

**To :** Maidstone Joint Transportation Board

**By :** Tim Read – KCC Head of Transportation

**Date :** 14<sup>th</sup> October 2015

**Subject :** Progress report on technical work for the Integrated Transport Strategy

**Classification:** For Information and Discussion

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**Summary :** This report summarises the progress made in evaluating the feasibility and affordability of the highway schemes identified by this Board for inclusion in a future Integrated Transport Strategy and describes the approach to further traffic modelling.

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## **1. Introduction**

1.1 Maidstone, in common with many other similar sized towns across the country, faces considerable challenges in how growth has continued to place additional demands on infrastructure. These pressures are manifested in the worsening of road congestion.

1.2 The latest version of Maidstone Local Plan will bring forward approximately 18,560 new homes over the period to 2031. The County Council and Borough Council are continuing to work towards an Integrated Transport Strategy (ITS) that can underpin the Local Plan and enable the planned growth to be accommodated.

1.4 As the Board will be aware, MBC is currently undertaking a further focussed Regulation 18 Consultation on the draft Maidstone Borough Local Plan which concludes at 5pm on Friday 30 October. As well as further new housing allocations, the consultation includes the proposed deletion of two previously proposed Park & Ride sites and consequential amendments to policy DM15 (Park & Ride). Amendments to policy DM 13 (Sustainable Transport) and DM 14 (Public Transport) are to be published in a separate Regulation 19 consultation.

## **2. Background**

2.1 At the last meeting of this board in July 2015, Members were presented the results of the travel demand analysis that had been undertaken by Amey using the Maidstone VISUM Transport Model. This work was predicated on a range of scenarios relating to the potential composition of the ITS.

2.2 The scenarios tested were:

#### 2031 Do Minimum (DM)

- Original housing and employment allocations (17,381 homes)
- Maidstone Gyrotory scheme only

#### 2031 Do Something 1 (DS1)

- Original housing and employment allocations (17,381 homes)
- Package of transport improvements
  - Highway capacity improvements
  - Leeds - Langley Link Road

#### 2031 Do Something 2 (DS2)

- Original housing and employment allocations (17,381 homes)
- Package of transport improvements
  - Highway capacity improvements
  - Public transport improvements
  - Increased walking and cycling
  - Increased parking costs

#### 2031 Do Something 3 (DS3)

- Revised housing and employment allocations (16,247 homes)
- Package of transport improvements
  - Highway capacity improvements
  - Leeds-Langley Link Road
  - Public transport improvements
  - Increased parking costs

2.3 Further sensitivity testing was also undertaken using the DS3 scenario to assess the implications of an additional 2,250 homes in south east Maidstone, with and without the Leeds-Langley Link Road.

2.4 Each of the above scenarios provided a basis for quantifying how differing strategies could influence travel demand and the associated effects on conditions on the highway network.

2.5 Following a discussion on the relative merits of the various scenarios, Members resolved:

*“That this Board recommends to Kent County Council’s Cabinet Member for Highways, Transportation and Waste and to Maidstone Borough Council’s Strategic Planning, Sustainability and Transportation Committee that a combination of DS2 and DS3 form the basis of the Integrated Transport Strategy for Maidstone to underpin the Local Plan. This is with the exception of the following and subject to costing to ascertain affordability and the evaluation of feasibility, sustainability and deliverability:*

- *Additional North/South Park and Ride removed from DS2;*
- *All references to percentage targets removed from DS2;*
- *That it is specified that with reference to parking costs, it refers to long-term car parks; and*
- *That frequent bus services are encouraged with appropriate junction improvements but at no detriment to existing traffic capacity.”*

2.6 This report provides an update on the work recently undertaken to provide further clarity on the feasibility and affordability of the highway schemes proposed for inclusion in the ITS. It also informs Members of the assumptions underpinning a further iteration of the modelling analysis.

### **3. Highway Schemes**

3.1 The highway schemes earmarked to be included in the ITS were identified at a previous JTB workshop. They are aimed at tackling key congestion hotspots within the urban area by providing the additional capacity necessary to support future growth.

3.2 Following the July meeting of this Board Amey consultants were asked to identify feasibility designs for each of the schemes drawing upon any available concept designs that may be available. Exploratory junction capacity testing has been undertaken to inform the designs and provide an indication of any potential changes to traffic flow and queue lengths.

3.3 Each of the designs has been reviewed by quantity surveyors to identify headline cost estimates. These estimates should be regarded as purely indicative at this stage given that **they exclude costs associated with statutory undertakings and potential land acquisition.**

3.4 Attached to this report are the feasibility designs and cost breakdowns for the following highway schemes:

#### **3.5 A20/M20 Junction 5**

3.5.1 The proposal is to partially signalise the existing roundabout so as to provide those exiting the M20 with dedicated opportunities to enter the circulatory arrangement. This new arrangement will be supported by localised widening on the M20 slip roads and circulatory carriageway to achieve additional queuing capacity. A dedicated left turn lane will also be provided on the A20 to facilitate continuous traffic movement onto the M20 westbound on-slip, thereby removing an element of traffic from the circulatory part of the junction.

3.5.2 Capacity modelling has indicated that the proposals will achieve a 20% improvement on the most congested junction arm, the M20 eastbound off-slip.

**Estimated Cost: £383,000**

#### **3.6 A229/A274 Wheatsheaf Junction**

3.6.1 This junction is currently the subject of a County Council proposal to close the Cranborne Avenue arm to exiting road users so as to enable the traffic signals to devote additional green time to the A229 and A274.

3.6.2 The Cranborne Avenue closure is proposed to be included in a more comprehensive upgrade that will widen the northbound A229 approach to the traffic signals. This will provide capacity benefits by enabling vehicles to queue in two lanes over a much longer distance. Importantly, this scheme does not compromise the retention of the existing pedestrian crossing facilities.

3.6.3 Initial indications suggest that an overall improvement of 12-17% in capacity could be achieved through these proposals.

**Estimated Cost: £483,000**

### 3.7 A20/Willington Street Junction

3.7.1 The proposal is to widen the westbound A20 approach in order to create two lanes for queuing traffic. The lanes will be individually allocated to the left turn into Willington Street and the straight ahead movement along the A20, thereby enabling a greater volume of traffic to move through each cycle of the traffic signals.

3.7.2 Initial indications suggest that an overall improvement of around 10% in capacity could be achieved through these proposals.

**Estimated Cost: £86,000**

### 3.8 A274/Willington Street and A274/Wallis Avenue Junctions

3.8.1 The proposal utilises the verge on the southern side of the A274 to widen the carriageway. This will accommodate an additional lane for westbound traffic on the A20 on the approaches to both the Willington Street and Wallis Avenue junctions, with a merge arrangement provided to the west of Wallis Avenue as the road reverts to single carriageway. It will also enable an additional lane to be provided for eastbound traffic on the section of the A20 between the Willington Street and Wallis Avenue junctions.

3.8.2 The improvements will provide additional queuing capacity in both directions and enable a greater volume of traffic to move through each cycle of the traffic signals.

3.8.3 Initial indications suggest that an overall improvement of around 13% in capacity could be achieved through these proposals.

**Estimated Cost: £267,000**

### 3.9 A20/Hermitage Lane

3.9.1 The proposal is to widen the westbound A20 approach to the junction to achieve four lanes for queuing traffic. The widening will then continue westwards up to the Mills Road junction to provide three continuous lanes. This will increase the capacity of both junctions and reduce the potential for queuing that blocks back from one junction to another.

3.9.2 The improvements involve the removal of the existing section of bus lane, which currently provides a marginal benefit to bus journey times. This loss will be compensated by the removal of the bus layby further to the west, as the new on-carriageway stopping arrangement will alleviate the difficulties bus drivers currently experience in trying to pull out into moving traffic.

**Estimated Cost: £499,000**

3.10 It is proposed that the above highway schemes are taken forward through further design work and modelling analysis. This will enable any implications on highway safety and traffic flow to be better understood.

3.11 Further work will also enable the indicative cost estimates to be refined to provide greater certainty but, even allowing for land and statutory undertakers costs, it is anticipated that the cost of the schemes can be met in full through the £8.9 million that has been allocated to the ITS through the Local Growth Fund.

3.12 In addition to the above schemes, there are a number of key schemes where designs are already being developed and funding has been secured towards implementation. These schemes are:

- **Bridges Gyratory** – provision of an additional two lanes for northbound traffic on the eastern side of the Rover Medway, which will enable northbound A229 traffic to avoid the gyratory and reduce congestion in this area.
- **A20/Coldharbour Lane roundabout** – a reduction of the island to increase circulation capacity and the provision of left turn slip roads.
- **A249/Bearsted Road and Bearsted Road/New Cut junctions** – capacity improvements and the provision of pedestrian crossing facilities.
- **A26/Fountain Lane junction** – a reconfiguration of the road markings and the installation of MOVA and pedestrian detection systems to optimise the junction operation.

3.13 Consultants have also carried out a desktop exercise to consider a representative sample of route corridors for a Leeds & Langley Relief Road to both the east and west sides of the villages that were last considered and consulted upon in the 1990's, to assess their current design and engineering feasibility. The estimated overall cost of a Relief Road at today's prices is about £50m.

3.14 The feasibility work undertaken by Amey also confirmed that two schemes would not achieve benefits sufficient to warrant further design work. This is due to the physical constraints and potential effects on operating conditions elsewhere on the local network.

3.15 The excluded highway schemes are:

- **A229 White Rabbit roundabout** – the proposal to signalise the roundabout was found to provide only a marginal benefit as the size of the junction limits the scope to queue traffic within the circulatory carriageway.
- **A249 Sittingbourne Road widening** – the proposal to widen the carriageway would have effect of increasing vehicle speeds and thereby increase the rate at which vehicles will queue further downstream on this corridor.

## **4. Traffic Modelling**

4.1 The highway schemes form part of the combined ‘Do Something 2’ and ‘Do Something 3’ package that this Board recommended as a basis for a future ITS.

4.2 A further iteration of the traffic modelling is now required in view of the increased housing numbers in the Local Plan and the need to demonstrate the impact of the emerging ITS to this Board.

4.3 Discussions have therefore taken place between officers of the County Council, Borough Council and Amey to identify a set of modelling assumptions that reflect the Board resolution.

4.4 As a result of these discussions the following modelling assumptions are proposed:

- the quantum of development to be assessed is 18,560 new homes;
- the distribution strategy for development should follow that currently proposed by the Borough Council;
- scenarios with and without the principle of a Leeds-Langley Link Road to be included;
- typical 10 minute bus frequency;
- discounting of walk/cycle trips to be based on a distance threshold of 5km within the town centre;
- 50% increase in long-stay parking charges; and
- removal of park and ride sites at Linton and M20 J7.

4.5 The work has been jointly commissioned by the County Council and Borough Council and will be completed before the current Local Plan Consultation period ends on 30<sup>th</sup> October.

## **5. Summary**

5.1 The work requested by this Board to progress the ITS has been undertaken through the development of feasibility designs and indicative cost estimates for a number of key highway schemes. This has established a viable set of proposals that can be taken forward for inclusion in a future ITS.

5.2 Further modelling work is required to test the effects of the Board’s resolution on the ITS in accordance with an agreed set of assumptions.

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### **Contact Officers:**

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