

To : Maidstone Joint Transportation Board
By : Tim Read – KCC Head of Transportation
Date : 22nd February 2016
Subject : Results of the VISUM Transport Modelling
Classification: For Information and Discussion

Summary : This report summarises the results of the interim 2022 modelling scenario that has been undertaken to inform the Maidstone Local Plan.

1. Introduction

1.1 The VISUM modelling work undertaken by Amey in support of the emerging Local Plan has tested a series of scenarios relating to the transport interventions that could be implemented alongside future housing and employment development. Each of the scenarios has been predicated on an individual set of assumptions regarding the package of transport interventions.

1.2 The modelling enables the relative effectiveness of each scenario to be compared and contrasted by providing a measure of their influence on future travel demand and highway network performance.

1.3 The purpose of this report is to ensure that Members are informed of the model results for the 2022 scenario and how these compare against those previously derived for 2031.

2. Background

2.1 At the previous meeting of this board on 7th December 2015, Members resolved:

“We agree in the absence of an agreed transport strategy and in light of the evidence presented to this Board demonstrating Maidstone’s significant highway capacity constraints, this Board recommends that a transport strategy be taken forward urgently by the Borough and County Councils covering the period of the Local Plan, with a further review completed in 2022.

The aim of this strategy will be to mitigate the transport impact of future growth, in the first instance up to 2022. The strategy should comprise of the key highway schemes and public transport improvements agreed by the Board, and further traffic modelling will be required to identify its impact. It is proposed that the £8.9 million growth fund monies identified for transport be used to accelerate the delivery of these improvements. Existing developer contributions may then be used to support further measures.

The agreed transport strategy should also develop the justification for a relief road between the A20 to the A274 (the Leeds and Langley Relief Road), along with a preferred route, in order to allow testing with other strategic transport options and

identify all source of potential funding to enable the schemes to be implemented at the earliest opportunity.”

2.2 The traffic modelling referred to within the resolution has now been undertaken by consultants Amey in order to identify how implementation of the strategy over this interim period to 2022 could impact upon network performance.

2.3 Assumptions on the quantum of development that is expected to come forward over the period to 2022 have been made on the basis of advice from MBC. This has resulted in an adjustment being made to the Local Plan housing target of 18,560 to deduct the strategic sites, namely those at Lenham, Invicta Barracks and the town centre, and windfall sites that are expected to come forward over the period 2022 – 2031. A revised housing target of 14,034 has therefore been taken forward for 2022 modelling purposes, alongside all employment and retail sites.

2.4 Two model runs have been undertaken for the 2022 scenario. The ‘2022 Base’ model run assumes that no transport interventions are implemented, aside from the Bridges Gyratory scheme. The ‘2022 Do Something’ model run assumes that the transport strategy components previously agreed by this Board are implemented, with the exception of the Leeds Langley Relief Road. These components are comprised of:

- the package of highway improvement schemes
 - Bridges Gyratory
 - A20/M20 Junction 5
 - A229/A274 Wheatsheaf
 - A20/Willington Street
 - A274/Willington Street and A274/Wallis Avenue
 - A20/Hermitage Lane
 - A20/Coldharbour Lane
 - A249 Bearsted Road and Bearsted Road/New Cut
 - A26/Fountain Lane
- a typical 10 minute bus frequency
- the discounting of walk/cycle trips to be based on a distance threshold of 5km within the town centre
- a 50% increase in long-stay parking charges
- the removal of park and ride sites at Linton and M20 J7

2.5 The above components are entirely consistent with the ‘2031 Do Something 4b’ model run previously reported to Members on 4th November 2015 and provide a basis for comparing and contrasting results.

2.6 It should be noted that the exclusion of the Leeds Langley Relief Road from the 2022 tests is purely intended to reflect how the timescales associated with the delivery of this scheme are expected to extend beyond 2022.

3. Modelling Results

3.1 In view of the limited timeframe within which to undertake the modelling work, Amey were instructed to focus on the AM peak period. This has ensured that the busiest period has been tested.

3.2 A summary of the 2022 results, set against the results of the previously modelled '2014 base' and '2031 Do Something 4b' scenarios, is presented in Appendix A.

3.3 The results of the '2022 Do Minimum' scenario serve to emphasise how substantive increases of 16% in travel distance and 29% in travel time will occur on the highway network in the absence of mitigation.

3.4 Implementation of the transport strategy components in the '2022 Do Something' scenario results in increases of 8% in travel distance and 10% in travel time across the highway network. These increases compare favourably against those identified for the '2022 Do Minimum' scenario and support the transport strategy as a form of mitigation.

3.5 A comparison of the '2022 Do Something' results against those previously reported for the '2031 Do Something 4b' modelling results highlights how the '2022 Do Something' approach would result in a near halving of the associated impact on travel distance and time.

4. Summary

4.1 The modelling work has been completed to test the effects of the 2022 scenario on travel demand and highway network performance.

4.2 On the basis of a revised housing target of 14,034, this has identified a level of impact that is close to half of that previously reported for the 2031 scenario in terms of travel time.

4.3 The findings support the implementation of the transport strategy over the period to 2022 in how they demonstrate a substantially lower impact on the highway network.

4.4 It can also be concluded that the added inclusion of the Leeds Langley Relief Road within the transport strategy will provide further benefits to network performance, as previous model runs have identified how, by 2031, this scheme could achieve a 25% saving in travel time across the network and could reduce traffic flows on individual routes by up to 16%. It is therefore imperative that the work necessary to support delivery of the Leeds Langley Relief Road is progressed immediately.

5. Recommendation

5.1 The findings of the 2022 modelling are commended to Members on the basis that they demonstrate a level of impact on the highway network that is not regarded as severe in the context of the National Planning Policy Framework.

5.2 In light of these findings it is recommended that the identified transport interventions, together with the requirement for further work to be undertaken in support of the Leeds

Langley Relief Road, are approved by Members as forming the transport strategy that will cover the period to 2022.

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Appendix A: Maidstone Transport Model - Option Testing Summary

Model Scenario	Transport Intervention Assumptions	Model Results: Network Performance	
		Travel Distance (Veh km)	Travel Time (Veh hours)
		AM	AM
2014 Base	None	122,000	8,300
2022 Do Minimum	Adjusted housing allocation (14,034 homes) and unchanged employment allocation (200,100m ²) Maidstone Gyrotory scheme only	141,400 (+16%)	10,700 (+29%)
2022 Do Something	Adjusted housing allocations (14,034 homes) and unchanged employment allocation (200,100m ²) Package of transport improvements: <ul style="list-style-type: none"> • Highway capacity improvements • Public transport improvements (10 min bus frequency) • Discounting of walk/cycle trips up to 5km • Increase in long-stay parking charges (by 50%) • Removal of P&R at Linton and M20 J7 	132,000 (+8%)	9,100 (+10%)
2031 Do Something 4b	Revised housing and employment allocations (18,560 homes) Package of transport improvements: <ul style="list-style-type: none"> • Highway capacity improvements • Public transport improvements (10 min bus frequency) • Discounting of walk/cycle trips up to 5km • Increase in long-stay parking charges (by 50%) • Removal of P&R at Linton and M20 J7 	135,600 (+11%)	9,700 (+17%)