





Buntingford Transport Modelling Assessment

Executive Summary Report
August 2015

East Hertfordshire Council

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1 Introduction

Background

- 1.1 Steer Davies Gleave has been appointed by East Hertfordshire Council, to provide traffic modelling work that will inform the Plan-making process of the District Plan. This work involves two main tasks:
- Creation of a VISSIM micro-simulation model of the existing operation of the road network in and around Buntingford
 - Use of the above model to test various development scenarios, and determine any mitigation measures (if required)
- 1.2 This Executive Summary report presents the key features and results of the traffic study. More information can be found in the following two reports:
- Steer Davies Report “Buntingford Transport Modelling Assessment – Local Model Validation Report – August 2015”
 - Steer Davies Report “Buntingford Transport Modelling Assessment – Future Scenarios Testing Report – August 2015”

2 Executive Summary

Base Model

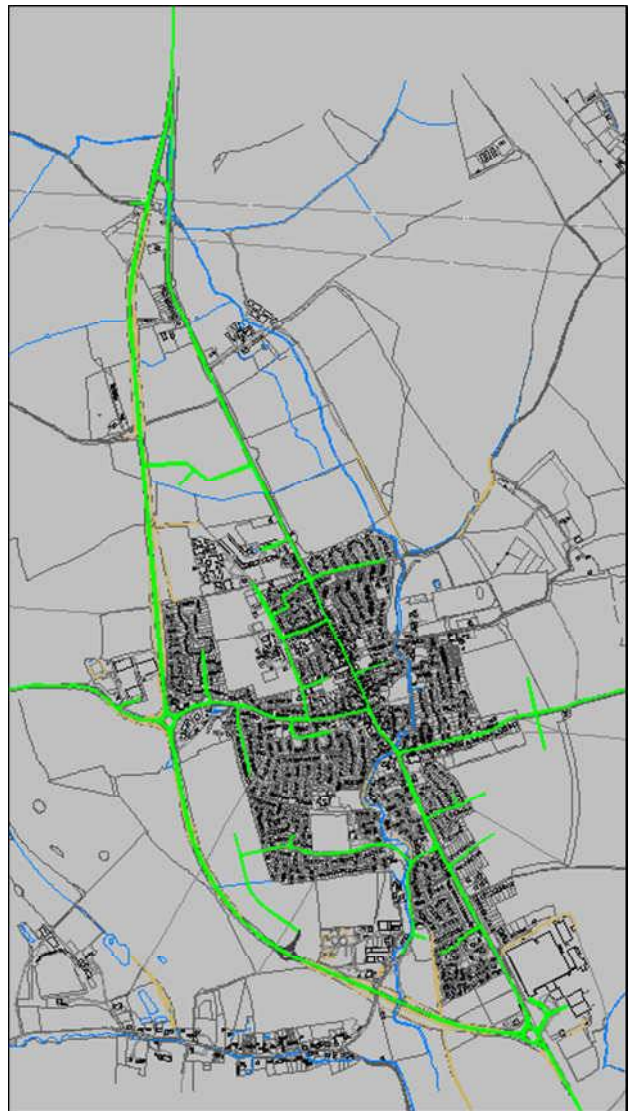
2.1 A VISSIM micro-simulation traffic model of Buntingford has been developed to show the operation of the existing network in the weekday AM and PM peak periods.

2.2 A large data collection exercise was carried out in February 2015 in order to obtain sufficient traffic data to enable an accurate and robust traffic model of the town to be developed. Surveys included turning movement and queue length surveys at key junctions, Origin-Destination surveys to determine trip patterns, and travel time measurements on the key routes.

2.3 The base models have been developed, calibrated and validated for traffic flows, journey times and queue lengths based on Highways England Design Manual for Roads and Bridge (DMRB) criteria.

- 100% validation has been achieved for link flows in both peak periods
- 99% validation has been achieved for turning movements in both peak periods
- AM and PM peak modelled journey times are within the acceptable level
- Observed queue lengths are replicated well in the model in both peak periods

2.4 These results demonstrated the traffic models of the existing situation represented an accurate and reliable base for taking forward to look at option testing, for both the weekday AM peak and PM peak periods. The base model can therefore be utilised to test future development scenarios.



Future Scenarios

2.5 Following the development of the VISSIM base model of Buntingford, a number of future development Scenarios were defined in order to identify the impact of introducing a set of business and residential developments to the current network.

2.6 The Scenarios investigated were as below.

Scenario	Scenario Description	Developments added (cumulative)
1	“Do Minimum 2021”	3/13/1000/FP; 3/13/0118/OP; 3/13/0737/RP; 3/10/2040/OP
2	“Do Committed 2021”	3/13/1375/OP; 3/13/1925/OP
3	“Do At Appeal 2021”	3/14/05/31/OP; 3/14/0528/OP; 3/13/1399/OP
4	“Do Something 2021”	3/14/2304/OP Phase 1
5	“Do Maximum 2021”	3/14/2304/OP All Phases
5A	“Alternative Do Maximum 2021”	-

2.7 In all scenarios, background traffic growth was also applied to the base traffic levels to account for additional development trips in the wider area (i.e. not related to development within Buntingford).

2.8 In addition, network changes related to the various planning applications have also been included within the model, as below.

- Conversion of Hare Street Road / High Street junction to a mini-roundabout – Scenarios 1, 2, 3, 4, 5 and 5A
- New link road between A10 and Ermine Street to provide access to development plot 3/13/1375/OP – Scenarios 2, 3, 4, 5 and 5A
- New A10 roundabout between London Road and Baldock Road, to provide access to development plot 3/14/2304/OP – Scenario 5 only (Scenario 5A tests the addition of the same level of development traffic but without the new A10 roundabout)



2.9 The VISSIM model was then developed to test the impact of each Scenario on network operation, in both the weekday AM and PM peak period. The results of the Scenario testing indicated that, in the most part, the network can accommodate the new developments given the network changes that have already been planned.

2.10 However, operational issues were identified at the following locations:

- A10/London Road – southbound in the AM peak, and northbound in the PM peak
- High Street/Baldock Road – northbound, principally in the AM peak

- 2.11 In terms of the A10/London Road roundabout, two mitigation measures were tested. The results showed that local widening of the two A10 exit links at the roundabout (to provide a two-lane section before merging back to a single lane) provided a significant improvement in operation, particularly in the AM peak. This mitigation measure should be considered in the near future, ideally in line with developments within Scenario 3 coming on line.
- 2.12 However, there is an ongoing issue with the link capacity of the A10, between the London Road roundabout and the dual-carriageway section around 2km south of the town. Within the latter Scenarios 4, 5 and 5A, the traffic demand on this section of the A10 gets close to the link capacity, southbound in the weekday AM peak period and northbound in the weekday PM peak period. So whilst the mitigation measure proposed above for the A10/London Road roundabout does improve the operation at this location, there should be a longer term aspiration to extend the dual carriageway section up to this roundabout.
- 2.13 At the High Street/Baldock Road junction, operational issues were also identified, particularly in Scenario 5A when the link through from Luyes Rise to a new roundabout on the A10 was not included. For the local road network, the addition of this new roundabout on the A10 provides benefits in terms of reducing traffic levels within the town centre, without having a measureable disbenefits on A10 operation. Therefore, it is recommended that this new access point to the A10 be taken forward, linked to the consideration of development plot 3/14/2304/OP.

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