

Alderholt Paramics Model 2019

Modelling Report

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1.0 INTRODUCTION

Background

- 1.1 Dorset Council's (DC's) Transportation Modelling team, was requested to undertake traffic modelling of Alderholt and the surrounding area to test the impact of proposed developments in and around Alderholt. To undertake this task a calibrated and validated traffic model of the area was required. The overall modelled study area is shown in **Figure 1.1**.
- 1.2 This report covers the development of the traffic model for the purposes of testing the development options. The forecasting will be reported upon in a separate report.



Figure 1.1 – Study Area

Software

- 1.3 Paramics Discovery version 22.0.4 was used for the model.
- 1.4 Traffic microsimulation models simulate the behaviour of individual vehicles within a predefined road network and are used to predict the likely impact of changes in traffic patterns resulting from changes to traffic flow or from changes to the physical environment” (from Wikipedia: <https://en.wikipedia.org/wiki/Microsimulation>)

Structure of the Report

- 1.5 The structure of this Local Model Validation Report (LMVR) is based on guidance contained in TAG Unit M3.1 and the Microsimulation Consultancy Good Practice Guide Chapter 12. The TAG Unit M3.1 guidance is as follows:
- Chapter 2 – Summarises the sources of data
 - Chapter 3 – Details the model network development
 - Chapter 4 – Details the trip matrix development
 - Chapter 5 – Details of the model calibration
 - Chapter 6 – Details validation of the model
 - Chapter 7 – Summarizes the model development

2.0 DATA COLLECTION

Introduction

- 2.1 Existing data was identified and assessed for potential use in the modelling. Some useful traffic counts were identified. However, further data was required to create a trip matrix for the model and to provide additional data for model validation. A major data collection exercise was undertaken in June 2019.
- 2.2 Four types of traffic data were collected;
- Origin and Destination (O&D) data – by way of Automatic Number Plate Recognition (ANPR) cameras,
 - Junction Turning Counts – Classified turning counts at junctions,
 - Automatic Traffic Counts (ATC) – at key locations,
 - Journey Times (JT) – Specific relevant routes.
- 2.3 Electronic Ordnance Survey (OS) mapping of the area was obtained to assist in the creation of a geographically correct network.

Origin and Destination Data

- 2.4 Origin and destination data is required to produce an accurate representation of traffic movements (known as trip distribution). Automatic Number Plate Recognition (ANPR) cameras were placed at strategic points on the highway network by Traffic Survey Partners (TSP). The cameras record the number plates of most passing vehicles which can be matched between locations. These will not identify the final origins and destinations of each vehicle but allow routes taken through the modelled area to be identified in greater detail.
- 2.5 ANPR surveys have been undertaken by TSP at the locations shown in **Figure 2.1** and listed in **Table 2.1**.

ANPR	Location	Date
1 & 2	Hare Lane	19 th June 2019
3 & 4	Batterley Drove	19 th June 2019
5 & 6	Sandleheath Road	19 th June 2019
7 & 8	Fordingbridge Road	19 th June 2019
9 & 10	Harbridge Drove	19 th June 2019
11 & 12	Park Lane	19 th June 2019
13 & 14	Camel Green Road	19 th June 2019
15 & 16	Blackwater Grove	19 th June 2019
17 & 18	Windsor Way	19 th June 2019
19 & 20	Fir Tree Hill	19 th June 2019
21 & 22	Birchwood Drive	19 th June 2019
23 & 24	Hillbury Park	19 th June 2019
25 & 26	Earlswood Drive	19 th June 2019

Table 2.1 – Locations of ANPR Cameras

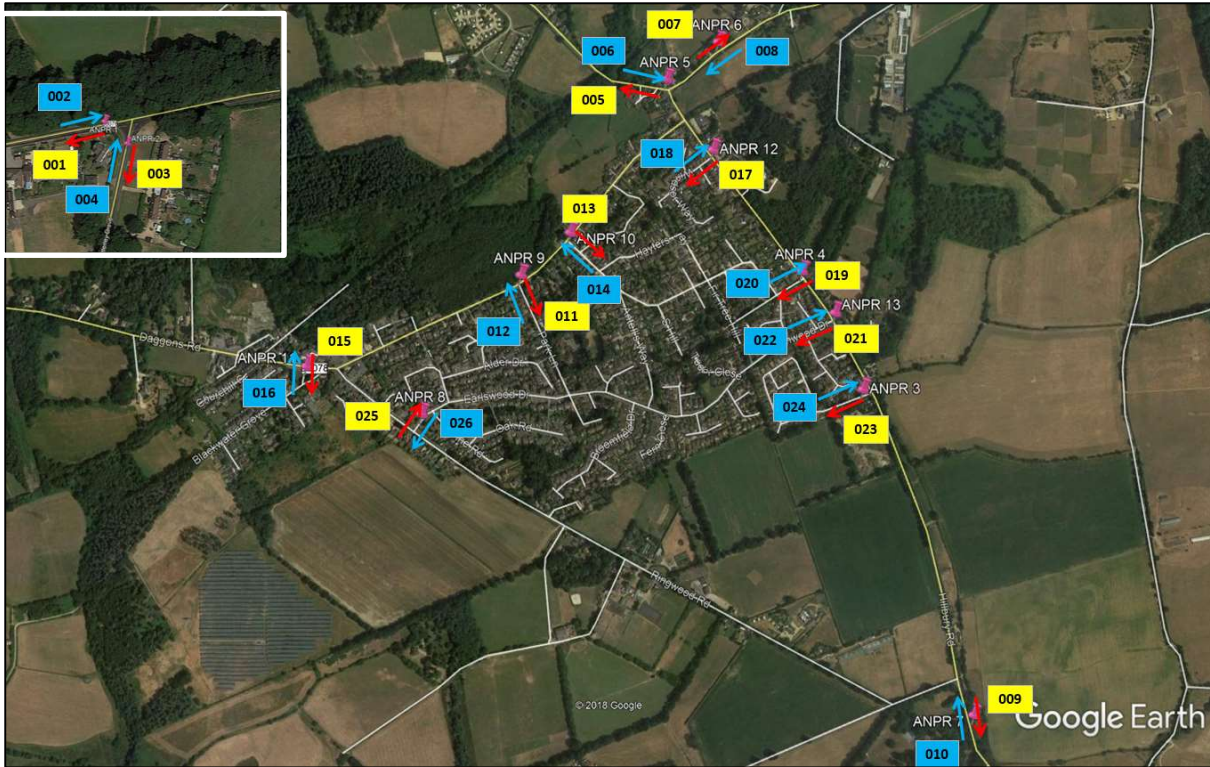


Figure 2.1 – Locations of ANPR Cameras

Junction Turning Counts

- 2.6 Junction Turning Counts are required to identify the type of vehicle (e.g. car, van, lorry), the turning movements they make at junctions, and the number of vehicles making each movement. This data is used in the calibration of traffic models.
- 2.7 New data was collected at 18 locations for the development of the model. All counts were carried out in 15-minute intervals from 07:00 to 19:00 to COBA 7 classification.
- 2.8 Locations of the Junction Turning Counts undertaken are shown in **Figure 2.2, 2.3, 2.4, 2.5, and 2.6**, and their details listed in **Table 2.2**.

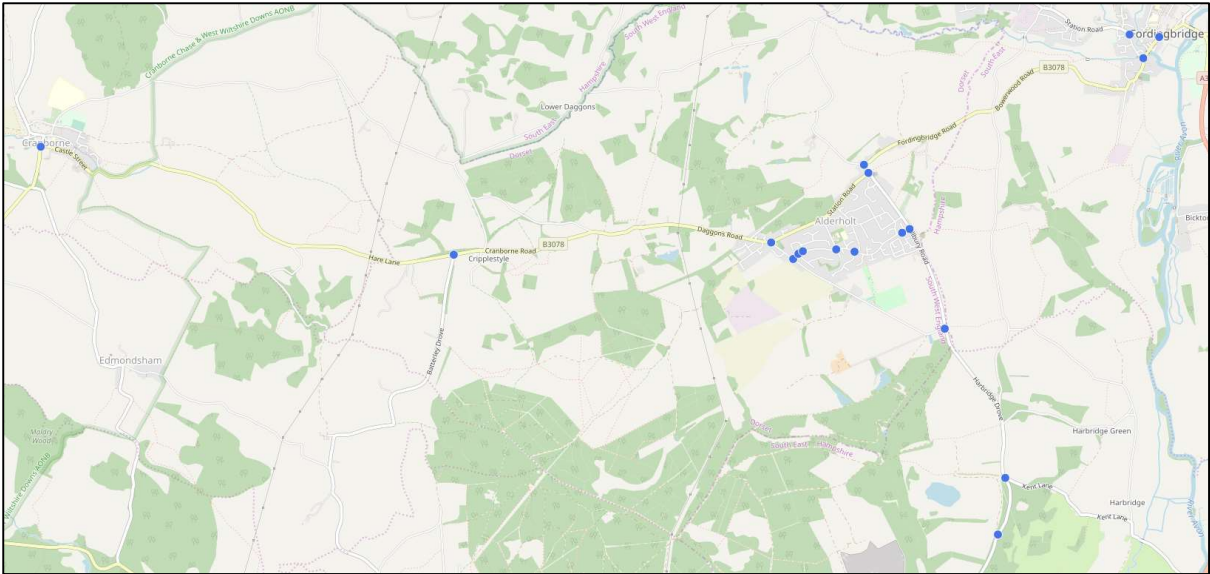


Figure 2.2 – Location of All Junction Turning Counts

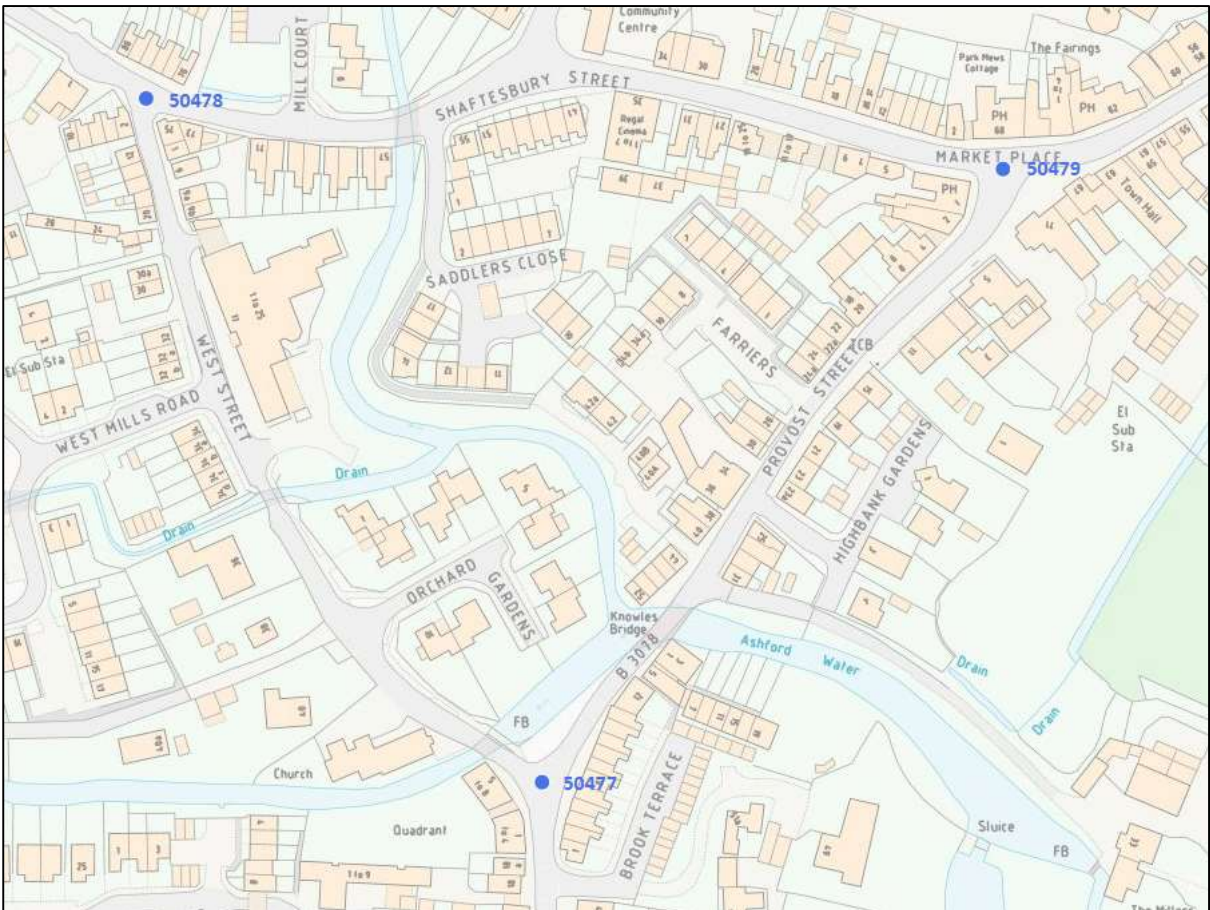


Figure 2.3 – Location of Fordingbridge Junction Turning Counts

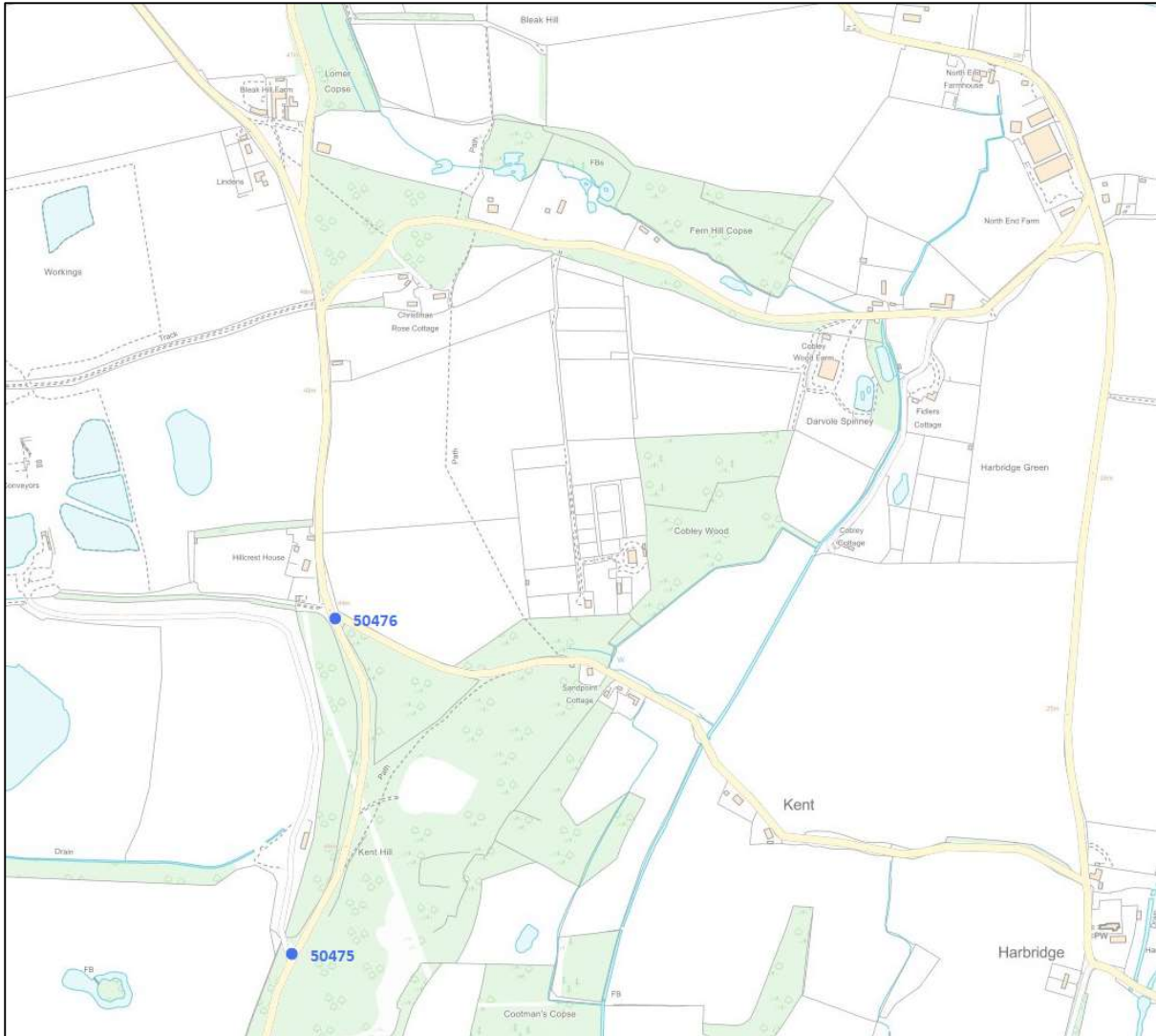


Figure 2.5 – Location of Harbridge Drove Junction Turning Counts

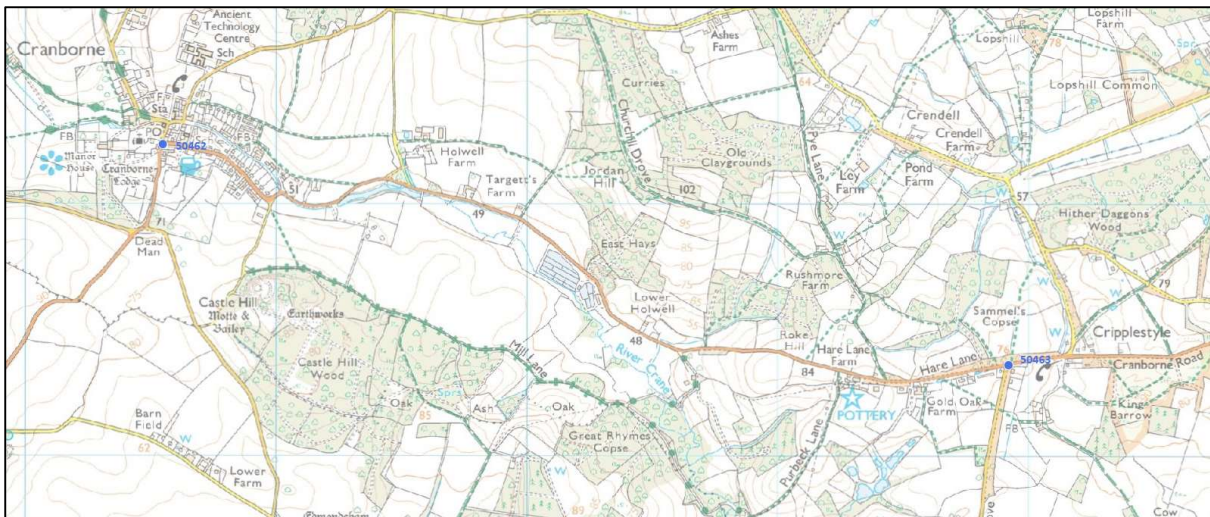


Figure 2.6 – Location of Westernmost Junction Turning Counts

CTC	Location	Description	Date
50462	B3078 Wimborne Street / B3078 Castle Street	3-arm priority Junction	19 th June 2019
50463	B3078 Hare Lane / Batterley Drove	3-arm priority junction	19 th June 2019
50464	B3078 Station Road / Ringwood Road	3-arm priority junction	19 th June 2019
50465	B3078 Station Road / Hillbury Road	3-arm priority junction	19 th June 2019
50466	B3078 Fordingbridge Road / Sandleheath Road	3-arm priority junction	19 th June 2019
50467	Ringwood Road / Hillbury Road	3-arm priority junction	19 th June 2019
50468	Earlswood Drive / Park Lane	3-arm priority junction	19 th June 2019
50469	Ringwood Road / Earlswood Drive	3-arm priority junction	19 th June 2019
50470	Hillbury Road / Birchwood Drive	3-arm priority junction	19 th June 2019
50471	Earlswood Drive / Pine Road	3-arm priority junction	19 th June 2019
50472	Earlswood Drive / Alder Drive	3-arm priority junction	19 th June 2019
50473	Birchwood Drive / Broomfield Drive	3-arm priority junction	19 th June 2019
50474	Birchwood Drive / Wren Gardens	3-arm priority junction	19 th June 2019
50475	Harbridge Drove / CEMEX Quarry	3-arm priority junction	19 th June 2019
50476	Harbridge Drove / Kent Lane	3-arm priority junction	19 th June 2019
50477	B3078 Church Street / West Street	3-arm priority junction	19 th June 2019
50478	West Street / Station Road	3-arm priority junction	19 th June 2019
50479	B3078 Provost Street / Shaftesbury Street	3-arm priority junction	19 th June 2019

Table 2.2 – Junction Turning Counts

2.9 All traffic counts were undertaken on neutral days with reasonable weather conditions and no abnormal disruptions e.g. roadworks. Therefore, the counts can be deemed to have been conducted on ‘normal’ week days.

Automatic Traffic Counts

2.10 Automatic Traffic Counts (ATCs) are required to provide longer term data to identify whether the day the ANPR and MTC surveys were undertaken was a ‘normal’ day. The data is in volume only format (no vehicle classification).

2.11 ATC surveys were undertaken at the locations shown in **Figure 2.7** and listed in **Table 2.3**.

ATC	Location	Notes
1453	Alderholt Mill	
1547	Sandleheath Road	
3291	Hillbury Road	Permanent site in 2019
3384	Hare Lane	
3385	Batterley Drove	
3386	Harbridge Drove	
3387	Church Street	Hampshire County Council
3388	Ringwood Road	
3389	Hillbury Road	

Table 2.3 – Automatic Traffic Counts

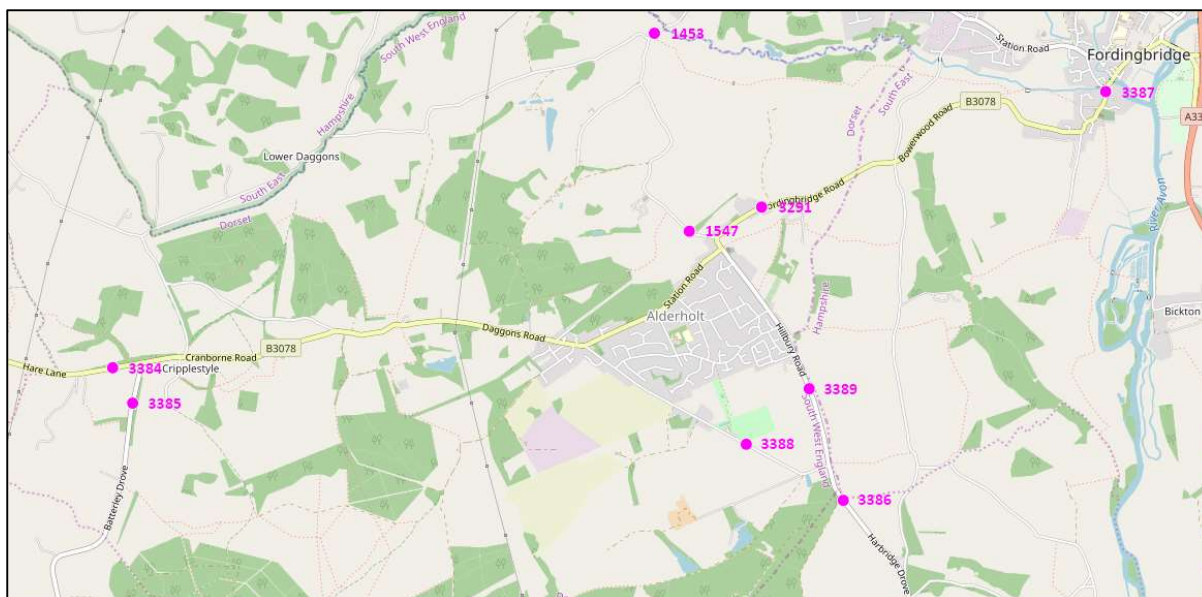


Figure 2.7 – Location of Automatic Traffic Counts

Journey Time Data

2.12 Validation of the model was undertaken using Journey Time (JT) data extracted from the DfT Traffic Master data. This data is presented by the online application ‘Highways Analyst’, hosted by Basemap Ltd.

2.13 Data was collected for the following dates and periods;

- 1 March 2018 to 30 June 2018
- Weekdays only
- No school holidays
- AM Peak Hour: 0800 – 0900
- PM Peak Hour: 1700 – 1800

2.14 **Figure 2.8** shows the routes graphically while **Table 2.4** describes them. The routes capture the three major paths taken in the model.

Route	Direction	From	To
1. B3078	Eastbound	Batterley Drove	Fordingbridge Road
	Westbound	Fordingbridge Road	Batterley Drove
2. Ringwood Road	Northbound	Harbridge Drove	B3078
	Southbound	B3078	Harbridge Drove
3. Hillbury Road	Northbound	Kent Lane	B3078
	Southbound	B3078	Kent Lane

Table 2.4 – Journey Time Routes

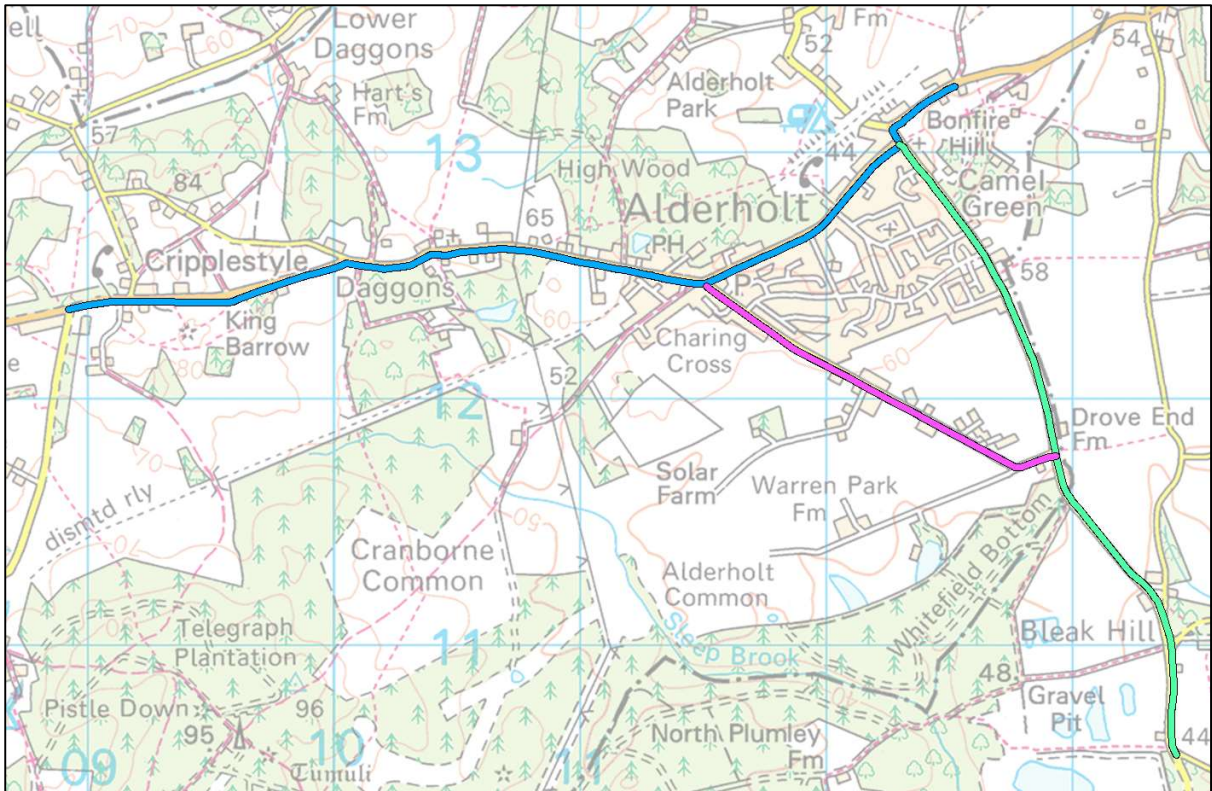


Figure 2.8 – Map of Journey Time Routes

3.0 NETWORK DEVELOPMENT

Background

3.1 A microsimulation model was created of the town centre area using Paramics Discovery version 22.0.04. The extent of the network agreed by the client is shown in **Figure 3.1**, with close-ups in **Figures 3.2** and **3.3**. Satellite models shown in **3.4**, **3.5**, and **3.6** were used to assess the effects at those pinch-points.

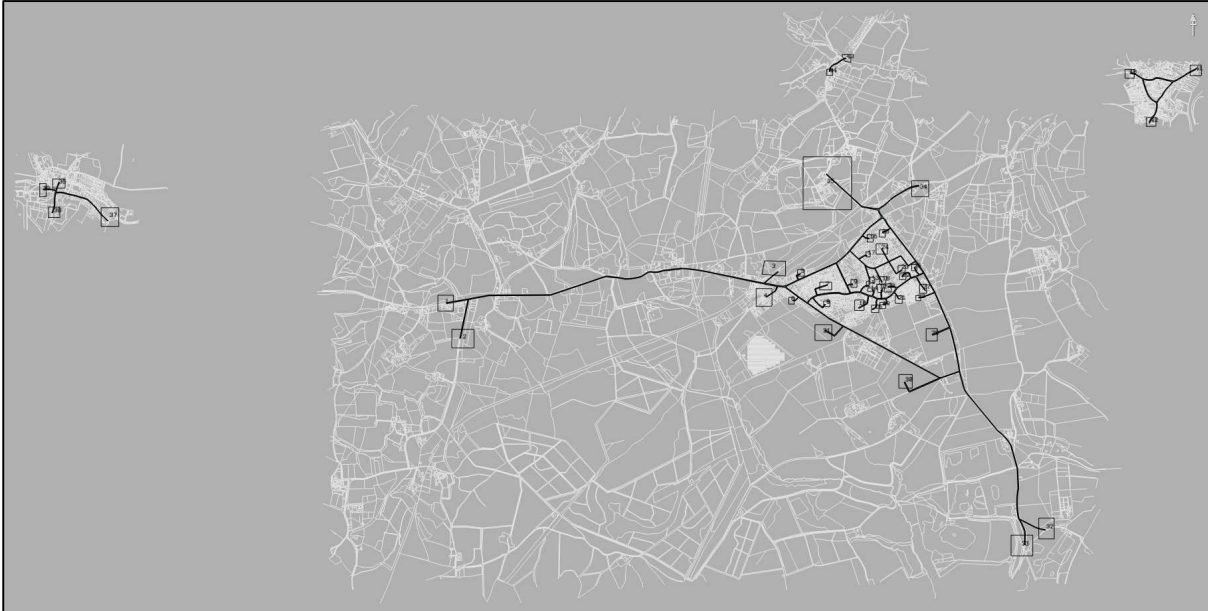


Figure 3.1 – Full Model Extents

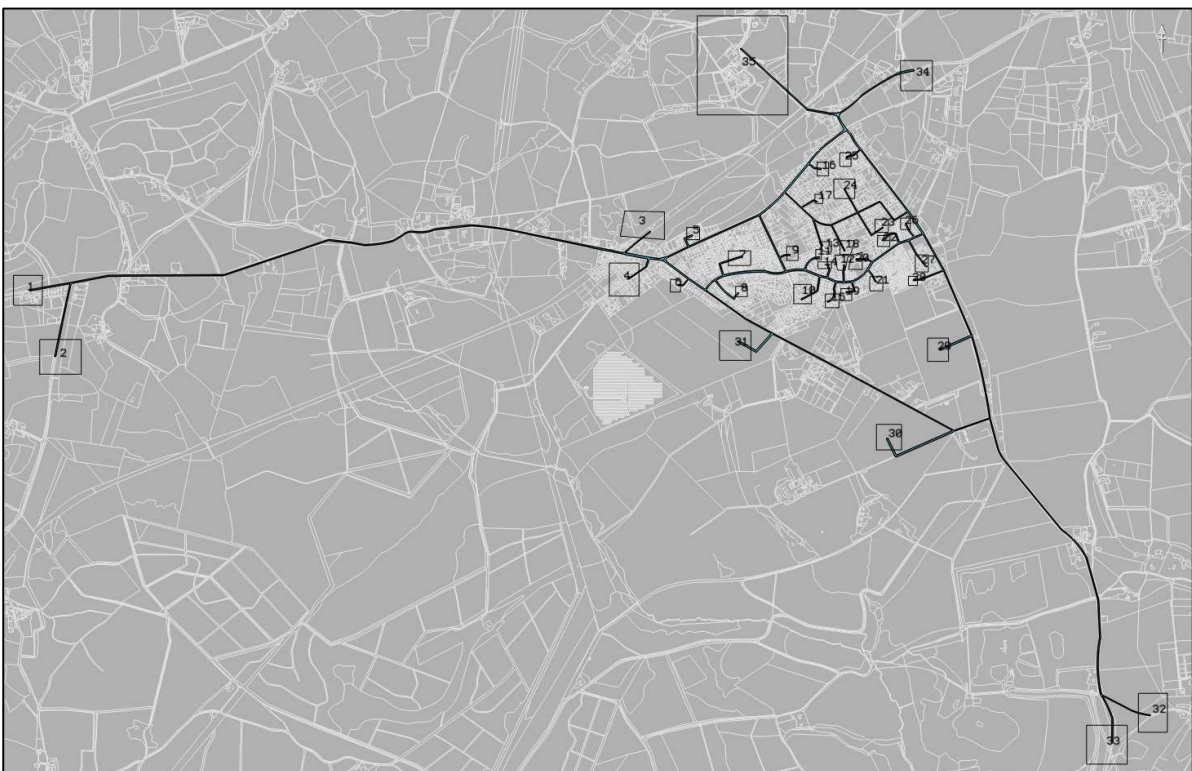


Figure 3.2 – Alderholt Village Extents

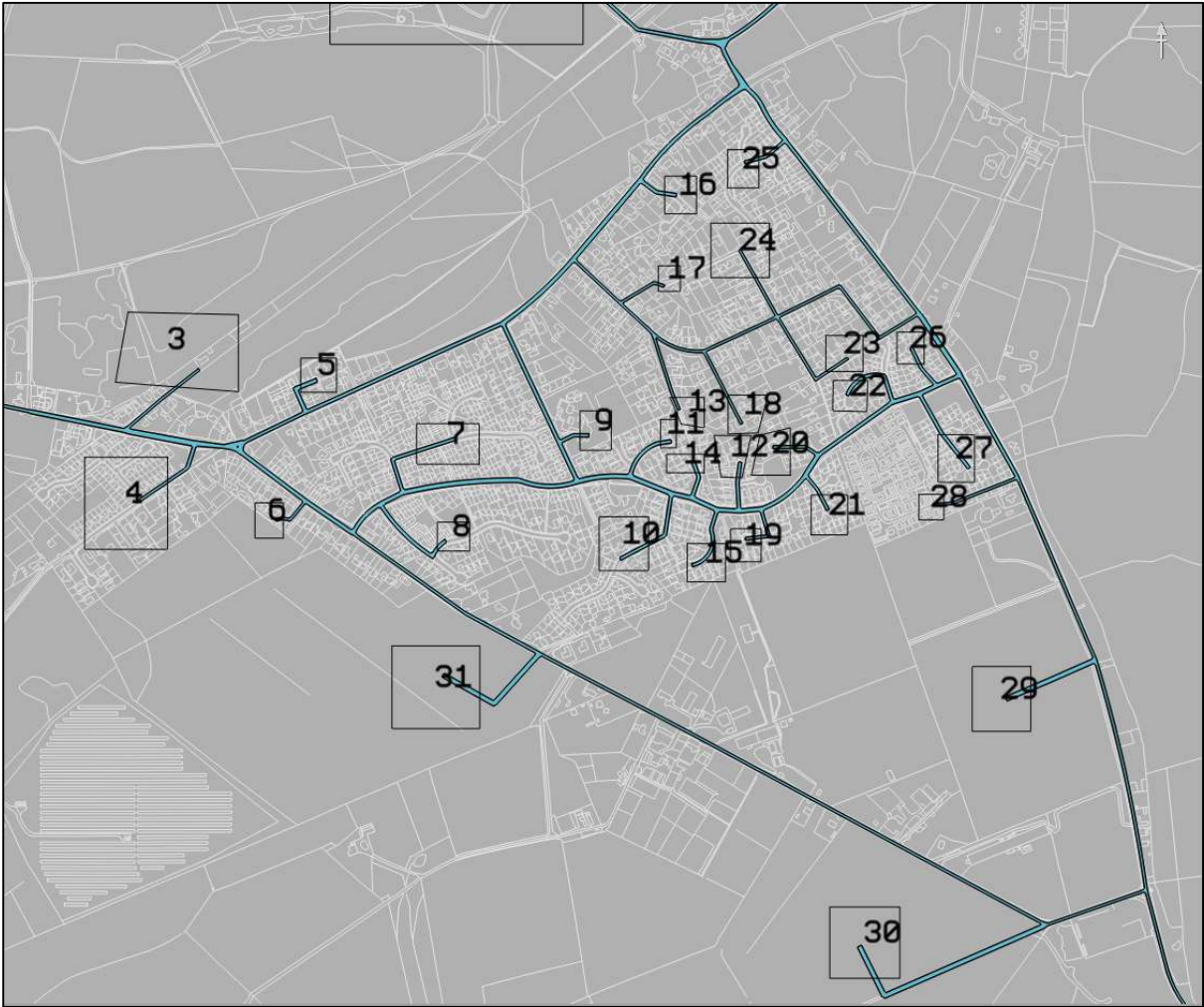


Figure 3.3 – Alderholt Village Network

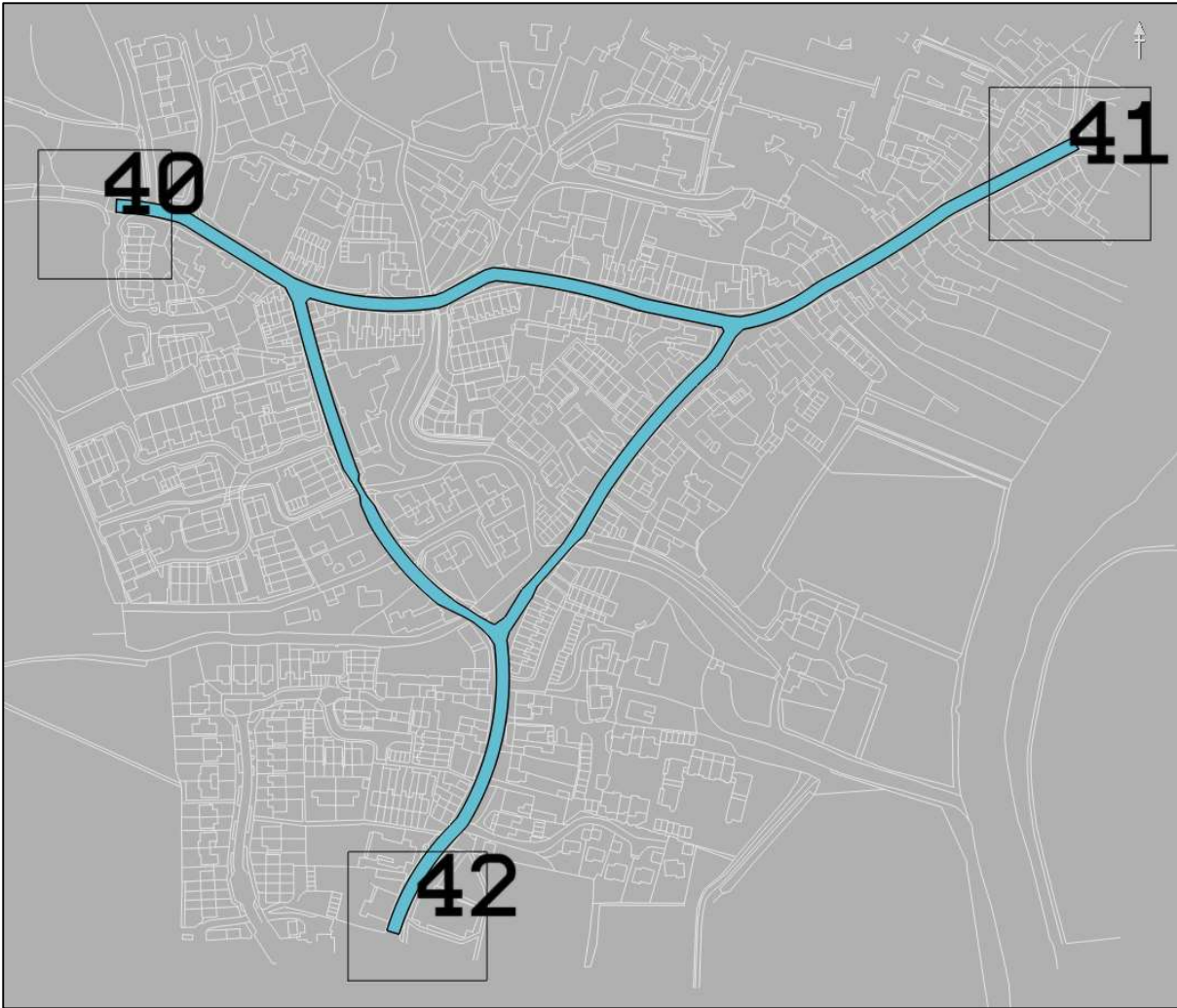


Figure 3.4 – Fordingbridge Triangle



Figure 3.5 – Cranborne Centre



Figure 3.6 – Alderholt Mill

- 3.2 The model has been developed using guidance contained in the Department for Transport’s TAG Unit M3.1 – Highway Assignment Modelling, and the Microsimulation Consultancy Good Practice Guide.
- 3.3 To accurately replicate the road network a background map (DXF) was created from the topographic area data using MapInfo. This DXF network shows the essential positions of kerbs, road width dimensions, position of stop lines and general junction layouts. An image from Google Maps was also used to position the layout of the Station Road / Daggons Road / Ringwood Road junction.
- 3.4 All major and the important minor junctions within the study area have been modelled.

Speed limits

- 3.5 Speed limits within the model have been checked and set as per the actual road speed limits. The only adjustments to this are at Pressey’s Corner, where speeds were reduced to 30mph to reflect sharp bends, and Ringwood Road (southern end), where speed was reduced from 60 mph to 50 mph. Data from the automatic traffic count showed mean vehicle speeds to be around 35 mph with very few vehicles recorded over 50 mph on this stretch of road.

Signalised Junctions and Pedestrian crossings

- 3.6 There are no signalised junctions or pedestrian crossings within the model extents.

Public Transport

- 3.7 There were no public service bus routes during the peak hours. There were 4 school bus routes – 3 in the AM and 1 in the PM peak – which have been included and listed in **Table 3.1**.
- 3.8 Bus stops in the Alderholt village extents have been included. These were added according to the Dorset Council school bus routes information and the Damory school bus services timetable:

- <https://www.dorsetcouncil.gov.uk/education-and-training/school-transport/school-bus-routes/cranborne-county-middle-school-bus-route.aspx>,
- <https://www.dorsetcouncil.gov.uk/education-and-training/school-transport/school-bus-routes/the-burgate-school-bus-route.aspx>,
- <https://www.damory.co.uk/timetables/schools/q11/>.

Service	Operator	Route	(Per Hour) AM	(Per Hour) PM
MP007	Damory	Cranborne County Middle School	1	0
MP013	Damory	The Burgate School	1	0
Q11	Damory	Alderholt to Queen Elizabeth School	1	1

Table 3.1 – Bus Services Included in Model

Default settings

- 3.9 Where possible the default settings have been retained. However, familiarity settings were altered from 0% to 85% for cars and LGVs, and 65% for MGVs and HGVs. The assumption is that Alderholt is not on a main route between major origin-destination centres, so most of the traffic using the roads in Alderholt will be familiar with the area. Full details of model parameters are included in **Appendix A**.

Model Zones

- 3.10 The model contains 44 zones in total, 9 of which are used in the satellite models. The zones are essentially entry and exit points on the model for traffic. Zones are listed in **Table 3.2** and shown graphically in **Figures 3.1 to 3.6**.

Zone	Description
1	B3078 Hare Lane West
2	Batterley Drove
3	Station Road
4	Blackwater Close
5	Station Road
6	Attwood Close
7	Apple Tree Road / Alder Drive
8	Pine Road / Oak Road
9	St James First School
10	Broomfield Drive
11	Bramble Close
12	Beech Close
13	Antell's Way
14	Ash Close
15	Fern Close
16	Down Lodge Close
17	Hayters Way
18	South Hill
19	Hazel Close
20	Tudor Close
21	Saxon Way
22	Green Drive
23	Fir Tree Hill / Camel Green Road
24	Hayters Way
25	Windsor Way
26	Gilbert Close
27	Wren Gardens
28	Hillbury Park
29	Proposed development
30	Proposed development
31	Proposed development

32	Kent Lane
33	Harbridge Drove
34	Fordingbridge Road
35	Sandleheath Road
36	Cranborne: Wimborne Street
37	Cranborne: B3078 Castle Street
38	Cranborne: B3078 Wimborne Street
39	Cranborne: Church Street
40	Fordingbridge: Station Road
41	Fordingbridge: B3078 High Street
42	Fordingbridge: B3078 Church Street
43	Alderholt Mill: Alderholt Road
44	Alderholt Mill: Sandleheath Road

Table 3.2 – Model Zones

4.0 MATRIX DEVELOPMENT

4.1 Trip matrices were developed for the following time periods:

- AM Period: 0700-1000
- PM Period: 1600-1900

The sub levels for each period being,

- Car & Light Goods Vehicles (LGV or LV)
- Heavy Goods Vehicles (HGV) – including OGV1 & OGV2

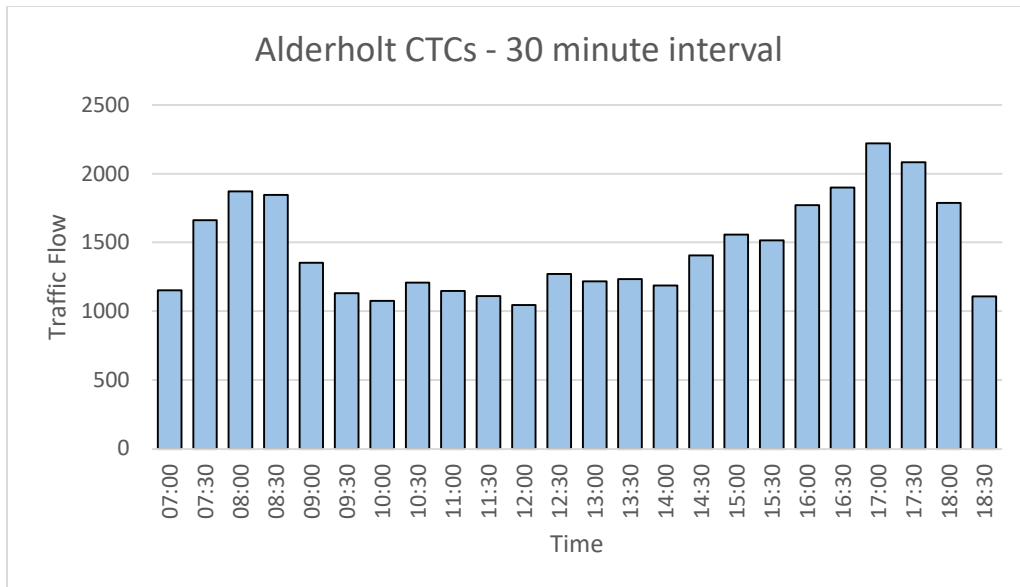


Figure 4.1 – Alderholt 30-minute Traffic Flow Profile

4.2 Data from the manual traffic counts shows the AM peak hour to be 08:00 – 09:00 and the PM peak hour to be 17:00 – 18:00 and the model has been calibrated against these peaks.

Release Profiles

4.3 Traffic release profiles for Cars and LGVs were developed from 15-minute interval Classified Junction Counts available at each survey location. These profiles were also used for HGVs as there were too few of these vehicle types observed to create their own profile.

4.4 Different profiles have been developed for the AM and PM time periods.

4.5 The profiles are assigned to origin and destination zones where appropriate.

Route Choice Costs

4.6 As there is route choice available in the model network, the values of driver familiarity, and the generalised cost equation have been altered to represent the most likely routing options for origin-destination trips, according to the observed data. As

mentioned in paragraph 3.9, familiarity settings were altered from 0% to 85% for cars and LGVs, and 65% for MGVs and HGVs

- 4.7 Generalised costs were calculated for Pence Per Minute (PPM) and Pence Per Kilometre (PPK) values for 2019. First the AM and PM peaks were calculated separately and then an average was taken to be used across the model. Figures are shown in **Table 4.1**.

Type	Description	Time (a)	Distance (b)	Tolls (c)
1	Car	18.51	11.15	0.00
2	Light Goods Vehicle	23.22	11.43	0.00
3	Medium Goods Vehicle	23.92	34.55	0.00
4	Heavy Goods Vehicle	23.92	34.55	0.00
5	Coach	1.00	0.00	0.00
8	Cycle	1.00	0.00	0.00

Table 4.1 – PPM and PPK average values for 2019

5.0 MODEL CALIBRATION

Overview

- 5.1 The model calibration process was carried out following the guidance in the 'Microsimulation Consultancy Good Practice Guide', to achieve a satisfactory representation of traffic flows and conditions within the base year model.
- 5.2 The Design Manual for Roads and Bridges (DMRB) Volume 12 defines calibration as “...the process of adjusting the parameters used in the various mathematical relationships within the model to reflect the data as well as is necessary to satisfy the model objectives.”
- 5.3 The validation criteria and acceptability guidelines for link flows and turning movements defined in Table 3.1 are used to assess the acceptable performance of a traffic model are set out in the TAG Unit M3.1. They are shown again here in **Table 5.1**.

Network Calibration

- 5.4 Using guidance from the Microsimulation Consultancy Good Practice guide (P2-5) Urban Major link coding has been applied to the main roads in the model, with the side and minor roads coded as Urban Minor. This approach best represents the modelled area.
- 5.5 Junction calibration parameters have been applied to the network to ensure individual modelled junctions best represent observed conditions. This involves stop line and kerb position amendments to ensure the correct vehicle trajectories are used when traversing junctions.

Matrix Calibration

- 5.6 **Table 5.1** gives advice on acceptable values of the main validation measures mentioned for hourly flows and suggests how validation should relate to the magnitude of the values being compared. A model that does not meet these guidelines may still be acceptable for appraisal of a given scheme if the discrepancies are within survey accuracies and the larger discrepancies are concentrated away from the area of greatest importance to that scheme. Conversely, a model that passes the guidelines but has significant discrepancies on the most crucial links may be unacceptable
- 5.7 The validation criteria and acceptability guidelines for link flows and turning movements defined are set out in the TAG Unit M3.1 and shown here in **Table 5.1**.

Link flow and turning movement validation criteria and acceptability guidelines		
Criteria	Description of criteria	Acceptability guideline
1	Individual flows within 100 veh/h of counts for flows less than 700 veh/h	> 85% of cases
	Individual flows within 15% of counts for flows from 700 to 2,700 veh/h	> 85% of cases
	Individual flows within 400 veh/h of counts for flows more than 2,700 veh/h	> 85% of cases
2	GEH < 5 for individual flows	> 85% of cases

Table 5.1 – TAG Unit M3.1 Criteria Summary Table for Traffic Flows

5.8 The two peak hours assessed against observed traffic flows are as follows

- AM Peak: 0800 0900
- PM peak: 1700-1800

5.9 The output flows from the model have been collated and averaged, based on the results of 5 runs of the model using a random seed. A seed for a random number generator is used in Paramics to randomise release times from zones. The use of different seeds tests the sensitivity and stability of the model as well as providing a proxy for the daily variations in traffic flow that occur and make up the weekday average traffic flows to which the model is validated.

5.10 The GEH statistic is used in the validation of a model to compare the difference between an observed flow and an assigned flow and is defined as follows:

$$GEH = \sqrt{\frac{(M - C)^2}{(M + C)/2}}$$

Where M is the modelled flow and C is the observed flow

Traffic Flow Calibration

5.11 The full calibration results for the AM and PM peaks are contained in **Appendix B**. The results are summarised in **Table 5.2** and **Table 5.3** for the AM and PM peaks respectively.

Criteria and Measure		Acceptability Guideline	Calibration		
Flow Criteria			Total links	Modelled links	% met
Observed	Modelled	Requirement			
<700 vph	+/-100vph	>85% of links	80	80	100%
700-2700 vph	+/-15%	>85% of links	0	0	100%
GEH Criteria					
GEH < 5 for individual flows	Calibration	>85% of links	80	79	98.8%

Table 5.2 – AM Peak Summary – All Vehicles

Criteria and Measure		Acceptability Guideline	Calibration		
Flow Criteria			Total links	Modelled links	% met
Observed	Modelled	Requirement			
<700 vph	+/-100vph	>85% of links	80	80	100%
700-2700 vph	+/-15%	>85% of links	0	0	100%
GEH Criteria					
GEH < 5 for individual flows	Calibration	>85% of links	80	80	100%

Table 5.3 – PM Peak Summary – All Vehicles

5.12 Overall the model calibrates extremely well, and all criteria is met. All observations are less than 700 vehicles per hour. At all locations the difference between modelled and vehicle flows are less than 100 vehicles per hour.

- 5.13 In the AM peak only one location has a GEH value greater than 5 (Earlswood Drive to Birchwood Drive). Indeed, only one other location has a GEH value great than 4 (Birchwood Drive East to Birchwood Drive West).
- 5.14 In the PM peak no locations have a GEH value greater than 5. One location has a GEH value great than 4 (Earlswood Drive to Birchwood Drive).

6.0 MODEL VALIDATION

Overview

6.1 Traffic models are traditionally validated against traffic counts independent of the calibration process and against journey times. Because of the small size of this model, there are no locations for independent traffic counts. Therefore, the model has been validated against journey times.

Journey Time Validation

6.2 Modelled journey times have been validated against journey time data collected on the routes shown in **Figure 2.8** earlier in the report.

6.3 Observed journey times have been extracted from the 'Highways Analyst' web-based system. The latest available data from 2018 was used.

6.4 Modelled journey times were derived by creating journey time paths in the model representing the North-South & East-West journey time routes as described in **Table 2.4** earlier. Modelled journey times were collected for each direction in the 2 peak hours (0800-0900 and 1700-1800) taking the average from 5 seeded runs.

6.5 TAG Unit M3.1 states: "For journey time validation, the measure which should be used is: the percentage difference between modelled and observed journey times, subject to an absolute maximum difference". The validation criterion and acceptability guideline for journey times are defined in **Table 6.1**.

Criteria	Acceptability Guideline
Modelled times along routes should be within 15% of surveyed times (or 1 minute, if higher than 15%)	>85% of routes

Table 6.1 – Journey Time Validation Criterion and Acceptability Guideline

6.6 The TAG Unit M3.1 guidelines suggest that total model journey time should be within 15% of the observed average time or within one minute if higher for more than 85% of cases.

6.7 Comparisons of modelled and observed journey times are shown in **Table 6.2** for the AM peak hour and **Table 6.3** for the PM peak hour.

Route	Description	Obs. (s)	Mod. (s)	Diff: mod - obs	% Diff.	Criteria Met?
1a	B3078 – Batterley Dr. to Fordingbridge Rd	265	258	7	3%	YES
1b	B3078 – Fordingbridge Rd to Batterley Dr.	292	253	40	14%	YES
2a	Ringwood Rd – Harbridge Dr. to B3078	131	102	29	22%	YES
2b	Ringwood Rd – B3078 to Harbridge Dr.	131	103	28	22%	YES
3a	Hillbury Road – Kent Lane to B3078	172	156	15	9%	YES
3b	Hillbury Road – Kent Lane to B3078	172	155	17	10%	YES

Table 6.2 – AM Peak Journey Time Validation Routes

Route	Description	Obs. (s)	Mod. (s)	Diff: mod – obs	% Diff.	Criteria Met?
1a	B3078 – Batterley Dr. to Fordingbridge Rd	265	258	7	3%	YES
1b	B3078 – Fordingbridge Rd to Batterley Dr.	265	253	12	5%	YES
2a	Ringwood Rd – Harbridge Dr. to B3078	124	103	21	17%	YES
2b	Ringwood Rd – B3078 to Harbridge Dr.	124	102	22	18%	YES
3a	Hillbury Road – Kent Lane to B3078	172	158	14	8%	YES
3b	Hillbury Road – Kent Lane to B3078	172	156	16	9%	YES

Table 6.3 – PM Peak Journey Time Validation Routes

6.8 **Table 6.4** shows a summary of the results of the observed and modelled journey times for the AM and PM Peak hours.

Peak	Total routes	Total meeting criteria	% meeting criteria
AM Peak (0800-0900)	6	6	100%
PM Peak (1700-1800)	6	6	100%

Table 6.4 – Journey Time Validation Summary Results

6.9 Distance vs Time graphs can be found in **Appendix C**. These are useful to determine where delays are occurring along the specified route. The modelled outputs should replicate the observed data with respect to delays and times along the route. However, it is common that traffic models exhibit faster journey times than those observed as not every ‘minor’ incident is modelled, e.g. slowing down for parked cars or vulnerable road users.

6.10 For both peaks, all routes are within one minute of observed journey times. In fact, the greatest difference is 29 seconds along Ringwood Road NB in the AM peak. Two routes exhibit journey times greater than 15% faster than observed, however, they meet the criteria because the modelled journey times are within one minute of the observed. B3078 route replicates the observed journey times particularly well in both peaks.

7.0 SUMMARY

- 7.1 Dorset Council's Transportation Modelling Team have developed the Alderholt traffic model using Paramics Discovery Software.
- 7.2 The model has been built following guidelines contained within the Department for Transport's TAG Unit M3.1 – Highway Assignment Modelling, and the Microsimulation Consultancy Good Practice Guide.
- 7.3 The model has been developed for a base year of 2019 using traffic flow and journey time survey data.
- 7.4 The model replicates observed flows in the AM peak very well achieving 98.8% with a GEH of < 5, within the guidelines.
- 7.5 In the PM peak, the model again replicates observed flows extremely well achieving 100% with a GEH of < 5, well within the guidelines.
- 7.6 The model also validates against observed journey times – all routes are within one minute of observed times.
- 7.7 This report shows that the model exhibits good calibration and validation in both time periods. It can therefore be considered as 'Fit for Purpose' as a base for the development of future forecasts and for testing local schemes in the study area.

Appendix A

Model settings

Settings - Paramics Discovery
✕

Simulation

Timesteps for the model

Release

Release type Precise
 Stochastic

Preserve link choice False

Queueing

Minimum number of vehicles

Behaviour

Mean headway

Minimum gap

Aggression distribution



Awareness distribution



Signals

Red/amber time

Red/amber reaction delay

Amber time

Amber reaction delay

Units

Acceleration metres per sec per sec
 feet per sec per sec

Distance metres
 feet

Speed metres per sec
 miles per hour
 kilometres per hour

Weight tonnes metric measurement
 tons imperial measurement

CSV Export

Link name format Double colon, Excel compatible (1::2)
 Single Colon (1:2)

Routeing settings - Paramics Discovery

Generalised cost
Dynamic assignment

Specify generalised cost for all vehicle types
 individual vehicle types

All vehicle types

Type	Description	Time (a)	Distance (b)	Tolls (c)
	All	1.00	0.00	0.00

Individual vehicle types

Type	Description	Time (a)	Distance (b)	Tolls (c)
1	Car	18.51	11.15	0.00
2	Light Goods Vehicle	23.22	11.43	0.00
3	Medium Goods Vehicle	23.92	34.55	0.00
4	Heavy Goods Vehicle	23.92	34.55	0.00
5	Coach	1.00	0.00	0.00
8	Cycle	1.00	0.00	0.00

Generalised cost equation
 Generalised cost = (a * T) + (b * i * D) + (c * j * P)
 a = Time coefficient T = Travel time
 b = Distance coefficient i = Distance unit conversion factor D = Distance
 c = Toll coefficient j = Tolls unit conversion factor P = Toll price

Routeing settings - Paramics Discovery

Generalised cost
Dynamic assignment

Enabled

Interval 02:00

Smoothing factor 0.5

Enabled
Familiar drivers will include the delay on the network in their route calculation.

Vehicle types

Car

	Value	Default value
Fixed route	False	False
Perturbation	0.00%	0.00%
Familiarity	85.00%	0.00%
PCUs	1.00	1.00
Average age	2	2
Length	4.00 m	4.00 m
Width	1.60 m	1.60 m
Height	1.30 m	1.30 m
Weight	0.80 tonne	0.80 tonne
Number of sections	1	1
Speed	100.00 mph	100.00 mph
Acceleration	2.50 mpss	2.50 mpss
Deceleration	-4.50 mpss	-4.50 mpss
Drag	0.00	0.00
Inertia	0.00	0.00

Light Goods Vehicle

	Value	Default value
Fixed route	False	False
Perturbation	0.00%	0.00%
Familiarity	85.00%	0.00%
PCUs	1.00%	1.00
Average age	2	2
Length	6.00 m	6.00 m
Width	2.30 m	2.30 m
Height	2.60 m	2.60 m
Weight	2.50 tonne	2.50 tonne
Number of sections	1	1
Speed	80.00 mph	80.00 mph
Acceleration	1.80 mpss	1.80 mpss
Deceleration	-3.90 mpss	-3.90 mpss
Drag	0.00%	0.00
Inertia	0.00%	0.00

Medium Goods Vehicle

	Value	Default value
Fixed route	False	False
Perturbation	0.00%	0.00%
Familiarity	65.00%	0.00%
PCUs	1.90	1.90
Average age	2	2
Length	8.00 m	8.00 m
Width	2.40 m	2.40 m
Height	3.40 m	3.40 m
Weight	15.00 tonne	15.00 tonne
Number of sections	1	1
Speed	65.00 mph	65.00 mph
Acceleration	1.10 mpss	1.10 mpss
Deceleration	-3.20 mpss	-3.20 mpss
Drag	0.00	0.00
Inertia	0.00	0.00
Max age multiplier	0.20	0.20
Proportion of acceleration due to gravity	0.57	0.57
Offset at zero incline	0.00	0.00
Max age reduction	0.80	0.80
Power base	6.00	6.00
Power divisor	7.00	7.00
Incline divisor	80.00	0.01

Heavy Goods Vehicle

	Value	Default value
Fixed route	False	False
Perturbation	0.00%	0.00%
Familiarity	65.00%	0.00%
PCUs	2.90	2.90
Average age	2	2
Length	11.00 m	11.00 m
Width	2.50 m	2.50 m
Height	3.40 m	3.40 m
Weight	38.00 tonne	38.00 tonne
Number of sections	2	2
Speed	65.00 mph	65.00 mph
Acceleration	1.40 mpss	1.40 mpss
Deceleration	-3.70 mpss	-3.70 mpss
Drag	0.00	0.00
Inertia	0.00	0.00
Max age multiplier	0.20	0.20
Proportion of acceleration due to gravity	0.57	0.57
Offset at zero incline	0.00	0.00
Max age reduction	0.80	0.80
Power base	6.00	6.00
Power divisor	7.00	7.00
Incline divisor	80.00	0.01

Coach

	Value	Default value
Fixed route	False	False
Perturbation	0.00%	0.00%
Familiarity	0.00%	0.00%
PCUs	2.50	2.50
Average age	2	2
Length	10.00 m	10.00 m
Width	2.50 m	2.50 m
Height	3.10 m	3.10 m
Weight	12.00 tonne	12.00 tonne
Number of sections	1	1
Speed	80.00 mph	80.00 mph
Acceleration	1.20 mpss	1.20 mpss
Deceleration	-3.70 mpss	-3.70 mpss
Drag	0.00	0.00
Inertia	0.00	0.00

Double Decker Bus

	Value	Default value
Fixed route	True	True
PCUs	2.50	2.50
Average age	2	2
Length	10.00m	10.00 m
Width	2.50 m	2.50 m
Height	3.85 m	3.85 m
Weight	12.00 tonne	12.00 tonne
Number of sections	1	1
Speed	40.00 mph	40.00 mph
Acceleration	0.90 mpss	0.90 mpss
Deceleration	-3.20 mpss	-3.20 mpss
Drag	0.00	0.00
Inertia	0.00	0.00

Single Decker Bus

	Value	Default value
Fixed route	True	True
PCUs	2.50	2.50
Average age	2	2
Length	10.00 m	10.00 m
Width	2.50 m	2.50 m
Height	3.00 m	3.00 m
Weight	11.00 tonne	11.00 tonne
Number of sections	1	1
Speed	65.00 mph	65.00 mph
Acceleration	0.90 mpss	0.90 mpss
Deceleration	-3.20 mpss	-3.20 mpss
Drag	0.00	0.00
Inertia	0.00	0.00

Model path and name

T:\Projects\Active Projects as at Go Live Date \ 9000s \ TM9999 \ J225_Alderholt \ Paramics \ Base \ v3 \ Alderholt v3 – v2204.paramics

Appendix B

Turning Count Calibration AM & PM Peaks

Alderholt Paramics Model 2019 – Modelling Report

CTC	Junction	From Arm	To Arm	count	Date	Count				Modelled (vehicle types)				Dif.(%)	Dif. (Abs.)	98%	GEH	
						Car	LGV	OGV	BUS	TOTAL	Car	LGV	OGV					BUS
2	B3078 Hare Ln/Batterley Dr node 3	Hare Lane (West)	Hare Lane (East)	50463	19/06/2019	63	13	5	0	81	67	13	3	0	83	3.0%	2	0.26
2		Hare Lane (West)	Batterley Drive	50463	19/06/2019	2	0	0	0	2	4	1	0	0	5	160.0%	3	1.69
2		Hare Lane (East)	Batterley Drive	50463	19/06/2019	67	5	8	1	80	78	12	3	0	93	15.8%	13	1.36
2		Hare Lane (East)	Hare Lane (West)	50463	19/06/2019	81	6	1	2	88	84	14	2	0	100	13.2%	12	1.20
2		Batterley Drive	Hare Lane (West)	50463	19/06/2019	4	0	1	1	5	5	1	1	0	6	28.0%	1	0.59
2	B3078 Station Rd/Ringwood Rd node 21	Batterley Drive	Hare Lane (East)	50463	19/06/2019	55	11	4	1	70	60	11	1	0	72	2.9%	2	0.24
3		Daggons Road	Station Road	50464	19/06/2019	127	14	4	1	145	113	25	3	0	141	-2.8%	-4	0.33
3		Daggons Road	Ringwood Road	50464	19/06/2019	52	9	3	0	64	54	8	1	0	63	-1.3%	-1	0.10
3		Station Road	Ringwood Road	50464	19/06/2019	16	0	1	0	17	17	5	1	0	24	38.8%	7	1.46
3		Station Road	Daggons Road	50464	19/06/2019	94	15	6	2	115	106	16	3	0	126	9.4%	11	0.98
3	B3078 Station Rd/Hillbury Rd node 30	Ringwood Road	Daggons Road	50464	19/06/2019	69	6	2	1	77	59	9	1	0	70	-9.6%	-7	0.86
3		Ringwood Road	Station Road	50464	19/06/2019	34	2	0	0	36	26	4	0	0	31	-14.4%	-5	0.90
4		Hillbury Road (South)	Station Road	50465	19/06/2019	15	4	1	2	20	14	2	0	0	16	-22.0%	-4	1.04
4		Hillbury Road (South)	Hillbury Road (North)	50465	19/06/2019	116	10	1	0	127	111	18	3	0	132	3.9%	5	0.44
4		Station Road	Hillbury Road (North)	50465	19/06/2019	206	26	5	1	237	189	36	3	0	228	-3.6%	-9	0.56
4	B3078 Fordingbridge Rd/Sandleheath Rd node 32	Station Road	Hillbury Road (South)	50465	19/06/2019	20	3	0	0	23	9	1	0	0	10	-56.5%	-13	3.20
4		Hillbury Road (North)	Hillbury Road (South)	50465	19/06/2019	77	10	1	1	88	72	15	0	0	87	-0.9%	-1	0.09
4		Hillbury Road (North)	Station Road	50465	19/06/2019	107	15	5	0	127	96	17	5	0	117	-7.7%	-10	0.89
5		B3078 Fordingbridge Rd	Hillbury Road	50466	19/06/2019	119	21	4	0	144	114	21	4	0	139	-3.2%	-5	0.39
5		B3078 Fordingbridge Rd	Sandleheath Road	50466	19/06/2019	1	0	1	2	2	2	1	1	0	4	110.0%	2	1.25
5	Ringwood Rd/Hillbury Rd node 42	Hillbury Road	Sandleheath Road	50466	19/06/2019	103	11	2	1	116	95	16	2	0	113	-2.2%	-3	0.24
5		Hillbury Road	B3078 Fordingbridge Rd	50466	19/06/2019	208	29	4	0	241	204	38	4	0	246	2.2%	5	0.35
5		Sandleheath Road	B3078 Fordingbridge Rd	50466	19/06/2019	8	0	1	0	9	5	1	1	0	7	-20.0%	-2	0.63
5		Sandleheath Road	Hillbury Road	50466	19/06/2019	62	5	2	1	69	54	10	1	0	65	-5.2%	-4	0.44
6		Harbridge Drive	Ringwood Road	50467	19/06/2019	30	4	1	0	35	27	4	1	0	32	-9.7%	-3	0.59
6	Earlswood Dr/Park Ln node 73	Harbridge Drive	Hillbury Road	50467	19/06/2019	55	5	2	1	62	61	10	1	0	73	17.4%	11	1.32
6		Ringwood Road	Hillbury Road	50467	19/06/2019	3	3	0	0	6	0	0	0	0	0	-100.0%	-6	3.46
6		Ringwood Road	Harbridge Drive	50467	19/06/2019	67	7	3	0	77	79	15	1	0	95	23.6%	18	1.96
6		Hillbury Road	Harbridge Drive	50467	19/06/2019	132	12	1	1	145	134	26	0	0	160	10.1%	15	1.18
6		Hillbury Road	Ringwood Road	50467	19/06/2019	4	1	0	0	5	0	0	0	0	0	-100.0%	-5	3.16
7	Earlswood Dr/Ringwood Rd node 53	Birchwood Drive	Earlswood Drive	50468	19/06/2019	20	1	0	0	21	15	2	0	0	17	-21.0%	-4	1.01
7		Birchwood Drive	Park Lane	50468	19/06/2019	15	1	0	0	16	15	2	0	0	17	3.8%	1	0.15
7		Earlswood Drive	Park Lane	50468	19/06/2019	31	5	0	0	36	28	4	0	0	32	-10.6%	-4	0.65
7		Earlswood Drive	Birchwood Drive	50468	19/06/2019	31	1	0	0	32	7	1	0	0	8	-74.4%	-24	5.31
7		Park Lane	Birchwood Drive	50468	19/06/2019	15	0	0	0	15	11	2	0	0	13	-14.7%	-2	0.59
7	Earlswood Dr/Pine Rd node 76	Park Lane	Earlswood Drive	50468	19/06/2019	9	0	0	0	9	8	1	0	0	9	4.4%	0	0.13
8		Earlswood Drive	Ringwood Road (South)	50469	19/06/2019	21	1	1	0	23	23	6	1	0	30	30.4%	7	1.36
8		Earlswood Drive	Ringwood Road (North)	50469	19/06/2019	48	4	0	1	52	38	6	1	0	46	-12.3%	-6	0.92
8		Ringwood Road (South)	Ringwood Road (North)	50469	19/06/2019	40	3	1	0	44	22	4	0	0	25	-42.7%	-19	3.20
8		Ringwood Road (South)	Earlswood Drive	50469	19/06/2019	1	0	0	0	1	5	0	1	0	6	520.0%	5	2.74
8	Birchwood Dr/Hillbury Rd node 39	Ringwood Road (North)	Earlswood Drive	50469	19/06/2019	20	4	0	0	24	13	3	1	0	17	-30.0%	-7	1.59
8		Ringwood Road (North)	Ringwood Road (South)	50469	19/06/2019	43	5	3	0	51	55	9	0	0	65	27.1%	14	1.81
9		Hillbury Road (South)	Birchwood Drive	50470	19/06/2019	13	0	0	1	13	12	1	0	0	13	0.0%	0	0.00
9		Hillbury Road (South)	Hillbury Road (North)	50470	19/06/2019	54	7	2	0	63	53	10	2	0	64	2.0%	1	0.18
9		Birchwood Drive	Hillbury Road (North)	50470	19/06/2019	51	1	0	1	52	38	8	0	0	46	-10.8%	-6	0.80
9	Earlswood Dr/Ringwood Rd node 53	Birchwood Drive	Hillbury Road (South)	50470	19/06/2019	38	2	0	0	40	54	10	0	0	63	58.5%	23	3.25
9		Hillbury Road (North)	Hillbury Road (South)	50470	19/06/2019	92	12	1	1	105	80	16	0	0	96	-8.4%	-9	0.88
9		Hillbury Road (North)	Birchwood Drive	50470	19/06/2019	14	2	0	0	16	8	1	0	0	10	-38.8%	-6	1.73
10		Earlswood Drive (West)	Pine Road	50471	19/06/2019	2	0	0	0	2	4	0	0	0	4	80.0%	2	0.96
10		Earlswood Drive (West)	Earlswood Drive (East)	50471	19/06/2019	49	5	1	1	55	46	8	2	0	56	2.5%	1	0.19
10	Earlswood Dr/Alder Dr node 75	Pine Road	Earlswood Drive (East)	50471	19/06/2019	13	2	0	0	15	16	4	0	0	20	30.7%	5	1.11
10		Pine Road	Earlswood Drive (West)	50471	19/06/2019	9	0	0	0	9	8	2	0	0	10	8.9%	1	0.26
10		Earlswood Drive (East)	Earlswood Drive (West)	50471	19/06/2019	22	2	0	0	24	14	3	1	0	18	-23.3%	-6	1.22
10		Earlswood Drive (East)	Pine Road	50471	19/06/2019	1	1	0	0	2	4	1	0	0	5	130.0%	3	1.43
11		Earlswood Drive (West)	Earlswood Drive (East)	50472	19/06/2019	33	2	0	1	35	18	2	0	0	20	-42.3%	-15	2.82
11	Birchwood Dr/Broomfield Dr node 71	Earlswood Drive (West)	Alder Drive/Apple Tree Road	50472	19/06/2019	3	0	0	0	3	5	1	0	0	6	86.7%	3	1.25
11		Earlswood Drive (East)	Alder Drive/Apple Tree Road	50472	19/06/2019	8	0	0	0	8	9	1	2	0	12	47.5%	4	1.21
11		Earlswood Drive (East)	Earlswood Drive (West)	50472	19/06/2019	23	2	0	0	25	14	3	0	0	17	-32.8%	-8	1.79
11		Alder Drive/Apple Tree Road	Earlswood Drive (West)	50472	19/06/2019	23	4	0	0	27	21	3	0	0	24	-12.6%	-3	0.68
11		Alder Drive/Apple Tree Road	Earlswood Drive (East)	50472	19/06/2019	18	3	1	0	22	32	6	2	0	40	80.9%	18	3.20
12	Birchwood Dr/Wren Gdns node 63	Birchwood Drive (West)	Broomfield Drive	50473	19/06/2019	2	0	0	0	2	1	1	0	0	1	-40.0%	-1	0.63
12		Birchwood Drive (West)	Birchwood Drive (East)	50473	19/06/2019	27	2	1	0	30	16	2	0	0	18	-38.7%	-12	2.36
12		Broomfield Drive	Birchwood Drive (West)	50473	19/06/2019	7	0	0	0	7	9	2	0	0	11	4	1.21	
12		Broomfield Drive	Birchwood Drive (East)	50473	19/06/2019	6	0	0	0	6	12	1	0	0	13	113.3%	7	2.22
12		Birchwood Drive (East)	Birchwood Drive (West)	50473	19/06/2019	43	1	0	0	44	16	4	0	0	20	-54.1%	-24	4.20
12	CEMEX Quarry node 125	Birchwood Drive (East)	Broomfield Drive	50473	19/06/2019	2	0	0	0	2	2	0	0	0	2	10.0%	0	0.14
13		Birchwood Drive (East)	Wren Gardens	50474	19/06/2019	2	1	0	0	3	4	0	0	0	4	33.3%	1	0.53
13		Birchwood Drive (East)	Birchwood Drive (West)	50474	19/06/2019	24	0	0	1	24	16	2	0	0	19	-22.5%	-5	1.17
13		Wren Gardens	Birchwood Drive (East)	50474	19/06/2019	11	0	0	0	11	13	3	0	0	15	40.0%	4	1.21
13		Wren Gardens	Birchwood Drive (West)	50474	19/06/2019	6	0	0	0	6	1	0	0	0	2	-73.3%	-4	2.26
13	Kent Lane node 123	Birchwood Drive (West)	Birchwood Drive (East)	50474	19/06/2019	75	3	0	1	78	75	13	0	0	88	13.1%	10	1.12
13		Birchwood Drive (West)	Wren Gardens	50474	19/06/2019	2	1	0	0	3	1	0	0	0	1	-53.3%	-2	1.08

Alderholt Paramics Model 2019 – Modelling Report

CTC	Junction	From Arm	To Arm	count	Date	Count				Modelled (vehicle types)				Dif.(%)	Dif. (Abs.)	99%	GEH	
						Car	LGV	OGV	BUS	TOTAL	Car	LGV	OGV					BUS
2	B3078 Hare Ln/Batterley Dr node 3	Hare Lane (West)	Hare Lane (East)	50463	19/06/2019	46	8	0	0	54	51	8	0	0	59	8.5%	5	0.61
2		Hare Lane (West)	Batterley Drive	50463	19/06/2019	5	1	0	0	6	5	2	0	0	7	13.3%	1	0.32
2		Hare Lane (East)	Batterley Drive	50463	19/06/2019	122	13	1	0	136	121	18	1	0	140	3.1%	4	0.36
2		Hare Lane (East)	Hare Lane (West)	50463	19/06/2019	101	17	1	0	119	101	16	2	0	119	0.2%	0	0.02
2		Batterley Drive	Hare Lane (West)	50463	19/06/2019	8	1	0	0	9	6	1	0	0	7	-17.8%	-2	0.56
2	Batterley Drive	Hare Lane (East)	50463	19/06/2019	84	6	0	0	90	92	13	1	0	106	17.6%	16	1.60	
3	B3078 Station Rd/Ringwood Rd node 21	Daggons Road	Station Road	50464	19/06/2019	100	17	0	0	117	99	15	1	0	116	-1.2%	-1	0.13
3		Daggons Road	Ringwood Road	50464	19/06/2019	65	3	1	0	69	53	8	0	0	61	-11.3%	-8	0.97
3		Station Road	Ringwood Road	50464	19/06/2019	36	9	0	0	45	35	4	1	0	39	-12.4%	-6	0.86
3		Station Road	Daggons Road	50464	19/06/2019	205	22	2	0	229	182	28	3	0	213	-7.1%	-16	1.09
3		Ringwood Road	Daggons Road	50464	19/06/2019	81	15	1	0	97	73	9	1	0	83	-14.6%	-14	1.50
3	Ringwood Road	Station Road	50464	19/06/2019	21	3	1	0	25	26	2	0	0	28	12.8%	3	0.62	
4	B3078 Station Rd/Hillbury Rd node 30	Hillbury Road (South)	Station Road	50465	19/06/2019	18	5	0	0	23	14	1	0	0	15	-33.9%	-8	1.78
4		Hillbury Road (South)	Hillbury Road (North)	50465	19/06/2019	49	14	0	0	63	61	7	0	0	68	7.6%	5	0.59
4		Station Road	Hillbury Road (North)	50465	19/06/2019	93	14	2	0	109	107	17	2	0	126	15.4%	17	1.55
4		Station Road	Hillbury Road (South)	50465	19/06/2019	12	4	1	0	17	8	0	0	0	8	-50.6%	-9	2.41
4		Hillbury Road (North)	Hillbury Road (South)	50465	19/06/2019	163	20	0	0	183	173	21	0	0	195	6.3%	12	0.84
4	Hillbury Road (North)	Station Road	50465	19/06/2019	268	33	2	0	303	274	39	4	0	316	4.4%	13	0.76	
5	B3078 Fordingbridge Rd/Sandleheath Rd node 32	B3078 Fordingbridge Road	Hillbury Road	50466	19/06/2019	279	33	2	0	314	295	43	4	0	342	8.8%	28	1.52
5		B3078 Fordingbridge Road	Sandleheath Road	50466	19/06/2019	3	1	0	0	4	6	1	1	0	8	90.0%	4	1.49
5		Hillbury Road	Sandleheath Road	50466	19/06/2019	50	10	1	0	61	51	6	2	0	59	-3.6%	-2	0.28
5		Hillbury Road	B3078 Fordingbridge Road	50466	19/06/2019	92	19	1	0	112	117	17	0	0	134	20.0%	22	2.02
5		Sandleheath Road	B3078 Fordingbridge Road	50466	19/06/2019	3	2	0	0	5	8	1	1	0	10	96.0%	5	1.76
5	Sandleheath Road	Hillbury Road	50466	19/06/2019	147	21	0	0	168	152	18	0	0	169	0.8%	1	0.11	
6	Ringwood Rd/Hillbury Rd node 42	Harbridge Drive	Ringwood Road	50467	19/06/2019	70	15	1	0	86	101	13	1	0	115	33.7%	29	2.89
6		Harbridge Drive	Hillbury Road	50467	19/06/2019	103	16	0	0	119	114	14	0	0	128	7.9%	9	0.85
6		Ringwood Road	Hillbury Road	50467	19/06/2019	3	1	0	0	4	0	0	0	0	0	-100.0%	-4	2.83
6		Ringwood Road	Harbridge Drive	50467	19/06/2019	31	2	0	0	33	28	6	0	0	33	1.2%	0	0.07
6		Hillbury Road	Harbridge Drive	50467	19/06/2019	129	17	0	0	146	113	15	0	0	128	-12.2%	-18	1.52
6	Hillbury Road	Ringwood Road	50467	19/06/2019	4	1	0	0	5	0	0	0	0	0	-100.0%	-5	3.16	
7	Earlswood Dr/Park Ln node 73	Birchwood Drive	Earlswood Drive	50468	19/06/2019	26	4	0	0	30	9	2	0	0	10	-66.0%	-20	4.42
7		Birchwood Drive	Park Lane	50468	19/06/2019	11	0	0	0	11	10	2	0	0	12	10.9%	1	0.35
7		Earlswood Drive	Park Lane	50468	19/06/2019	16	3	0	0	19	13	2	0	0	15	-18.9%	-4	0.87
7		Earlswood Drive	Birchwood Drive	50468	19/06/2019	20	3	0	0	23	17	2	0	0	19	-16.5%	-4	0.83
7		Park Lane	Birchwood Drive	50468	19/06/2019	14	0	0	0	14	16	2	0	0	17	22.9%	3	0.81
7	Park Lane	Earlswood Drive	50468	19/06/2019	26	3	0	0	29	37	5	0	0	42	46.2%	13	2.24	
8	Earlswood Dr/Ringwood Rd node 53	Earlswood Drive	Ringwood Road (South)	50469	19/06/2019	11	2	0	0	13	7	2	0	0	9	-29.2%	-4	1.14
8		Earlswood Drive	Ringwood Road (North)	50469	19/06/2019	23	2	1	0	26	26	2	0	0	29	10.8%	3	0.53
8		Ringwood Road (South)	Ringwood Road (North)	50469	19/06/2019	60	11	2	0	73	71	9	1	0	81	10.4%	8	0.87
8		Ringwood Road (South)	Earlswood Drive	50469	19/06/2019	17	4	0	0	21	28	4	0	0	32	54.3%	11	2.21
8		Ringwood Road (North)	Earlswood Drive	50469	19/06/2019	54	4	0	0	58	47	6	0	0	53	-9.0%	-5	0.70
8	Ringwood Road (North)	Ringwood Road (South)	50469	19/06/2019	36	2	1	0	39	20	4	0	0	24	-38.5%	-15	2.67	
9	Birchwood Dr/Hillbury Rd node 39	Hillbury Road (South)	Birchwood Drive	50470	19/06/2019	42	7	0	0	49	51	7	0	0	59	19.6%	10	1.31
9		Hillbury Road (South)	Hillbury Road (North)	50470	19/06/2019	58	12	0	0	70	61	6	0	0	67	-3.7%	-3	0.31
9		Birchwood Drive	Hillbury Road (North)	50470	19/06/2019	19	7	0	0	26	18	2	0	0	20	-23.1%	-6	1.25
9		Birchwood Drive	Hillbury Road (South)	50470	19/06/2019	12	2	0	0	14	14	3	0	0	17	21.4%	3	0.76
9		Hillbury Road (North)	Hillbury Road (South)	50470	19/06/2019	121	19	1	0	141	105	13	0	0	117	-16.7%	-24	2.08
9	Hillbury Road (North)	Birchwood Drive	50470	19/06/2019	28	3	0	0	31	44	5	0	0	50	60.0%	19	2.93	
10	Earlswood Dr/Pine Rd node 76	Earlswood Drive (West)	Pine Road	50471	19/06/2019	7	2	0	0	9	12	3	0	0	15	66.7%	6	1.73
10		Earlswood Drive (West)	Earlswood Drive (East)	50471	19/06/2019	24	2	0	0	26	22	3	0	0	25	-2.3%	-1	0.12
10		Pine Road	Earlswood Drive (East)	50471	19/06/2019	9	1	0	0	10	12	1	0	0	12	22.0%	2	0.66
10		Pine Road	Earlswood Drive (West)	50471	19/06/2019	3	1	0	0	4	5	0	0	0	5	25.0%	1	0.47
10		Earlswood Drive (East)	Earlswood Drive (West)	50471	19/06/2019	59	6	0	0	65	56	7	0	0	64	-2.2%	-1	0.17
10	Earlswood Drive (East)	Pine Road	50471	19/06/2019	12	2	0	0	14	19	3	0	0	22	58.6%	8	1.93	
11	Earlswood Dr/Alder Dr node 75	Earlswood Drive (West)	Earlswood Drive (East)	50472	19/06/2019	22	3	0	0	25	20	3	0	0	24	-5.6%	-1	0.28
11		Earlswood Drive (West)	Alder Drive/Apple Tree Road	50472	19/06/2019	13	2	0	0	15	26	3	0	0	29	92.0%	14	2.95
11		Earlswood Drive (East)	Alder Drive/Apple Tree Road	50472	19/06/2019	33	3	0	0	36	40	5	0	0	46	26.7%	10	1.50
11		Earlswood Drive (East)	Earlswood Drive (West)	50472	19/06/2019	29	4	0	0	33	21	2	0	0	23	-30.3%	-10	1.89
11		Alder Drive/Apple Tree Road	Earlswood Drive (West)	50472	19/06/2019	8	1	0	0	9	9	2	0	0	12	28.9%	3	0.81
11	Alder Drive/Apple Tree Road	Earlswood Drive (East)	50472	19/06/2019	9	1	0	0	10	14	2	0	0	17	68.0%	7	1.86	
12	Birchwood Dr/Broomfield Dr node 71	Birchwood Drive (West)	Broomfield Drive	50473	19/06/2019	9	1	0	0	10	9	1	0	0	10	0.0%	0	0.00
12		Birchwood Drive (West)	Birchwood Drive (East)	50473	19/06/2019	33	4	0	0	37	16	2	0	0	19	-49.7%	-18	3.49
12		Broomfield Drive	Birchwood Drive (West)	50473	19/06/2019	1	0	0	0	1	3	0	0	0	4	260.0%	3	1.71
12		Broomfield Drive	Birchwood Drive (East)	50473	19/06/2019	4	0	0	0	4	3	1	0	0	4	10.0%	0	0.20
12		Birchwood Drive (East)	Birchwood Drive (West)	50473	19/06/2019	31	1	0	0	32	15	2	0	0	17	-45.6%	-15	2.94
12	Birchwood Drive (East)	Broomfield Drive	50473	19/06/2019	4	1	0	0	5	14	2	0	0	16	212.0%	11	3.30	
13	Birchwood Dr/Wren Gdns node 63	Birchwood Drive (East)	Wren Gardens	50474	19/06/2019	15	0	0	0	15	12	2	0	0	14	-8.0%	-1	0.32
13		Birchwood Drive (East)	Birchwood Drive (West)	50474	19/06/2019	55	8	0	0	63	78	11	0	0	89	41.0%	26	2.96
13		Wren Gardens	Birchwood Drive (East)	50474	19/06/2019	5	2	0	0	7	7	0	0	0	7	0.0%	0	0.00
13		Wren Gardens	Birchwood Drive (West)	50474	19/06/2019	1	0	0	0	1	1	0	0	0	2	60.0%	1	0.53
13		Birchwood Drive (West)	Birchwood Drive (East)	50474	19/06/2019	29	7	0	0	36	24	4	0	0	28	-21.1%	-8	1.34
13	Birchwood Drive (West)	Wren Gardens	50474	19/06/2019	6	0	0	0	6	2	0	0	0	3	-56.7%	-3	1.64	

Alderholt Paramics Model 2019 – Modelling Report

ZONE	ROAD	DIR.	Count					Modelled (vehicle types)					Dif.(%)	Dif. (Abs.)	GEH
			Car	LGV	OGV	BUS	TOTAL	Car	LGV	OGV	BUS	TOTAL			
1	B3078 West	IN to Model					79	72	14	3	0	89	12.2%	10	1.05
1	B3078 West	OUT of Model					98	89	15	3	0	106	8.0%	8	0.77
2	Batterley Drove	IN to Model					88	65	12	2	0	78	-10.9%	-10	1.05
2	Batterley Drove	OUT of Model					91	83	13	3	0	98	7.9%	7	0.74
4	Blackwater Close	IN to Model					44	49	10	0	0	59	34.5%	15	2.12
4	Blackwater Close	OUT of Model					16	14	1	0	0	15	-3.8%	-1	0.15
7	Apple Tree Rd/Alder Drive	IN to Model	41	7	1	0	49	52	9	2	0	63	29.4%	14	1.92
7	Apple Tree Rd/Alder Drive	OUT of Model	11	0	0	0	11	13	2	2	0	17	56.4%	6	1.65
8	Pine Road/Oak Road	IN to Model	22	2	0	0	24	24	5	0	0	29	22.5%	5	1.05
8	Pine Road/Oak Road	OUT of Model	3	1	0	0	4	7	1	0	0	8	105.0%	4	1.70
10	Broomfield Drive	IN to Model	13	0	0	0	13	21	3	0	0	23	80.0%	10	2.44
10	Broomfield Drive	OUT of Model	4	0	0	0	4	3	1	0	0	3	-15.0%	-1	0.31
25	Windsor Way	IN to Model					25	32	5	1	0	38	50.4%	13	2.25
25	Windsor Way	OUT of Model					12	12	2	0	0	14	18.3%	2	0.61
27	Wren Gardens	IN to Model	17	0	0	0	17	14	3	0	0	17	0.0%	0	0.00
27	Wren Gardens	OUT of Model	4	2	0	0	6	5	0	0	0	5	-10.0%	-1	0.25
28	Hillbury Park	IN to Model					12	9	2	1	0	11	-6.7%	-1	0.23
28	Hillbury Park	OUT of Model					3	5	1	0	0	6	93.3%	3	1.33
32	Kent Lane	IN to Model	33	5	0	0	38	42	6	0	0	48	26.8%	10	1.55
32	Kent Lane	OUT of Model	41	4	0	0	45	53	8	1	0	62	36.9%	17	2.27
33	Harbridge Drove	IN to Model	57	8	3	1	68	56	10	2	0	69	1.2%	1	0.10
33	Harbridge Drove	OUT of Model	163	16	3	1	182	170	34	1	0	205	12.7%	23	1.67
34	Fordingbridge Road	IN to Model					146	117	22	5	0	144	-1.2%	-2	0.15
34	Fordingbridge Road	OUT of Model					250	209	39	5	0	253	1.3%	3	0.20
35	Sandleheath Rd	IN to Model					78	59	11	3	0	73	-6.7%	-5	0.60
35	Sandleheath Rd	OUT of Model					118	98	17	3	0	118	0.0%	0	0.00

AM Calibration

ZONE	ROAD	DIR.	Count					Modelled (vehicle types)					Dif.(%)	Dif. (Abs.)	GEH
			Car	LGV	OGV	BUS	TOTAL	Car	LGV	OGV	BUS	TOTAL			
1	B3078 West	IN to Model					78	56	10	0	0	65	-16.2%	-13	1.49
1	B3078 West	OUT of Model					138	108	17	2	0	127	-7.8%	-11	0.94
2	Batterley Drove	IN to Model					84	98	14	1	0	113	34.8%	29	2.94
2	Batterley Drove	OUT of Model					138	127	20	1	0	147	6.8%	9	0.79
4	Blackwater Close	IN to Model					23	22	3	0	0	26	11.3%	3	0.53
4	Blackwater Close	OUT of Model					42	38	5	1	0	44	4.3%	2	0.27
7	Apple Tree Rd/Alder Drive	IN to Model	17	2	0	0	19	23	4	1	0	28	49.5%	9	1.93
7	Apple Tree Rd/Alder Drive	OUT of Model	46	5	0	0	51	66	9	0	0	74	45.9%	23	2.96
8	Pine Road/Oak Road	IN to Model	12	2	0	0	14	16	1	0	0	17	22.9%	3	0.81
8	Pine Road/Oak Road	OUT of Model	19	4	0	0	23	32	5	0	0	38	63.5%	15	2.65
10	Broomfield Drive	IN to Model	5	0	0	0	5	7	1	0	0	8	60.0%	3	1.18
10	Broomfield Drive	OUT of Model	13	2	0	0	15	23	2	0	0	25	68.0%	10	2.28
25	Windsor Way	IN to Model					11	16	2	0	0	19	69.1%	8	1.98
25	Windsor Way	OUT of Model					28	35	4	0	0	39	40.0%	11	1.93
27	Wren Gardens	IN to Model	6	2	0	0	8	8	1	0	0	9	7.5%	1	0.21
27	Wren Gardens	OUT of Model	21	0	0	0	21	14	2	0	0	16	-21.9%	-5	1.06
28	Hillbury Park	IN to Model					3	2	0	0	0	2	-33.3%	-1	0.63
28	Hillbury Park	OUT of Model					9	9	2	0	0	10	13.3%	1	0.39
32	Kent Lane	IN to Model	100	14	0	0	114	130	17	0	0	147	28.9%	33	2.89
32	Kent Lane	OUT of Model	15	0	0	0	15	17	3	0	0	20	30.7%	5	1.11
33	Harbridge Drove	IN to Model	90	17	1	0	108	111	13	1	0	124	15.2%	16	1.52
33	Harbridge Drove	OUT of Model	160	22	0	0	182	148	22	0	0	170	-6.6%	-12	0.90
34	Fordingbridge Road	IN to Model					318	301	44	4	0	350	9.9%	32	1.73
34	Fordingbridge Road	OUT of Model					117	126	18	1	0	145	23.8%	28	2.43
35	Sandleheath Rd	IN to Model					173	159	19	1	0	179	3.6%	6	0.47
35	Sandleheath Rd	OUT of Model					65	57	7	2	0	66	1.8%	1	0.15

PM Calibration

Appendix C

Journey Time routes Distance vs. Time AM & PM Peaks

