the key outcomes needed if the UK is to achieve the carbon reduction target required by the Climate Change Act 2008. Walking networks must be inclusive, considering the quality of the walking environment, its suitability for all types of pedestrians, personal safety and security, signage and information, and the directness of the route. It is important to ensure that the principles of inclusive design are enshrined in the planning and delivery of all new developments, which should be fully accessible to all.
- Cycling – cycle routes should be continuous and direct. Therefore, priority will be given to providing a comprehensive network that enables people to cycle continuously to schools, work places, shops and leisure opportunities.

- Buses – continued partnership working to deliver modal shift from car to bus and reducing overall emissions.
- WTP & Smarter Choices – KCC will continue to provide support to developers in fulfilling their obligations. In particular, This includes implementing the iTRACE Travel Plan survey tool and facilitating links with service providers, including public transport operators and car club/car share networks.

GUIDANCE ON TRANSPORT ASSESSMENTS AND TRAVEL PLANS, KENT COUNTY COUNCIL (OCTOBER 2008)

2.3.4 The purpose of this document is to assist both Officers and intending Developers by clarifying when a transport assessment and or travel plan will need to be submitted alongside a Planning Application in Kent and how this will be evaluated, monitored and enforced.

2.3.5 The Travel Plan will take the form of a package of sustainable transport and demand management measures tailored to the needs of an individual site. The Travel Plan is aimed at promoting sustainable transport options to the site and reducing car dependence and single car occupancy. A Travel Plan will grow and develop in time in accordance with changing circumstances.

2.3.6 A Travel Plan will need to include:

- A clear statement of targets and objectives;
- An assessment of existing transport infrastructure and facilities at the site;
- An assessment of the travel needs that are – or will be – generated by the site;
- A programme of appropriate measures which will improve accessibility and promote sustainable travel options;
- A programme for implementation of the plan, giving details of the dates by which the various measures will be put in place, of who will be responsible for the various actions and of how funding will be provided;
- A firm commitment to implement the measures identified in the Travel Plan, to monitor its success and to modify or develop the Plan in the future if this is necessary to achieve its targets; and
- A commitment to support the Planning Authority in seeking further district wide improvements in sustainability in the future.

2.3.7 The Travel Plan measures proposed in the document may include:

- Provision of on-site infrastructure and facilities (for example, convenient cycle parking, bus stops and a carshare scheme);
- Commitment to sustainable policies and working patterns (such as parking restraint, local recruitment, public transport - friendly shift patterns and sustainable fleet management); and
- Assistance with or contributions to off-site infrastructure and services (such as pedestrian crossing points, cycle routes, supported bus services).

2.3.8 They must always include:

- The appointment of an individual to act as Travel Plan Co-ordinator, who must have the full support of management and will be responsible for the implementation of the Travel Plan;
- A firm commitment to achieving the targets of the Travel Plan; and
- Clear proposals for monitoring and reviewing the Travel Plan over time.

NEW WAYS 2 WORK - BEST PRACTICE GUIDE FOR PREPARING TRAVEL PLANS IN KENT, KENT COUNTY COUNCIL

2.3.9 This document is the second edition of New Way 2 Work, initially published in 2003. This current version acknowledges the greater importance of Travel Plans as a tool to tackle congestion and climate change. The guide has been designed to provide practical advice and support to help raise awareness and to assist organisations make their own decisions on how best to take forward their travel plan activities. This guide will be closely followed in the preparation of travel plans for Chilmington Green.

2.3.10 Furthermore, the guide details how KCC has recently introduced iTRACE. iTRACE is an innovative Travel Plan software package which includes site audit questionnaires and staff travel surveys designed to monitor and report on the performance of workplace travel plans. All new travel plans in Kent are required to use iTRACE.

2.4 SUMMARY

2.4.1 The purpose of this chapter has been to present the key elements of a national and local policy framework that will be supported by the introduction of a WTP at Chilmington Green.

2.4.2 National, regional and local policies emphasise the need to reduce the amount of trips undertaken by private car. They encourage developments to provide the opportunity for employers to promote travel by public transport, cycle or walk for everyday commuting and business journeys. Employees working in an area with these alternative travel options will have less need to travel to work by private car.

2.4.3 The WTP for Chilmington Green will directly contribute to both national and local planning and transport policy objectives for promoting a full range of transport options at new developments. This will actively contribute towards delivering sustainable communities and improving people's accessibility to local services and amenities by non-car forms of transport.

3 Travel Plan Aim and Objectives

3.1 INTRODUCTION

3.1.1 The previous chapter has highlighted that a key objective of both national and local transport policy is to reduce the demand for car travel by promoting alternative transport options and widening people's travel choices. However, without positive measures to actively encourage drivers to use these alternatives, little change is likely to occur.

3.1.2 The use of information, incentives and encouragement needs to be applied to influence change. Furthermore, it is important to recognise that the mixed use nature of the overall development provides opportunities to encourage trip reduction – for example through encouraging employers to recruit locally from the residential area or offer existing staff relocation incentives to be based in Chilmington Green. This can be supported through the adoption of an umbrella WTP.

3.2 SITE-WIDE AIM

3.2.1 The aim for the site as a whole; is to reduce single occupancy car travel and to increase travel by sustainable modes.

3.3 WORKPLACE TRAVEL PLAN AIM

3.3.1 The headline aim for the Chilmington Green WTP is:

'To create an environment for employees that actively promotes a range of healthy, low carbon lifestyle and travel choices and reduces the overall need to travel by car'.

3.3.2 The overarching aim of this umbrella WTP will assist in reducing the amount of car travel to and from the whole site. This will in turn reduce traffic impacts on the surrounding highway network, to the benefit of lower congestion, good air quality and road safety in the local area. The measures proposed within this document will not only bring associated benefits to the individual businesses and their employees, but will also help to mitigate any transport impacts of the development on the wider local community.

3.4 WORKPLACE TRAVEL PLAN OBJECTIVES

3.4.1 To achieve this aim, the following specific objectives will be set for the WTP:

1. Reduce the level of single-occupancy car trips associated with commuting to and from workplaces at Chilmington Green;
2. Reduce the amount of single-occupancy car trips and costs associated with business travel;
3. Facilitate and encourage the sustainable, healthy and safe travel of employees and visitors to the site;
4. Ensure that the differing transport needs of all site users are taken into account as far as practicable;
5. Reduce any site traffic congestion to enhance, improve and make safe the journey to work via more sustainable transport modes;
6. Facilitate and encourage the coordination of site occupiers in assisting to manage deliveries in a sustainable manner;

7. Work in partnership with the local planning and highway authorities and other stakeholders to achieve the greatest mode shift away from single-occupancy car journeys, enabling a long-term area specific approach to traffic reduction; and

8. Continually develop, evaluate and review the progress of the WTP.

3.4.2 Whilst these form overarching site-wide objectives, they can be actively supported by the individual occupiers of employment units as the phased development of Chilmington Green progresses.

3.4.3 The objectives will work towards achieving the overall aim of the WTP by bringing forward a package of measures from the outset that focus on promoting access to Chilmington Green by sustainable transport options as an alternative to the private car.

3.4.4 It is intended that this will also specifically influence employee attitudes towards their own travel behaviour by considering sustainable travel alternatives in everyday trips, as opposed to single-occupancy car travel.

4 Existing Site Assessment

4.1.1 The proposed Chilmington Green site is located to the south west of Ashford as shown in **Figure TP 1.1**. It is bounded by the A28 to the north-west and existing residential areas of Ashford to the north east. To the south are the settlements of Stubbs Cross and Shadoxhurst while the rest of the site is surrounded by farmland.

4.2 HIGHWAY NETWORK

4.2.1 Ashford is connected to other major towns and cities via the motorway and trunk-road network beyond which a network of local primary 'A' and 'B' class roads accommodate the bulk of local traffic.

4.2.2 A network of 'C' and 'unclassified' rural roads dissect the site as shown in **Figure TP 4.1**. These roads provide access to farms, hamlets and individual dwellings together with access from the rural villages into Ashford.

4.2.3 Key highway links potentially serving the development area are described further in section 3.2 of the Transport Assessment.

4.3 WILLINGNESS TO WALK

4.3.1 Guidance given by the Institute of Highways and Transportation (IHT) in their publication 'Guidelines for Providing for Journeys on Foot, 2000' suggests that in terms of commuting, walking to school and recreational journeys, walk distances of up to 2,000 metres can be considered, with the desirable and acceptable distances being 500 metres and 1,000 metres respectively.

4.3.2 For non-commuter journeys, the guidance suggests that walk distances of up to 1,200 metres can be considered, with the desirable and acceptable distances being 400 metres and 800 metres respectively.

4.3.3 Assuming a 'typical' walking speed of 400m in 5 minutes, Table 4.1 summarises the broad walk journey times that can be 'considered'; are 'acceptable'; and those that are 'desirable':

Table 4.1: Walk Journey Times

IHT 'Standard'	Distance		Walk Time	
	Commuting, Walking to School and Recreational	Other 'non-commuter' Journeys	Commuting, Walking to School and Recreational	Other 'non-commuter' Journeys
'Desirable'	500m	400m	6¼ mins	5 mins
'Acceptable'	1,000m	800m	12½ mins	10 mins
'Considered'	2,000m	1,200m	25 mins	15 mins

Source: IHT 'Guidelines for Providing for Journeys on Foot, 2000'

4.3.4 It is important to remember that people's willingness to walk also includes a number of factors associated with the footway forming part of the highway and the environment within which it passes. In different environments the following factors will positively increase a willingness to walk:

- Provision of shelter during inclement weather;
- Active streets with good surveillance during hours of darkness;

- Increased separation from fast or heavy traffic;
- Increased footway width in places with high pedestrian activity; and
- High quality streets which provide strong design features that assist navigation in unfamiliar environments.

4.3.5 A person's willingness to walk can also be influenced by changes in level, as walking up or in some cases down long or steep gradients or steps exerts more effort. Generally, gradient of less than 1:20 have a negligible impact on people's willingness to walk.

4.4 PUBLIC RIGHTS OF WAY

4.4.1 The development area is located on the outskirts on Ashford. Being rural, there are few formal pedestrian facilities although the Public Rights of Way (PROW) provides a network of routes for pedestrian, cycle and equestrian movements. Several PROWs connect to the southern residential areas of Ashford, providing direct access to the proposed development area and can be seen on **Figure TP 4.2** which displays the pedestrian and cycle facilities subsequently discussed in this TA.

4.4.2 National Cycle Route 18 (Canterbury to Royal Tunbridge Wells and onward to link with route 21) runs through the site. Its route is broadly north to south. There are numerous traffic free cycle routes and other on-road recommended cycle routes throughout Ashford.

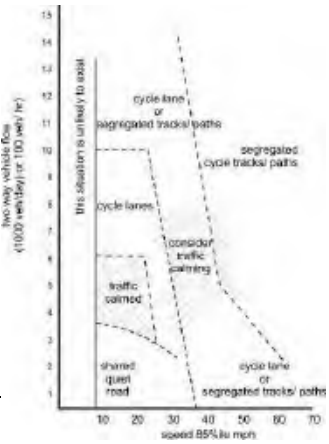
4.5 CYCLE NETWORK

4.5.1 There are a number of designated walking and cycling routes in the vicinity of the development site as shown on **Figure TP 4.2**, many of which have been constructed in recent years and represent a marked improvement in infrastructure.

4.5.2 It is generally accepted that cycling has the potential to substitute for short car trips of 5km or less. It can also form part of a longer multi-modal journey involving public transport. The willingness to cycle reduces as distances increase where a series of factors affect mode choice. Assuming a typical cycling distance of 1,200m every five minutes the accessibility of facilities 5km from the site can be considered to be a 20 minute cycle ride.

WILLINGNESS TO CYCLE

4.5.3 Many people will cycle considerable distances depending on, inter alia, weather, time of day, level of fitness and real or perceived safety/convenience. National Travel Survey research indicates that the average cycle trip in the UK increased by approximately 27% between 2002 and 2010 to 2.8 miles. This figure is slightly below the distance between the centre of the site and Ashford town centre via National Cycle Route 18, this being 3 miles.



4.5.4 The most common response for unwillingness to cycle reflects varying levels of road safety concerns. For example, most parents are anxious of road safety risks thus young cyclists are less confident cycling on carriageway. This position is normally influential in the nature of constructed cycle infrastructure, unless the vast majority of cyclists on a route are more mature. The IHT's *'Guidelines*

for Cycle Audit and Cycle Review' present potential cycle infrastructure options based on the relationship between vehicle speed and flow. It is considerations such as these which will be incorporated into the design of cycle facilities at Chilmington Green.

4.5.5 Like car ownership, the capital cost of owning a vehicle contributes to use. Around 80% of children and nearly half of all adults own a bicycle and therefore adequate space for cycle parking is influential in design of new homes. Facilities at destinations are also significant factors in willingness to cycle, notably shower, changing facilities, lockers and safe secure parking.

4.5.6 Cycle parking both at home and at travel destinations is a key part to complementing the willingness to cycle. Table 4.2 shows that the nature of a journey purpose will influence willingness to park further from the end destination, although other factors such as security will influence choice.

Table 4.2: Cycle Parking – Distance and Location

Cycle Parking		Cycle Parking – location preference	
Journey Purpose	**Median Distance (m)**	**Influencing factor**	**%**
Commuting	40	Close to destination	86%
Business	50	Security	16%
Education	38	Only place available	9%
Shopping	125	Space available	7%
Leisure	20	Location conspicuous/busy	6%

Source: TRL 276: 'Cycle Parking and Demand'

4.5.7 Factors such as those highlighted in Table 4.2 have been considered in the location of cycle parking at Chilmington Green. The amount of parking, and its accessibility and security are recognised as important contributors to the amount of cycle trips which will be made by people at the development in future.

LOCAL CYCLE INFRASTRUCTURE

4.5.8 National Cycle Route 18 runs south west from Canterbury, via Ashford and Tenterden, to join up with Route 21 just west of Tunbridge Wells. The existing route runs through the development site to the east of Chilmington Green hamlet. Beyond Singleton, to the north of the site, the cycle route becomes traffic free, providing a direct connection to Ashford International station and Ashford town centre, including the Stour Centre for leisure facilities. This route can be seen on **Figure TP 4.2**.

4.5.9 Greensand Way Leisure route also provides access through the development. This route links Kingsnorth to the south and Great Chart to the north of the A28. While this link does not provide access into Ashford directly, use of this route alongside National Cycle Route 18 would enable access to destinations surrounding the site.

4.5.10 While the above two routes provide the important linkages between Ashford and the local areas and the new development, there are a number of minor routes that pass through the site. There are routes that provide access from the National Cycle

Route through the ancient woodland to the southern section of Stanhope from which access into the town via residential streets can be made.

4.5.11 Ashford has a comprehensive network of cycle routes including many miles of traffic free cycle paths, which when combined with the signalised crossing facilities present in many strategic locations in the town, ensure that many journeys can be made by cycle without the need for direct interaction with vehicular traffic.

4.6 BUS NETWORK

4.6.1 Bus services in the southern part of Ashford are provided through a combination of:

- Regular services along the main arteries from the south and south west of Ashford from nearby local towns; and
- More frequent local shuttles from existing residential areas north of the proposed development area to the town centre.

4.6.2 The existing bus services that operate in close proximity to the Chilmington Green development site are shown on **Figure TP 4.3** and are detailed within Table 4.3.

Table 4.3: Current Bus Services near the Chilmington Green Site

Service Number	Location of nearest stop to Chilmington Green	Route	Frequency (number)	
			Weekdays	
			AM Peak	PM Peak
13	Ploughman's Way	Ashford - Stanhope - Ashford (circular)	0	1
A	Langney Drive	Singleton - Arlington - Ashford Town Centre (inc. International Station) – Stanhope	6	3
400	New Street Farm	Rolvenden - Tenterden - High Halden - Bethersden - Ashford	1	1
295/297	Stubbs Cross Post Office	Tenterden – Woodchurch – Shadoxhurst – Kingsnorth – Ashford Town Centre	0	0
11/11A/11B	Smithfields Crossroads	Lydd – New Romney – Ashford – Willesborough	2	0
B1/B2	Forestall Meadow	Ashford – (Kingsnorth Road B1 / Romney Marsh Road B2) – Park Farm	2	3

Source: Operator Timetables

4.6.3 The operators of these services are as shown in Table 4.4.

Table 4.4: Bus Service Operators in the Vicinity of Chilmington Green

Service Number	Operator
13	Kent Coach Tours
A	Stagecoach in East Kent
400	Stagecoach in East Kent
295/297	Nu-Venture and Arriva Kent & Sussex
11/11A/11B	Stagecoach in East Kent
B1/B2	Stagecoach in East Kent

4.6.4 The closest bus route to the site, service 400 operates along the A28 to the west of Chilmington Green. This route, as shown on **Figure TP 4.3,** begins near Somerset Road in Ashford town centre and then proceeds south along Station Road to Ashford International Station. The route then heads further south via Romney Marsh Road calling at the Asda store near the Ashford Designer Outlet centre.

4.6.5 From here, the route heads immediately west into the Norman Road / Beaver Lane / Brookfield Road corridor. This corridor is followed until it reaches the Matalan roundabout. At this point the route goes south-west on to Chart Road and through the village of Great Chart.

4.6.6 After passing through Great Chart, the 400 service route continues south-west along Ashford Road and then joins the A28. With the exception of a small deviation in Bethersden, the A28 forms the basis of the remainder of the southbound route. After Bethersden, the service continues through High Halden, Tenterden and terminates in Rolvenden.

4.6.7 Currently, the journey time on the 400 service from the closest stop to the site is 16 minutes to Ashford International station and 21 minutes to the town centre.

4.6.8 Collectively, Service 13 and Service A provide up to six services per hour during the day, Monday to Friday between the residential areas of Singleton and Stanhope, to the north of the site, and Ashford town centre. Of these two services, only Service A provides a direct connection with Ashford International Station.

4.6.9 Service B1/B2 provides a frequent service between Park Farm and the town centre while also providing access to the rail station. Service 400 operates along the A28 to the west of the development site. This is a less frequent service that operates hourly between Rolvenden and Ashford town centre, including Ashford International Station.

4.7 RAIL NETWORK

RAILWAY STATIONS & SERVICES

4.7.1 Ashford International Station is approximately 4km north of the site and offers a range of frequent rail services to local and strategic destinations, including Europe via Eurostar services.

4.7.2 The station is staffed 24 hours per day, seven days per week. In addition to sheltered cycle storage, the station has parking provision for 619 cars. These parking spaces include allowance for disabled users. Ashford International provides full wheelchair access in addition to ticket machine which are wheelchair accessible.

4.7.3 The range of services available from Ashford International provides onward travel for employment and leisure purposes. Table 4.5 sets out a summary of the destinations that are served.

Table 4.5: Rail Services from Ashford International

Destination	Approx Journey Time (minutes)
Tonbridge	36m
Maidstone East	23m
London Waterloo East (via Tonbridge)	75m
London Victoria (via Maidstone East)	61m
London Kings Cross / St. Pancras	35m
Hastings	41m
Folkestone Central	18m
Dover Priory	28m
Canterbury West	16m
Ramsgate	35m

Source: National Rail Enquiries

4.7.4 Ashford International is served direct by three main London stations. These are Waterloo East, Victoria and Kings Cross / St. Pancras. The journey times to these stations are 75 minutes, 61 minutes and 35 minutes respectively.

4.7.5 The centre of the Chilmington Green site is approximately 5.5 km from the international rail station via road. National Cycle route 18 runs through the site and provides a route to Ashford International Station. Currently Bus Service A provides access to Ashford International Station and routes within close proximity of the proposed site.

4.7.6 The Network Rail *London and South East Route Utilisation Strategy* (2011) identifies that with only committed rail improvement schemes included, by 2031 the High Speed 1 route could be up to 500 seats short of demand in the morning peak hour. Recommendations for avoiding this situation include additional rolling stock and an increase in platform capacity at Ashford International.

4.7.7 Table 4.6 highlights that passenger numbers at Ashford International Railway Station have grown by 20.5% in the last five years, although demand has remained stable in recent years due to economic conditions.

Table 4.6: Annual Passenger Numbers at Ashford International

Year	Passenger Numbers (entry / exit, millions)
2004/05	2.29
2005/06	2.41
2006/07	2.61
2007/08	2.82
2008/09	2.76
2009/10	2.76
Growth (2004/05 – 2009/10)	**20.5%**

Source: Office of Rail Regulator – www.rail-reg.gov.uk

RAIL PASSENGER TRENDS

4.7.8 The Channel Tunnel Rail Link (CTRL) had a dramatic impact on passenger numbers in the area, but local demand has been more steady.

4.7.9 Current forecasts[1] suggest rail passenger growth will continue around 2% per annum to 2016, thereafter falling to around 0.8% per annum. The Route Plans for the Kent area highlight that much of this growth is expected to occur due to station improvements in London, enhancing the potential for 10-12 car trains on the regional corridors.

4.8 CAR SHARING

4.8.1 Car sharing can reduce congestion and halve the fuel and running costs to the car traveller. KCC's 'New Ways 2 Work' guidance states that successful travel plans in Kent have largely centred on car sharing as their key initiative as employees who car share retain most of the flexibilities associated with the car.

4.8.2 KCC, in association with Liftshare, has developed 'kentjourneyshare.com'. This is a free internet based car sharing service available to everyone in Kent, which provides a large pool of potential trip matches to help reduce single occupancy car trips.

[1] Southern Regional Planning Assessment for the Railway, DfT, 2007

4.9 EXISTING ACCESSIBILITY TO EDUCATION, EMPLOYMENT, RETAIL AND LEISURE FACILITIES

4.9.1 The mixed use nature of the proposed development will provide many of the facilities which the residents of Chilmington Green will require on a daily basis. This convenience and locality of facilities will ensure that many journeys can be made via sustainable modes and thus remain within the development boundary.

4.9.2 This section will review the current accessibility of the site to facilities in Ashford and beyond via sustainable modes, and when read in conjunction with Section 5 offers a comparison of the 'before' and 'after' impact of the Chilmington Green site.

4.9.3 It is generally understood that walking and cycling are of high importance at the local trip level, offering the greatest potential to replace short car trips where they are under 2 kilometres for walking and 5 kilometres for cycling. Section 4 of the NPPF, emphasises the need for land use and transport planning to be integrated in a manner which promotes sustainable development with good access to local facilities.

4.10 METHODOLOGY

4.10.1 In order to provide the most accurate assessment of current pedestrian accessibility, a GIS based methodology has been utilised. To facilitate comparison with the proposed development, three centroids have been taken, which are the locations of the future district centre and the two local centres.

4.10.2 Close to the northern boundary of the site, there is a perceivable gradient change. This has been incorporated into the assessment, constraining the distance which can be travelled on foot or by cycle from Chilmington Green in any period.

4.11 PEDESTRIAN ACCESSIBILITY

4.11.1 As shown on **Figure TP 4.4**, there is currently limited accessibility to existing facilities in Ashford from the site. Some of the facilities located in the south of Ashford, a short distance from the northern border of the development, are reachable within 30 minutes.

4.11.2 A small pocket of facilities is accessible in less than 25 minutes, located in Singleton. These include schools, convenience retail, a GP and a pharmacy. Other than these, the only other facilities within reasonable walking distance are a nursery on the northern fringe of Shadoxhurst and Ashford Friars Prep School, located in Great Chart. Both of these facilities can be reached in less than 20 minutes. The Post Office in Stubbs Cross can be reached in less than 20 minutes' walk.

4.11.3 It can therefore be surmised that a journey on foot is generally not currently a means of accessing anything more than the most basic facilities. The current road network is not conducive to making certain of these journeys though. For instance it is not realistically conceivable that a parent with a small child would walk along Chilmington Green Road in order to reach the nursery in Shadoxhurst.

4.11.4 The Chilmington Green site contains a number of public rights of way (as noted in Section 4.4); these have been incorporated into the assessment of existing conditions. A number of these will form primary routes for non-motorised users at the proposed development.

4.11.5 The current levels of pedestrian activity suggest that walking for leisure would be a more common use of existing pedestrian routes, rather than as a means of accessing facilities.

4.12 CYCLE ACCESSIBILITY

4.12.1 As is to be expected, accessibility to Ashford and the wider area via cycle is significantly expanded in comparison to being on foot. This is displayed on **Figure TP 4.5**. Ashford town centre is accessible in less than 20 minutes, with all except the northernmost and easternmost areas of the town falling within the 30 minute accessibility window.

4.12.2 The travel time by cycle to the pocket of facilities in Singleton referred to in the pedestrian assessment is under 10 minutes. The range of leisure and retail facilities accessible by cycle covers most of those in Ashford, although certain types of journey purpose will not necessarily be conducive to cycling, such as making large purchases.

4.12.3 Travelling to work by cycle is also a realistic option for workers whose place of employment is outside of Ashford Town centre. The cycling time from the site to local employment centres is shown in Table 4.7.

Table 4.7: Accessibility to Employment by Cycle

Employment Location	Travel Time by Cycle (minutes)
Ashford town centre	16 – 20
Cobbs Wood Industrial Estate	11 – 15
Brookfield Industrial Estate	11 – 15
Kingsnorth Industrial Estate	16 – 20
Eastmead Trading Estate	16 – 20
Kingfisher Business Park	21 – 25
Grove Business Park	21 – 25
Henwood Industrial Estate	21 – 25

Source: Consultant prepared GIS assessment

4.12.4 In terms of cycling comprising a stage in a multi-modal journey, Ashford International station can be reached from the site in less than 20 minutes. To the south east, Ham Street station is within 30 minutes cycle. Both of these stations offer cycle storage.

4.13 PUBLIC TRANSPORT ACCESSIBILITY

4.13.1 The GIS based software ACCESSION has been used in order to determine the accessibility of destinations from the site using currently timetabled public transport services. This assessment indicates that the site has some degree of accessibility to other parts of Ashford and nearby settlements in Kent. This is illustrated in **Figure TP 4.6**.

4.13.2 It is discernible when comparing the cycle accessibility in **Figure TP 4.5** that there are some areas of Ashford which are faster to reach by cycle than they are using the current Public Transport services. This is likely to be due to the fact that a cyclist can

take a direct route to these destinations. If using a bus service, it is possible a change of service may have to be taken, most likely in the town centre, in order to make an onward journey to the same destination.

4.13.3 In many cases, where a rail travel element is a component in a journey, a significant amount of onward travel from the rail destination is not possible within the cumulative one hour period used for assessment. Table 4.8 presents some of the destinations accessible from the site in a one hour window via public transport.

Table 4.8: Accessibility from Site to Destinations via Public Transport

Destination	Travel Time by Public Transport (minutes)
Ashford International Station	21 – 30
Ashford town centre	31 – 40
Tenterden	31 – 40
Wye	41 – 50
Canterbury	51 – 60
Folkestone	51 – 60
Headcorn	51 – 60

Source: Consultant prepared ACCESSION assessment

4.14 SUMMARY

4.14.1 The current access to facilities from Chilmington Green via sustainable modes ranges from poor to acceptable. This is primarily because the area currently has minimal development and therefore does not create a substantial demand for facilities. Therefore the facilities that will be used by existing residents have been established in order to serve other communities such as those in Singleton and Stanhope to the south of Ashford.

4.14.2 Ashford currently has a very well developed provision of pedestrian and cycle routes, and the proposed development will integrate seamlessly with these, ensuring that the new community is able to access existing facilities with ease.

4.14.3 The proposed development will provide a wide range of facilities for retail, education, employment and medical requirements. In the majority of cases, accessing a facility within Chilmington Green will be the most attractive option for residents.

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5 Development Proposals

5.1 DEVELOPMENT PROPOSAL

5.1.1 The proposals at Chilmington Green are for a mixed use development. Residential properties will comprise the focus of the development, however there will be significant supporting infrastructure which will sustain Chilmington Green itself and also complement Ashford's position as a regional growth point.

5.1.2 The outline application is for a comprehensive Mixed Use Development comprising:

- Up to 5,750 residential units, in a mix of sizes, types and tenures;
- Up to 10,000m² gross floorspace of Class B1 use;
- Up to 9,000m² gross floorspace of Class A1 to A5 uses:
- Education (including a secondary school of up to 8ha, and up to four primary schools of up to 2.1ha each);
- Community uses (class D1) up to 5,000m² gross floorspace;
- Leisure uses (class D2) up to 5,000m² gross floorspace;
- Provision of local recycling facilities;
- Provision of areas of formal and informal open space;
- Installation of appropriate utilities infrastructure as requires to serve the development, including flood attenuation works, SUDS, water supply and wastewater infrastructure, gas supply, electricity supply (including substations), telecommunications infrastructure and renewable energy infrastructure;
- Transport infrastructure, including provision of three accesses on to the A28, an access on to Coulter Road, other connection on to the local road network, a Park and Ride with a maximum of 600 parking spaces and a network of internal roads, footpaths and cycle routes;
- New planting and landscaping, both within the Proposed Development and on its boundaries, and ecological enhancement works; and
- Associated groundworks.

5.1.3 Appearance, landscaping, layout and scale are reserved for future approval. Access is also reserved for future approval with the exception of the three accesses on to the A28 and the access on to Coulter Road.

5.2 PUBLIC TRANSPORT IMPROVEMENTS

5.2.1 A new high frequency bus service will be introduced at the proposed development and will be available from the first phase, with its coverage expanding as Chilmington Green is built out.

5.2.2 Following an internal loop of Chilmington Green, the service will head on to the A28, then Tithe Barn Lane, Knoll Lane, Brookfield Road and Leacon Road before using Victoria Way to reach the town centre. Ashford International station will also form one of the destinations for the service. The anticipated travel time from Chilmington Green's district centre to Ashford International is approximately 15 minutes.

5.2.3 Further details of Chilmington Green's public transport offering are contained in Section 11 of the Transport Assessment.

5.3 SUSTAINABLE TRANSPORT MEASURES

5.3.1 A number of development proposals, including design features, will aid sustainable travel to and from the site. These are outlined below:

- Permeable pedestrian and cycle network;
- Green Lanes with limited vehicle movements, encouraging use by pedestrians, cyclists and equestrians;
- Master Plan design integrating facilities within communities, reducing travel distance;
- Car parking in accordance with local policy;
- Convenient cycle parking; and
- Speed limits throughout the development of 30mph or less, to be detailed in reserved matters.

5.4 CAR AND CYCLE PARKING

5.4.1 Car and cycle parking at Chilmington Green will be provided in line with the standards detailed in Section 2.4 of the Transport Assessment. This parking will be 'designed in' to the scheme and located close to dwellings and distributed efficiently over the site to cater for residential visitors.

5.4.2 Many of the new dwellings will be served with on-plot parking generally located to the side, rear or front of the dwelling. Parking spaces and garages will be sited so that there is sufficient room for users to enter and exit the vehicle. The distance from the car parking space to the home will be kept to a minimum and will be level or gently sloping where practically possible. Disabled parking and cycling parking numbers will be provided in accordance with the appropriate standards at the time of reserved matters submission. Where appropriate, on-street parking will be provisioned, forming traffic calming and creating spaces away from built form for street trees and other landscaping. By designing the on-street parking locations from the outset, the impact of car parking on the street scene is minimised.

5.4.3 Courtyard parking within the development blocks will be evident, but where this approach will be utilised, parking courts will serve a limited number of dwellings, include landscaping and create private, well defined areas with good surveillance from dwellings, giving the court its own sense of place. Pedestrian connections from the fronts of houses to rear courts should be regular and direct.

5.4.4 Further detail regarding parking at Chilmington Green is included in the Parking Review note at **Appendix B** of the Transport Assessment.

5.5 PEDESTRIAN AND CYCLE ROUTES

5.5.1 Ashford is well served by pedestrian and cycle routes and infrastructure, and this provision is complemented by the Chilmington Green Master Plan. Existing Public Rights of Way within the site would be complemented by new routes and infrastructure, giving traffic free movement for cyclists to many areas of Chilmington Green.

5.5.2 National Cycle Route 18 will continue to form a key route for non-motorised users, whether to gain access to Chilmington Green or for leisure purposes, and Greensand Way will also form a key corridor for pedestrian and cycle movement.

5.5.3 As a result of the construction of roads to support vehicle movement around Chilmington Green, several existing roads will become 'Green Lanes', rural routes which retain their existing character. These routes will have minimal vehicular traffic and will present a pleasant environment for non-motorised users for trips of all purposes.

5.5.4 These 'Green Lanes' will primarily consist of:

- Chilmington Green Road;
- Chilmington Green Lane; and
- Bartlets Lane.

5.5.5 Chilmington Green's proposed primary pedestrian and cycle routes are shown on **Figure TP 5.1**.

5.6 ORCHARD WAY

5.6.1 Orchard Way will be the main vehicular link through Chilmington Green, handling traffic heading to and from the A28 in addition to local traffic circulating in the proposed development. Orchard Way will have a 6.0m carriageway width, with footway and cycleway providing ease of access around Chilmington Green for non-motorised users.

5.6.2 The southern section of Orchard Way will form part of the bus route for the proposed high frequency bus service.

5.7 PHASING

5.7.1 Construction of Chilmington Green will take place in four phases, with each phase consisting of dwellings, plus non-residential land uses which directly support either that phase or Chilmington Green as a whole. These include facilities such as the education facilities, which will be required at regular intervals, and retail facilities.

5.7.2 A detailed breakdown of the anticipated phasing of Chilmington Green is presented in the phasing report which accompanies the outline planning application.

5.7.3 In order to demonstrate the effectiveness of the sustainable infrastructure which will accompany the proposed development, the GIS assessments undertaken in Section 4 have been repeated.

5.7.4 The same methodology has again been employed, with the district centre and two local centres acting as centroids for the assessment. The effect of gradient to the north of the site has been applied to the pedestrian and cycle accessibility assessments again.

5.8 PEDESTRIAN ACCESSIBILITY

5.8.1 The primary pedestrian routes introduced by the proposed development have been included in the GIS assessment, which shows the effect of these links on pedestrian accessibility inside and outside of the development. **Figure TP 5.2** shows the pedestrian accessibility at full build-out of Chilmington Green.

5.8.2 A comparison between the future pedestrian accessibility and the existing accessibility shown in **Figure TP 4.4** shows that there is an increase in the distance which can be travelled on foot within a 30 minute period, but it does not offer significantly improve access to any existing facilities.

5.8.3 What **Figure TP 5.2** does show is the excellent accessibility within the site to facilities. In addition to displaying the locations of the district and local centres as centroids, the education facilities have been shown, as has the supermarket located at the district centre.

5.8.4 From any point within the development, the walking time to one of the centres is less than 15 minutes, and in the majority of the residential areas it is under 10 minutes. The locations of the centres around the development ensure that this travel time is kept low. The employment, convenience retail and commercial facilities at each of the centres will be within easy reach on foot of all residents, visitors and employees.

5.8.5 A comparison with the development density in **Figure TP 4.7** shows that the district and local centres are surrounded by high density development, with the density gradually decreasing at further distances. This means that a greater number of people are located within a shorter walking distance to the centres than are located further away.

5.8.6 Three of Chilmington Green's primary schools are within five minutes' walk of one of the centres, with the fourth primary school and the secondary school situated less than 10 minutes' walk from a centre. Resultantly, it can be said that all residential development will be within 15 minutes' walk of a primary school and a good proportion within 5 minutes' walk. Chilmington Green's secondary school will be within the 2km guideline for walking offered by the Chartered Institution of Highways and Transportation in the publication "Guidelines for Providing for Journeys on Foot", 2000.

5.9 CYCLE ACCESSIBILITY

5.9.1 The proposed cycle infrastructure at Chilmington Green offers some degree of improvement in accessing the wider Ashford area as a result of the provision of the proposed development's internal cycle routes. **Figure TP 5.3** shows the level of cycle accessibility from Chilmington Green's district and local centres.

5.9.2 In particular, a greater proportion of Ashford north of the M20 and areas in the far east of the town become accessible in less than 30 minutes cycle time. Access time to Ashford town centre remains under 20 minutes by cycle.

5.9.3 Based on the results of this assessment, Chilmington Green can be deemed as a 'cycle neighbourhood'. The proposed infrastructure provides an environment where any of the three centres within the proposed development can be reached conveniently by cycle. The majority of the development is able to reach either the district centre or one of the local centres in under 5 minutes, with only those at the very fringes of the site needing up to 10 minutes to get to a centre.

5.9.4 With Chilmington Green's schools located in close proximity to the centres, these will all be accessible in a short time by cycle too, with the secondary school within an excellent distance by cycle.

5.10 PUBLIC TRANSPORT ACCESSIBILITY

5.10.1 As with the assessment of existing conditions, the public transport assessment for the future scenario has been carried out using ACCESSION. This incorporates the proposed high frequency bus service from Chilmington Green. The assumptions associated with the service (detailed in Section 11 of the Transport Assessment) are:

- 10 minute frequency;
- Real-time smart bus stops located as shown in **Figure TP 5.4**; and
- A journey time of approximately 15 minutes to Ashford International Station from the district centre.

5.10.2 The assessment includes the time taken to walk from the centroid (in this case either the district or local centre) to the nearest bus stop, there is also an assumed wait time. Where there is a change of mode from bus to rail, another small delay is introduced replicating the wait for a train for example. Where there are no further onward connections, the distance that can be reached in a 60 minute period is shown. The future public transport accessibility from Chilmington Green is shown in **Figure TP 5.5**. A wider view of public transport accessibility from Chilmington Green to the rest of Kent can be seen on **Figure TP 5.6**.

5.10.3 In comparison to the existing accessibility by public transport as displayed on **Figure TP 4.6**, there is a noticeable difference in the destinations which can be reached, and the time in which they can be accessed.

5.10.4 Table 12.1 shows a list of local destinations and offers a comparison in the time calculated to reach them from Chilmington Green currently, and with the proposed bus service.

Table 5.1: Accessibility from Chilmington Green to Destinations via Public Transport

Destination	Travel Time by Public Transport (minutes)	
	Current	With Proposed High Frequency Bus Service
Ashford International Station	21 – 30	11 – 20
Ashford town centre	31 – 40	11 – 20
Tenterden	31 – 40	31 – 40
Wye	41 – 50	21 – 30
Canterbury	51 – 60	41 – 50
Folkestone	51 – 60	31 – 40
Headcorn	51 – 60	31 – 40
Maidstone	60+	41 – 50
Rye	60+	41 – 50
Dover	60+	51 – 60
Ebbsfleet International Station	60+	51 – 60

Source: Consultant prepared ACCESSION assessment

5.10.5 As Table 5.1 shows, Chilmington Green's proposed bus service facilitates access to a wide area, giving excellent links to Ashford International station and to the town centre.

5.10.6 Destinations that cannot currently be reached in less than an hour by public transport are shown by the assessment as being reachable in that time in the future year assessment. For example from commencing a journey at one of the centres at Chilmington Green the assessment anticipates it will be possible to get to central Maidstone in under 50 minutes and to Ebbsfleet International Station in under 60 minutes.

5.10.7 The future level of accessibility increases the potential for residents to commute from Chilmington Green to other destinations in Kent. And with London St Pancras station a further 18 minutes journey from Ebbsfleet International, central London is feasibly accessible from Chilmington Green in a little over one hour.

5.10.8 The reverse journey can also be made conveniently, with commuters able to access the proposed development using public transport to reach Chilmington Green.

5.10.9 It should be noted that ACCESSION assumes a certain time to reach a public transport stop and for the service to arrive. This can result in journeys involving public transport services with a low frequency providing better results than they may do in reality.

5.11 SUMMARY

5.11.1 This section has demonstrated that the proposals at Chilmington Green afford future residents, employees and visitors the opportunity to access all the facilities that Chilmington Green has to offer using sustainable modes. Travel to and from the development and to places outside of Ashford is significantly enhanced by the proposed high frequency bus service.

6 Travel Plan Promotion and Measures

6.1 INTRODUCTION

6.1.1 At a site-wide level, a number of measures to facilitate and encourage sustainable travel at employment sites will be implemented at Chilmington Green. These measures will be funded by The Consortium.

6.1.2 The measures suggested are divided into 'site-wide' measures (funded by The Consortium and delivered through a site management company) and 'occupier-specific' measures (to be funded and delivered by the subsequent individual site occupiers). Responsibility and funding of individual employer occupiers will be passed to the employer through specific clauses in the lease agreement. Individual employer occupiers will also be made aware of the roles and responsibilities at pre-letting meetings, where the Travel Plan Coordinator will be available to address any concerns.

6.1.3 The reason for preparing an umbrella WTP at this stage is due to the fact that individual organisations have not yet been identified as occupiers of Chilmington Green. Following development completions and occupation, further surveys and monitoring will present a clearer understanding of the 'occupier-specific' measures that should be introduced.

6.1.4 Further details of the site-wide and occupier-specific measures are set out in the following paragraphs.

SITE WIDE MEASURES

6.1.5 This section outlines the specific site-wide development measures to be introduced as part of the WTP.

6.2 TRAVEL PLAN COORDINATOR

6.2.1 A Travel Plan Coordinator will be appointed by the site management company to ensure the effective implementation of the Travel Plan. They will oversee the day to day running of the Travel Plan activities and administration of the Plan. Prior to occupation the Travel Plan Coordinator will be responsible for establishing contacts within the local community i.e. bus operators and cycle shop owners, and ensuring the timely implementation of identified measures.

6.2.2 The Travel Plan Coordinator is primarily responsible for the implementation of the RTP, but their remit will extend site-wide to provide guidance, support and advice to the employment and educational components of the site.

6.2.3 The role of this coordinator will include:

- Acting as a point of contact for queries on travel planning matters
- Meeting with each employment site occupier before occupation to discuss the Travel Plan and ensure that they are aware of their roles and responsibilities in relation to the TP (as defined within their lease agreements);
- Providing continuing support and guidance to Travel Plan Champions once occupation of employment units has taken place.
- Providing sustainable travel information packs;
- Ensuring that all travel information and data disseminated is accurate and up to date;
- The on-going monitoring of the Travel Plan;

- Assist in the decision making process with the site management company on which measures will be best to implement – and in association with KCC / ABC; and
- Updating the Travel Plan document as necessary, and liaising with Kent County Council

6.2.4 Details of the nominated Travel Plan Coordinator will be established prior to occupation of the site and provided to KCC / ABC. Each employer occupier will also be required to nominate a WTP Champion, whose details will also be provided to KCC / ABC.

6.3 TRAVEL PLAN STEERING GROUP

6.3.1 The Travel Plan Coordinator will seek to set up a Chilmington Green Travel Plan Steering Group. This will be made up of resident representatives and the appointed Workplace Travel Champions and School Travel Plan Coordinators (more details of these roles are provided within the individual travel plan documents). Other key stakeholders from the wider community, such as Travel Plan Coordinators from other developments plus KCC and ABC will also be invited to attend.

6.3.2 The purpose of this Steering Group is to help with securing buy-in from all aspects of the new community. This will help the Travel Plan Coordinator to successfully implement new measures and undertake monitoring phases. The Group will also be useful for information sharing and feedback.

6.4 PROVIDING TRAVEL INFORMATION

6.4.1 The provision of information on a wide variety of transport options for travelling to and from Chilmington Green will ensure all employees are fully aware of the choices available to them.

6.4.2 The dissemination of information can best be achieved through a range of methods, including via the internet, employee induction packs, information notice boards in each company, and direct contact with each employee. Therefore, the following measures will be introduced by The Consortium (or appointed site management company) at a site-wide level.

CHILMINGTON GREEN SUSTAINABLE TRAVEL WEBSITE

6.4.3 The Consortium will be responsible for the creation of a dedicated sustainable travel website for Chilmington Green that will focus on providing appropriate, up-to-date information on sustainable travel options for accessing the development site.

6.4.4 The website will serve as a ‘one-stop-shop’ for the dissemination of site-wide sustainable travel information to the employees of each occupying business, as well as acting as a source of information for visitors. Information on the website will include details of local public transport routes, local amenities and facilities, walking and cycle maps and a link to online car sharing opportunities.

6.4.5 The website will also provide links to other websites such as kentjourneyshare, Traveline and Transport Direct so as to encourage employees and visitors to plan their journeys using sustainable transport.

6.4.6 Employers and employees will also be encouraged to participate in an on-line discussion forum to help provide feedback on travel and travel plan related issues, or even positives.

EMPLOYEE SUSTAINABLE TRAVEL INFORMATION PACK

6.4.7 A Sustainable Travel Information Pack will be provided to all employees at Chilmington Green. This pack will include details of the local public transport services, key local amenities and facilities, and walking and cycle maps.

6.4.8 The contents of the pack will be updated as necessary and will also be delivered to each new employee by post prior to their first day of employment. This will help ensure that all employees are able to consider the sustainable transport options available to them prior to commencing work at Chilmington Green and that the promotion of sustainable travel forms an active part of their employment induction process.

6.4.9 Any subsequent updates to information in the travel pack will be advised by the TPC, but printed and disseminated by the occupier.

6.4.10 Individual occupiers will be required to advise the TPC as to how many packs are required. The occupier will send packs to all staff prior to relocation and on confirmation of employment.

TRAVEL INFORMATION POSTERS/LEAFLETS

6.4.11 Posters will be produced to provide information and details of key site-wide WTP initiatives, including the internet site web address and a contact. Leaflets will be produced for visitors to promote suitable modes of transportation to and from the locality.

6.4.12 These will be distributed throughout the development to all occupying businesses for internal circulation within their premises to maximise awareness of WTP measures and opportunities to all employees.

6.4.13 Occupiers will be encouraged to display this information in reception areas, communal areas and areas of high foot fall.

6.5 PROMOTING CAR SHARING

6.5.1 To ensure the most efficient use of cars that do travel to and from the site, employees of the site will be encouraged to car share wherever possible. This will help to reduce the overall number of car journeys being made in the first instance, whilst encouraging a pattern of more efficient car use amongst employees and residents.

6.5.2 Car sharing schemes encourage individuals to share private vehicles for particular journeys. Car sharing can be both formal and informal. Informal car sharing operates between individuals and neighbours and formal car sharing is defined by a more elaborate approach to trip matching, often focussed on the commuting journey.

6.5.3 Information about existing local car sharing groups will be disseminated to employees through sustainable travel information packs and notice boards. There are two such groups that incorporate the Ashford area; kentjourneyshare.com and Kentcarshare. As detailed in Chapter 4, these organisations can be joined for free, or for a small fee, and help users match journeys with like minded people, and subsequently help to reduce the costs of travelling alone by car.

6.5.4 The site-wideTravel Plan Coordinator will be responsible for setting up a car sharing database for Chilmington Green which residents and employees will be encouraged to sign up to. This is expected to become more popular as the development builds out and more individuals join. A promotional event will be held at Chilmington

Green organised by the site-wide Travel Plan Coordinator to boost the uptake of car sharing within the community.

6.6 MEASURES TO PROMOTE WALKING/CYCLING

WALKING AND CYCLING NETWORK

6.6.1 Pedestrian and cycle permeability will be high, with links provided within the development site and to the existing residential area, enabling full use of the community facilities for employees based at Chilmington Green.

SITE SPECIFIC WALKING AND CYCLING MAPS

6.6.2 To demonstrate to employees how local facilities and services can be reached on foot, or by bicycle, site-specific walking and cycling maps will be produced by the Travel Plan Coordinator and distributed along with the travel information packs to all employers.

6.6.3 These maps will be produced with the development as the central points of focus, with all key local facilities and services clearly illustrated within time bands showing average walking and cycling journey times. This will demonstrate how accessible these destinations are within a given travel time.

SECURE CYCLE PARKING

6.6.4 All employment facilities, shops and community facilities at Chilmington Green will be provided with high quality secure cycle parking facilities close to the main access to the building. This will ensure that individual companies at Chilmington Green will be able to benefit from secure and covered cycle parking for their employees to use. The quantum of cycle parking provided will be in accordance with KCC / ABC guidance and reviewed through the monitoring process to see if additional spaces are required.

BICYCLE USER GROUP (BUG)

6.6.5 A Bicycle User Group (BUG) will be established for the development. This group will comprise of employees and WTP representatives of the companies, and local residents, who are interested in taking forward initiatives to promote and facilitate cycling at Chilmington Green. The BUG will provide a forum for sharing information on cycle routes, cycling best practice, and to address any issues of concern regarding cycling or cycle safety.

6.6.6 The BUG will also enable less experienced cyclists to interact with established cyclists and obtain information, guidance and potentially a ‘cycling buddy’ to accompany them on their journey to or from the development. Through the BUG, a ‘Bike Doctor’ can be organised on a regular basis to service employee bicycles and provide advice on cycle maintenance.

EMPLOYEE DISCOUNTS

6.6.7 Details of local cycle shops will be publicised on the development website and discussions will be held with these shops to endeavour to secure discounts for employees on cycle purchase and repair. It is anticipated that such a discount may be secured given the sizable number of employees and the BUG will provide an ideal platform for taking this forward.

PROMOTIONAL EVENTS

6.6.8 The promotion of cycling and walking throughout the year will be undertaken through involvement in national activities such as 'National Bike Week'.

6.6.9 Employees located at all occupying organisations will receive publicity of these events via email, the website or notice boards/posters to actively encourage their participation. The coordination of these events will be facilitated by the TPC.

6.7 MEASURES TO PROMOTE PUBLIC TRANSPORT USE

ENHANCED PUBLIC TRANSPORT SERVICES

6.7.1 A Public Transport Strategy has been developed to ensure a target of 20% of trips Chilmington Green trips by public transport is met.

6.7.2 To achieve this mode share a high quality, frequent and direct bus service to Ashford Town Centre is required. It is proposed that the bus service is bespoke to Chilmington Green rather than an extension of an existing bus service. The service will operate every 10 minutes and provide a direct and attractive link between Chilmington Green, Ashford Town Centre and Ashford International Rail Station (for high speed rail services to London).

6.7.3 High Quality Smart Bus Shelters are also planned around the Chilmington Green site. It is proposed that these shelters would include Real Time Passenger Information (RTPI) screens which show passengers when the next bus is due.

BUS/RAIL SERVICE INFORMATION

6.7.4 Details of public transport services serving the development area will be publicised to all employees, including route, fares and timetable information. This information will be disseminated directly to employees via a range of media including posters, sustainable travel information packs and via the Chilmington Green website.

6.7.5 As a further measure, the provision of Personal Travel Planning information to employees could be introduced if the aforementioned approach is not felt to be sufficient following its implementation. At each individual business, new members of staff could be offered public transport information for their journey, based on their home postcode location as part of their induction process.

DISCOUNTED FARES

6.7.6 Discussions with public transport service operators will be undertaken, led by the TPC, to seek discounted public transport fares for employees.

6.8 MEASURES TO PROMOTE MORE EFFICIENT CAR USE

CAR PARKING MANAGEMENT

6.8.1 It is recognised that the management of car parking is key to implementing a successful WTP.

6.8.2 Car parking provision at Chilmington Green will be provided in accordance with local standards. This will ensure there is no over provision of car parking which may lead to excessive car-based journeys to the site. Furthermore, regulating access to the supply of car parking will also help to restrict the demand for single-occupancy car journeys to the site.

6.8.3 The TPC will work with individual occupiers to help manage the demand for car parking at Chilmington Green and ensure no inappropriate overspill car parking occurs.

CAR SHARING

6.8.4 As organisations take up occupancy at Chilmington Green, kentjourneyshare.com and Kentcarshare databases will be promoted to provide the mechanism for encouraging car-sharing amongst employees from across the different companies.

6.8.5 Membership of these databases will continue to grow as future occupiers become apparent. The overall size of the databases will then be enhanced, to the collective benefit all employees looking to find prospective matches.

6.8.6 This will provide an ideal platform for employees with the same commuting destination to find a suitable car-sharing partner to share the journey to work with. In turn, car-based journeys to work will be made in a more efficient manner, and overall car trips will be reduced.

6.8.7 The benefits of joining a car share database will be promoted throughout Chilmington Green using promotional materials issued to employees through the sustainable travel packs, internet site and promotional advertising (such as posters) to be located within public areas at each occupying organisation.

6.8.8 The site-wideTravel Plan Coordinator will be responsible for setting up a car sharing database for Chilmington Green which residents and employees will be encouraged to sign up to. This is expected to become more popular as the development builds out and more individuals join. A promotional event will be held at Chilmington Green organised by the site-wide Travel Plan Coordinator to boost the uptake of car sharing within the community.

6.8.9 In addition to the above, information and guidance will be provided to car sharers on security, the division of costs without incurring tax penalties, and details of insurance requirements to help facilitate a popular and successful scheme.

ELECTRIC VEHICLE CHARGING POINTS

6.8.10 The technology behind electric vehicles is at a point where they now provide a much better range and level of performance than early incarnations. From being produced by specialist companies they have now moved to mass production by the world's major manufacturers, with fully electric cars having been released by Nissan, Peugeot, and Renault in 2011 and other companies are expected to following in the next few years.

6.8.11 By providing a number of secure charging points located at various points around the development, those who feel that they need a vehicle may be encouraged to choose an electric car. This offers a social benefit of zero harmful emissions from the vehicle. There are personal benefits for the owner of the vehicle as it will be exempt from road tax and the London Congestion Charge. From January 2011, the government has been offering a grant of 25 per cent of the cost of the car, up to a maximum of £5,000. This level has been agreed until 2015, when the level of the grant will be reviewed. A new grant of up to £8,000 towards the purchase of electric vans was released in January 2012.

6.8.12 With the installation of charging points, Chilmington Green would be at the forefront of the promotion of zero emission vehicle use. These vehicles are also exempt from Company Car tax until 2015, increasing the appeal for business users.

6.8.13 Once benefits and location have been reviewed, The Consortium will install an appropriate number of charging points prior to occupation. At this point, additional locations will also be reserved for further future installations should the demand arise. Initial charging points will be monitored to assess demand.

OCCUPIER-SPECIFIC MEASURES

6.8.14 Certain measures may be introduced by future occupiers of Chilmington Green on a company by company basis, depending on the applicability of a given measure to their operation.

6.8.15 The measures in this section may, or may not, be relevant to the specific operation and travel characteristics of a particular occupier. As such these measures will not be delivered directly by The Consortium, but through individual business occupiers, with guidance from the TPC. The intention would be for individual occupiers to consider adopting these measures as part of their company policy, and where they are clearly appropriate and beneficial to their business operation.

6.8.16 These suggested measures are, as far as possible, intended to be suitable for review following identification of each occupier. As such more specific details on these measures will be presented to KCC / ABC in line with the phased development and occupation of Chilmington Green.

6.8.17 A clause will be entered in to the lease contract documents to ensure that future occupiers are aware of the responsibilities in relation to travel planning well in advance of occupation. The wording will also refer to the need for occupiers to ensure sufficient funding is made available to deliver specific travel plan measures, discussed below.

6.9 PROMOTING SUSTAINABLE TRANSPORT OPTIONS

CYCLE2WORK SCHEMES

6.9.1 In consultation with the TPC occupiers will be encouraged to become involved in the government initiated Cycle2Work scheme which offers both tax and national insurance savings to participating employees who purchase a bike to cycle from home to work.

6.9.2 Payments for a bicycle can also be spread across the year using the scheme. An example of such a scheme can be found at **www.halfordsb2b.com.**

PUBLIC TRANSPORT SEASON TICKET LOANS

6.9.3 In consultation with the TPC, occupiers will be encouraged to offer their employees interest-free loans to enable them to purchase public transport season tickets. The greatest saving on public transport fares can be achieved by purchasing a long-term season ticket.

6.9.4 However, the need for a single advance payment can be prohibitive for some employees, particularly those on lower incomes. By offering an interest-free loan, employees can realise the financial savings of a season ticket and pay for it over time rather than in advance.

INCENTIVES FOR WALKING AND CYCLING

6.9.5 In addition to providing information, facilities and promotional events, there are a range of incentives that could be offered to encourage walking and cycling. Financial incentives for those who walk or cycle, entry into prize draws, a 'walker's breakfast', and greater flexibility over working times are all incentives that could be offered. Therefore, a key role of the TPC will be to discuss with site-occupiers the potential for some of these incentives to be offered to their employees.

INCENTIVES FOR BUS TRAVEL

6.9.6 Occupiers will offer incentives to encourage bus travel amongst their own employees. This could include a special offer sample ticket for their employees to experience one week's free bus travel upon commencement of work at Chilmington Green. This would help to establish sustainable travel behaviour amongst staff during the very initial stages of relocating to the site.

6.10 ENCOURAGING EFFICIENT CAR USE

SUPPORTING STAFF RELOCATION / REDUCING THE NEED TO TRAVEL

6.10.1 Chilmington Green will be a mixed use development consisting of residential and employment properties, adjacent to existing residential areas. Therefore, the opportunity exists to promote the employment opportunities to residents in the surrounding area or those moving into the new residential dwellings.

6.10.2 Furthermore, individual employers may wish to publicise the availability of residential properties at Chilmington Green to their existing staff base. This may help support a reduction in longer distance commuting trips into Chilmington Green, as residents are based more locally. Some form of incentive offer may be possible to help encourage this process.

6.10.3 The Travel Plan Coordinator will be able to work alongside individual site occupiers to promote these types of schemes.

COMPANY CAR POLICY

6.10.4 Individual occupiers who anticipate offering company cars to employees as part of their remuneration will be encouraged to offer a financial alternative. This will in turn encourage employees that are entitled to a company car to consider such an alternative as opposed to the use of an additional car.

6.10.5 Introducing fuel efficient, or alternative fuel, low emission pool cars and fleet vehicles will also be actively promoted by the TPC to each site occupier. This will further help to reduce the impact of car-based vehicles on the local environment.

6.10.6 By offering electric pool cars and fleet vehicles it would make use of the charging points discussed previously.

GUARANTEED RIDE HOME SCHEME

6.10.7 Occupiers will also be encouraged to offer a 'guaranteed ride home' for their employees who participate in any car-sharing arrangement. Under the guaranteed ride home scheme, if a member of staff has to leave at an unexpected time for emergency reasons and no practical alternative travel option is available, the organisation will provide the means for ensuring that this person gets home.

6.10.8 This may take the form of covering the cost of a taxi for that employee. The 'guaranteed ride home' scheme will also help appease any concerns amongst employees should their car sharing arrangements fail for any reason, ensuring they are able to travel home.

FINANCIAL TRAVEL INCENTIVES

6.10.9 Financial incentives represent another option for the promotion of efficient car use and car sharing. Financial incentives such as 'cash-out' schemes might be offered to employees who car share, or entry to a prize draw for all members of the car share database. These cash-out and prize schemes can of course be extended to cover those who journey to work by other sustainable means, such as walking and cycling.

6.10.10 The TPC will discuss the potential for these schemes with individual companies.

6.11 MEASURES TO PROMOTE SMARTER WORKING PRACTICES

6.11.1 A review of working practices can have a positive impact in encouraging sustainable travel behaviour and each occupier will be encouraged to consider the following working practices for their employees, where applicable. For example:

FLEXIBLE WORKING HOURS/COMPRESSED WORKING WEEK

6.11.2 Where operational requirements permit, occupiers should examine the potential to introduce a practice of flexible working hours amongst employees. This will help to ensure that those wishing to travel by public transport are not deterred by small conflicts between when these services operate and when they are required to commence work. Where such conflicts do occur, and cannot be resolved, this may lead to a higher level of car dependency.

6.11.3 Individual occupiers will be encouraged by the TPC to introduce this flexibility in working hours where possible.

REMOTE/HOME WORKING OPPORTUNITIES

6.11.4 Home working may only be suitable for a small number of employees within a business, but can reduce the overall number of journeys to and from the site. Therefore, each occupier will also be encouraged by the TPC to explore the potential to introduce home working where possible.

VIDEO/TELE-CONFERENCING FACILITIES

6.11.5 Making available video and audio conferencing facilities will allow employees to use them instead of travelling for some business journeys. The TPC will highlight the benefits of these facilities to companies at Chilmington Green where it appears applicable to their business operation.

6.12 SUSTAINABLE VISITOR JOURNEYS

6.12.1 Visitors to Chilmington Green will be able to access sustainable travel information via the sustainable travel website.

6.12.2 Directing visitors to this information should be considered a standard business practice for future occupiers to ensure visitors are aware of the sustainable travel options that might be available to them. This will be communicated to individual businesses by the TPC.

6.13 SUMMARY

6.13.1 This chapter has outlined a number of measures that will actively encourage sustainable travel behaviour amongst employees and reduce the number of single-occupancy car journeys associated with development at Chilmington Green.

6.13.2 The measures themselves will either be implemented as site-wide measures, and primarily funded by The Consortium, or will be encouraged as a sustainable business practice to be adopted by future occupiers of the site, and within any subsidiary WTPs.

6.13.3 It is expected that, where practical, these measures will be encompassed by all the individual occupiers to make it easier for as many employees as possible to reduce the need to travel or choose sustainable travel modes for commuting or business journeys.

6.13.4 The following chapter highlights the management structure that will be introduced to deliver the measures presented in this chapter.

7 Travel Plan Management

7.1 CONTEXT

7.1.1 The management and implementation of the WTP will be an important part of the phased development of Chilmington Green. It must be seen as beneficial by employees, and a clear structure must be in place prior to first occupation of the development. This section highlights how this will be achieved.

7.2 MANAGEMENT STRUCTURE

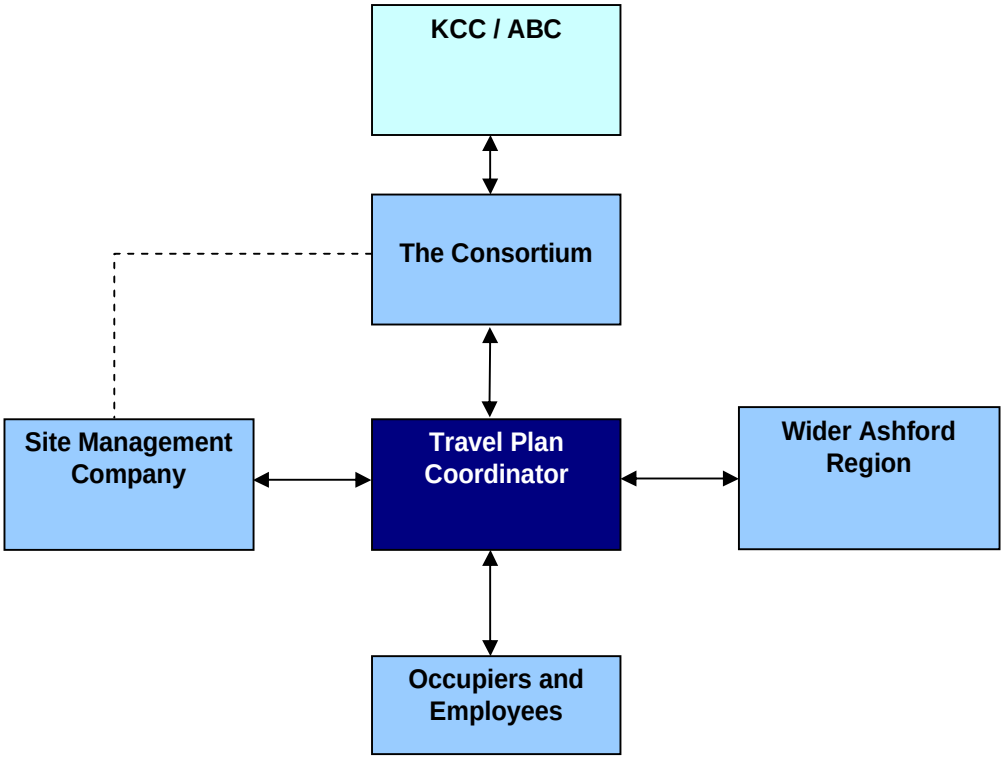
7.2.1 Responsibilities for delivering measures within the WTP must ultimately be shared between The Consortium and future occupiers.

7.2.2 To deliver this effectively, the WTP will be co-ordinated by a group of key personnel. This group will be responsible for the implementation and review process of the WTP and will include:

- A site management company;
- The site-wide Travel Plan Co-ordinator; and
- Representatives from each occupier.

7.2.3 The intended management structure for the WTP is shown below in Figure 7.1.

Figure 7.1 Chilmington Green Travel Plan Management Structure



7.3 SITE MANAGEMENT COMPANY

7.3.1 A site management company will be established for Chilmington Green, as an agent of The Consortium, with ongoing responsibility for the management, maintenance and operation of the site – including overall responsibility for delivering the WTP.

7.3.2 It will be the site management company's responsibility to appoint a TPC to provide support when required for the WTP.

7.4 TRAVEL PLAN COORDINATOR

7.4.1 A TPC will be appointed by the site management company prior to first occupation of Chilmington Green (whether residential or employment). They will act as the principal point of contact for all TP queries at Chilmington Green and will co-ordinate delivery of the TP at a site-wide level.

7.4.2 This post will initially be full-time as the holder will also fulfil the same position for the residential travel plan. The post will be funded by the Consortium via the site management company.

7.4.3 Having one TPC for the site gives a greater level of continuity between all the Travel Plans and allows for the interchanging between the plans of successful ideas and methods of stimulating modal shift.

7.4.4 The duties of the TPC will include (in respect of the WTP):

- Managing the day-to-day operational requirements of the WTP;
- Meeting with all potential occupiers to discuss the requirements of the Travel Plan.
- Actively promoting the use and availability sustainable travel options to all employees located at Chilmington Green;
- Working with the individual business at Chilmington Green to develop their 'occupier-specific' WTP measures, and subsidiary WTPs;
- Acting as a point of contact for occupier-specific nominated WTP representatives;
- Setting up, managing and coordinating a WTP Steering Group. Members of this group will also be invited to attend the Umbrella Travel Plan Steering Group;
- Ensuring that all travel information and data disseminated via the Chilmington Green internet site is kept accurate and up-to-date;
- Ensuring that bi-annual employees travel surveys are undertaken across Chilmington Green and reviewing short monitoring reports supplied by the occupiers and compile an overarching report detailing the findings of the whole development ;
- Reporting to the site management company and KCC / ABC with all results of the employees travel surveys, and ongoing staff feedback on travel and transport issues;
- Taking part in the decision making process with the site management company on the delivery of measures at a site-wide level;
- Updating the WTP document with individual occupiers to ensure ownership; and
- Liaising with local authorities, key stakeholders and other local employers.

7.5 BUSINESS OCCUPIER REPRESENTATIVES

7.5.1 Individual occupier representatives will be identified and appointed by their respective organisations prior to their occupation of premises at Chilmington Green.

7.5.2 Their role will include:

- Being the first point of contact for employees of their organisation regarding travel and transport issues;
- Helping to implement occupier specific measures within the organisation;
- Co-ordinating and analysing employee travel surveys within the organisation;
- Disseminating results of the employee travel surveys to their organisation's staff; and
- Disseminating results of the employee travel surveys to the TPC to enable for site-wide summary feedback to KCC / ABC.

7.5.3 Individual occupier representatives will assist the TPC by facilitating travel surveys and providing assistance in the rolling out of site-wide measures and their coordinated implementation.

7.5.4 If the appointed representative leaves the company, a replacement will be appointed and the TPC notified accordingly.

7.6 ALL EMPLOYEES

7.6.1 In addition to the key personnel outlined in this chapter, all employees working within Chilmington Green will be encouraged to co-operate in implementing travel planning measures at their respective organisation, and support the aim and objectives of the WTP by:

- Being aware of how much they use their car and considering whether commuting and business journeys are always necessary; and
- Reducing their car dependency to minimise congestion and protect the environment.

8 Implementation Action Plan

8.1 IMPLEMENTATION ACTION PLAN

8.1.1 As previously stated, the site management company will appoint the WTPC prior to first occupation of Chilmington Green. This will ensure that preparation for measures to be introduced either prior to, or on first occupation of the site can be progressed in the meantime, to ensure sustainable travel patterns are actively encouraged from the outset.

8.1.2 It is envisaged that subsequent occupiers should on first occupation appoint their WTP Representative and a management representative to attend a WTP steering group.

8.1.3 To ensure delivery and ownership of specific measures it is necessary to set out an 'Action Plan' for implementation and review. Table 8.1 below provides an initial action plan for implementation of measures across Chilmington Green. This includes the site-wide measures to be implemented on-site and associated timescales or trigger points.

Table 8.1 Chilmington Green WTP – Implementation Action Plan

Trigger/Date	Task/Measure	Delivery Responsibility
Prior to first employment occupation	■ Appoint a site management company	The Consortium
	■ Appoint a site-wide TPC (covering all land uses)	Management Company
	■ Creation of sustainable travel website	The Consortium / Site Management Company / TPC
	■ Creation of car share database	TPC
	■ Prepare site-specific walking and cycling maps	TPC
	■ Prepare employee sustainable travel welcome pack contents	TPC
	■ Installation of Electric vehicle charging points	The Consortium
	■ Installation of secure cycle parking	The Consortium
Following first employment occupation	■ Collate and distribute sustainable travel welcome pack to all employees	TPC / Site occupiers
	■ Prepare travel information leaflets/posters for distribution to site occupiers	TPC
	■ Organise and run sustainable travel promotional event – e.g. car sharing promotion, National Bike Week	TPC
	■ Funding enhanced bus services	The Consortium

Trigger/Date	Task/Measure	Delivery Responsibility
Following first employment occupation	■ Seek public transport fares and cycle shop discounts for employees at Chilmington Green	TPC
	■ Undertake employee travel surveys within six months of occupation after initial travel patterns have stabilised	TPC
	■ Analysis of employee travel surveys; agreement of appropriate measures; update WTP as necessary; submit to KCC / ABC for approval	TPC
	■ Work in partnership with individual occupiers on the implementation of occupier-specific WTP measures	TPC
	■ Set up a Bicycle Users Group (BUG)	TPC
One Year following first employment occupation	■ Repeat travel surveys one year after baseline survey, review effectiveness of initiatives, results and targets and submit to KCC / ABC. If insufficient progress is being made then introduce recovery measures	TPC
Subsequent years following first employment occupation	■ Repeat process set out for Year 1 (as necessary) and report findings and actions to KCC / ABC. ■ Discontinue WTP monitoring after 10 years following site occupation.	TPC

8.2 FUNDING

8.2.1 The initial infrastructure related to the planning application proposals, such as on-site and off-site pedestrian and cycle facilities and delivery of the public transport strategy, will be secured through appropriate mechanisms within the planning process (Section 106 Agreement). This will provide the delivery of facilities and the vehicle for the funding of such measures.

8.2.2 The site developers will also provide funding to the site management company for appointing a TPC, who will take forward the site-wide Action Plan of sustainable travel initiatives and measures.

8.2.3 The Consortium will fund the delivery of 'site-wide' initiatives including the establishment of the Chilmington Green internet site, initial monitoring, and site-wide marketing/promotional activity related to sustainable travel. This will continue until such time as there are further site occupiers, at which point the funding responsibility will become shared.

8.2.4 The subsequent individual occupying companies will be responsible for the ongoing funding and delivery of their company-specific WTP initiatives including monitoring. Measures to be delivered by individual occupiers will include, for example, internal awareness raising campaigns within the organisations, sustainable business practices such as remote or home working (where possible) and providing loans for public transport season tickets. Commitment to funding these measures will be secured through the tenancy agreement for each occupier of Chilmington Green.

8.2.5 Therefore, the obligation for funding and implementing site-specific travel plans will be passed to the individual occupying companies through the legal contractual lease agreement.

8.2.6 Table 8.2 indicates the funding responsibility for each measure outlined within this WTP.

Table 8.2 Funding Responsibility for Delivery of Measures

Measure	Funding Responsibility
Overall Management	
■ Appoint site-wide TPC	Management Company
■ Undertake annual employee travel monitoring for a period of 10 years following site occupation	Site Management Company
Infrastructure Improvements	
■ Pedestrian and cycle routes through the development	The Consortium
Travel Information	
■ Create and manage sustainable travel website	Created by The Consortium Maintained by Management Company
■ Create and distribute 'employee sustainable travel welcome packs'	Site Management Company
■ Produce sustainable travel posters / leaflets for distribution across Chilmington Green organisations	Site Management Company
Measures to promote walking and cycling	
■ Establish a Bicycle User Group (BUG)	Site Management Company
■ Site-specific walking and cycling maps	Site Management Company
■ Signposting and maps of main routes	The Consortium
■ Site-wide promotional events	Site Management Company
■ Seek favourable purchasing arrangements at local bike stores for Chilmington Green employees	Site Management Company
■ Cycle parking	The Consortium / Developers
■ Participation in 'Cycle to Work' scheme	Site Management Company
Measures to promote bus use	
■ Provision of bus timetables to employees	Site Management Company
■ Enhanced bus services	The Consortium
■ Offer of discounted tickets	Site Occupiers
■ Season ticket loans	Site Occupiers
Measures to promote efficient car use	
■ Promotion of 'Ashford Car Share' and 'Liftshare' and site-wide car share database	Site Management Company
■ Employee relocation schemes	Site Occupiers
■ Introduce 'guaranteed free ride home' scheme	Site Occupiers
■ Measures to promote smarter working practices (e.g. home working)	Site Occupiers

8.3 SUMMARY

8.3.1 This chapter has outlined a clear implementation plan for the WTP, detailing the funding and delivery responsibilities associated with the Travel Plan measures presented in Chapter 6.

8.3.2 The WTP will work closely with individual occupiers through the entire process to ensure that useful travel plans are implemented and accurate data collated through the monitoring process.

8.3.3 To add further certainty to the delivery of measures, specific trigger points have been identified for when measures should be introduced. This will provide an initial guideline for The Consortium and the appointed WTPC on the timing of specific interventions to maximise the potential for encouraging sustainable commuting patterns and business travel at Chilmington Green.

9 Targets and Monitoring

9.1 WORKPLACE TRAVEL PLAN TARGETS

9.1.1 Establishing targets and then monitoring these play an important part in understanding the changing nature of employee travel habits and the effectiveness of measures in working towards meeting the WTP's aim and objectives. Existing measures can then be reviewed and evaluated, with alternative or recovery measures being considered where necessary to achieve the targets.

9.1.2 Employee travel surveys, circulated bi-annually at specific review dates, will support this process. This will also ensure that regular monitoring is linked as part of a site-wide monitoring strategy.

9.1.3 Targets related to modal split are useful in assessing the effectiveness of a WTP, but must take into account individual site characteristics. Given that Chilmington Green has yet to be occupied it isn't possible to establish a baseline mode split for commuting journeys to and from Chilmington Green at this time. The site is being designed with sustainable travel as a priority. This will help to ensure that sustainable travel habits are encouraged from the outset, but the effect of this cannot be determined until baseline travel surveys have been undertaken.

9.1.4 The 2001 Census provides information on the current 'journey to work' modal split for the nearby Great Chart and Singleton North Ward, which has been analysed in Section 3.8 of the Transport Assessment, and shown in Table 9.2 below. Data from the 2011 Census is not currently available to use for this purpose. Information for this ward is being used, in agreement with KCC, as the majority of the site falls within this ward. It should be noted that the table excludes people that indicated they work from home.

Table 9.1 Great Chart and Singleton North Ward model split (Journeys to work)

Mode	Percentage
Car Driver	72.10%
Car Passenger	6.44%
Train	6.06
Underground	0.00%
Bus	3.28%
Taxi	0.38%
Motorcycle	0.76%
Cycle	4.29%
Walk	6.69%
Other	0.00%
TOTAL	100%

Source: 2001 Census

9.1.5 The census data indicates that 72.10% of the resident population in this ward travel to work as single-occupant car drivers. Therefore, an interim target for this WTP will be to not exceed 72% of all journeys being undertaken by employees of the development as car drivers until such a time as a more accurate baseline target can be established from a survey.

9.1.6 Establishing targets relating to changes in employee attitudes towards sustainable transport options can also prove important in evaluating the success of a WTP. This information will be gained from the employee travel surveys undertaken six months post-occupation of the site.

9.1.7 Targets will then be set for Phases 1, 2, and 3 a reduction of single-occupancy car journeys to and from Chilmington Green to reach the agreed Phase 4 site wide mode share targets by development completion (to be achieved by completion of all residential units). The percentage annual reduction will be derived using empirical evidence from the travel survey and an understanding of the site design and Sustainability strategy, the final targets will be agreed with KCC / ABC, but are unlikely to be largely dissimilar to the proposed targets for end of Phases 1, 2, and 3 detailed in Table 9.2 below.

Table: 9.2 End of phase mode share targets

Mode	Phase 1	Phase 2	Phase 3	Phase 4	Site wide target
Car (car driver and passenger)	62%	60%	57%	54%	53%
Bus	20%	20%	20%	20%	20%
Train	6.5%	8%	9%	10%	10%
Walk	7%	7%	8%	10%	11%
Cycle	4%	4%	5%	5%	5%
Other (motorcycle, taxis etc)	1%	1%	1%	1%	1%
TOTAL	100%	100%	100%	100%	100%
Baseline survey	End of year 1	N/A	N/A	N/A	N/A
Monitoring (years of phase)	2, 4, 6	2, 4, 6	2, 4, 6	2, 4, 6	Bi-annual up to 5 years following completion

9.2 MONITORING METHODOLOGY

9.2.1 An initial baseline survey will be undertaken 6 months following first occupation of each commercial development to set appropriate yearly targets to fulfil the site wide target.

9.2.2 Following this, it is proposed that bi-annual monitoring in the form of employee travel surveys and multimodal surveys will be undertaken in line with the RTP monitoring strategy, until five years after development completion. It is the intention that all employer occupiers monitoring strategies will align with the site-wide bi-annual approach. This will ensure that monitoring is co-ordinated effectively and will result in more useful monitoring reports, covering each land use on site.

9.2.3 All individual site occupiers will be required to ensure the distribution of the employee travel survey at their respective organisations. An example employee travel survey form is attached in **Appendix A**. This will be adapted to ensure it is specific to companies occupying Chilmington Green before it is issued.

9.2.4 The multimodal travel surveys will be undertaken using permanent vehicular monitoring loops located on each vehicular site access point. The proposed locations for these loops are shown in **Figure TP 9.1**. In addition, it is intended that permanent pedestrian/ cycle loops will also be used to monitor trip numbers by these modes, although the location of these is yet to be decided. Given that the site will have many access points, many of which will be through routes, the best method used to survey vehicle, pedestrian and cycle trips will be investigated by the Travel Plan Coordinator whether this is through the installation of permanent or temporary loops/ counters, to establish which is the most effective and robust method.

9.2.5 The results of these surveys will be supplied directly to the TPC. The TPC will be responsible for coordinating the timing of the annual surveys, collating the resulting information, and submitting a bi-annual monitoring report to KCC / ABC, with assistance from the workplace travel representatives

9.2.6 The objective of the monitoring process is to measure the progress of the WTP against the respective modal split target. If progress against the target is not being demonstrated, the introduction of additional recovery measures will be undertaken to help meet the target (see Section 9.4).

9.3 FUNDING AND REPORTING RESPONSIBILITY

9.3.1 The monitoring and review process of the Workplace Travel Plans will be managed by the TPC and funded by the site management company. Time spent within the organisation in disseminating, collated and summarising data will be met by that occupier.

9.3.2 A summary report of progress will be submitted at each annual review to KCC / ABC. This will ensure that a focus and momentum is maintained and provides opportunities for a review of the WTP in light of any travel and transport issue that may have arisen.

9.3.3 The Travel Plan support provided by KCC, including the inclusion of survey data in iTRACE will be included in the pre-application fee, to be paid for by the Consortium.

9.4 RECOVERY MEASURES – ACTION PLAN

9.4.1 Table 9.3 presents the draft end of phase mode split targets for each phase of development.

9.4.2 As previously outlined, it is anticipated that the draft end of phase targets (phase 1, 2 and 3) will be subject to change following the baseline employee travel survey to be undertaken following occupation of Chilmington Green. This will ensure that they remain realistic in striving to meet the site-wise targets. Since the site is very large and that it will be constructed over a number of years (up to 20 years) the baseline survey undertaken in year 1 will not be representative of the whole site.

9.4.3 Initial monitoring during each phase prior to the end of phase monitoring, will help to ensure that the end phase modal split targets (for phases 1, 2, and 3) set in year 1 are realistic in working towards meeting the site-wide model split target.

9.4.4 However, despite potential changes to the target itself, it is important to illustrate a course of remedial action should progress towards the targets not be achieved. Table 9.3 summarises a step-by-step approach to introducing a series of recovery measures designed to bring the RTP back on course should the initial Implementation Action Plan fail to achieve the associated targets.

9.4.5 The recovery measures would commence with notification to KCC / ABC of any failure to reach the target mode share. The recovery measures process would be funded by the site management company.

Table 9.3 Recovery Measures Action Plan (Interim)

Order of Actions	Action
1	Notification of failure to meet mode share target
2	Meeting of TPC and KCC / ABC to discuss way forward
3	Meeting between TPC, KCC / ABC and representatives of individual occupiers to agree additional mutually convenient and voluntary measures
4	Pursue the offer of interest free loans for bus and rail season tickets amongst organisations not currently participating
5	Pursue the offer of interest free loans for bicycles amongst organisations not currently participating
6	Offer free two-week trial public transport tickets for employees at Chilmington Green
7	Offer incentives to employees to make greater use of sustainable travel options. Examples may include financial incentives based around a reward system for the non-use of private car-based commuting
8	Offer a full 'Personal Travel Planning' service to all employees at Chilmington Green, providing individually tailored sustainable travel information specific to their own journey to work, including further incentives to try these modes
9	TPC to meet with KCC / ABC to discuss further potential measures and a possible revision to future WTP target

9.4.6 As shown by Table 9.2, the recovery measures action plan details an approach to introducing a range of measures and instigating further discussions about individual business practices that could be called upon to boost sustainable travel patterns at Chilmington Green.

9.4.7 It is not possible at this stage to identify an exact package of remedial measures, given that the reasons for non-conformity against the set targets cannot be established until employee travel surveys have been assessed. Only at this point will it be possible to determine the most appropriate course of action. As detailed in Table 9.2 this will require discussion with KCC / ABC. The Consortium will ensure that an appropriate sum of money is ring-fenced within the Section 106 Agreement to appropriately fund remedial measures. Should this sum not be required to implement such measures, these monies will be used by KCC / ABC to enhance existing sustainable transport networks which would benefit Chilmington Green.

10 Summary

10.1 SUMMARY

10.1.1 This umbrella Workplace Travel Plan (WTP) has been prepared in support of development proposals at Chilmington Green, Ashford. The plan focuses primarily on how employees who will be based at Chilmington Green can be encouraged to use sustainable means of transport for commuting to and from the site, and for business travel.

10.1.2 The measures proposed within this document will not only bring associated benefits to the individual businesses and their employees, but will also help to mitigate any transport impacts of the development on the wider local community.

10.1.3 The measures outlined are divided into 'site-wide' measures (to be funded by The Consortium and delivered through a site management company) and 'occupier-specific' measures (to be funded and delivered by the subsequent individual site occupiers)

10.1.4 To deliver this effectively, the WTP will be co-ordinated by a group of key personnel, including the appointment of a Travel Plan Coordinator from within the occupier's organisation to oversee delivery on a day-to-day basis. This will include preparing travel information materials for dissemination to companies and employees on their immediate occupation of Chilmington Green. The site-wide appointed TPC will work closely with individual occupiers to provide guidance and support and to ensure that WTPs are implemented across the site in a joined manner.

10.1.5 This WTP has also detailed a clearly defined interim target relating to the modal split for commuting journeys to Chilmington Green, which can be revised more accurately following a baseline travel survey. To monitor progress against the target, a detailed employee travel survey will be conducted on a bi-annual basis by the Workplace Travel Plan Coordinator, with the results submitted to KCC / ABC.

10.1.6 Information gathered from these surveys will also support the ongoing review of this WTP.

Appendices, Figures & Tables

Appendix A Employee Travel Survey (Example)

Appendix A - Example Staff Travel Survey

The following provides an example staff travel survey that may be used to inform the Chilmington Green Workplace Travel Plan. Not all of the questions may be relevant to your organisation.

Example Introduction: We would like to understand more about how our staff currently travel to work so that we can better cater for your needs. This is your chance to tell us what you think. Please take a few minutes to complete this questionnaire and submit your response by **XXX**.

Example Incentive: As a token of our appreciation, **X** randomly selected respondents will **win XX**.

If you have any queries about this questionnaire, please contact **XX**

Firstly, please tell us about your working patterns at XX

Q1: On what basis do you work at XXX?
Select one only

Full-time	☐
Part-time	☐

Q2: Are you on a permanent contract or employed through an agency?
Select one only

Permanent employee	☐
Agency	☐

Q3: Within which department do you work?
Select one only

XX	☐
XX	☐
XX	☐

Q4: At which office are you predominately based?
Select one only

XX	☐
XX	☐
XX	☐

Q5: Do you usually work shift patterns or standardised hours?
Select one only

Shift patterns	☐
Standardised hours	☐

Q6: Does your work enable you to:
Select all which apply

Work flexible hours	☐
Work from home	☐
Hot-desk	☐

Q7: What time do you usually arrive at work?
Select one only

Before 7 am	☐
7 am - 7:29 am	☐
7:30 am -7:59 am	☐
8 am - 8:29 am	☐
8:30 am - 8:59 am	☐
9 am - 9:59 am	☐
10 am -10:59 am	☐
11 am-11:59 am	☐
12 midday or after	☐

Q8: What time do you usually leave work?
Select one only

Before 2pm	☐
2 pm-2:59 pm	☐
3 pm-3:59 pm	☐
4 pm-4:29 pm	☐
4:30 pm-4:59 pm	☐
5 pm-5:29 pm	☐
5:30 pm-5:59 pm	☐
6 pm-6:59 pm	☐
7 pm or after	☐

Q9: How often do you currently work from home?
Select one only

Several times per week	☐
Once a week	☐
Once a fortnight	☐
Once a month	☐
Less often	☐
Never	☐

Now tell us about how you travel to and from work

Q10: Do you have access to a car for your journey to and from work?
Select one only

Yes – every day	☐
Yes – sometimes	☐
No – never	☐
No - I cannot drive	☐

Q11: Do you have access to a bicycle for your journey to and from work?
Select one only

Yes – every day	☐
Yes – sometimes	☐
No – I do not have a bike	☐
I live too far away to cycle to work	☐

Q12: How do you usually travel to/from work?

*Please select the **one** type of transport you use most often. If you use two types, e.g. walk to the bus stop and then catch the bus, please select the one on which you travel for the greatest distance.*

Select one only

Car driver	☐
Car passenger	☐
Bus	☐
Train	☐
Motorcycle/scooter	☐
Walk	☐
Cycle	☐
Taxi	☐
Other (please specify)	☐

Q13: If you ever travel to work by a different means of transport, please tick the types you use:
Select all which apply

None	☐
Car driver	☐
Car passenger	☐
Bus	☐

Train ☐
Motorcycle/scooter ☐
Walk ☐
Cycle ☐
Taxi ☐
Other (please specify) ☐

Q13: How long does your journey to work usually take?
Select one only ☐
0-15 minutes ☐
16-30 minutes ☐
31-45 minutes ☐
46-60 minutes ☐
Over an hour ☐

*If you ever travel to/from work by **car**, please **answer Q14-Q17**. If you do not, please **go to Q18**.*

Q14: When you travel to work by car where do you usually park?
Select one only
Workplace car park ☐
On-street near work ☐
Public car park ☐
Other (please specify) ☐

Q15: How much do you pay per day for parking?
Select one only
Nothing – free parking ☐
Less than £1 per day ☐
£1-£1.99 ☐
£2-£2.99 ☐
£3-£4.99 ☐
£5-£6.99 ☐
£7-£9.99 ☐
£10 or more ☐
Other (please specify) ☐

Q16: Do you need to drop off/ pick up a child/family member on your way to/from work?
Select one only
Yes ☐
No ☐

Q17: How often do you travel by car for work related business (e.g. to meetings)?
Select one only

More than five times per week	☐
Several times per week	☐
Once a week	☐
Once a fortnight	☐
Once a month	☐
Less often	☐
Never	☐

Now tell us about how your journey to work could be improved

We are looking at ways to improve the transport system to make it easier for staff to get here by alternatives to the private car.

Please say whether you would consider travelling by these alternative means of transport if the following measures were provided. If you already use these types of transport, consider whether the measures would improve your existing journey to/from work.

Select one box in each row	Yes - definitely	Yes – probably	Yes - possibly	No	Don't know
Q18 Walking					
Better lit footpaths around workplace	☐	☐	☐	☐	☐
Better maintained footpaths around workplace	☐	☐	☐	☐	☐
CCTV cameras	☐	☐	☐	☐	☐
Lockers available at work	☐	☐	☐	☐	☐
Q19 Cycling					
Dedicated cycle routes & crossings	☐	☐	☐	☐	☐
Better signed cycle routes	☐	☐	☐	☐	☐
Covered cycle parking at work	☐	☐	☐	☐	☐
Secure cycle parking at work	☐	☐	☐	☐	☐
Provision of lockers and changing facilities	☐	☐	☐	☐	☐
Discounts on cycle purchase/equipment	☐	☐	☐	☐	☐
Cycle mileage allowance for business trips	☐	☐	☐	☐	☐
Establishment of a cycle user group	☐	☐	☐	☐	☐
Q20 Bus/Train					
Better waiting facilities (shelters/seating) at work	☐	☐	☐	☐	☐
Better public transport information at work	☐	☐	☐	☐	☐
Cheaper/discounted fares	☐	☐	☐	☐	☐
More frequent bus services	☐	☐	☐	☐	☐
More reliable bus services	☐	☐	☐	☐	☐
CCTV at bus stops	☐	☐	☐	☐	☐
Interest free loans for purchase of season tickets	☐	☐	☐	☐	☐
Q21 Car sharing (a formal system to group together people travelling from/to a similar place)					
Priority car parking for car sharers	☐	☐	☐	☐	☐
Cheaper car parking for car sharers	☐	☐	☐	☐	☐
Help in finding car share partners	☐	☐	☐	☐	☐
Cost savings for car sharers (shared fuel costs)	☐	☐	☐	☐	☐
Guaranteed free ride home in emergency	☐	☐	☐	☐	☐

Q22: Other comments on transport improvements:

Please tell us a few details about yourself. These will help us with our analysis but will not be used to attribute findings to any individual.

Q23a: Your gender

Male	☐
Female	☐

Q23b: Your age

20 or under	☐
21-30	☐
31-40	☐
41-50	☐
51-60	☐
61 or above	☐

Q24: Do you have a disability or mobility problem which requires you to travel to work by car?

Yes	☐
No	☐

Q25: What is your home postcode?

If you do not know your postcode, please provide the name of the street in which you live:

Q26: Please use the space below to record any other comments you have on travel to/from work:

If you wish to be entered into the **prize draw**, please include your **name/staff ID number** in the space provided. This will **only** be used to notify the winner.

Thank you for taking the time to complete this questionnaire.

Please submit your response by **Day/Month/Year**

Appendix C School Travel Plan Framework

UNITED BY OUR DIFFERENCE

WSP

Chilmington Green, Ashford

Framework School Travel Plan

Hodson Developments, Malcolm Jarvis Homes, Pentland Homes & Ward Homes

April 2012

WSP

QM

Issue/revision	Issue 1	Revision 1	Revision 2	Revision 3
Remarks	Draft	Issue		
Date	March 2012	April 2012		
Prepared by	Emily Butler	Emily Butler		
Signature				
Checked by	Sarah Thorneycroft	Sarah Thorneycroft		
Signature				
Authorised by	Andrew Blacker	Andrew Blacker		
Signature				
Project number	11012761	11012761		
File reference	N:\Chilmington Green 2010\TEXT\REPORTS\Transport\Travel Plan\STP\Framework School Travel Plan.docx	N:\Chilmington Green 2010\TEXT\REPORTS\Transport\Travel Plan\STP\Framework School Travel Plan.Docx		

WSP UK
Mountbatten House
Basing View
Basingstoke
Hampshire
RG21 4HJ

Tel: +44 (0)1256 318800
Fax: +44 (0)1256 318700
http://www.wspgroup.com

WSP UK Limited | Registered Address WSP House, 70 Chancery Lane, London, WC2A 1AF, UK | Reg No. 01383511 England | WSP Group plc | Offices worldwide

Contents

For figures refer to the Umbrella Travel Plan

Executive Summary

Hodson Developments, Malcolm Jarvis Homes, Pentland Homes & Ward Homes (The Consortium) are committed to delivering a sustainable community at Chilmington Green and this School Travel Plan Framework will support this objective by promoting a wide range of low carbon travel and transport options to staff, pupils, parents and visitors to schools at Chilmington Green.

The Consortium believes the plans outlined in this document will help to create a travel strategy that benefits all residents, the local area and also the environment.

This framework will assist schools in the Chilmington Green area with the creation and amendment of their own School Travel Plans. This will ensure that each of the schools assumes full ownership and responsibility for their own travel plans. Within this plan The Consortium has demonstrated commitment to the management and delivery of a wide range of measures to inform those travelling to the schools of travel opportunities, and to actively promote their use as an alternative to single-occupancy car travel.

Each school will appoint its own Travel Plan Coordinator (TPC) who will oversee and manage the ongoing delivery of these measures in an effective and efficient way. This will deliver progress towards reducing car-based journeys to and from the school, and promote safe and healthy access to school for staff and pupils.

Full support and advice will be provided to schools by the site wide Travel Plan Coordinator for Chilmington Green, as identified in the Chilmington Green Umbrella Travel Plan.

1 Introduction

1.1 INTRODUCTION

1.1.1 WSP Property and Development (WSP) has been appointed by The Consortium to prepare a School Travel Plan Framework (STP) in support of development proposals at 'Chilmington Green', Ashford. Four new primary schools and one sixth form entry secondary school will be constructed as part of the development. The location of the site is shown in **Figure TP 1.1** (please refer to Umbrella Travel Plan). For all figures referred to in this document please see Umbrella Travel Plan.

1.1.2 Construction of school infrastructure at Chilmington Green will take place during the four phases of development. The new primary schools are proposed to be constructed on the basis of one per phase of development and the secondary school is to be constructed in phase two. However, it is anticipated that these education facilities will absorb virtually all the school-related trips generated by the Chilmington Green development, giving a high level of internalisation. Prior to the primary schools and secondary school coming on line, other local schools within walking distance will be promoted to residents occupying the early years of the development. Since the design of the site will be such that it considers the needs of pedestrians and cyclists first, this will help to support sustainable travel to existing schools in the wider local community from Chilmington Green in the first instance.

1.1.3 This STP will be used to assist each of the schools within the Chilmington Green Development in developing their own individual School Travel Plans. This will ensure that each school takes ownership and responsibility for its own Travel Plan. Each school will have a School Travel Plan Coordinator to develop and implement their own School Travel Plan, with support from the Site-Wide Travel Plan Coordinator. The school's individual plans will focus primarily on how residents of Chilmington Green and prospective students and their families throughout the wider local area can be encouraged to use sustainable means of transport to travel safely to and from the area's schools.

1.1.4 The residential and other non-residential uses at Chilmington Green are covered by separate Residential and Workplace Travel Plans. This STP will enable the site-wide Travel Plan Coordinator to work with these schools to create appropriate plans in preparation for their opening.

1.1.5 Therefore, this STP will ultimately guide and inform five School Travel Plans:

- The STP for each of the four new primary schools; and
- The STP for the new secondary school.

1.2 SCHOOL TRAVEL PLANS

1.2.1 A School Travel Plan is a document produced by a school in conjunction with the local authority, which aims to encourage schools to identify and solve problems associated with the school journey (particularly those related to safety). Plans do not necessarily have to include physical measures to improve routes but instead are a way of 'living and learning' (Road Safety Strategy for Wales, January 2003). The Department for Transport (DfT) defines a School Travel Plan as follows:

"An effective school travel plan puts forward a package of measures to improve safety and reduce car use, backed by a partnership involving the school, education and

transport officers from the local authority, the police and the health authority. It is based on consultation with school staff, parents, pupils, governors and other local people"

1.2.2 A School Travel Plan will often include initiatives such as promotional activities, training, better facilities, and safety improvements to the physical environment - all of which are aimed at promoting healthy and active travel options for journeys to and from a school.

1.3 SCHOOL TRAVEL PLAN FRAMEWORK STRUCTURE

1.3.1 This STP for the proposed education facilities at the Chilmington Green development has been prepared so that there is a clear overarching aim, objectives and measures for schools to work towards when creating or amending their individual Travel Plans. This STP is therefore set out in the following sections:

- Section 2 summarises current best practice in the preparation of a School Travel Plan;
- Section 3 sets out the existing site conditions and local travel opportunities in relation to identifying existing opportunities for encouraging healthy and sustainable school travel amongst staff and pupils;
- Section 4 identifies the STP overarching aim and objectives;
- Section 5 identifies a range of typical measures that would benefit the schools at Clipstone Park, in addition to the implementation timescales for these measures;
- Section 6 sets out the overarching responsibilities for the implementation of the Travel Plan;
- Section 7 details the purpose of setting targets for use within School Travel Plans;
- Section 8 details the process for an overarching monitoring and review process; and
- Section 9 summarises this document.

1.4 SCHOOL TRAVEL PLAN BENEFITS

1.4.1 Travel planning can have a number of key benefits which can be extended to both staff and pupils, as well as to the wider local community. The benefits that can be achieved are the key driver of this travel plan and are set out below:

- Improved air quality through reduced congestion as a result of the use of alternative modes to the private car;
- Better use of existing infrastructure as road space is made less congested as a result of fewer cars;
- Possible cost savings for car sharers – by sharing journeys with neighbours/friends, staff and pupils can benefit from sharing the cost of the fuel consumed through making these journeys;
- Improved quality of life for staff and pupils – achieved through healthier lifestyles i.e. replacing shorter car journeys with walking; better air quality; less stress etc; and Positive contribution towards improving road safety – achieved through less school gate congestion through encouraging alternative modes and preparing adequate parking strategies; enhanced public footways and cycle routes; road awareness and cycle training sessions for pupils etc.

2 Best Practice Review

2.1 RELEVANT POLICY

2.1.1 A detailed review of relevant national, regional and local transport policy and travel planning guidance is provided in the Chilmington Green Umbrella Travel Plan document. Of particular relevance is the "Kent's Sustainable Travel to School Strategy" for school travel plan guidance and the "Cycle Parking Guide for Development", summarised for reference below.

KENT'S SUSTAINABLE TRAVEL TO SCHOOL STRATEGY (SEPTEMBER 2010)

2.1.2 This Sustainable Travel To School Strategy forms the strategy for assessing schools and colleges in Kent. The strategy identifies school travel and transport trends in addition to travel issues affecting young people. Included within the strategy is School Travel Plan (STP) suggested measures.

SCHOOL TRAVEL PLANS – INFORMATION PACK

2.1.3 This information pack includes details on how to create a School travel Plan which will be approved by Kent County Council, the document includes a School Travel Plan checklist, a School Travel Plan Toolkit and frequently asked questions.

2.1.4 This STP framework document has been prepared in accordance with this guidance.

2.2 A SAFER JOURNEY TO SCHOOL: A GUIDE TO SCHOOL TRAVEL PLANS

2.2.1 The Safer Journey To School is the recommended guidance by the Department for Education, and is available free of charge from Prolog.

2.2.2 Links to the policy and best practice information approved by DfT in regards to School Travel Plans is now located on the Department for Education website.

2.2.3 The Safer Journey to School guide suggests that a good School Travel Plan should include the following:

- A brief description of the location, size and type of school;
- A brief description of the transport/travel problems faced by the school/cluster of schools, and should include all the pupils travel needs:
  - Journeys to and from School at normal start/finish times;
  - Journeys to attend pre and after school events; and
  - Journeys made during the school day to attend activities at other locations.
- The results of a survey to identify:
  - How children currently travel to/from school; and
  - How they would like to travel to/from school.
- Clearly defined the aims of the Travel Plan, set out targets and objectives;
- Details of proposed measures;
- A detailed timetable for implementation;

- Local partners who can help the school take the plan forward with clearly defined responsibilities;
- Evidence that all interested parties have been consulted; and
- The funding plans – what the costs are and possible sources of funds
- Proposals for monitoring and review.

2.2.4 During the creation of the Travel Plans for the three new schools, the site-wide TPC will discuss these areas with each school for inclusion within each school's plan.

3 Framework Aim And Objectives

3.1 SITE-WIDE AIM

3.1.1 The aim for the site as a whole; is to reduce single occupancy car travel and to increase travel by sustainable modes.

3.2 OVERARCHING AIM

3.2.1 The overarching aim for the Chilmington Green School Travel Plan Framework is:

"To support each school at the Chilmington Green development in providing a safe environment in which to travel to school by reducing single occupancy car travel and promoting and encouraging the use of alternative transport options amongst staff, parents, pupils and visitors"

3.2.2 The overarching aim will be achieved by supporting each school in developing its own School Travel Plan, to include a package of measures that focus on promoting access to that school by sustainable modes of transport as an alternative to the private car. .

3.3 OVERARCHING OBJECTIVES

3.3.1 The supporting objectives below, while overarching, are still relevant to the three schools which are part of the development. The objectives can be adopted or adapted as desired to suit the individual circumstances of each school:

1 To reduce the numbers of cars travelling to, and parking at, schools;

2 To introduce a range of measures that will encourage greater use of public transport;

3 To maintain and improve access for specific user groups such as pupils and staff with mobility impairments;

4 To improve health and fitness by promoting walking and cycling to school in a safe environment;

5 To work with Kent County Council, the police and local residents to build and maintain a network of information sharing; and

6 To review and monitor the progress of individual School Travel Plans to ensure that these objectives are being met.

4 Existing Site Conditions and Travel Opportunities

4.1 INTRODUCTION

4.1.1 This section reviews the existing conditions with regards to schools serving the proposed development, and the quality of access by healthy and sustainable travel modes. This will enable the identification of a range of sustainable travel opportunities that are and will be available through existing and proposed facilities not related to this Framework.

4.1.2 Measures proposed further within this Framework will therefore be identified not only due to their appropriateness to these individual components, but also in support of the existing facilities.

4.1.3 Ashford is connected to other major towns and cities via the motorway and trunk-road network beyond which a network of local primary 'A' and 'B' class roads accommodate the bulk of local traffic.

4.1.4 A network of 'C' and 'unclassified' rural roads dissect the site as shown in **Figure TP 4.1**. These roads provide access to farms, hamlets and individual dwellings together with access from the rural villages into Ashford.

4.1.5 Key highway links potentially serving the development area are described further in section 3.2 of the Transport Assessment.

4.2 WILLINGNESS TO WALK

4.2.1 Guidance given by the Institute of Highways and Transportation (IHT) in their publication 'Guidelines for Providing for Journeys on Foot, 2000' suggests that in terms of commuting, walking to school and recreational journeys, walk distances of up to 2,000 metres can be considered, with the desirable and acceptable distances being 500 metres and 1,000 metres respectively.

4.2.2 For non-commuter journeys, the guidance suggests that walk distances of up to 1,200 metres can be considered, with the desirable and acceptable distances being 400 metres and 800 metres respectively.

4.2.3 Assuming a 'typical' walking speed of 400m in 5 minutes, Table 4.1 summarises the broad walk journey times that can be 'considered'; are 'acceptable'; and those that are 'desirable':

Table 4.1: Walk Journey Times

IHT 'Standard'	Distance		Walk Time	
	Commuting, Walking to School and Recreational	Other 'non-commuter' Journeys	Commuting, Walking to School and Recreational	Other 'non-commuter' Journeys
'Desirable'	500m	400m	6¼ mins	5 mins
'Acceptable'	1,000m	800m	12½ mins	10 mins
'Considered'	2,000m	1,200m	25 mins	15 mins

Source: IHT 'Guidelines for Providing for Journeys on Foot, 2000'

4.2.4 It is important to remember that people's willingness to walk also includes a number of factors associated with the footway forming part of the highway and the environment within which it passes. In different environments the following factors will positively increase a willingness to walk:

- Provision of shelter during inclement weather;
- Active streets with good surveillance during hours of darkness;
- Increased separation from fast or heavy traffic;
- Increased footway width in places with high pedestrian activity; and
- High quality streets which provide strong design features that assist navigation in unfamiliar environments.

4.2.5 A person's willingness to walk can also be influenced by changes in level, as walking up or in some cases down long or steep gradients or steps exerts more effort. Generally, gradient of less than 1:20 have a negligible impact on people's willingness to walk.

4.3 PUBLIC RIGHTS OF WAY

4.3.1 The development area is located on the outskirts on Ashford. Being rural, there are few formal pedestrian facilities although the Public Rights of Way (PROW) provides a network of routes for pedestrian, cycle and equestrian movements. Several PROWs connect to the southern residential areas of Ashford, providing direct access to the proposed development area and can be seen on **Figure TP 4.2** which displays the pedestrian and cycle facilities subsequently discussed in this TA.

4.3.2 National Cycle Route 18 (Canterbury to Royal Tunbridge Wells and onward to link with route 21) runs through the site. Its route is broadly north to south. There are numerous traffic free cycle routes and other on-road recommended cycle routes throughout Ashford.

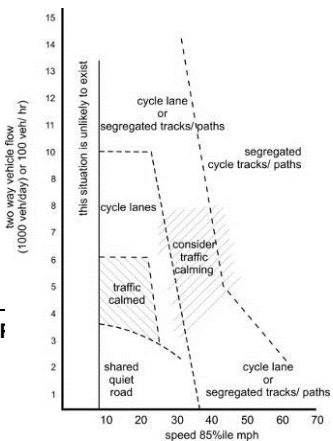
4.4 CYCLE NETWORK

4.4.1 There are a number of designated walking and cycling routes in the vicinity of the development site as shown on **Figure TP 4.2**, many of which have been constructed in recent years and represent a marked improvement in infrastructure.

4.4.2 It is generally accepted that cycling has the potential to substitute for short car trips of 5km or less. It can also form part of a longer multi-modal journey involving public transport. The willingness to cycle reduces as distances increase where a series of factors affect mode choice. Assuming a typical cycling distance of 1,200m every five minutes the accessibility of facilities 5km from the site can be considered to be a 20 minute cycle ride.

WILLINGNESS TO CYCLE

4.4.3 Many people will cycle considerable distances depending on, inter alia, weather, time of day, level of fitness and real or perceived safety/convenience. National Travel Survey research indicates that the average cycle trip in the UK increased by approximately 27% between 2002 and 2010 to 2.8 miles. This figure is slightly below the



distance between the centre of the site and Ashford town centre via National Cycle Route 18, this being 3 miles.

4.4.4 The most common response for unwillingness to cycle reflects varying levels of road safety concerns. For example, most parents are anxious of road safety risks thus young cyclists are less confident cycling on carriageway. This position is normally influential in the nature of constructed cycle infrastructure, unless the vast majority of cyclists on a route are more mature. The IHT's *'Guidelines for Cycle Audit and Cycle Review'* present potential cycle infrastructure options based on the relationship between vehicle speed and flow. It is considerations such as these which will be incorporated into the design of cycle facilities at Chilmington Green.

4.4.5 Like car ownership, the capital cost of owning a vehicle contributes to use. Around 80% of children and nearly half of all adults own a bicycle and therefore adequate space for cycle parking is influential in design of new homes. Facilities at destinations are also significant factors in willingness to cycle, notably shower, changing facilities, lockers and safe secure parking.

4.4.6 Cycle parking both at home and at travel destinations is a key part to complementing the willingness to cycle. Table 4.2 shows that the nature of a journey purpose will influence willingness to park further from the end destination, although other factors such as security will influence choice.

Table 4.2: Cycle Parking – Distance and Location

Cycle Parking		Cycle Parking – location preference	
Journey Purpose	**Median Distance (m)**	**Influencing factor**	**%**
Commuting	40	Close to destination	86%
Business	50	Security	16%
Education	38	Only place available	9%
Shopping	125	Space available	7%
Leisure	20	Location conspicuous/busy	6%

Source: TRL 276: 'Cycle Parking and Demand'

4.4.7 Factors such as those highlighted in Table 4.2 have been considered in the location of cycle parking at Chilmington Green. The amount of parking, and its accessibility and security are recognised as important contributors to the amount of cycle trips which will be made by people at the development in future.

LOCAL CYCLE INFRASTRUCTURE

4.4.8 National Cycle Route 18 runs south west from Canterbury, via Ashford and Tenterden, to join up with Route 21 just west of Tunbridge Wells. The existing route runs through the development site to the east of Chilmington Green hamlet. Beyond Singleton, to the north of the site, the cycle route becomes traffic free, providing a direct connection to Ashford International station and Ashford town centre, including the Stour Centre for leisure facilities. This route can be seen on **Figure TP 4.2**.

4.4.9 Greensand Way Leisure route also provides access through the development. This route links Kingsnorth to the south and Great Chart to the north of the A28. While this link does not provide access into Ashford directly, use of this route alongside National Cycle Route 18 would enable access to destinations surrounding the site.

4.4.10 While the above two routes provide the important linkages between Ashford and the local areas and the new development, there are a number of minor routes that pass through the site. There are routes that provide access from the National Cycle Route through the ancient woodland to the southern section of Stanhope from which access into the town via residential streets can be made.

4.4.11 Ashford has a comprehensive network of cycle routes including many miles of traffic free cycle paths, which when combined with the signalised crossing facilities present in many strategic locations in the town, ensure that many journeys can be made by cycle without the need for direct interaction with vehicular traffic.

4.5 BUS NETWORK

4.5.1 Bus services in the southern part of Ashford are provided through a combination of:

- Regular services along the main arteries from the south and south west of Ashford from nearby local towns; and
- More frequent local shuttles from existing residential areas north of the proposed development area to the town centre.

4.5.2 The existing bus services that operate in close proximity to the Chilmington Green development site are shown on **Figure TP 4.3** and are detailed within Table 4.3.

Table 4.3: Current Bus Services near the Chilmington Green Site

Service Number	Location of nearest stop to Chilmington Green	Route	Frequency (number)	
			Weekdays	
			AM Peak	PM Peak
13	Ploughman's Way	Ashford - Stanhope - Ashford (circular)	0	1
A	Langney Drive	Singleton - Arlington - Ashford Town Centre (inc. International Station) – Stanhope	6	3
400	New Street Farm	Rolvenden - Tenterden - High Halden - Bethersden - Ashford	1	1
295/297	Stubbs Cross Post Office	Tenterden – Woodchurch – Shadoxhurst – Kingsnorth – Ashford Town Centre	0	0
11/11A/11B	Smithfields Crossroads	Lydd – New Romney – Ashford – Willesborough	2	0
B1/B2	Forestall Meadow	Ashford – (Kingsnorth Road B1 / Romney Marsh Road B2) – Park Farm	2	3

Source: Operator Timetables

4.5.3 The operators of these services are as shown in Table 4.4.

Table 4.4: Bus Service Operators in the Vicinity of Chilmington Green

Service Number	Operator
13	Kent Coach Tours
A	Stagecoach in East Kent
400	Stagecoach in East Kent
295/297	Nu-Venture and Arriva Kent & Sussex
11/11A/11B	Stagecoach in East Kent
B1/B2	Stagecoach in East Kent

4.5.4 The closest bus route to the site, service 400 operates along the A28 to the west of Chilmington Green. This route, as shown on **Figure TP 4.3**, begins near Somerset Road in Ashford town centre and then proceeds south along Station Road to Ashford International Station. The route then heads further south via Romney Marsh Road calling at the Asda store near the Ashford Designer Outlet centre.

4.5.5 From here, the route heads immediately west into the Norman Road / Beaver Lane / Brookfield Road corridor. This corridor is followed until it reaches the Matalan roundabout. At this point the route goes south-west on to Chart Road and through the village of Great Chart.

4.5.6 After passing through Great Chart, the 400 service route continues south-west along Ashford Road and then joins the A28. With the exception of a small deviation in Bethersden, the A28 forms the basis of the remainder of the southbound route. After Bethersden, the service continues through High Halden, Tenterden and terminates in Rolvenden.

4.5.7 Currently, the journey time on the 400 service from the closest stop to the site is 16 minutes to Ashford International station and 21 minutes to the town centre.

4.5.8 Collectively, Service 13 and Service A provide up to six services per hour during the day, Monday to Friday between the residential areas of Singleton and Stanhope, to the north of the site, and Ashford town centre. Of these two services, only Service A provides a direct connection with Ashford International Station.

4.5.9 Service B1/B2 provides a frequent service between Park Farm and the town centre while also providing access to the rail station. Service 400 operates along the A28 to the west of the development site. This is a less frequent service that operates hourly between Rolvenden and Ashford town centre, including Ashford International Station.

4.6 RAIL NETWORK

RAILWAY STATIONS & SERVICES

4.6.1 Ashford International Station is approximately 4km north of the site and offers a range of frequent rail services to local and strategic destinations, including Europe via Eurostar services.

4.6.2 The station is staffed 24 hours per day, seven days per week. In addition to sheltered cycle storage, the station has parking provision for 619 cars. These parking spaces include allowance for disabled users. Ashford International provides full wheelchair access in addition to ticket machine which are wheelchair accessible.

4.6.3 The range of services available from Ashford International provides onward travel for employment and leisure purposes. Table 4.5 sets out a summary of the destinations that are served.

Table 4.5: Rail Services from Ashford International

Destination	Approx Journey Time (minutes)
Tonbridge	36m
Maidstone East	23m
London Waterloo East (via Tonbridge)	75m
London Victoria (via Maidstone East)	61m
London Kings Cross / St. Pancras	35m
Hastings	41m
Folkestone Central	18m
Dover Priory	28m
Canterbury West	16m
Ramsgate	35m

Source: National Rail Enquiries

4.6.4 Ashford International is served direct by three main London stations. These are Waterloo East, Victoria and Kings Cross / St. Pancras. The journey times to these stations are 75 minutes, 61 minutes and 35 minutes respectively.

4.6.5 The centre of the Chilmington Green site is approximately 5.5 km from the international rail station via road. National Cycle route 18 runs through the site and provides a route to Ashford International Station. Currently Bus Service A provides access to Ashford International Station and routes within close proximity of the proposed site.

4.6.6 The Network Rail *London and South East Route Utilisation Strategy* (2011) identifies that with only committed rail improvement schemes included, by 2031 the High Speed 1 route could be up to 500 seats short of demand in the morning peak hour. Recommendations for avoiding this situation include additional rolling stock and an increase in platform capacity at Ashford International.

4.6.7 Table 4.6 highlights that passenger numbers at Ashford International Railway Station have grown by 20.5% in the last five years, although demand has remained stable in recent years due to economic conditions.

Table 4.6: Annual Passenger Numbers at Ashford International

Year	Passenger Numbers (entry / exit, millions)
2004/05	2.29
2005/06	2.41
2006/07	2.61
2007/08	2.82
2008/09	2.76
2009/10	2.76
Growth (2004/05 – 2009/10)	**20.5%**

Source: Office of Rail Regulator – www.rail-reg.gov.uk

RAIL PASSENGER TRENDS

4.6.8 The Channel Tunnel Rail Link (CTRL) had a dramatic impact on passenger numbers in the area, but local demand has been more steady.

4.6.9 Current forecasts[1] suggest rail passenger growth will continue around 2% per annum to 2016, thereafter falling to around 0.8% per annum. The Route Plans for the Kent area highlight that much of this growth is expected to occur due to station improvements in London, enhancing the potential for 10-12 car trains on the regional corridors.

4.7 CAR SHARING

4.7.1 Car sharing can reduce congestion and halve the fuel and running costs to the car traveller. KCC's 'New Ways 2 Work' guidance states that successful travel plans in Kent have largely centred on car sharing as their key initiative as employees who car share retain most of the flexibilities associated with the car.

4.7.2 KCC, in association with Liftshare, has developed 'kentjourneyshare.com'. This is a free internet based car sharing service available to everyone in Kent, which provides a large pool of potential trip matches to help reduce single occupancy car trips.

4.8 EXISTING ACCESSIBILITY TO EDUCATION, EMPLOYMENT, RETAIL AND LEISURE FACILITIES

4.8.1 The mixed use nature of the proposed development will provide many of the facilities which the residents of Chilmington Green will require on a daily basis. This convenience and locality of facilities will ensure that many journeys can be made via sustainable modes and thus remain within the development boundary.

4.8.2 This section will review the current accessibility of the site to facilities in Ashford and beyond via sustainable modes, and when read in conjunction with Section 5 offers a comparison of the 'before' and 'after' impact of the Chilmington Green site.

[1] Southern Regional Planning Assessment for the Railway, DfT, 2007

4.8.3 It is generally understood that walking and cycling are of high importance at the local trip level, offering the greatest potential to replace short car trips where they are under 2 kilometres for walking and 5 kilometres for cycling. Section 4 of the NPPF, emphasises the need for land use and transport planning to be integrated in a manner which promotes sustainable development with good access to local facilities.

4.9 METHODOLOGY

4.9.1 In order to provide the most accurate assessment of current pedestrian accessibility, a GIS based methodology has been utilised. To facilitate comparison with the proposed development, three centroids have been taken, which are the locations of the future district centre and the two local centres.

4.9.2 Close to the northern boundary of the site, there is a perceivable gradient change. This has been incorporated into the assessment, constraining the distance which can be travelled on foot or by cycle from Chilmington Green in any period.

4.10 PEDESTRIAN ACCESSIBILITY

4.10.1 As shown on **Figure TP 4.4**, there is currently limited accessibility to existing facilities in Ashford from the site. Some of the facilities located in the south of Ashford, a short distance from the northern border of the development, are reachable within 30 minutes.

4.10.2 A small pocket of facilities is accessible in less than 25 minutes, located in Singleton. These include schools, convenience retail, a GP and a pharmacy. Other than these, the only other facilities within reasonable walking distance are a nursery on the northern fringe of Shadoxhurst and Ashford Friars Prep School, located in Great Chart. Both of these facilities can be reached in less than 20 minutes. The Post Office in Stubbs Cross can be reached in less than 20 minutes' walk.

4.10.3 It can therefore be surmised that a journey on foot is generally not currently a means of accessing anything more than the most basic facilities. The current road network is not conducive to making certain of these journeys though. For instance it is not realistically conceivable that a parent with a small child would walk along Chilmington Green Road in order to reach the nursery in Shadoxhurst.

4.10.4 The Chilmington Green site contains a number of public rights of way (as noted in Section 4.4); these have been incorporated into the assessment of existing conditions. A number of these will form primary routes for non-motorised users at the proposed development.

4.10.5 The current levels of pedestrian activity suggest that walking for leisure would be a more common use of existing pedestrian routes, rather than as a means of accessing facilities.

4.11 CYCLE ACCESSIBILITY

4.11.1 As is to be expected, accessibility to Ashford and the wider area via cycle is significantly expanded in comparison to being on foot. This is displayed on **Figure TP 4.5**. Ashford town centre is accessible in less than 20 minutes, with all except the northernmost and easternmost areas of the town falling within the 30 minute accessibility window.

4.11.2 The travel time by cycle to the pocket of facilities in Singleton referred to in the pedestrian assessment is under 10 minutes. The range of leisure and retail facilities

accessible by cycle covers most of those in Ashford, although certain types of journey purpose will not necessarily be conducive to cycling, such as making large purchases.

4.11.3 Travelling to work by cycle is also a realistic option for workers whose place of employment is outside of Ashford Town centre. The cycling time from the site to local employment centres is shown in Table 4.7.

Table 4.7: Accessibility to Employment by Cycle

Employment Location	Travel Time by Cycle (minutes)
Ashford town centre	16 – 20
Cobbs Wood Industrial Estate	11 – 15
Brookfield Industrial Estate	11 – 15
Kingsnorth Industrial Estate	16 – 20
Eastmead Trading Estate	16 – 20
Kingfisher Business Park	21 – 25
Grove Business Park	21 – 25
Henwood Industrial Estate	21 – 25

Source: Consultant prepared GIS assessment

4.11.4 In terms of cycling comprising a stage in a multi-modal journey, Ashford International station can be reached from the site in less than 20 minutes. To the south east, Ham Street station is within 30 minutes cycle. Both of these stations offer cycle storage.

4.12 PUBLIC TRANSPORT ACCESSIBILITY

4.12.1 The GIS based software ACCESSION has been used in order to determine the accessibility of destinations from the site using currently timetabled public transport services. This assessment indicates that the site has some degree of accessibility to other parts of Ashford and nearby settlements in Kent. This is illustrated in **Figure TP 4.6**.

4.12.2 It is discernible when comparing the cycle accessibility in **Figure TP 4.5** that there are some areas of Ashford which are faster to reach by cycle than they are using the current Public Transport services. This is likely to be due to the fact that a cyclist can take a direct route to these destinations. If using a bus service, it is possible a change of service may have to be taken, most likely in the town centre, in order to make an onward journey to the same destination.

4.12.3 In many cases, where a rail travel element is a component in a journey, a significant amount of onward travel from the rail destination is not possible within the cumulative one hour period used for assessment. Table 4.8 presents some of the destinations accessible from the site in a one hour window via public transport.

Table 4.8: Accessibility from Site to Destinations via Public Transport

Destination	Travel Time by Public Transport (minutes)
Ashford International Station	21 – 30
Ashford town centre	31 – 40
Tenterden	31 – 40
Wye	41 – 50
Canterbury	51 – 60
Folkestone	51 – 60
Headcorn	51 – 60

Source: Consultant prepared ACCESSION assessment

4.13 SUMMARY

4.13.1 The current access to facilities from Chilmington Green via sustainable modes ranges from poor to acceptable. This is primarily because the area currently has minimal development and therefore does not create a substantial demand for facilities. Therefore the facilities that will be used by existing residents have been established in order to serve other communities such as those in Singleton and Stanhope to the south of Ashford.

4.13.2 Ashford currently has a very well developed provision of pedestrian and cycle routes, and the proposed development will integrate seamlessly with these, ensuring that the new community is able to access existing facilities with ease.

4.13.3 The proposed development will provide a wide range of facilities for retail, education, employment and medical requirements. In the majority of cases, accessing a facility within Chilmington Green will be the most attractive option for residents.

5 Development Proposals

5.1 DEVELOPMENT PROPOSAL

5.1.1 The proposals at Chilmington Green are for a mixed use development. Residential properties will comprise the focus of the development, however there will be significant supporting infrastructure which will sustain Chilmington Green itself and also complement Ashford's position as a regional growth point.

5.1.2 The outline application is for a comprehensive Mixed Use Development comprising:

- Up to 5,750 residential units, in a mix of sizes, types and tenures;
- Up to 10,000m² gross floorspace of Class B1 use;
- Up to 9,000m² gross floorspace of Class A1 to A5 uses:
- Education (including a secondary school of up to 8ha, and up to four primary schools of up to 2.1ha each);
- Community uses (class D1) up to 5,000m² gross floorspace;
- Leisure uses (class D2) up to 5,000m² gross floorspace;
- Provision of local recycling facilities;
- Provision of areas of formal and informal open space;
- Installation of appropriate utilities infrastructure as requires to serve the development, including flood attenuation works, SUDS, water supply and wastewater infrastructure, gas supply, electricity supply (including substations), telecommunications infrastructure and renewable energy infrastructure;
- Transport infrastructure, including provision of three accesses on to the A28, an access on to Coulter Road, other connection on to the local road network, a Park and Ride with a maximum of 600 parking spaces and a network of internal roads, footpaths and cycle routes;
- New planting and landscaping, both within the Proposed Development and on its boundaries, and ecological enhancement works; and
- Associated groundworks.

5.1.3 Appearance, landscaping, layout and scale are reserved for future approval. Access is also reserved for future approval with the exception of the three accesses on to the A28 and the access on to Coulter Road.

5.2 PUBLIC TRANSPORT IMPROVEMENTS

5.2.1 A new high frequency bus service will be introduced at the proposed development and will be available from the first phase, with its coverage expanding as Chilmington Green is built out.

5.2.2 Following an internal loop of Chilmington Green, the service will head on to the A28, then Tithe Barn Lane, Knoll Lane, Brookfield Road and Leacon Road before using Victoria Way to reach the town centre. Ashford International station will also form one of the destinations for the service. The anticipated travel time from Chilmington Green's district centre to Ashford International is approximately 15 minutes. The service will allow for children travelling to school to do so by bus as most residents will be within 400m of a bus stop.

5.3 Further details of Chilmington Green's public transport offering are contained in Section 11 of the Transport Assessment.

5.4 SUSTAINABLE TRANSPORT MEASURES

5.4.1 A number of development proposals, including design features, will aid sustainable travel to and from the site. These are outlined below:

- Permeable pedestrian and cycle network;
- Green Lanes with limited vehicle movements, encouraging use by pedestrians, cyclists and equestrians;
- Master Plan design integrating facilities within communities, reducing travel distance;
- Car parking in accordance with local policy;
- Convenient cycle parking; and
- Speed limits throughout the development of 30mph or less, to be detailed in reserved matters.

5.5 CAR AND CYCLE PARKING

5.5.1 Car and cycle parking at Chilmington Green will be provided in line with the standards detailed in Section 2.4 of the Transport Assessment. This parking will be 'designed in' to the scheme and located close to dwellings and distributed efficiently over the site to cater for residential visitors.

5.5.2 Many of the new dwellings will be served with on-plot parking generally located to the side, rear or front of the dwelling. Parking spaces and garages will be sited so that there is sufficient room for users to enter and exit the vehicle. The distance from the car parking space to the home will be kept to a minimum and will be level or gently sloping where practically possible. Disabled parking and cycling parking numbers will be provided in accordance with the appropriate standards at the time of reserved matters submission. Where appropriate, on-street parking will be provisioned, forming traffic calming and creating spaces away from built form for street trees and other landscaping. By designing the on-street parking locations from the outset, the impact of car parking on the street scene is minimised.

5.5.3 Courtyard parking within the development blocks will be evident, but where this approach will be utilised, parking courts will serve a limited number of dwellings, include landscaping and create private, well defined areas with good surveillance from dwellings, giving the court its own sense of place. Pedestrian connections from the fronts of houses to rear courts should be regular and direct.

5.5.4 Further detail regarding parking at Chilmington Green is included in the Parking Review note at **Appendix B** of the Transport Assessment.

5.6 PEDESTRIAN AND CYCLE ROUTES

5.6.1 Ashford is well served by pedestrian and cycle routes and infrastructure, and this provision is complemented by the Chilmington Green Master Plan. Existing Public Rights of Way within the site would be complemented by new routes and infrastructure, giving traffic free movement for cyclists to many areas of Chilmington Green.

5.6.2 National Cycle Route 18 will continue to form a key route for non-motorised users, whether to gain access to Chilmington Green or for leisure purposes, and Greensand Way will also form a key corridor for pedestrian and cycle movement.

5.6.3 As a result of the construction of roads to support vehicle movement around Chilmington Green, several existing roads will become 'Green Lanes', rural routes which retain their existing character. These routes will have minimal vehicular traffic and will present a pleasant environment for non-motorised users for trips of all purposes.

5.6.4 These 'Green Lanes' will primarily consist of:

- Chilmington Green Road;
- Chilmington Green Lane; and
- Bartlets Lane.

5.6.5 Chilmington Green's proposed primary pedestrian and cycle routes are shown on **Figure TP 5.1**.

5.7 ORCHARD WAY

5.7.1 Orchard Way will be the main vehicular link through Chilmington Green, handling traffic heading to and from the A28 in addition to local traffic circulating in the proposed development. Orchard Way will have a 6.0m carriageway width, with footway and cycleway providing ease of access around Chilmington Green for non-motorised users.

5.7.2 The southern section of Orchard Way will form part of the bus route for the proposed high frequency bus service.

5.8 PHASING

5.8.1 Construction of Chilmington Green will take place in four phases, with each phase consisting of dwellings, plus non-residential land uses which directly support either that phase or Chilmington Green as a whole. These include facilities such as the education facilities, which will be required at regular intervals, and retail facilities.

5.8.2 A detailed breakdown of the anticipated phasing of Chilmington Green is presented in the phasing report which accompanies the outline planning application.

5.8.3 In order to demonstrate the effectiveness of the sustainable infrastructure which will accompany the proposed development, the GIS assessments undertaken in Section 4 have been repeated.

5.8.4 The same methodology has again been employed, with the district centre and two local centres acting as centroids for the assessment. The effect of gradient to the north of the site has been applied to the pedestrian and cycle accessibility assessments again.

5.9 PEDESTRIAN ACCESSIBILITY

5.9.1 The primary pedestrian routes introduced by the proposed development have been included in the GIS assessment, which shows the effect of these links on pedestrian accessibility inside and outside of the development. **Figure TP 5.2** shows the pedestrian accessibility at full build-out of Chilmington Green.

5.9.2 A comparison between the future pedestrian accessibility and the existing accessibility shown in **Figure TP 4.4** shows that there is an increase in the distance

which can be travelled on foot within a 30 minute period, but it does not offer significantly improve access to any existing facilities.

5.9.3 What **Figure TP 5.2** does show is the excellent accessibility within the site to facilities. In addition to displaying the locations of the district and local centres as centroids, the education facilities have been shown, as has the supermarket located at the district centre.

5.9.4 From any point within the development, the walking time to one of the centres is less than 15 minutes, and in the majority of the residential areas it is under 10 minutes. The locations of the centres around the development ensure that this travel time is kept low. The employment, convenience retail and commercial facilities at each of the centres will be within easy reach on foot of all residents, visitors and employees.

5.9.5 A comparison with the development density in **Figure TP 4.7** shows that the district and local centres are surrounded by high density development, with the density gradually decreasing at further distances. This means that a greater number of people are located within a shorter walking distance to the centres than are located further away.

5.9.6 Three of Chilmington Green's primary schools are within five minutes' walk of one of the centres, with the fourth primary school and the secondary school situated less than 10 minutes' walk from a centre. Resultantly, it can be said that all residential development will be within 15 minutes' walk of a primary school and a good proportion within 5 minutes' walk. Chilmington Green's secondary school will be within the 2km guideline for walking offered by the Chartered Institution of Highways and Transportation in the publication "Guidelines for Providing for Journeys on Foot", 2000.

5.10 CYCLE ACCESSIBILITY

5.10.1 The proposed cycle infrastructure at Chilmington Green offers some degree of improvement in accessing the wider Ashford area as a result of the provision of the proposed development's internal cycle routes. **Figure TP 5.3** shows the level of cycle accessibility from Chilmington Green's district and local centres.

5.10.2 In particular, a greater proportion of Ashford north of the M20 and areas in the far east of the town become accessible in less than 30 minutes cycle time. Access time to Ashford town centre remains under 20 minutes by cycle.

5.10.3 Based on the results of this assessment, Chilmington Green can be deemed as a 'cycle neighbourhood'. The proposed infrastructure provides an environment where any of the three centres within the proposed development can be reached conveniently by cycle. The majority of the development is able to reach either the district centre or one of the local centres in under 5 minutes, with only those at the very fringes of the site needing up to 10 minutes to get to a centre.

5.10.4 With Chilmington Green's schools located in close proximity to the centres, these will all be accessible in a short time by cycle too, with the secondary school within an excellent distance by cycle.

5.11 PUBLIC TRANSPORT ACCESSIBILITY

5.11.1 As with the assessment of existing conditions, the public transport assessment for the future scenario has been carried out using ACCESSION. This incorporates the proposed high frequency bus service from Chilmington Green. The assumptions associated with the service (detailed in Section 11 of the Transport Assessment) are:

- 10 minute frequency;
- Real-time smart bus stops located as shown in **Figure TP 5.4**; and
- A journey time of approximately 15 minutes to Ashford International Station from the district centre.

5.11.2 The assessment includes the time taken to walk from the centroid (in this case either the district or local centre) to the nearest bus stop, there is also an assumed wait time. Where there is a change of mode from bus to rail, another small delay is introduced replicating the wait for a train for example. Where there are no further onward connections, the distance that can be reached in a 60 minute period is shown. The future public transport accessibility from Chilmington Green is shown in **Figure TP 5.5**. A wider view of public transport accessibility from Chilmington Green to the rest of Kent can be seen on **Figure TP 5.6**.

5.11.3 In comparison to the existing accessibility by public transport as displayed on **Figure TP 4.6**, there is a noticeable difference in the destinations which can be reached, and the time in which they can be accessed.

5.11.4 Table 12.1 shows a list of local destinations and offers a comparison in the time calculated to reach them from Chilmington Green currently, and with the proposed bus service.

Table 5.1: Accessibility from Chilmington Green to Destinations via Public Transport

Destination	Travel Time by Public Transport (minutes)	
	Current	With Proposed High Frequency Bus Service
Ashford International Station	21 – 30	11 – 20
Ashford town centre	31 – 40	11 – 20
Tenterden	31 – 40	31 – 40
Wye	41 – 50	21 – 30
Canterbury	51 – 60	41 – 50
Folkestone	51 – 60	31 – 40
Headcorn	51 – 60	31 – 40
Maidstone	60+	41 – 50
Rye	60+	41 – 50
Dover	60+	51 – 60
Ebbsfleet International Station	60+	51 – 60

Source: Consultant prepared ACCESSION assessment

5.11.5 As Table 5.1 shows, Chilmington Green's proposed bus service facilitates access to a wide area, giving excellent links to Ashford International station and to the town centre.

5.11.6 Destinations that cannot currently be reached in less than an hour by public transport are shown by the assessment as being reachable in that time in the future year assessment. For example from commencing a journey at one of the centres at Chilmington Green the assessment anticipates it will be possible to get to central Maidstone in under 50 minutes and to Ebbsfleet International Station in under 60 minutes.

5.11.7 The future level of accessibility increases the potential for residents to commute from Chilmington Green to other destinations in Kent. And with London St Pancras station a further 18 minutes journey from Ebbsfleet International, central London is feasibly accessible from Chilmington Green in a little over one hour.

5.11.8 The reverse journey can also be made conveniently, with commuters able to access the proposed development using public transport to reach Chilmington Green.

5.11.9 It should be noted that ACCESSION assumes a certain time to reach a public transport stop and for the service to arrive. This can result in journeys involving public transport services with a low frequency providing better results than they may do in reality.

5.12 SUMMARY

5.12.1 This section has demonstrated that the proposals at Chilmington Green afford future residents, employees and visitors the opportunity to access all the facilities that Chilmington Green has to offer using sustainable modes. Travel to and from the development and to places outside of Ashford is significantly enhanced by the proposed high frequency bus service.

6 Typical Measures and Implementation

6.1 INTRODUCTION

6.1.1 Identifying an appropriate package of measures is essential to support the overarching aim and objectives of the Chilmington Green STP. Therefore, the measures suggested within this chapter are to be used by the site-wide TPC as a tool for discussion with the individual schools. In these discussions, the relevance and potential effectiveness of each measure will be considered by each school and the inclusion of a measure will be based on this deliberation.

6.1.2 The site-wide TPC will be informed by the site-management company of the progress of each of the school coming online and when a Head teacher has been appointed. At this point, the TPC will approach the head to discuss the requirements of the STP.

6.1.3 Each Primary school is planned to come forward in each of the four phases of development, therefore it is essential that the sustainable nature of the schools, including the active travel routes that are available to each, are promoted to residents of Chilmington Green and wider local area from the earliest possible opportunity. This will ensure that every opportunity is taken to encourage sustainable travel to schools. The site-wide TPC will be responsible for implementing the following measures prior to occupation of the schools:

- Provide information about the new schools in the residents' sustainable travel information packs;
- Ensure that walking maps included within the sustainable travel information packs highlights the active routes to the schools, including existing schools in the wider local community;
- Promotion of active travel routes by sales staff during the sales process;
- Promote the active travel routes to the schools through the PTP process; and
- Ensure that the sustainable travel website includes information relating to each of the schools, specifically relating to access on foot, by bicycle and by public transport.

6.1.4 Tables 5.1 – 5.7 below outline a potential range of measures, the objectives from Section 3.3 that they will work towards and an implementation timescale. Further detail on each of the suggested measures follows after the table.

6.1.5 Manual for Streets (MfS) recommends that the design of a scheme should follow the user hierarchy, shown in **Figure 6.1** below. As such, the potential range of measures identified below have been presented with measures for pedestrians at the top.

Figure 6.1 MfS User Hierarchy

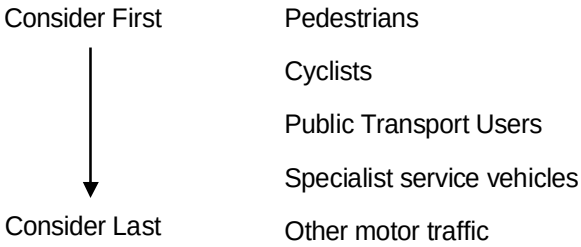


Table 6.1 School Travel Plan Framework Measures

Measure	Supports Objective	Implementation Timescale	Responsibility
Identify a School Travel Plan Coordinator (individual to each school and supported fully by the site wide TPC)	■ 5 ■ 6	Prior to occupation	Individual Schools

- **School Travel Plan Coordinator**

6.1.6 A School Travel Plan Coordinator (TPC) for each school must be appointed by each school Head Teacher prior to the school opening. Further details of the TPCs role are covered in Section 7.2. This role will be fully supported by the site-wide TPC.

6.1.7 This has been considered prior to pedestrians since the TPC is required to coordinate the management and implementation of measures.

Table 6.2 STP Walking Measures

Measure	Supports Objective	Implementation Timescale	Responsibility
Establish a walking bus	■ 1 ■ 4	Ongoing following occupation	Individual schools with support from the site-wide TPC
Walking incentive schemes		Ongoing following occupation	
Pedestrian training		Ongoing following occupation	
School crossing patrol		Ongoing following occupation	
Provision of walking information, including maps		On occupation	
Provision of high visibility tabards		Ongoing following occupation	
Taking part in promotional activities – Walk to School Week		Ongoing following occupation	

- **Walking Bus**

6.1.8 Walking buses are increasingly being used as a safe and healthy way for children to get to school. A walking bus follows the same route to school each day, picking children up on the way. Specially trained parents or assistants stand at the front and back of the 'bus' to ensure the safety of all children, with both adults and children wearing reflective tabards to ensure high visibility.

6.1.9 Walking Buses are highlighted within Kent's County Council's Sustainable Modes of Transport Strategy as a good success within Kent and Medway due to the unique partnership with KM walk to School Team. The charity works with the school and volunteers to arrange for publicity and a launch of the walking bus. KCC are responsible for risk assessments of the route and providing basic road safety advice to volunteers. The risk assessment and monitoring process is ongoing by KCC to ensure that the schemes operate correctly. KCC, as the Education Authority are responsible for ensuring the adequate public liability insurance and that personal (CRB) checks are undertaken for all volunteers.

6.1.10 Walking bus schemes rely heavily on volunteers, they are not always sustainable in the long term. It is recommended that the individual schools make the decision when choosing appropriate schemes, having regard to the resources available to them. The site-wide TPC will provide support to the schools in this decision making process.

6.1.11 If a Walking Bus is not something that would be appropriate to implement, the schools, with support from the site-wide TPC, will be encouraged to consider alternative measures such as:

- Walking Incentive Schemes (The Walking Bug- an initiative to link walking to school and the curriculum, or Walk on Wednesday); and
- Pedestrian Training

- **School Crossing Patrol**

6.1.12 Whilst the site infrastructure will be designed with pedestrian's safety and ease of movement considered first, the use of School Crossing Patrollers to help children cross roads will be helpful in reassuring parents of younger children of the safety of the child walking to school as they will be supervised at crossings.

6.1.13 The site-wide TPC will help the individual schools to identify if this measure is appropriate to them. It may be that feedback from parents shows that they would be happier to let their child walk to school if such a measure was in place.

- **Provision of Information**

6.1.14 Maps showing local footways from residential areas to the school will be provided through the Pupil Information Packs, discussed further below.

- **High Visibility Tabards**

6.1.15 High visibility tabards will be provided to pupils when excursions on foot are taken from the school. This can help to improve the visibility of pupils to enhance safety whilst walking under the care of the school.

- **Promotional Events**

6.1.16 Taking part in promotional events, such as the Living Streets 'Walk to School' campaign, can help to raise the awareness of the benefits of walking to school to pupils and their parents, as well as to local residents. The site-wide TPC will help the schools to identify suitable campaigns and to take part in them effectively.

Table 6.3 STP Cycling Measures

Measure	Supports Objective	Implementation Timescale	Responsibility
Secure cycle parking	■ 1 ■ 4	Prior to Occupation	Site Developers
Designated cycle infrastructure	■ 1 ■ 4	Prior to occupation	Site Developers
Discussion with local bike shops (in conjunction with Ashford Borough Council) to secure cycle equipment discounts	■ 2 ■ 4	Discount agreed prior to occupation	Individual Schools with support from site-wide TPC.
Cycle training and road safety awareness sessions for pupils	■ 1 ■ 2 ■ 4	Ongoing following occupation	
Provision of high visibility 'snap bands' to each pupil	■ 4	On occupation	
Taking part in promotional events, including Bike to School Week	■ 4	Ongoing following occupation	

- **Secure Cycle Parking**

6.1.17 A perceived lack of security could influence pupils and staff to not use cycles to get to school. The provision of secure cycle parking facilities will help to allay those fears and encourage more staff and pupils to cycle.

- **Discounted Cycle Equipment**

6.1.18 Discussions will be held with local cycle shops to endeavour to secure discounts for staff and pupils on cycle purchase, repair and equipment. It is anticipated that such a discount may be secured given the sizable number of staff and pupils present at the schools at Chilmington Green.

- **Cycle Training**

6.1.19 Provision of cycling and road safety training under the Bikeability scheme would provide pupils with the knowledge and skills necessary to ride with confidence, both on the road and on dedicated cycleways. A number of trainers certified to provide Bikeability training are located in Kent. Children also enjoy 'scootering' to school. The TPC will work with the Bikeability trainers to see if an element of safe scootering can be included.

- **Snap Bands**

6.1.20 The provision of a reflective snap band to all staff and pupils upon occupation of the schools is designed to encourage them to think about walking or cycling more often. In the case of pupils, their parents may be more inclined to let their children walk or cycle if they are reassured about their visibility. As detailed in Table 5.3 above, the individual schools will be responsible for the provision of snap bands.

- **Cycle Infrastructure**

6.1.21 Cycle infrastructure at Chilmington Green will include high quality signage and designated cycleways which follow desire lines to primary destinations, including the local schools.

- **Promotion Events**

6.1.22 Taking part in promotional events, such as the Living Streets 'Walk to School' campaign, can help to raise the awareness of the benefits of walking to school to pupils and their parents, as well as to local residents. The site-wide TPC will help the schools to identify suitable campaigns and to take part in them effectively.

Table 6.4 STP Bus Measures

Measure	Supports Objective	Implementation Timescale	Responsibility
Discussion with local bus operator to secure possible discount travel vouchers	■ 1 ■ 2	Negotiated prior to occupation so that discounts can be offered either prior to or upon occupation	Site-wide Travel Plan Coordinator / Kent County Council

- **Discount Travel Vouchers**

6.1.23 Discounts for travel on local bus services and provision of services that run directly to schools during 'school run' hours would encourage more staff and pupils to travel to school by bus.

Table 6.5 STP Car Measures

Measure	Supports Objective	Implementation Timescale	Responsibility
Car parking strategy	■ 1 ■ 2 ■ 3	Prior to occupation	Site Developers (with Central Kent County Council)
Staff car sharing database	■ 1 ■ 2	Set up prior to occupation, then ongoing	Individual Schools with support from site-wide TPC.
Guaranteed ride home scheme	■ In support of promoting car sharing	On occupation	
Pupil / parent car sharing database	■ 1 ■ 2	Set up prior to occupation, then ongoing	

- **Car Parking Strategy**

6.1.24 Parking for any new schools constructed will be provided in line with KCC standards applied to the rest of the development. However, it is important that these levels are set so as not to create a further inducement to drive. It is essential therefore that a parking strategy is defined as the development proposals progress, to ensure that a set structure is in place that addresses staff parking and student parking,

6.1.25 The Secondary school will include a sixth form element, It is vital to ensure that any parking that is provided for sixth form pupils is managed and to ensure that no issues are created from pupils parking in nearby residential streets, whether in the new Chilmington Green development or the current residential areas. Some form of application for these spaces may be appropriate.

6.1.26 It is envisaged that designated parking spaces will be provided close to the entrances of the schools specifically for vehicles with 2+ occupants. Car sharing spaces will be provided for both staff and pupils. This is to provide a high profile image of car sharing. School entrances will need to be kept free of parking to maintain the safety of parents and pupils.

6.1.27 A definitive car parking strategy for each of the schools will be developed by the Consortium as the development proposals progress. Once implemented, senior management teams within each of the schools and their Governors will take on the responsibility of managing the parking strategy. Support will be provided by the site-wide TPC.

- **Staff Car sharing Scheme**

6.1.28 Staff living within 2km of their school should be encouraged to walk to work and those within 5km encouraged to cycle. However, there may be some impracticalities in travelling to school this way, for example when carrying class books. The key members

of staff to target are those that live further away and that are able to pick up members of staff living closer to the school.

6.1.29 It is envisaged that a database is maintained of all members of staff in each school. All staff will be asked if they would be willing to car share. Those who would be willing will be maintained on the database and put in touch with other willing members of staff living nearby and that would be able to offer/share a lift.

6.1.30 By producing a diagram for each school showing where members of staff live and issuing it to each of them it would illustrate to a member of staff whether or not they live in close proximity to another member of staff, which they may not have previously realised. This may encourage a more positive response to car sharing.

6.1.31 As an incentive, the car parking strategy for each school should identify spaces close to the site entrance that are designated purely for car sharers.

6.1.32 Car sharing will also be promoted between parents. This can be more difficult however, as their end destinations following dropping children at school are likely to vary considerably. It is not entirely impossible though and information will be provided in Pupil Information Packs, with marketing posters displayed in school entrances.

- **Guaranteed Ride Home**

6.1.33 A guaranteed ride home scheme will provide a 'safety net' for members of staff who chose to walk, cycle, car share or use public transport as a means of getting to work.

6.1.34 The scheme offers staff that have made a commitment to using alternative modes of travel to private car use, the ability to get home in the event of the following:

- a home or family emergency during working hours;
- illness;
- a sudden change in the work schedule of either the car driver or passenger in a car sharing scenario.

6.1.35 Under a guaranteed ride home scheme, if a committed member of staff (to alternative modes) has to leave at an unexpected time and no practical alternative route home is available, the organisation will provide the means for ensuring that this person gets home.

6.1.36 The DfT document 'Making Smarter Choices Work' states that experience from employers who offer the guaranteed ride home shows that it is rarely taken up or abused. The main purpose of this scheme is to provide reassurance and an added incentive for staff to travel using modes other than the private car.

- **Pupil / Parent Car Sharing Database**

6.1.37 The majority of the pupils at the schools at Chilmington Green will live within 2km of their school. These pupils should be encouraged to walk and cycle. Beyond this, car sharing may be a consideration in places where there are groups of pupils living near to each other.

6.1.38 A survey of parents could be used to produce a map showing the location of families whose children attend each school. The survey could also ascertain whether parents are willing to offer lifts or allow their children to catch a lift with other families. The map will be provided to parents to illustrate the potential of car sharing.

6.1.39 The details of those willing to participate will be maintained on a database and parents will be put in touch with other like minded parents that live within close proximity of each other. Encouraging car sharing could further reduce the number of single child car journeys made to the schools at Chimington Green.

Table 6.6 STP Information & Travel Initiatives

Measure	Supports Objective	Implementation Timescale	Responsibility
Notice board at main entrance and in each staff 'common room'	■ 1 ■ 2 ■ 4	On occupation, then continually updated	Individual schools with support from site-wide TPC
Pupil travel information packs	■ 1 ■ 2 ■ 3 ■ 4	Distributed prior to occupation	
Green travel initiatives	■ 1 ■ 2 ■ 4	On-going (held at same time as national events)	

- **Notice Boards**

6.1.40 Publicity and promotion will be essential to ensuring the success of the Travel Plan and in maintaining its momentum. Information notice boards at the main school entrance and in staff 'common rooms' will provide an appropriate media to ensure that all staff, parents and visitors to the school are aware of the intentions of the Travel Plan.

6.1.41 The notice boards will be used to promote access to each school by modes other than the private car. The information that the notice boards will contain is detailed as follows:

- Objectives of the School Travel Plan;
- Main contact details – Head Teacher, School Travel Plan Coordinator;
- Copy of the Parking Strategy;
- Information relating to national green travel awareness days;
- Staff and parent car sharing details; and
- Maps showing access to the school by foot, bicycle and public transport (including timetables).

- **Pupil Information Packs**

6.1.42 Pupil Information Packs will support the information notice boards. The information contained in the pack will be fairly simple so that it is easily understood by pupils and all information included within these packs will be agreed with ABC. The

information packs will be distributed alongside school's prospectuses to all new and potential parents/pupils. This will be an excellent way of engaging the parents and pupils prior to the occupation of the school and later on when new pupils join.

6.1.43 The ultimate responsibility for producing the information packs lies with each individual school. A management team will have been identified well in advance of pupil occupation, which will enable a TPC to have been identified and time, with support from the site-wide TPC, to produce the Pupil Information Packs. Furthermore, the site-specific measures need to be determined by the individual school before the information packs can be produced. However, hard infrastructure including pedestrian and cycle routes to the schools and cycle parking will be in place and the Consortium will provide the appropriate information regarding these for inclusion within the information packs.

- **Green Travel Initiatives**

6.1.44 National green travel initiatives such as 'Walk to School' week will be promoted by schools at Chilmington Green. Participating in these initiatives will illustrate the effect and therefore very real benefits that can be achieved from swapping the car for an alternative mode, if only for one day per week.

6.1.45 In addition to the promotion of these national events, special assemblies/lessons could be given to raise the awareness of pupils. This will be particularly important upon first occupation of the new schools at Chimington Green to introduce the pupils and staff to the concept of Travel Planning.

Table 6.7 STP Consultation Measures

Measure	Supports Objective	Implementation Timescale	Responsibility
Engage with parents/local community/police & Kent County Council	■ 1 ■ 2 ■ 3 ■ 5	Prior to occupation and then ongoing	Individual schools with support from site-wide TPC

- **Engagement with Relevant Parties**

6.1.46 The continued engagement of parents, the local community, the police and Kent County Council will be essential in ensuring the progress and momentum of each school's Travel Plan. Furthermore, it will be possible to gauge changes in attitudes towards the Travel Plan and sustainable travel which will assist in determining the effectiveness of the Travel Plan.

6.1.47 The site wide TPC will be responsible for maintaining an excellent level of communication with these stakeholders.

6.2 ACTIONS PRIOR TO OCCUPATION

Table 5.8 below provides a summary of the actions to be undertaken prior to occupation of each school site.

Table 6.8 School Travel Plan Action Plan – Prior to occupation

ACTION	Responsibility
Identify a School Travel Plan Coordinator (individual to each school and supported fully by the site wide TPC)	Individual School – Head Teacher
Prepare all information to be included within Pupil Information Packs – including walking and cycling maps, information on cycle training and road safety awareness schemes for pupils, Safe Routes to School	TPC
Discuss with Bikeability providers if scootering safety can be included in courses	TPC
Appoint a School Crossing Patroller	TPC/KCC
Purchase High Visibility materials and snap bands	School / KCC
Secure discounts for local school bus services	TPC / KCC
Develop and implement Car Parking Strategy	Consortium / KCC
Set up Staff and Pupil/Parent car sharing databases	TPC
Walking bus training and participation	TPC/ KCC

7 School Travel Plan Responsibilities

7.1 INTRODUCTION

7.1.1 Identifying a management structure is essential to ensure the implementation and continued maintenance of each school's Travel Plan.

7.1.2 Each school will be required to produce its own Travel Plan, using national and local guidance (such as that provided by the Department of Education) and the recommendations in this document with full support and guidance from the site-wide TPC. The document will be submitted to Kent County Council for their review and to monitor performance.

7.1.3 The ultimate responsibility for the success of the Travel Plan will lie with the school Head Teacher. They will be responsible for providing support to the School's own Travel Plan Coordinator to achieve the required objectives of the Travel Plan.

7.2 SCHOOL TRAVEL PLAN COORDINATOR

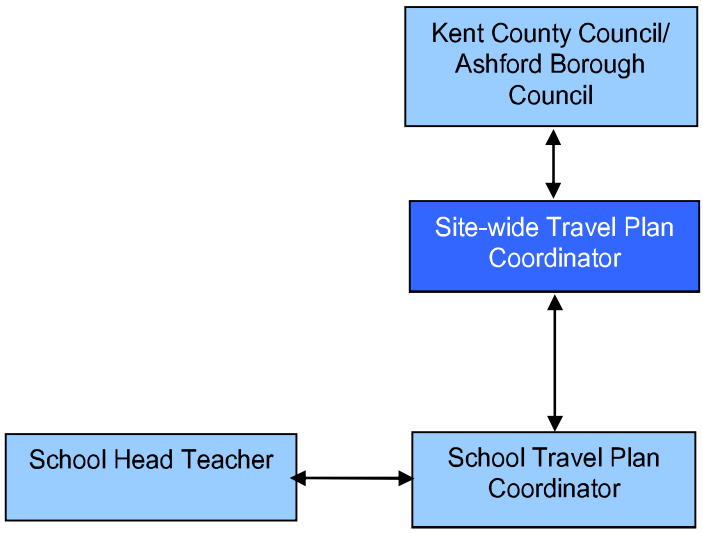
7.2.1 Each school will need to appoint its own School Travel Plan Coordinator prior to occupation. This individual can be selected from a group of people with a vested interest in the school, such as a Teacher, Governor, or a non-teaching member of staff.

7.2.2 The responsibilities of the TPC role are as follows:

- To be the main point of contact between the school, Kent County Council, Ashford Borough Council, the Police and the local community – particularly for consultation and in reporting to Kent County Council as part of the monitoring process;
- To be the main driving force behind the implementation, monitoring and review of the STP;
- To coordinate green travel initiatives for the school in liaison with the Head Teacher and other associated parties;
- Set up and maintain the staff and pupil/parent car sharing databases;
- To prepare and provide all information for the notice boards and to maintain the upkeep of this information;
- To prepare and provide the information required for the pupil travel information packs; and
- To deal with any on-site parking related issues
- The appointed Coordinator from each school will receive full support and guidance from the site-wide Travel Plan Coordinator.

7.2.3 **Figure 7.1** below shows the School Travel Plan management structure:

Figure 7.1 School Travel Plan Management Structure



8 School Travel Plan Targets

8.1 CONTEXT

8.1.1 A major objective of current policy is to reduce the need to travel, particularly by private car. Targets related to modal split are useful in assessing the progress and effectiveness of a Travel Plan and must take into account individual site characteristics. As well as headline targets relating to trips, mode share for public transport etc and other indicators may also provide meaningful results. Changes in staff, parent and local resident attitudes might also prove to be equally important factors in indicating the success of a STP. The setting of targets also assists in ensuring that the STP has a purpose.

8.1.2 For contextual purposes, the modal share for travel to school for children in the area covered by Kent County Council is presented in Table 8.1 below.

Table 8.1 Kent's School Pupils Travel mode to School 2009/10

Walk	Cycle	Other	Car (includes car sharing)	Public Transport
43%	2%	1%	33%	18%

Source: Central Kent's Sustainable Travel to School Strategy

8.2 TARGETS

8.2.1 As the opening of the education facilities at Chilmington Green is still several years away it is not reasonable or viable at this time to set targets. As the construction of the entire development will be phased over a number of years it is not currently possible to understand the travel and transport issues that will impact the individual schools. To ensure that each school takes on full ownership of their travel plan, it is also important that targets are set by those that are ultimately responsible for achieving them i.e. the Head Teacher and appointed School Travel Plan Coordinator.

8.2.2 At the time when the Travel Plan for each school is being prepared, the site-wide TPC for Chilmington Green will work with the schools to develop their Travel Plans and to help determine the most appropriate targets to include within them. These will take into account each individual school's circumstance upon opening and the influence of the growing development.

8.2.3 The targets which are set will be revised based on the results of the first school travel survey, and agreed with Kent County Council.

8.2.4 Targets will be specified according to the outcome which is desired and also by the actions which are required to obtain the outcome. These targets should be SMART (Specific, Measurable, Attainable, Relevant and Time-bound) and relate to local policy objectives for school travel and sustainable transport where possible.

8.2.5 Based on the mode share data in Table 8.1 above, it is considered that the mode shares that can be achieved by the schools will be significantly better, in favour of none car modes, than the fixed site-wide mode share targets. This will ensure that the STP targets will contribute to Chilmington Green achieving its end of Phase mode share targets detailed below in Table 8.2.

Table 8.2 End of phase mode share targets

Mode	Phase 1	Phase 2	Phase 3	Phase 4	Site wide target
Car (car driver and passenger)	62%	60%	57%	54%	53%
Bus	20%	20%	20%	20%	20%
Train	6.5%	8%	9%	10%	11%
Walk	7%	7%	8%	10%	10%
Cycle	4%	4%	5%	5%	5%
Other (motorcycle, taxis etc)	1%	1%	1%	1%	1%
TOTAL	100%	100%	100%	100%	100%
Baseline survey	End of year 1	N/A	N/A	N/A	N/A
Monitoring (years of phase)	2, 4, 6	2, 4, 6	2, 4, 6	2, 4, 6	Bi-annual up to 5 years following completion

9 Monitoring and Review Process

9.1 INTRODUCTION

9.1.1 Monitoring the Travel Plan is important in understanding the changing nature of staff and pupil travel behaviour and the effectiveness of the measures. Existing measures should be reviewed and alternative methods introduced where necessary to achieve Travel Plan Targets.

9.1.2 This section suggests a process by which the Travel Plans for schools at Chilmington Green could be monitored and reviewed. Each school will conform to this overarching process to ensure that comparable data is collected in a timely fashion.

9.2 MONITORING AND REVIEW PROCESS

9.2.1 Prior to each school's occupation; initial targets will be set by the School TPC following discussion with the site-wide TPC. These will be based on existing evidence of local travel patterns and the estimated positive impact the Travel Plan will have.

9.2.2 Six months following occupation, each school's Travel Plan Coordinator will be responsible for undertaking and analysing their school's travel survey, this will allow the school patterns to stabilise as parents and children grow accustomed to the measures provided by the Travel Plan. A review of the findings will be provided to the site-wide TPC, who, in conjunction with the schools, will provide a report to Kent County Council. Following feedback and recommendations, revised targets will be set for each of the schools based on the actual figures returned in the travel survey. The targets set must work towards the site wide phase end targets.

9.2.3 A bi-annual report will be submitted to Kent County Council that includes the results from the staff surveys and pupil surveys, school gate parking counts and possible local consultation groups. In addition to a review of these results against the targets set, Kent County Council will confirm whether or not a review of the Travel Plan measures is required. A review of the measures will be necessary if the targets are not being met. The bi-annual monitoring will be carried out in-line with the site-wide monitoring.

9.2.4 Additionally annual hands-up surveys will be assessed by the School Travel Plan Coordinator to ensure that the progress of the Travel Plan is in-line with the site-wide end of phase targets in Table 8.2.

9.2.5 If remedial measures are required, it is envisaged that a joint meeting will be held to discuss these matters and that will include:

- The Head Teacher;
- Travel Plan Coordinator;
- Kent County Council;
- Police; and
- Local Residents Association

9.2.6 Including all of these stakeholders ensures that a high level of consultation is maintained throughout the life of the School Travel Plan in accordance with DfT guidance. Even if the targets are being met, it would be beneficial to hold a similar meeting to determine if aspirations require a review of measures. This would help to ensure the momentum of the Travel Plan. Such meetings will also assist in gauging whether attitudes in general are becoming more or less positive towards sustainable travel practices.

9.2.7 An outline of the monitoring timescales is provided in Table 9.1 below:

Table 9.1 Monitoring Timescales

Timescale	Action
Prior to occupation	Agree interim targets
Six months from occupation	Travel Survey to determine mode shares, and travel and transport issues
Following analysis of surveys	School TPCs to report results to Kent County Council
If targets are being met	School TPC and Head Teacher to attend Stakeholder meeting to discuss way forward
If targets are not being met	School TPC and Head Teacher to attend Stakeholder meeting to discuss way forward

9.2.8 Monitoring of the schools will be ongoing to ensure that parents and pupils continue to travel by sustainable modes. The annual Hands-Up surveys will continue to be carried out, with a full review with KCC/ ABC every five years.

10 Summary

10.1 SUMMARY

10.1.1 WSP UK (WSP) has been commissioned by Hodson Developments, Malcolm Jarvis Homes, Pentland Homes & Ward Homes (The Consortium) to prepare a School Travel Plan Framework in support of development proposals at Chilmington Green, Kent.

10.1.2 Four new primary schools and a secondary school will be constructed as part of the development.

10.1.3 This Framework has been prepared to complement the proposals set out within the accompanying Transport Assessment report in the interests of promoting sustainable development and reducing the reliance on private car-based forms of transport, with an emphasis on the provision of a safe environment in which pupils can get to school.

10.1.4 This document has been designed as a reference tool for each of the individual schools to help them to prepare their own Travel Plans.

10.1.5 The measures proposed within this document are designed to aid discussion and inform the preparation of School Travel Plans for the individual schools at Chilmington Green and when adopted will not only bring associated benefits to the staff and pupils of the schools at Chilmington Green, but will also help to mitigate any transport impacts of the development on the wider local community.

10.1.6 To deliver this effectively the appointment of a School Travel Plan Coordinator at each school will be made to oversee delivery on a day-to-day basis. This will include preparing travel information materials for dissemination to staff, pupils and parents. This individual will receive support and guidance from the site-wide Travel Plan Coordinator at Chilmington Green to successfully accomplish their role.

10.1.7 Each school will be expected to set targets as part of their Travel Plan. To monitor progress against the targets, a detailed staff and pupil/parent travel survey will be conducted on an annual basis by the School Travel Plan Coordinator, with the results submitted to the site-wide TPC prior to Kent County Council.

10.1.8 Information gathered from these surveys will also support the ongoing review of each school's STP.

Appendix I ARCADY Outputs

ARCADY 6

GUI Version: 6.2 AG
Analysis Program: Release 7.0 (FEBRUARY 2010)
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Run Information

Run with file:- **n:\Chilmington Green 2010\ANALYSIS\Junction Assessments\A28 Northern Access Junction\PROPOSED\ARCADY\A28 Northern Access Roundabout AM Peak.vai**
At: **08:41:28 on Wednesday, February 29, 2012**
Mode: **Drive On The Left**
Units: **Metric**

Arm Labelling

Arm	Full Arm Names
Arm A	A28 (SWB)
Arm B	Site Access
Arm C	A28 (NEB)

Flow Scaling Factor

Arm	Flow Scaling Factor (%)
Arm A	100
Arm B	100
Arm C	100

File Properties

Run Title	A28 Northern Access Roundabout
Location	
Date	24/01/2012
Client	
Enumerator	ukddd001 [W11UK0063]
Job Number	
Status	
Description	

Geometric Data

Data Item	Arm A	Arm B	Arm C
Approach Road Half-Width (m)	3.65	3.00	3.65
Entry Width (m)	7.20	7.40	7.30
Flare Length (m)	20.80	19.80	5.80
Entry Radius (m)	30.00	25.00	30.00

Inscribed Circle Diameter (m)	60.00	60.00	60.00
Entry Angle (degrees)	29.00	21.00	41.00
Slope	0.586	0.578	0.506
Intercept (PCU/Min)	30.621	29.290	24.012

Demand Data

Demand Profiles are Synthesised using **ODTAB** Data
Period of interest (for Queue and Delay calculations): **07:45 to 09:15**
Length of Time Period: **90 min**
Length of Time Segment: **15 min**

Total Traffic Demand (Vehicles/Hour) for Demand Set: 2031 DS AM Peak

From/To	Arm A	Arm B	Arm C
Arm A	0.0	371.0	239.0
Arm B	1184.0	0.0	133.0
Arm C	201.0	5.0	0.0

Entry Flow Data for Demand Set: 2031 DS AM Peak

Arms	Number of Minutes From Start When			Rate of flow (Veh/Min)		
	Flow Starts To Rise	Top of Peak is Reached	Flow Stops Falling	Before Peak	At Top of Peak	After Peak
Arm A	15.00	45.00	75.00	7.63	11.44	7.63
Arm B	15.00	45.00	75.00	16.46	24.69	16.46
Arm C	15.00	45.00	75.00	2.58	3.86	2.58

Turning Proportions

ODTAB Demand Data type is used, no turning proportions available.

Heavy Vehicle Percentages for Demand Set: 2031 DS AM Peak

Vehicle percentages constant over time and entry

Time Period	From/To	Arm A	Arm B	Arm C
07:45 to 09:15	Arm A	0.0	0.0	0.0
	Arm B	0.0	0.0	0.0
	Arm C	0.0	0.0	0.0

Queues and Delay:

Segment	Arm	Demand (Veh / Min)	Capacity (Veh / Min)	Demand / Capacity (RFC)	Ped Flow (Ped / Min)	Start Queue (Veh)	End Queue (Veh)	Delay (Veh.Min / Time Segment)	Geometric Delay (Veh.Min / Time Segment)	Arrival Delay (Min / Veh)
Segment : 1 - 07:45 to 08:00	A	7.65	30.58	0.250	-	0.0	0.3	4.9	-	0.044
	B	16.53	27.56	0.600	-	0.0	1.5	21.1	-	0.089
	C	2.58	16.53	0.156	-	0.0	0.2	2.7	-	0.072

Segment : 2 - 08:00 to 08:15	A	9.14	30.58	0.299	-	0.3	0.4	6.3	-	0.047
	B	19.73	27.22	0.725	-	1.5	2.6	36.2	-	0.131
	C	3.09	15.06	0.205	-	0.2	0.3	3.8	-	0.083
Segment : 3 - 08:15 to 08:30	A	11.19	30.57	0.366	-	0.4	0.6	8.5	-	0.052
	B	24.17	26.76	**0.903**	-	2.6	7.7	95.9	-	0.310
	C	3.78	13.17	0.287	-	0.3	0.4	5.8	-	0.106
Segment : 4 - 08:30 to 08:45	A	11.19	30.57	0.366	-	0.6	0.6	8.6	-	0.052
	B	24.17	26.76	**0.903**	-	7.7	8.3	121.0	-	0.365
	C	3.78	13.03	0.290	-	0.4	0.4	6.1	-	0.108
Segment : 5 - 08:45 to 09:00	A	9.14	30.58	0.299	-	0.6	0.4	6.5	-	0.047
	B	19.73	27.22	0.725	-	8.3	2.7	46.3	-	0.147
	C	3.09	14.86	0.208	-	0.4	0.3	4.1	-	0.085
Segment : 6 - 09:00 to 09:15	A	7.65	30.58	0.250	-	0.4	0.3	5.1	-	0.044
	B	16.53	27.56	0.600	-	2.7	1.5	23.8	-	0.092
	C	2.58	16.45	0.157	-	0.3	0.2	2.9	-	0.072

Queuing Delay Information Over Whole Period

Arm	Total Demand		Queueing Delay		Inclusive Queueing Delay	
	(Veh)	(Veh/Hr)	(Min)	(Min/Veh)	(Min)	(Min/Veh)
A	839.6	559.7	39.9	0.05	39.9	0.05
B	1812.8	1208.5	344.3	0.19	344.3	0.19
C	283.5	189.0	25.3	0.09	25.3	0.09
ALL	2935.9	1957.3	409.4	0.14	409.5	0.14

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

Errors and Warnings

[No errors or warnings]

ARCADY 6

GUI Version: 6.2 AG
Analysis Program: Release 7.0 (FEBRUARY 2010)
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Run Information

Run with file:- **n:\Chilmington Green 2010\ANALYSIS\Junction Assessments\A28 Northern Access Junction\PROPOSED\ARCADY\A28 Northern Access Roundabout PM Peak.vai**
At: **08:42:23 on Wednesday, February 29, 2012**
Mode: **Drive On The Left**
Units: **Metric**

Arm Labelling

Arm	Full Arm Names
Arm A	A28 (SWB)
Arm B	Site Access
Arm C	A28 (NEB)

Flow Scaling Factor

Arm	Flow Scaling Factor (%)
Arm A	100
Arm B	100
Arm C	100

File Properties

Run Title	A28 Northern Access Roundabout PM Peak
Location	
Date	24/01/2012
Client	
Enumerator	ukddd001 [W11UK0063]
Job Number	
Status	
Description	

Geometric Data

Data Item	Arm A	Arm B	Arm C
Approach Road Half-Width (m)	3.65	3.00	3.65
Entry Width (m)	7.20	7.40	7.30
Flare Length (m)	20.80	19.80	5.80
Entry Radius (m)	30.00	25.00	30.00

Inscribed Circle Diameter (m)	60.00	60.00	60.00
Entry Angle (degrees)	29.00	21.00	41.00
Slope	0.586	0.578	0.506
Intercept (PCU/Min)	30.621	29.290	24.012

Demand Data

Demand Profiles are Synthesised using **ODTAB** Data
Period of interest (for Queue and Delay calculations): **16:45 to 18:15**
Length of Time Period: **90 min**
Length of Time Segment: **15 min**

Total Traffic Demand (Vehicles/Hour) for Demand Set: 2031 DS PM Peak

From/To	Arm A	Arm B	Arm C
Arm A	0.0	960.0	485.0
Arm B	259.0	0.0	85.0
Arm C	109.0	8.0	0.0

Entry Flow Data for Demand Set: 2031 DS PM Peak

Arms	Number of Minutes From Start When			Rate of flow (Veh/Min)		
	Flow Starts To Rise	Top of Peak is Reached	Flow Stops Falling	Before Peak	At Top of Peak	After Peak
Arm A	15.00	45.00	75.00	18.06	27.09	18.06
Arm B	15.00	45.00	75.00	4.30	6.45	4.30
Arm C	15.00	45.00	75.00	1.46	2.19	1.46

Turning Proportions

ODTAB Demand Data type is used, no turning proportions available.

Heavy Vehicle Percentages for Demand Set: 2031 DS PM Peak

Vehicle percentages constant over time and entry

Time Period	From/To	Arm A	Arm B	Arm C
16:45 to 18:15	Arm A	0.0	0.0	0.0
	Arm B	0.0	0.0	0.0
	Arm C	0.0	0.0	0.0

Queues and Delay:

Segment	Arm	Demand (Veh / Min)	Capacity (Veh / Min)	Demand / Capacity (RFC)	Ped Flow (Ped / Min)	Start Queue (Veh)	End Queue (Veh)	Delay (Veh.Min / Time Segment)	Geometric Delay (Veh.Min / Time Segment)	Arrival Delay (Min / Veh)
Segment : 1 - 16:45 to 17:00	A	18.13	30.56	0.593	-	0.0	1.4	20.7	-	0.079
	B	4.32	25.79	0.167	-	0.0	0.2	3.0	-	0.046
	C	1.47	22.37	0.066	-	0.0	0.1	1.0	-	0.048

Segment : 2 - 17:00 to 17:15	A	21.65	30.55	0.709	-	1.4	2.4	33.9	-	0.111
	B	5.15	25.10	0.205	-	0.2	0.3	3.8	-	0.050
	C	1.75	22.05	0.080	-	0.1	0.1	1.3	-	0.049
Segment : 3 - 17:15 to 17:30	A	26.52	30.54	0.868	-	2.4	5.9	78.0	-	0.223
	B	6.31	24.19	0.261	-	0.3	0.4	5.2	-	0.056
	C	2.15	21.61	0.099	-	0.1	0.1	1.6	-	0.051
Segment : 4 - 17:30 to 17:45	A	26.52	30.54	0.868	-	5.9	6.2	91.7	-	0.244
	B	6.31	24.15	0.261	-	0.4	0.4	5.3	-	0.056
	C	2.15	21.61	0.099	-	0.1	0.1	1.7	-	0.051
Segment : 5 - 17:45 to 18:00	A	21.65	30.55	0.709	-	6.2	2.5	40.5	-	0.119
	B	5.15	25.04	0.206	-	0.4	0.3	4.0	-	0.050
	C	1.75	22.04	0.080	-	0.1	0.1	1.3	-	0.049
Segment : 6 - 18:00 to 18:15	A	18.13	30.56	0.593	-	2.5	1.5	23.0	-	0.081
	B	4.32	25.76	0.168	-	0.3	0.2	3.1	-	0.047
	C	1.47	22.36	0.066	-	0.1	0.1	1.1	-	0.048

Queuing Delay Information Over Whole Period

Arm	Total Demand		Queueing Delay		Inclusive Queueing Delay	
	(Veh)	(Veh/Hr)	(Min)	(Min/Veh)	(Min)	(Min/Veh)
A	1988.9	1326.0	287.8	0.14	287.8	0.14
B	473.5	315.7	24.3	0.05	24.3	0.05
C	161.0	107.4	8.0	0.05	8.0	0.05
ALL	2623.5	1749.0	320.0	0.12	320.1	0.12

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

Errors and Warnings

[No errors or warnings]

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Analysis Program: Release 7.0 (FEBRUARY 2010)
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The user of this computer program for the solution of an engineering problem is in no way relieved of their responsibility for the correctness of the solution

Run Information

Run with file:- **n:\Chilmington Green 2010\ANALYSIS\Junction Assessments\A28 Southern Access Junction\PROPOSED\ARCADY\A28 Southern Access Roundabout AM Peak.vai**
At: **13:45:10 on Tuesday, February 28, 2012**
Mode: **Drive On The Left**
Units: **Metric**

Arm Labelling

Arm	Full Arm Names
Arm A	A28 (SWB)
Arm B	Site Access
Arm C	A28 (NEB)
Arm D	Sandy Lane

Flow Scaling Factor

Arm	Flow Scaling Factor (%)
Arm A	100
Arm B	100
Arm C	100
Arm D	100

File Properties

Run Title	A28 Southern Access Roundabout AM Peak
Location	
Date	24/01/2012
Client	
Enumerator	ukddd001 [W11UK0063]
Job Number	
Status	
Description	

Geometric Data

Data Item	Arm A	Arm B	Arm C	Arm D
Approach Road Half-Width (m)	3.65	3.00	3.65	2.65
Entry Width (m)	6.40	5.50	5.50	5.40

Flare Length (m)	19.20	12.50	5.50	2.90
Entry Radius (m)	25.00	15.00	25.00	15.00
Inscribed Circle Diameter (m)	40.00	40.00	40.00	40.00
Entry Angle (degrees)	18.00	36.00	24.50	26.00
Slope	0.670	0.555	0.594	0.503
Intercept (PCU/Min)	29.393	22.000	23.594	16.784

Demand Data

Demand Profiles are Synthesised using **ODTAB** Data
Period of interest (for Queue and Delay calculations): **07:45 to 09:15**
Length of Time Period: **90 min**
Length of Time Segment: **15 min**

Total Traffic Demand (Vehicles/Hour) for Demand Set: 2031 DS AM Peak

From/To	Arm A	Arm B	Arm C	Arm D
Arm A	0.0	49.0	187.0	57.0
Arm B	83.0	0.0	246.0	53.0
Arm C	159.0	234.0	0.0	0.0
Arm D	16.0	14.0	0.0	0.0

Entry Flow Data for Demand Set: 2031 DS AM Peak

Arms	Number of Minutes From Start When			Rate of flow (Veh/Min)		
	Flow Starts To Rise	Top of Peak is Reached	Flow Stops Falling	Before Peak	At Top of Peak	After Peak
Arm A	15.00	45.00	75.00	3.66	5.49	3.66
Arm B	15.00	45.00	75.00	4.78	7.16	4.78
Arm C	15.00	45.00	75.00	4.91	7.37	4.91
Arm D	15.00	45.00	75.00	0.38	0.56	0.38

Turning Proportions

ODTAB Demand Data type is used, no turning proportions available.

Heavy Vehicle Percentages for Demand Set: 2031 DS AM Peak

Vehicle percentages constant over time and entry

Time Period	From/To	Arm A	Arm B	Arm C	Arm D
07:45 to 09:15	Arm A	0.0	0.0	0.0	0.0
	Arm B	0.0	0.0	0.0	0.0
	Arm C	0.0	0.0	0.0	0.0
	Arm D	0.0	0.0	0.0	0.0

Queues and Delay:

		Demand	Capacity	Demand /	Ped Flow	Start	End	Delay (Veh.Min /	Geometric Delay	Arrival Delay

Segment	Arm	(Veh / Min)	(Veh / Min)	Capacity (RFC)	(Ped / Min)	Queue (Veh)	Queue (Veh)	Time Segment)	(Veh.Min / Time Segment)	(Min / Veh)
Segment : 1 - 07:45 to 08:00	A	3.68	27.32	0.135	-	0.0	0.2	2.3	-	0.042
	B	4.79	20.31	0.236	-	0.0	0.3	4.5	-	0.064
	C	4.93	22.16	0.223	-	0.0	0.3	4.2	-	0.058
	D	0.38	13.79	0.027	-	0.0	0.0	0.4	-	0.075
Segment : 2 - 08:00 to 08:15	A	4.39	26.91	0.163	-	0.2	0.2	2.9	-	0.044
	B	5.72	19.97	0.287	-	0.3	0.4	5.9	-	0.070
	C	5.89	21.88	0.269	-	0.3	0.4	5.4	-	0.062
	D	0.45	13.20	0.034	-	0.0	0.0	0.5	-	0.078
Segment : 3 - 08:15 to 08:30	A	5.38	26.35	0.204	-	0.2	0.3	3.8	-	0.048
	B	7.01	19.52	0.359	-	0.4	0.6	8.2	-	0.080
	C	7.21	21.49	0.336	-	0.4	0.5	7.4	-	0.070
	D	0.55	12.40	0.044	-	0.0	0.0	0.7	-	0.084
Segment : 4 - 08:30 to 08:45	A	5.38	26.34	0.204	-	0.3	0.3	3.8	-	0.048
	B	7.01	19.52	0.359	-	0.6	0.6	8.4	-	0.080
	C	7.21	21.49	0.336	-	0.5	0.5	7.5	-	0.070
	D	0.55	12.39	0.044	-	0.0	0.0	0.7	-	0.084
Segment : 5 - 08:45 to 09:00	A	4.39	26.90	0.163	-	0.3	0.2	3.0	-	0.044
	B	5.72	19.97	0.287	-	0.6	0.4	6.2	-	0.070
	C	5.89	21.87	0.269	-	0.5	0.4	5.7	-	0.063
	D	0.45	13.19	0.034	-	0.0	0.0	0.5	-	0.078
Segment : 6 - 09:00 to 09:15	A	3.68	27.31	0.135	-	0.2	0.2	2.4	-	0.042
	B	4.79	20.30	0.236	-	0.4	0.3	4.7	-	0.065
	C	4.93	22.15	0.223	-	0.4	0.3	4.4	-	0.058
	D	0.38	13.78	0.027	-	0.0	0.0	0.4	-	0.075

Queuing Delay Information Over Whole Period

Arm	Total Demand		Queueing Delay		Inclusive Queueing Delay	
	(Veh)	(Veh/Hr)	(Min)	(Min/Veh)	(Min)	(Min/Veh)
A	403.3	268.9	18.1	0.04	18.1	0.04
B	525.8	350.5	37.8	0.07	37.8	0.07
C	540.9	360.6	34.5	0.06	34.5	0.06
D	41.3	27.5	3.3	0.08	3.3	0.08
ALL	1511.3	1007.5	93.8	0.06	93.8	0.06

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

Errors and Warnings

[No errors or warnings]

ARCADY 6

GUI Version: 6.2 AG
Analysis Program: Release 7.0 (FEBRUARY 2010)
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For sales and distribution information, program advice and maintenance, contact:

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

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

The user of this computer program for the solution of an engineering problem is in no way relieved of their responsibility for the correctness of the solution

Run Information

Run with file:- **n:\Chilmington Green 2010\ANALYSIS\Junction Assessments\A28 Southern Access Junction\PROPOSED\ARCADY\A28 Southern Access Roundabout PM Peak.vai**
At: **08:45:19 on Wednesday, February 29, 2012**
Mode: **Drive On The Left**
Units: **Metric**

Arm Labelling

Arm	Full Arm Names
Arm A	A28 (SWB)
Arm B	Site Access
Arm C	A28 (NEB)
Arm D	Sandy Lane

Flow Scaling Factor

Arm	Flow Scaling Factor (%)
Arm A	100
Arm B	100
Arm C	100
Arm D	100

File Properties

Run Title	A28 Southern Access Roundabout PM Peak
Location	
Date	24/01/2012
Client	
Enumerator	ukddd001 [W11UK0063]
Job Number	
Status	
Description	

Geometric Data

Data Item	Arm A	Arm B	Arm C	Arm D
Approach Road Half-Width (m)	3.65	3.00	3.65	2.65
Entry Width (m)	6.40	5.50	5.50	5.40

Flare Length (m)	19.20	12.50	5.50	2.90
Entry Radius (m)	25.00	15.00	25.00	15.00
Inscribed Circle Diameter (m)	40.00	40.00	40.00	40.00
Entry Angle (degrees)	18.00	36.00	24.50	26.00
Slope	0.670	0.555	0.594	0.503
Intercept (PCU/Min)	29.393	22.000	23.594	16.784

Demand Data

Demand Profiles are Synthesised using **ODTAB** Data
Period of interest (for Queue and Delay calculations): **16:45 to 18:15**
Length of Time Period: **90 min**
Length of Time Segment: **15 min**

Total Traffic Demand (Vehicles/Hour) for Demand Set: 2031 DS PM Peak

From/To	Arm A	Arm B	Arm C	Arm D
Arm A	0.0	105.0	194.0	23.0
Arm B	19.0	0.0	200.0	33.0
Arm C	271.0	243.0	0.0	0.0
Arm D	29.0	12.0	0.0	0.0

Entry Flow Data for Demand Set: 2031 DS PM Peak

Arms	Number of Minutes From Start When			Rate of flow (Veh/Min)		
	Flow Starts To Rise	Top of Peak is Reached	Flow Stops Falling	Before Peak	At Top of Peak	After Peak
Arm A	15.00	45.00	75.00	4.03	6.04	4.03
Arm B	15.00	45.00	75.00	3.15	4.73	3.15
Arm C	15.00	45.00	75.00	6.43	9.64	6.43
Arm D	15.00	45.00	75.00	0.51	0.77	0.51

Turning Proportions

ODTAB Demand Data type is used, no turning proportions available.

Heavy Vehicle Percentages for Demand Set: 2031 DS PM Peak

Vehicle percentages constant over time and entry

Time Period	From/To	Arm A	Arm B	Arm C	Arm D
16:45 to 18:15	Arm A	0.0	0.0	0.0	0.0
	Arm B	0.0	0.0	0.0	0.0
	Arm C	0.0	0.0	0.0	0.0
	Arm D	0.0	0.0	0.0	0.0

Queues and Delay:

		Demand	Capacity	Demand /	Ped Flow	Start	End	Delay (Veh.Min /	Geometric Delay	Arrival Delay

Segment	Arm	(Veh / Min)	(Veh / Min)	Capacity (RFC)	(Ped / Min)	Queue (Veh)	Queue (Veh)	Time Segment)	(Veh.Min / Time Segment)	(Min / Veh)
Segment : 1 - 16:45 to 17:00	A	4.04	27.26	0.148	-	0.0	0.2	2.6	-	0.043
	B	3.16	20.49	0.154	-	0.0	0.2	2.7	-	0.058
	C	6.45	23.04	0.280	-	0.0	0.4	5.7	-	0.060
	D	0.51	13.43	0.038	-	0.0	0.0	0.6	-	0.077
Segment : 2 - 17:00 to 17:15	A	4.82	26.83	0.180	-	0.2	0.2	3.2	-	0.045
	B	3.78	20.20	0.187	-	0.2	0.2	3.4	-	0.061
	C	7.70	22.93	0.336	-	0.4	0.5	7.4	-	0.066
	D	0.61	12.77	0.048	-	0.0	0.1	0.7	-	0.082
Segment : 3 - 17:15 to 17:30	A	5.91	26.26	0.225	-	0.2	0.3	4.3	-	0.049
	B	4.62	19.79	0.234	-	0.2	0.3	4.5	-	0.066
	C	9.43	22.78	0.414	-	0.5	0.7	10.3	-	0.075
	D	0.75	11.87	0.063	-	0.1	0.1	1.0	-	0.090
Segment : 4 - 17:30 to 17:45	A	5.91	26.26	0.225	-	0.3	0.3	4.3	-	0.049
	B	4.62	19.79	0.234	-	0.3	0.3	4.6	-	0.066
	C	9.43	22.78	0.414	-	0.7	0.7	10.5	-	0.075
	D	0.75	11.87	0.063	-	0.1	0.1	1.0	-	0.090
Segment : 5 - 17:45 to 18:00	A	4.82	26.83	0.180	-	0.3	0.2	3.3	-	0.045
	B	3.78	20.19	0.187	-	0.3	0.2	3.5	-	0.061
	C	7.70	22.93	0.336	-	0.7	0.5	7.8	-	0.066
	D	0.61	12.76	0.048	-	0.1	0.1	0.8	-	0.082
Segment : 6 - 18:00 to 18:15	A	4.04	27.25	0.148	-	0.2	0.2	2.7	-	0.043
	B	3.16	20.49	0.154	-	0.2	0.2	2.8	-	0.058
	C	6.45	23.03	0.280	-	0.5	0.4	6.0	-	0.060
	D	0.51	13.42	0.038	-	0.1	0.0	0.6	-	0.078

Queuing Delay Information Over Whole Period

Arm	Total Demand		Queueing Delay		Inclusive Queueing Delay	
	(Veh)	(Veh/Hr)	(Min)	(Min/Veh)	(Min)	(Min/Veh)
A	443.2	295.5	20.4	0.05	20.4	0.05
B	346.9	231.2	21.4	0.06	21.4	0.06
C	707.5	471.7	47.7	0.07	47.7	0.07
D	56.4	37.6	4.7	0.08	4.7	0.08
ALL	1554.0	1036.0	94.2	0.06	94.2	0.06

Delay is that occuring only within the time period.
Inclusive delay includes delay suffered by vehicles that are still queueing after the end of the time period.
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Errors and Warnings

[No errors or warnings]