

TOWN AND COUNTRY PLANNING ACT 1990

**APPEAL BY KENT INTERNATIONAL GATEWAY LTD
APPU2235/A/09/2096565/NWF**

**PROPOSED RAIL FREIGHT INTERCHANGE, WAREHOUSING AND ASSOCIATED
DEVELOPMENT**

APPLICATION MA/07/2092 LAND EAST OF MAIDSTONE

KCC HIGHWAYS

SUPPLEMENTARY APPENDICES

PETER ROSEVEAR

ON BEHALF OF KENT COUNTY COUNCIL

**TOWN AND COUNTRY PLANNING (INQUIRIES PROCEDURE) (ENGLAND)
RULES 2000**

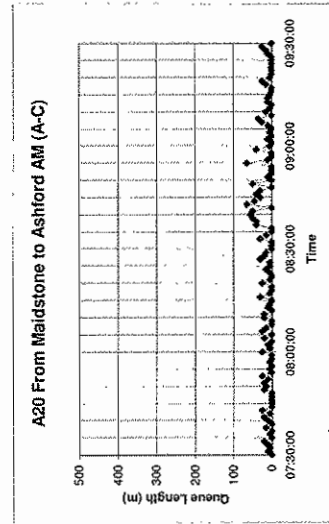
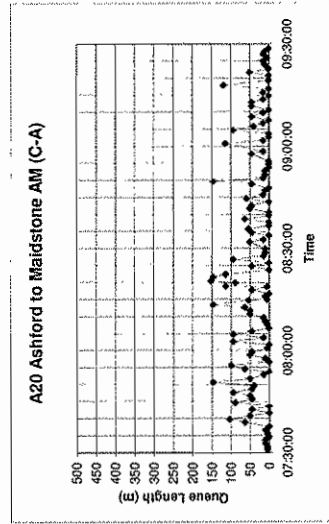
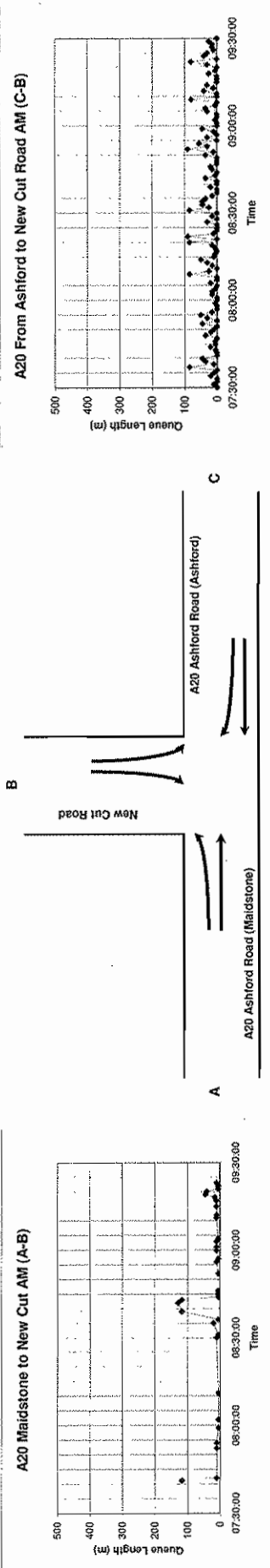
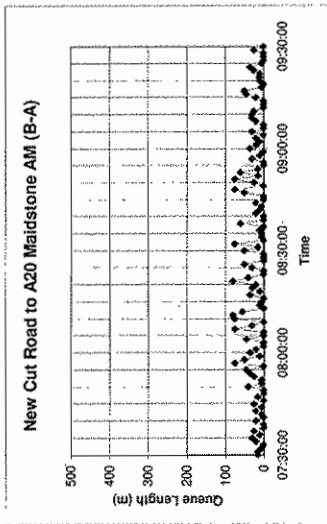
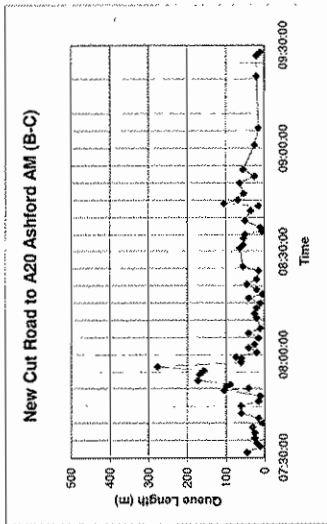
Appendix S1

Queue Surveys

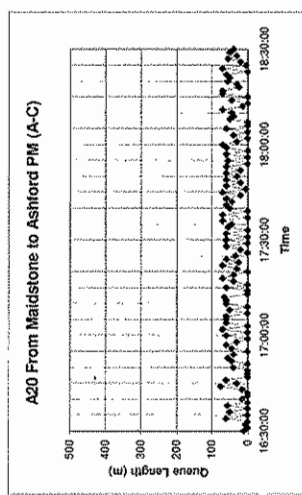
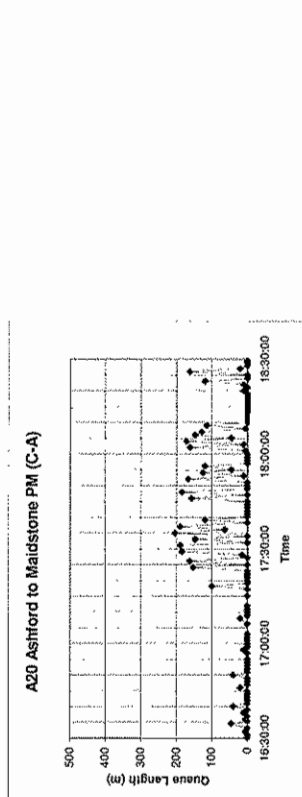
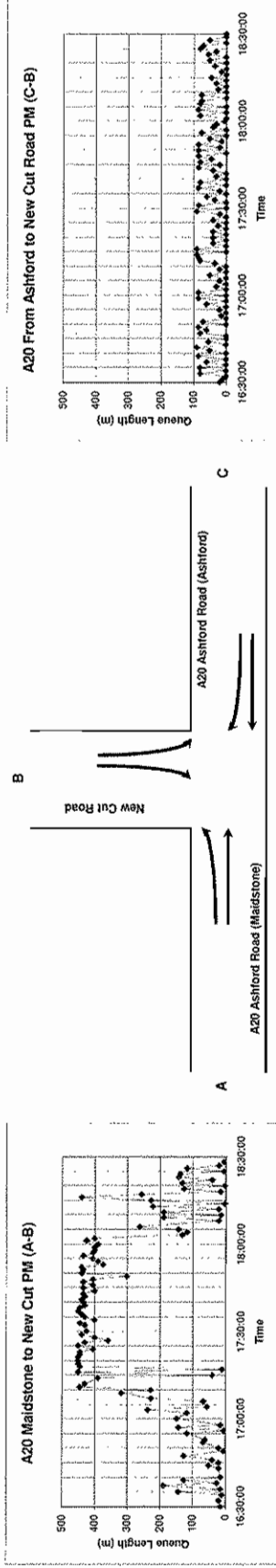
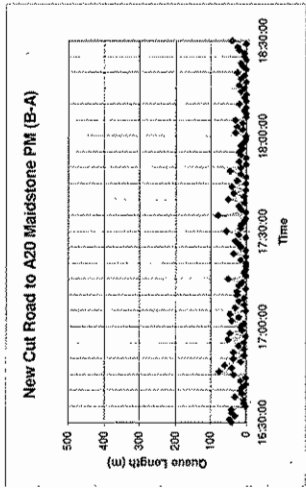
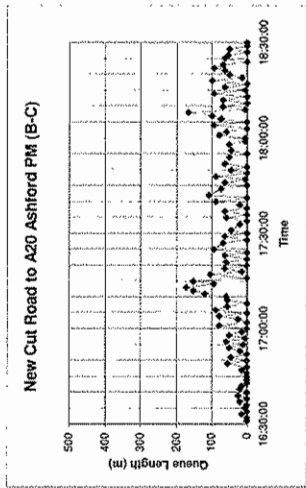
A20 Ashford Road junctions with Willington Street
and New Cut Road

Survey – May 2008

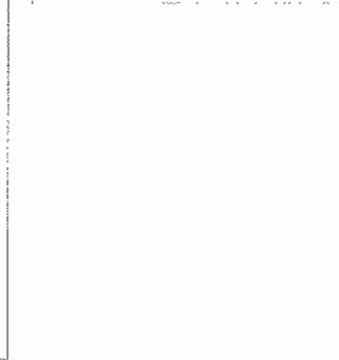
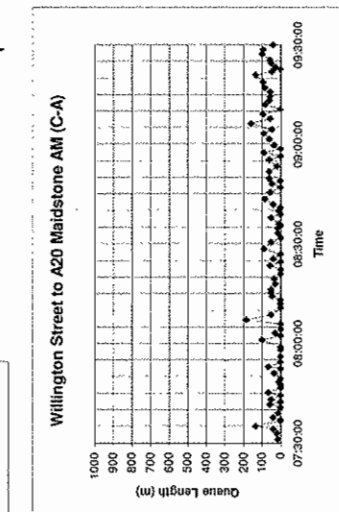
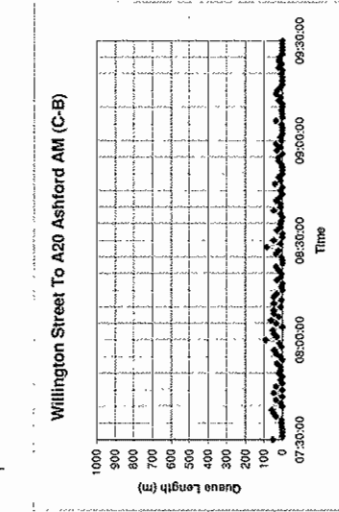
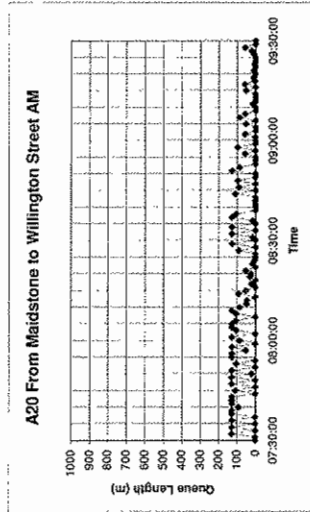
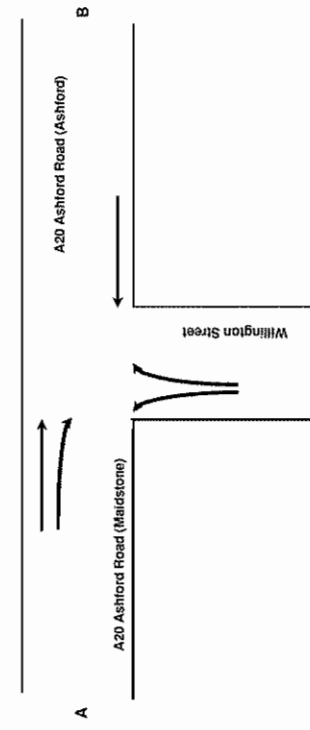
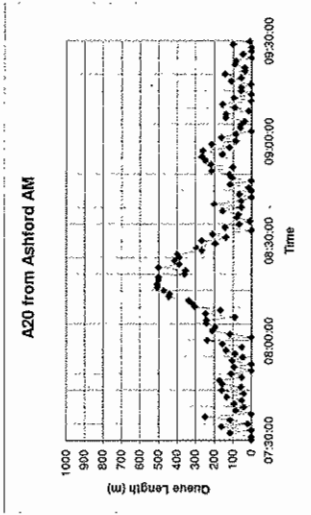
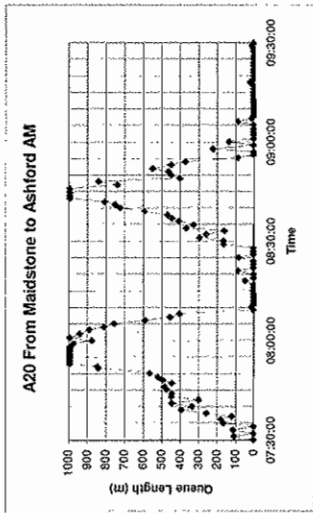
AM Queue lengths A20 Ashford Road Junction with New Cut Road Maidstone



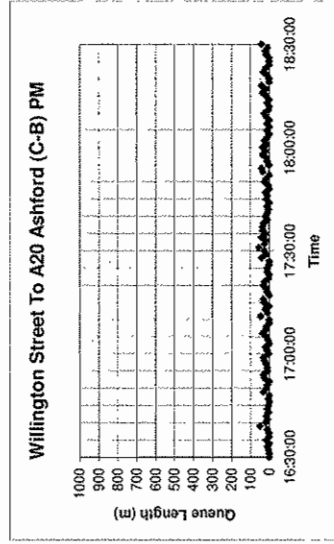
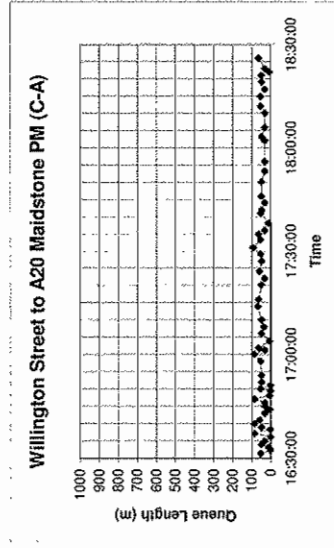
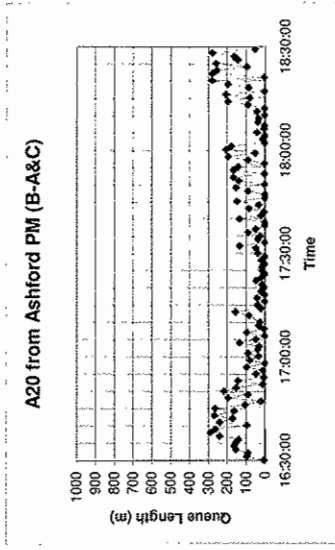
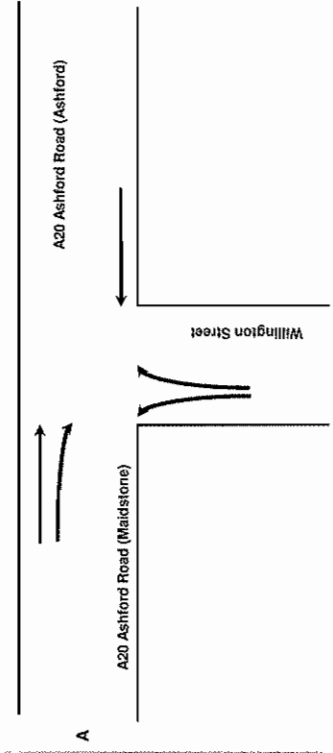
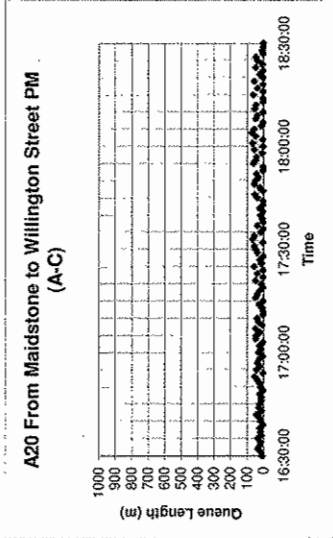
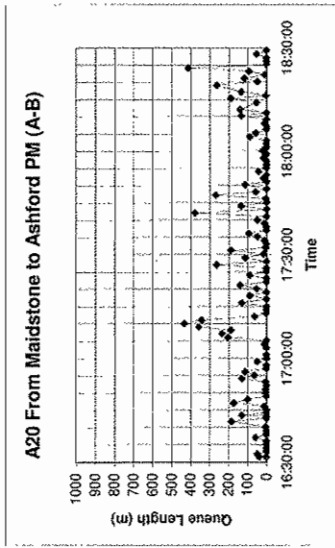
PM Queue lengths A20 Ashford Road Junction with New Cut Road Maidstone



AM Queue lengths A20 Ashford Road Junction with Willington Street Maidstone



PM Queue lengths A20 Ashford Road Junction with Willington Street Maidstone



Appendix S2

Maidstone Modelling Review (Technical Note 04)

Parsons Brinckerhoff – August 2009

October 2009

HIGHWAYS AGENCY

MAIDSTONE VISUM MODEL REVIEW

MAIDSTONE MODELLING REVIEW

TECHNICAL NOTE 04

21 AUGUST 2009

PROJECT: HTT91271A / 1093.1

1 INTRODUCTION

1.1.1 This note will set out the findings from our review of the Maidstone VISUM model created by Jacobs to assist with assessment of future developments in the Maidstone area.

1.1.2 The review and comment that follows is based on a number of reports that include:

- Maidstone Multi Modal Transport Model: Local Model Validation Report (LMVR), Jacobs, May 2009;
- Maidstone VISUM Model: Interim Forecasting Report for 2017 and 2026, Jacobs, May 2009;
- Kent International Gateway: Review of Development Trip Distribution and Generation (DRAFT), Jacobs, March 2009;
- Maidstone VISUM Model: HA Data Request, Jacobs, July 2009;
- Maidstone New Growth Point (MNGP) Final Report, Parsons Brinckerhoff, March 2008.

1.1.3 The purpose of this review is to address the following questions:

- How well does the base year model validate, particularly on the SRN?
- Are the assumptions regarding development trip generation and distribution reasonable?
- What is the effect of these development trips on the operation of the M20 junctions?
- Is the model fit for purpose for the Kent International Gateway (KIG) inquiry and the forthcoming LDF?

1.1.4 This review is limited to the contents of the various reports and additional information received from Jacobs, as the model itself was not available during the review period.

2 BASE YEAR MODEL

2.1 General Comments

2.1.1 The base year model LMVR for the Maidstone VISUM model appears satisfactory for the original purpose of this model which was to undertake a multi modal transport model for the town of Maidstone. The reported link flows and journey times all validate to DMRB standards.

2.2 Operation of M20

2.2.1 We have compared the outputs of the VISUM model to the Maidstone New Growth Project final report. The MNGP and Maidstone VISUM models both contain the M20 between junctions 4 and 8 in their study areas.

2.2.2 Both models validate to DMRB standards, but due to having different base years, there is some difference in the observed flows used for the validation process. Table 1 below gives the modelled and observed flows from the two models in the base year (2006 for MNGP and 2007/8 for the Maidstone VISUM model) morning peak period and assesses whether they pass the DMRB criteria.

2.3.2 The SRN is outside of the detailed study area and it does not appear to be validated to DMRB criteria for turning movements on the M20 across the whole study area, as identified in Table 2 to Table 4. When validating the model, Jacobs would have concentrated on validating the key junctions within Maidstone, paying less attention to those on the edge of the study area, such as the M20 Junctions.

2.4 Base Year Conclusion

2.4.1 As the purpose of the VISUM model is for a strategic overview of the whole of Maidstone, we would suggest that the base year is fit for purpose in this respect. We have further checked the LMVR to understand whether the model reasonably replicates movements of the M20, which is slightly outside the detailed study area that has been validated. The M20 mainline flows validate, but the turning flows at M20 Junctions 5, 6 and 8 do not.

2.4.2 On this basis we cannot confirm that the model is fit for purpose for the assessment of the KIG planning application and therefore suggest that we do a first principles assessment where the flows are calculated manually. The resultant flows could then be compared to those contained in the model with the intention of seeing how well the model actually represents the KIG scenario.

2.4.3 In respect of the model's intended purpose to inform the Maidstone LDF, we have some concerns with the turning movements identified at other junctions on the network for the application of this model to directly understand the impact of the LDF on the M20. However, it is our view that these concerns can be addressed at a later date, as and when it is intended to utilise the model for this purpose in the future.

3 BACKGROUND GROWTH

3.1 Maidstone VISUM Assumptions

3.1.1 Background growth has been applied to the base year matrices in the Maidstone VISUM model using growth factors from TEMPRO 5.3. The predicted increase in both the population and number of jobs in Maidstone were excluded from the growth factors to prevent double counting later in the study when these factors were modelled as future developments. Therefore the background growth factors only reflect the predicted increases in economic growth, car ownership and use.

3.1.2 The background growth rates derived using this method are detailed in Appendix A of the Interim Forecasting Report, split by VISUM zone number and trip purpose. The numbers reported are consistent with the output from TEMPRO for the relevant time period and journey purpose.

3.2 Study Area 'Through' Trips

3.2.1 TEMPRO was used in the Maidstone VISUM model to estimate the growth of trips between zones outside of the central study area, which are not affected by the proposed developments in and around Maidstone. The average value for growth in car driver and passenger trips in the South East were taken from TEMPRO 5.3 datasets to estimate the increase in these trips travelling through the study area.

3.2.2 Table 5 shows the growth factors used for the external trips passing through the study area.

Table 5: Through Trip Growth Factors – SE Region

Period	2007 – 2017	2007 – 2026
AM Peak	1.08	1.13
PM Peak	1.11	1.13

3.2.3 The validation of base year traffic flows on the mainline of the M20 is satisfactory; therefore it is likely that the volume and distribution of long-distance trips passing through the study area is also acceptable.

- 4.3.4 In 2007, before the construction of the Urban Extension, the largest movements are from the neighbouring zones in the morning peak, returning in the evening. The largest movements out of the zones where the Urban Extension is planned are to the external zones in the morning peak, returning in the evening.
- 4.3.5 In 2017 and 2026, as the Urban Extension is constructed and occupied, the number of trips entering and leaving the zones rises significantly, with the majority travelling between the Urban Extension and both Maidstone town centre and the external zones covering the rest of Kent.
- 4.3.6 The distribution of trip-ends and route selection, for the zones of interest outlined above, appear to be satisfactory based on the model screenshots illustrating the distribution of traffic to and from these zones, as presented in the 'HA Data Request' document.

4.4 Modal Split

- 4.4.1 Details of the modal split in the morning peak for both 2017 and 2026 have been presented for the requested zones covering the Urban Extension, the Eclipse business park and the Kent International Gateway. The modal splits for trips to and from these zones are consistent with the values that would be expected from similar developments in current times. However, they do not take into account the changing travel habits that are expected over the next 20 years. One of the key requirements of the urban extension will be to achieve a significantly lower proportion by private car than is currently being assumed in the model at 75%.

4.5 Model Convergence Issues

- 4.5.1 The Urban Extension residential development, located to the south-east of Maidstone, was originally planned to be 5000 units and subsequently increased to 6000 units, to be completed by 2026. The size of this development has been reduced to 2000 units in the forecasting models to aid conversion, as explained in the 'HA Data Request' document:

"The 2026 preliminary models developed to date are based on the 2017 scenario of park and ride provision and bus services. The rail and bus fares and parking costs remain unaltered from the base model. Initial runs of the 2026 model with background growth and the full urban extension revealed an overloaded and unbalanced network with excessive delays. Subsequent 2026 models included 2000 homes as the first step in attempting to reach a reasonable balanced state. The outcome of the first preliminary runs of these models indicates there are still significant delays across the network which affects the traffic distribution.

The next stage of the modelling process will be to reflect alternative policy and strategy options to manage demand within the model."

- 4.5.2 It is our understanding that this is being completed to enable a worse case assessment in 2026 and then Jacobs will apply trip reduction measures to reduce trips in the model. This will then demonstrate the benefits and importance of the trip reduction measures.
- 4.5.3 Until a future year 2026 model can be converged, with all 6000 dwellings for the urban extension units can be achieved, it is not possible to agree to the use of the model for assessments in 2026.

4.6 M20 Junction Performance in 2017

- 4.6.1 Junction performance data from the 2017 VISUM model has also been presented for M20 Junctions 5, 7 and 8, along with the A249 / Bearsted Rd roundabout and the A20 / M20 Link roundabout. In each case, data for both the morning and evening peak periods are included in the 'HA Data Request' document. For each approach to these junctions, the average delay per vehicle, the expected traffic volume and the 95th percentile queue length have been extracted from the model.

Appendix S3

Draft Maidstone Hub Transport Package

October 2009

Romney Place Bus Lane (Bus Mall Access Imp.)	£100,000	£68.4m
Linton Crossroads Safety & Capacity Improvement	£1,000,000	£69.4m
Maidstone Quality Bus Partnership Route Improvement Programme for Shepway Estate	£500,000	£69.9m
Maidstone QBP General Bus Stop Upgrading (Shelters, Raised Kerbs etc) at £20,000 per annum	£300,000	£70.2m
Town Centre Bus Stop Provision	£500,000	£70.7m
Maidstone Cycle Network	£2,000,000	£72.7m
Maidstone Mobility/Accessibility Network (improved pedestrian crossing points)	£300,000	£73m
B2163 Heath Road & B. Monchelsea/C. Sutton Parishes traffic calming	£200,000	£73.2m
A274 Sutton Valence Safety Improvement (pedestrian crossing + c'way widening)	£200,000	£73.4m
KHS Total		£73.4m
M20 Junction Improvement Works as required by the Highways Agency	£10,000,000	approx £85m
		KHS + HA

<u>Proposal</u>	<u>Estimated Cost</u>	<u>Cumulative Cost</u>
South East Maidstone Strategic Link	£45,000,000	£45m
A274 Sutton Road Bus Lane	£5-10,000,000	£55m
A229/A20/A26 Maidstone Bridge Gyrotory	£4,000,000	£59m
A229 (North) Park and Ride Site	£2,000,000	£61m
A274 Sutton Road Park and Ride Site	£1,000,000	£62m
A229 (South) Park and Ride Site	£1,000,000	£63m
A229 Barracks Roundabout Conversion to Traffic Signals	£2,000,000	£65m
A20 & A26 Terrace Road Traffic Signals (inc Bus Priority)	£1,000,000	£66m
A249 Newnham Court Park and Ride (additional widening of Bearsted Road to Chiltern Hundreds)	£2,000,000	£68m
London Road & Willington Street Park and Ride Sites - upgrading of facilities	£200,000	£68.2m
Maidstone UTMC Upgrading 2010/11	£100,000	£68.3m