

EAST HERTS COUNCIL

DISTRICT PLANNING EXECUTIVE PANEL – 10 SEPTEMBER 2015

REPORT BY THE LEADER OF THE COUNCIL

BUNTINGFORD TRANSPORT MODEL REPORT AUGUST 2015

WARD(S) AFFECTED: BUNTINGFORD, MUNDENS AND COTTERED

Purpose/Summary of Report

- This report presents the findings of the Buntingford Transport Model Report which comprises a Local Model Validation Report and a Future Scenarios Testing Report.
- The report seeks agreement to use the Report as part of the evidence base to inform and support preparation of the District Plan and for Development Management purposes.

RECOMMENDATION FOR DISTRICT PLANNING EXECUTIVE PANEL: That Council, via the Executive, be advised that:

(A)	the Buntingford Transport Model Report 2015 be approved as part of the evidence base to inform and support preparation of the East Herts District Plan;
(B)	the Buntingford Transport Model Report 2015 be approved to inform Development Management decisions; and
(C)	the Head of Planning and Building Control, in consultation with the Leader of the Council, be authorised to make non-material amendments to the final Buntingford Transport Model Report 2015, prior to publication.

1.0 Background

1.1 In March 2015, the Council commissioned Steer Davies Gleave consultants to undertake a transport model for the town of Buntingford to inform the Plan-making process of the District Plan and to inform the consideration of applications for development

around the town.

- 1.2 The work involved the creation of a VISSIM micro-simulation model of the existing operation of the road network in and around Buntingford. This is reported in the first of two reports – Local Model Validation Report. The second stage of the work was to use the model to test the effects of various development scenarios and to determine any mitigation measures if required in the second report – Future Scenarios Testing Report. The second report was extended to undertake further model runs of two mitigation options and to provide indicative scheme design layouts for these two alternative options.
- 1.3 Hertfordshire County Council officers have been consulted and involved in the project throughout and have endorsed the two reports, the Non-Technical Summary of which is presented as **Essential Reference Paper 'B'**.

2.0 Report

Local Model Validation Report

- 2.1 The Local Model Validation Report is the more technical of the two reports, establishing the baseline data used to inform the scenario testing undertaken in the second report. The report comprises 8 chapters which explain each process used to compile the necessary data.
- 2.2 The VISSIM micro-simulation model is the key model used for the study, testing the am and pm peak periods on key junctions throughout the town. Primary data was collected through road-side traffic counts taken over several days in February, which included junction movements, queue length surveys, origin and destination data and journey time surveys collected through in-car Bluetooth data. This data was supported by journey to work data from the 2011 Census. All data collected was checked and calibrated through various methods with a high degree of accuracy achieved. Initial model runs were compared to CCTV footage of key junctions as a form of validation. The base model was then validated by Hertfordshire County Council.

Future Scenarios Testing Report

- 2.3 The Future Scenarios Testing Report forms the second stage of the model process. The report comprises seven chapters, with chapters one and two introducing the report and detailing the

seven scenarios tested through the model. The table below provides more detail than that presented in the report. Bold text indicates the difference between each scenario:

No.	Scenario	Description	Developments Added	Access to Network
0	Base 2015	Existing situation	3/08/0840/OP 3/09/1061/FP	- Greenways (50 homes) - London Road (149 homes)
1	Do Minimum 2021	Background growth + development under construction	3/12/1000/FP 3/13/0737/RP 3/13/0118/OP	- Hare Street Road (north) (160 homes) - Longmead (26 homes) - Snells Mead (Area 1)(100 homes)
2	Do Committed 2021	Background growth + development under construction + committed development	3/13/1375/OP 3/13/1925/OP	- A10 and Ermine Street (plus new link road) (180 homes) - London Road (2 access points) (316 homes)
3	Do at Appeal 2021	Background growth + development under construction + committed development + development at appeal	3/14/0531/OP 3/14/0528/OP 3/13/1399/OP	- Hare Street Road (Area 3) (80 homes) - Snells Mead (Area 2) (100 homes) - Aspenden Road (56 homes)
4	Do Something	Background growth + development under construction + committed development + development at appeal + west Buntingford phase one only	3/14/2304/OP Phase 1	- Luynes Rise (108 homes)
5	Do Maximum	Background growth + development under construction + committed development + development at appeal + west Buntingford all phases	3/14/2304/OP All phases	- A10 (new roundabout) (400 homes)
5A	Do Maximum Alternative	Background growth + development under construction + committed development + development at appeal + west Buntingford all phases	3/14/2304/OP All phases	- Luynes Rise (i.e. without new roundabout on A10) (400 homes)

- 2.4 Chapter three sets out how proposed changes to the highway network are considered in the model. These include a mini-roundabout at the Hare Street Road and High Street junction, a new link road through the Buntingford north site connecting Ermine Street to the A10 and a new roundabout on the A10 to provide access to the west Buntingford application site.
- 2.5 Chapters four and five contain the more technical elements of the report, detailing how the model considers future flow demand of vehicles on the network as a result of development based upon the scenarios above. These chapters also detail maximum queue length, journey times experienced and general network capacity. The model indicates that although there will be an increase in queue lengths, the A10/Baldock Road roundabout is predicted to operate satisfactorily. The longest queue arises in the am peak period from vehicles heading southbound towards the roundabout. The roundabout has the capacity to accommodate all forecast development traffic to the year 2021.
- 2.6 The more considerable issue however, is the A10/London Road roundabout at both am and pm peak periods. The queue lengths on both the southbound A10 and London Road approaches see considerable queue lengths during the am peak, with traffic queueing up London Road reaching the High Street. The northbound approach sees considerable queue lengths during the pm peak. The town centre highway network will also see increased traffic movements, but there is little that can be done to improve junctions due to the surrounding streetscape. However, the High Street/Baldock Road and the Station Road/Hare Street Road junctions were still operating at capacity within each peak period.
- 2.7 The model indicates that these issues arise from Scenario 2 onwards i.e. background growth, 26 homes at Longmead, the two sites approved at appeal for 160 homes at Hare Street Road north and 100 homes off Snells Mead, plus the two sites included in the Draft Preferred Options District Plan for 180 homes to the north of Buntingford (Pigeon land) and 316 homes on the former Sainsbury's depot. The report makes it clear that the level of operation at this roundabout is not considered acceptable at this scenario and mitigation will be necessary.
- 2.8 Chapter 6 of the report details the mitigation tests undertaken. These tests take the model and apply them to new road layouts or junction improvements such as traffic lights. At most junctions queue increases are modest but significant queues and delays

are experienced at the A10/London Road junction. As such, two possible mitigation measures were designed and tested using the model.

- 2.9 Mitigation Measure 1 tested the effects of widening of the southbound approach of the A10 and the widening of the southbound exit (for 100 metres) to facilitate two lanes of traffic before merging to single lane. This has the effect of allowing free flowing vehicle movement from both the western arm of the A10 and the London Road approach. However, there would still be significant queues on the northbound approach in the pm peak period. Therefore, the report also recommends that the western arm of the A10 (northbound) exit from the roundabout also be widened to two lanes for 100 metres to facilitate the full use of both lanes at the roundabout during the pm peak.
- 2.10 The second mitigation measure considered the effects of a part time signal control (am peak only). This is a lower cost solution which provides improvement in a southbound direction from London Road but there would still be some (albeit reduced) queueing on the western arm of the A10. However, the queue generated from the stop line which allows southbound movement would adversely affect the operation of the roundabout with queueing vehicles blocking both northbound and circulatory flows. This is a potential road safety issue and therefore the report concludes that only mitigation measure 1 be carried forward as a solution, ideally before the development presented in Scenario three occurs.
- 2.11 The model further shows that the volumes of traffic on the A10 south of the London Road roundabout are significantly higher than further north and it is therefore likely that at some point in the future this section of the A10 may reach link capacity. The improvement of the roundabout may not be the key constraint in the network after the preferred mitigation option. Within the single lane section of the A10 southbound carriageway, where there are a number of side roads, the lack of right turning bays can cause queues from vehicles waiting to cross the opposing traffic stream. In addition, during peak periods exit from these side roads onto the A10 will be increasingly difficult as volumes on the A10 increase through the development scenarios considered.
- 2.12 The report considers that the dual carriageway section of the A10 should be extended up to the London Road junction in the future to prevent slow moving queues developing in this section. Furthermore, the report also recommends that should Scenario 5

(all development options) come to fruition, the proposed new roundabout on the A10 to access the west of Buntingford development site would be required in order to prevent adverse effects of traffic passing through the town centre.

2.13 The next stage of the process is to undertake a feasibility appraisal of the preferred mitigation measure to ascertain the potential cost of implementation. This will provide the basis for informed negotiation on the determination of future planning applications in and around Buntingford.

3.0 Implications/Consultations

3.1 Information on any corporate issues and consultation associated with this report can be found within **Essential Reference Paper 'A'**.

Background Papers

- Buntingford Transport Modelling Assessment Part 1 – Local Model Validation Report
<http://www.eastherts.gov.uk/buntingfordtransportmodel>
- Buntingford Transport Modelling Assessment Part 2 – Future Scenarios Testing Report
<http://www.eastherts.gov.uk/buntingfordtransportmodel>

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